

wetland science & practice

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Greetings to all! In April, my wife and I took a road trip to northern Florida, visiting friends and family along the way, and enjoying the mild weather. During the trip I managed to squeeze in a couple of trips to wetlands – to an old-growth cypress-gum swamp along Georgia’s Altamaha River and to South Carolina’s Congaree Swamp, a national park. In Georgia, we met up with Jan Mackinnon and other



Ralph Tiner
WSP Editor

scientists to see ancient cypresses with swollen bases that extended well above everyone’s head (see cover photo); even some cypress knees were taller than us. The Congaree Swamp is reportedly the largest remaining old-growth bottomland hardwood forest in the Southeast and contains many of the nation’s champion trees (<http://www.americanforests.org/magazine/article/congaree-where-the-trees-are-still-tall/>). Also of note is the display of synchronous fireflies (*Photuris frontalis*) for approximately two weeks between mid-May and mid-June; their synchronous flashing is a natural wonder that brings thousands of visitors to the park.

While environmental regulations are always under attack by some folks, we are now seeing major efforts to push back on the gains in wetland conservation we’ve achieved over the past 50 years. The Administration’s 2018 federal budget proposal eliminates EPA funds for various regional restoration programs (e.g., Great Lakes and Chesapeake Bay) and state grants that promote wetland conservation, while the President’s February 28 executive order requests that EPA and the Corps review the “clean water rule” and consider defining “navigable waters” following the Scalia interpretation in *Rapanos vs. U.S.* (547 U.S. 715) which focuses on “relatively permanent, standing or flowing bodies of water” (<https://www.whitehouse.gov/the-press-office/2017/02/28/presidential-executive-order-restoring-rule-law-federalism-and-economic>; <https://www.scientificamerican.com/article/trump-rsquo-s-order-may-foul-u-s-drinking-water-supply/>; <http://www.npr.org/sections/thetwo-way/2017/02/28/517016071/trump-aims-to-eliminate-clean-water-rule>). Based on a recent SWS survey of its members (published in this issue of WSP), it appears that some members feel that the Society should not get involved in politics. It is important to recognize that we would not have any wetland protection if it were not for scientists and concerned citizens advocating the values of these habitats and working with politicians to draft laws to protect or regulate wetlands.

In this issue, you’ll find information on SWS activities including messages from our outgoing and incoming presidents. We welcome our incoming President - Arnold van der Valk and wish to thank Gillian Davies for her leadership during the past year. This issue also contains an article about Ramsar wetlands and the cultural significance of wetlands by Dave Pritchard. Also included is the latest cartoon from Doug Wilcox, former long-time editor of *Wetlands*. Thanks for their contributions!

By the time you read this issue, we will have completed our annual meeting in San Juan. If you gave a presentation or prepared a poster, please consider writing a summary article for *Wetland Science & Practice*. This would help you reach a larger audience as your article would be available to all our members immediately and would be distributed worldwide through the internet when the next issue is published. If questions, please feel free to contact me.

Happy Swamping! ■

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Ancient bald cypress (Taxodium distichum) along Altamaha River. Note that cypress knee in front of Barbara is nearly six feet high. Photo courtesy of Ralph Tiner.

SOCIETY OF WETLAND SCIENTISTS

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Note to Readers: All State-of-the-Science reports are peer reviewed, with anonymity to reviewers.

PRESIDENT'S MESSAGE

OUTGOING

As I come to the end of my SWS Presidency, I am struck by how much I have enjoyed working with SWS members, leaders, and partners in efforts to build our Society and to protect, conserve, restore and sustainably manage wetlands. In passing the baton to incoming President Arnold van der Valk, I have great confidence



Gillian Davies, PWS
SWS Outgoing President

that the gains made over the past year (and prior years) will serve as stepping stones for continued strong organizational growth and development in the coming year. The Executive Board welcomes Beth Middleton as incoming President-Elect and Leandra Cleveland as incoming Secretary-General, creating an Executive Board for 2017-2018 with a depth of SWS experience and talent. Julia Cherry will continue to serve as the outstanding Treasurer that she is. I would also like to thank

outgoing Immediate Past President Kimberli Ponzio and outgoing Secretary General Loretta Battaglia for their many years of service to SWS. SWS has benefited greatly from their contributions over the years.

ORGANIZATIONAL GROWTH, INTERNATIONALIZATION AND GOVERNANCE

SWS is poised for continued growth and development as an organization. At Annual Meeting, our membership will vote on a proposed new Chapter (the China Chapter), and our Board of Directors will vote on a new Student Association (Bangor University in Wales), two new Sections (Education and Policy & Regulation) and a new Committee (SWS Wetlands of Distinction as a stand-alone Committee, rather than E&O sub-committee). It is no accident that we are establishing a new Chapter and a new Student Association outside of the United States. For a number of years, many SWS leaders, including Europe Chapter Past President Jos Verhoeven, Asia Chapter President Wei-Ta Fang, Europe Chapter President Matt Simpson, SWS Past Presidents Kim Ponzio, Jim



PHOTO 1: SWS members prepare signs for March for Science in Washington, D.C.

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EUROPE / [Matthew Simpson](#)

INTERNATIONAL / [Fred Ellery](#) and [Luisa Ricaurte](#)

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In Rome in 1603, the first scientific society, the Accademia dei Lincei, was founded. The Accademia dei Lincei lasted only about 25 years and had only about 30 members in its heyday. Incidentally, among its members was Galileo Galilei. Science from its earliest days has been a communal activity.



Arnold van der Valk
SWS President Elect

Scientific societies provided a way for scientists to disseminate their findings and theories to their colleagues and to develop new collaborations. From the beginning, scientific societies were fundamentally about two things, knowledge and networking.

As the incoming president of SWS, I am very much concerned with making sure that the Society is effectively carrying out its dual missions of disseminating

new knowledge about wetlands and fostering networking and collaboration among our members. Overall, the Society does a fine job through its journals and regional and annual meetings of fostering both. Nevertheless, like all organizations the Society has to adapt constantly to ever changing conditions. I would like to comment on three, interrelated issues facing the Society at the moment: (1) internationalization, (2) governance, and (3) service.

The SWS strategic plans calls for the Society to become more truly international. I have been chairing a committee that has explored what this means operationally. SWS has for some time called itself an international organization, and we do have members from all around the globe as well as a number of chapters outside of the US. (In fact, SWS is in the process of setting up a new chapter in China.) Most members of SWS are, however, American and to members outside the US, SWS is viewed primarily as an American scientific society.

The Internationalization Committee identified a number of goals that SWS will need to achieve in order to become a more international society. These include:

1. SWS is seen as a major player dealing with global wetland issues by international and regional organizations.
2. SWS plays a major role in resolving wetland issues around the world.
3. SWS has a high percentage (e.g., >50%) of non-American members.
4. SWS always has multiple international members on its Board of Directors and Executive Board.
5. SWS has some interest sections primarily of service to non-American members.

Currently, SWS has almost none of these characteristics. The Internationalization Committee will make a number of specific recommendations to move us closer to meeting these goals. Of these, one of the most important is a proposed change in the Society's governance.

The current governance structure of SWS dates back to its founding as an American society in the early 1980s. Like all scientific societies, SWS is actually composed of a variety of interest groups, and these groups have a major role in the governance structure of the Society. In the case of SWS, the initial interests groups, Chapters, were composed of members living in some section of the country. Each chapter has a voting member on the Board of Directors (BOD). Although international chapters were eventually formed and received a vote on the BOD, they are still outnumbered by American chapters. Many SWS chapters have popular and well attended meetings that focus on students and regional wetland issues. SWS needs to continue to support these chapters and their activities. Another kind of interest group, however, did develop eventually within SWS, Sections. Sections contain members who work on some aspect of wetland science, e.g., wetland restoration. Today, some sections have more members than many chapters.

Foreign wetland scientists are often attracted to SWS because of its sections. They are looking to SWS for new knowledge about some aspect of wetland science and for opportunities to network with scientists with similar interests from around the world. For reasons that are now obscure, Sections were not given a vote on the BOD. It is time for SWS to remedy this situation and to give them votes on the BOD. For the Society to grow, Sections need to be strengthened within SWS and the number of sections should be increased. In fact, two new sections are in the works, Education and Policy and Regulation, and hopefully there will be more in the near future.

Finally, scientific societies require the active participation of their members. They are after all voluntary, service organizations. To function, they need members to step up and serve on committees, on editorial boards, and in leadership positions at all levels. Fortunately, SWS does have many members who do volunteer to serve in these capacities. For the Society to grow and expand, it will need even more. Nevertheless, it is also necessary for the Society to optimize its governance structure in order to minimize its administrative overhead (and costs). We do not want to squander the valuable time of our volunteers. In the upcoming year, SWS will examine its governance structure to see if it can be simplified or streamlined by reducing overlaps among committees and possibly terminating committees if no longer needed.

SWS has already lasted much longer than the Accademia dei Lincei, and hopefully by continuing to adjust to new circumstance and opportunities, we will be around for a long, long time to come. There is still a lot that we do not know about wetlands, and SWS is needed more than ever to provide reliable information about wetlands and networking opportunities for wetland scientists around the world. ■

About Wetland Science and Practice

W*etland Science and Practice* is the SWS quarterly publication aimed at providing information on select SWS activities (technical committee summaries, chapter workshop overview/abstracts, and SWS-funded student activities), brief summary articles on ongoing or recently completed wetland research, restoration, or management projects or on the general ecology and natural history of wetlands, and highlights of current events. *WSP* also includes sections listing new publications and research at various institutions, and links to major wetland research facilities, federal agencies, wetland restoration/monitoring sites and wetland mapping sites. The publication also serves as an outlet for commentaries, perspectives and opinions on important developments in wetland science, theory, management and policy.

Both invited and unsolicited manuscripts are reviewed by the *WSP* editor for suitability for publication. Student papers are welcomed. Please see publication guidelines at the end of this issue. Questions? Contact editor Ralph Tiner, PWS Emeritus (ralphtiner83@gmail.com).

[Electronic access to Wetland Science and Practice](#) is included in your SWS membership. All issues published, except the four most recent issues, are available via the internet to the general public. At the San Juan meeting, the SWS Board of Directors voted to approve release of past issues of *WSP* when a new issue is available to SWS members only. This means that a *WSP* issue will be available to the public four months after it has been read by SWS members (e.g., the June 2017 issue will be an open access issue in September 2017). Such availability will hopefully stimulate more interest in contributing to the journal. And, we are excited about this opportunity to promote the good work done by our members.

HOW YOU CAN HELP

If you read something you like, or that you think someone else would find interesting, be sure to share. Share links to your Facebook, Twitter, Instagram and LinkedIn accounts.

Make sure that all your SWS colleagues are checking out our recent issues, and help spread the word about SWS to non-members! ■



Wetlands in the News

For the latest news on wetlands and related topics, readers are referred to the Association of State Wetland Managers website. Their “Wetland Science News” section include links to newspaper articles that should be of interest: <https://www.aswm.org/news/wetland-science-news>.

For more wetland resources, please see the *Wetland Bookshelf* section at the end of this publication. ■

Monthly webinar series

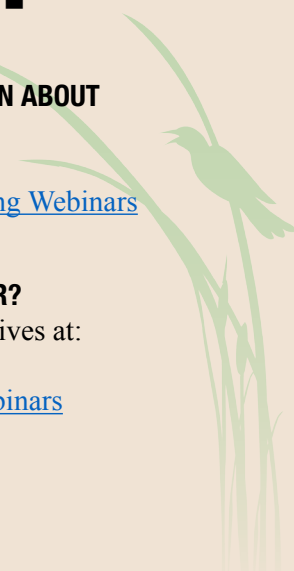
Take advantage of your SWS membership by participating in outstanding educational opportunities without leaving your desk! SWS is pleased to provide its webinar series on wetland science topics of interest. The convenience and flexibility of SWS webinars enables you to educate one or a large number of employees at once, reduce travel expenses, and maintain consistent levels of productivity by eliminating time out of the office. Webinar registration is a complimentary member benefit. A limited number of spots are available for each webinar. If you’re unable to participate in the live webinar, all webinars are recorded and archived for complimentary viewing by SWS members. ■

MORE INFORMATION ABOUT WEBINARS:

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>Events >Upcoming Webinars

MISSED A WEBINAR?

View webinar archives at:
www.sws.org
>Events >Past Webinars



Evaluating the ROI of attending association events

Michelle Czosek, CAE, SWS Managing Director



Michelle Czosek, CAE
SWS Managing Director

I recently had the privilege of attending an event, *Disruption + Innovation: The Future Association Landscape*. The event gave me an opportunity to participate in excellent educational sessions, make wonderful new connections and catch up with long-time Chicago-area association friends.

With the 2017 SWS Annual Meeting now under our belt, it made me stop and think about

how our members evaluate the *Return on Investment* (ROI) of attending this event.

Often, when I return from an event and see all of the email that I missed and a “to-do” list that has grown longer, I wonder if the time away from the office was really worth it. This is the reason that I always take time to reflect on what I learned and how I can apply it. I evaluate whether attendance was a good use of my association’s time and financial resources, and weigh it against what I would’ve accomplished if I’d stayed in the office.

How do I know if an event has been time well-spent? Here are some quick questions I ask myself, along with my assessment of how each played out for the *Disruption + Innovation* event. Perhaps you can revise them to assess your time spent at the SWS Annual Meeting, or whatever the next event you attend is.

- **While at the event, did I feel inspired? Did I jot down notes? Did I collect tangible tools or information I can use to benefit the members of SWS?**

I took way too many notes and came away with several new marketing ideas. I also heard a top-notch presenter that talked about signs for knowing that you and your association will survive the next 10 years. That presentation alone was packed with food for thought and takeaways.

- **Did I make 3-5 new contacts who can help an association I serve?**

The answer on this one is a definite yes. I confirmed two presenters for an upcoming client event, approached a third individual for another and secured an author for a magazine article.

- **Are existing relationships strengthened?**

Another yes. I caught up with two people I’ve known over 25 years, as well as others that I’ve worked with throughout my career. The amount of knowledge represented in the room, and the open willingness to share with each other, made the trip worth it.

- **Am I intrigued enough by a topic I heard about at the event to do additional research when I return to the office?**

Let’s just say that I spent a little time one evening reading and ruminating on CNBC’s Disruptor 50 list — a list of companies they say have the ability to upend multi-billion dollar industries. I thought about how those companies could impact the association industry, the hospitality industry and the industries represented by my client associations. Powerful stuff!

- **Do I share my experience with others?**

You bet! This one was an excellent experience, worth discussing. It’s over a month later, and I’m still thinking about it, writing about it and putting my event take-aways into practice.

By evaluating the answers to these questions, I determined that the “Association 4.0 Think Tank” event was definitely a wise use of my resources!

What was your return on investment of time and resources spent at the event you most recently attended (hopefully the SWS annual meeting)? Do you have additional ways to evaluate whether your attendance was a good use of your time? If so, I’d love to hear about them and your experience in San Juan, Puerto Rico!

Send me your thoughts at mczosek@sws.org. ■

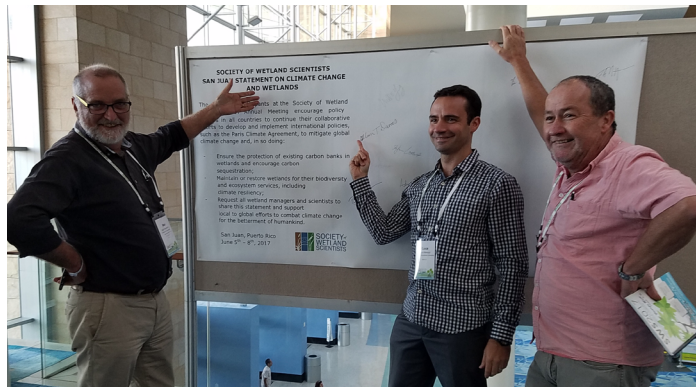
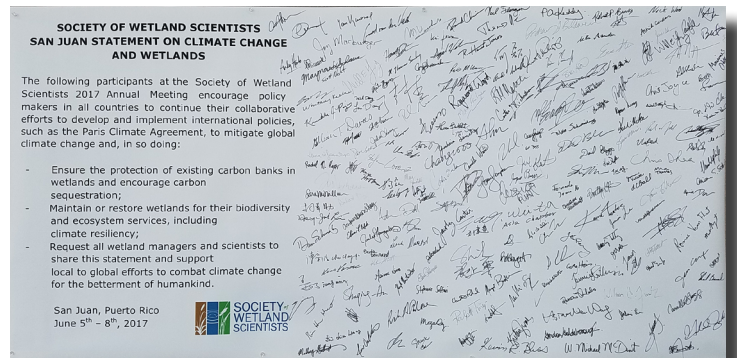
SWS Issues the Society of Wetland Scientists San Juan Statement on Climate Change and Wetlands

SWS issues the Society of Wetland Scientists San Juan Statement on Climate Change and Wetlands, which was signed by 207 of the attendees at the 2017 SWS Annual Meeting in San Juan, Puerto Rico, from June 5th – 8th, 2017. The Statement reads as follows:

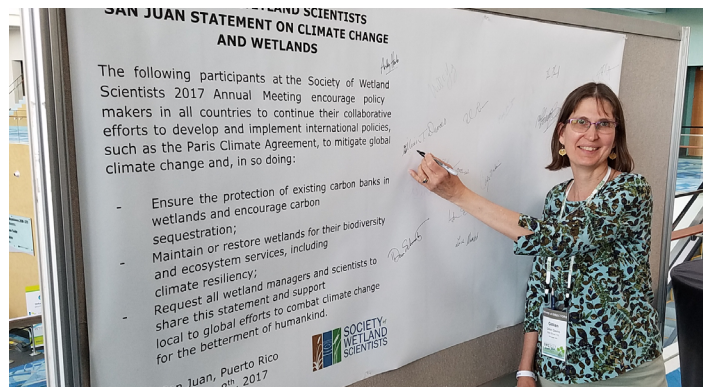
“The following participants at the Society of Wetland Scientists 2017 Annual Meeting encourage policy makers in all countries to continue their collaborative efforts to develop and implement international policies, such as the Paris Climate Agreement, to mitigate global climate change and, in so doing:

- Ensure the protection of existing carbon banks in wetlands and encourage carbon sequestration;
- Maintain or restore wetlands for their biodiversity and ecosystem services, including climate resiliency;
- Request all wetland managers and scientists to share this statement and support local to global efforts to combat climate change for the betterment of humankind.

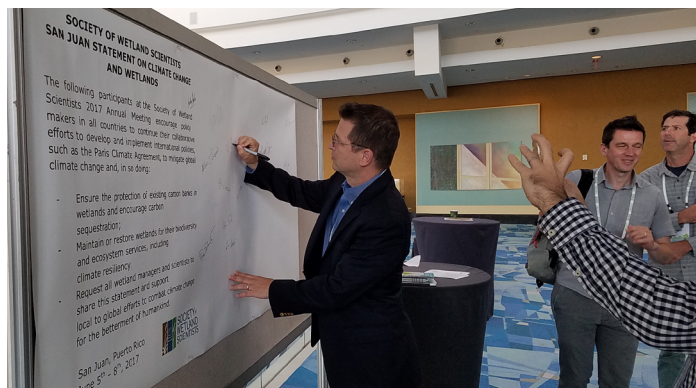
San Juan, Puerto Rico, June 5th - 8th, 2017



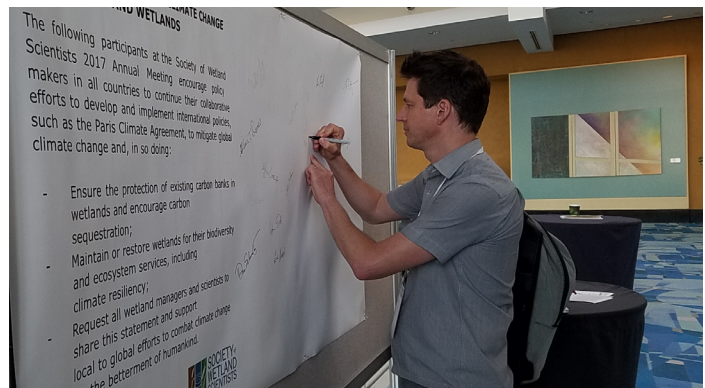
SWS members Max Finlayson, Luca Marazzi and Peter Gell



SWS past president Gillian Davies



SWS member Roy Gardner



Matt Simpson, SWS Europe chapter president

Also, SWS wetland scientists Gail Chmura, Gillian Davies, Max Finlayson, Beth Middleton, Sue Natali, Jim Perry, Nigel Roulet, Ariana Sutton-Grier, and climate scientist William Moomaw have submitted an article titled, “The Relationship Between Wetlands and a Changing Climate” to the *Wetlands* journal. This article reviews research on how wetlands function in the global carbon cycle, the climate resiliency and adaptation services provided by wetlands, and the particular vulnerabilities that wetlands face as our climate changes. The article identifies policies and management strategies at all scales (local to global) that foster wetland and societal climate resilience/adaptation, protect ecosystem carbon stored in wetlands, and protect the future capacity of wetlands to sequester carbon from the atmosphere. ■

Ramsar Convention on Wetlands and Society of Wetland Scientists (SWS) Renew Memorandum of Cooperation at SWS Europe Chapter Meeting in Faro, Portugal

Gillian Davies, PWS, SWS President

Mathew Simpson, Ph.D., PWS, SWS Europe Chapter President

Jos T. A. Verhoeven, Ph.D., SWS Europe Chapter Past President

The SWS Europe Chapter convened a resoundingly successful Annual Meeting, held jointly with the European Pond Conservation Network (EPCN) in Faro, Portugal, from May 2nd through May 6th, 2017. At the meeting, Ramsar Convention on Wetlands Secretary General Martha Rojas-Urrego and Society of Wetland Scientists President Gillian Davies signed and renewed the Ramsar – SWS Memorandum of Cooperation (See Photos 1 & 2). This Memorandum creates the framework for collaboration between the two organizations during the 2017 – 2023 timeframe.

The Ramsar Convention is an international treaty for the conservation and sustainable use of wetlands, and includes 169 Contracting Parties (nations) and 2,266 Ramsar Sites throughout the world. The Ramsar Convention and SWS share objectives for protecting, conserving, restoring and sustainably managing wetlands around the world, as well as providing wetlands education and outreach. As the Memorandum notes, “The Convention on Wetlands and the SWS recognize the fundamental role played by wetlands in regulating and providing water, in supporting maintenance of cultural and biological diversity, in ensuring high ecosystem integrity, in regulating climate, and in providing ecosystem services and benefits for people and the planet.”

SWS is an observer organization to the Convention on Wetlands, has a Ramsar Section and a representative to the Ramsar Scientific and Technical Review Panel, and collaborates with Ramsar across a wide range of initiatives. Most recently, the SWS Ramsar Section has collaborated with the Ramsar Secretariat, the World Wetland Network, and Wildfowl & Wetland Trust to initiate a citizen science wetland assessment of the condition of the world’s wetlands (<http://www.worldwetnet.org/about-us/world-wetlands-survey-2017>). It was also agreed that the Ramsar Secretariat will be giving a webinar as part of the SWS webinar series in June (<http://www.sws.org/About-SWS/upcoming-webinars-for-nonmembers.html>).

The SWS Europe Chapter has been establishing and developing important liaisons with other groups and networks active in wetland research, protection and managements in Europe, and this year partnered with the European Pond Conservation Network (EPCN) to host a joint Annual Meeting and field trips. Members and leaders of several societies, as well as members of other SWS Chapters, attended the SWS-EPCN meeting in Faro. At the meeting, the Europe Chapter signed two Memoranda of Cooperation with fellow societies WETPOL (Wetland Pollutant Dynamics and Control) and the Constructed



PHOTO #1: Ramsar Convention Secretary General Martha Rojas-Urrego and SWS President Gillian Davies sign and renew the Ramsar Convention on Wetlands – Society of Wetland Scientists Memorandum of Cooperation.

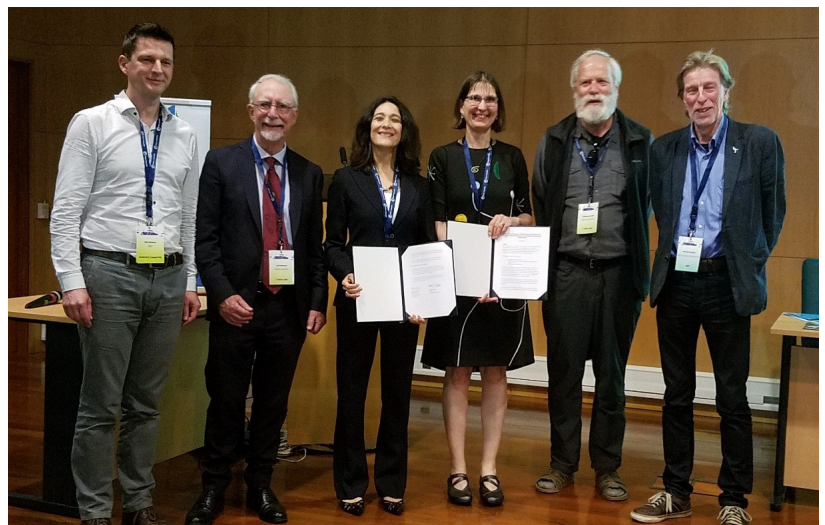


PHOTO #2: From left to right: SWS Europe Chapter President-Elect Matthew Simpson, SWS Europe Chapter President Jos Verhoeven, Ramsar Convention Secretary General Martha Rojas-Urrego, SWS President Gillian Davies, SWS President-Elect Arnold Van der Valk, SWS Ramsar Section Chair Nick Davidson.

Wetlands Association (See Photos 3 & 4). WETPOL is an organization that brings scientists, engineers and practitioners together to focus on the use of natural as well as constructed wetlands for water quality improvement. The Constructed Wetlands Association promotes the application of constructed wetland technologies to address water pollution issues.

Additionally, the SWS Europe Chapter has recently become a member society in the Mediterranean Wetland Alliance. Because Europe borders the Mediterranean, and conference programming included presentations on Mediterranean wetlands, the meeting drew attendees from the Mediterranean region of North Africa as well as Europe. Further, meeting attendees signed the “Call to Ac-

tion to Halt the Degradation of Islands’ Wetlands of the Mediterranean Basin”, which, “...extends a pledge to all interested parties, including the national Governments, the European Commission, local authorities and administrations, academia, the NGO community, donor agencies, and the public, on the urgent need to conserve the important wetland ecosystems of the Mediterranean Islands” and “Invites the Ramsar Secretariat to further support the National Governments to designate small islands wetlands in the List of Wetlands of International Importance” and “Invites the Secretariat to the Barcelona Convention and its Protocol to further urge the Mediterranean countries for the ratification of the ICZM Protocol” (http://sws.org/images/chapters/europe/Call_for_action_IslandWetlands.pdf).



PHOTO #3: SWS Europe Chapter President Jos Verhoeven signs Memorandum of Cooperation with WETPOL's Diederik Rousseau.



PHOTO #4: SWS Europe Chapter President Jos Verhoeven signs Memorandum of Cooperation with Constructed Wetland Association's and SWS Europe Chapter President-Elect Matthew Simpson.



PHOTO #5: From left to right: SWS President Gillian Davies, Bangor University Student Association President Dan Roberts, faculty advisor Chris Freeman, SWS President-Elect Arnold Van der Valk, SWS Europe Chapter President Jos Verhoeven.



PHOTO #6: Student oral presentation award winner Sophie-Bo Heinkel and SWS President Gillian Davies.



PHOTO #7: SWS President Gillian Davies, SWS International Chapter member and Ph.D. student Afrah Saad Al-Mahfadi and SWS Europe Chapter President Jos Verhoeven prepare to tour Doñana National Park.



PHOTO #8: Doñana National Park, Ramsar Wetland of International Importance.



PHOTO #9: Wild horses graze near egrets, with flamingos in the distance, at Doñana National Park.



PHOTO #10: SWS Europe Chapter members on field trip to the Doñana National Park.

The SWS Europe Chapter had invited the Ramsar Secretary General Martha Rojas-Urrego and SWS President Gillian Davies to attend the Faro meeting for signing the Memorandum of Cooperation. This event and the presence of both leading officers gave the chapter meeting a special atmosphere of global interaction and collaboration. Together with the special features on the conservation of the Doñana delta, paludiculture to mitigate peatland loss and retention of pharmaceuticals in wetlands, the island wetlands Call to Action and the signing of two more MoCs, this resulted in successful and tangible outreach to the worlds of policy and practice. Europe Chapter leadership feels that the presence of SWS President Gillian Davies has been outright essential. She was very visible during the meeting and has networked effectively with high-ranking officials as well as chapter members, students and practitioners. After the successful and inspiring visit of SWS Past President Kim Ponzio in Potsdam in 2016, this year's visit by the President has reinforced the connection between the Europe Chapter and the leadership of the Society. The importance of this linkage can hardly be underestimated. There is a large potential for future SWS members among scientists and professionals working in wetland science in Europe. It is the Europe Chapter's ambition to involve these people in the Chapter and the Society is greatly helped by the support of the SWS leadership, as is shown by the scientific and cross-sector interactions during the meeting reported above.

62 people attended the meeting, 52 percent of whom are SWS members. This represents a 47 percent increase in member attendees compared to 2016 when only 15% of attendees were members.

Kudos to Ph.D. student Dan Roberts and faculty advisor Chris Freeman, both of whom attended the Faro meeting, for launching the first SWS student association in Europe and outside the U.S. at Bangor University in Wales (see Photo #5), where over 30 students have gotten involved. The Europe Chapter presented an oral presentation award to Sophie-Bo Heinkel (See Photo #6) and a poster award to Javier Pérez. Congratulations to these students for their excellent work! SWS would also like to thank Ph.D. student Afrah Saad Al-Mahfadi for travelling from Morocco (See Photo #7), where she is studying at Mohammed V University, to attend the SWS Europe Chapter meeting. Afrah is a member of our International Chapter, and gave an outstanding presentation on her project to survey all the wetlands in her home country of Yemen, a task that had not yet been addressed by wetland scientists. We look forward to hearing more from these talented students, as they advance in their wetlands careers.

A special highlight of the meeting was the field trip to Doñana National Park in Spain, which is a Ramsar Wetland of International Importance, a UNESCO World Heritage site, and is part of a larger Biosphere Reserve (See Photo #8). Doñana

is a refuge for 6 million birds that migrate between Europe and Africa, as well as wild boars, lynx, red deer, fallow deer, wild horses, and more. The wild horses appear to be a facultative wetland species, enjoying grazing in both wetlands and uplands (See Photo #9)! Although the physical area of Doñana has been protected, it continues to be threatened by significant groundwater withdrawal, agricultural and mining industry runoff, and dredging of the Guadalquivir River. Climate change further exacerbates these threats. Thanks to the efforts of Jos Verhoeven, participants toured a restricted area with extensive biodiversity. SWS members climbed a large dune that has been migrating into wetlands since juniper trees were cleared from the dunes in former centuries. In Photo #10, extensive wetlands can be seen behind the dune that wetland scientists are standing on.

During the conference, there were two more one-day field trips. The first trip visited a beautiful stream valley landscape along the Ribeira do Vascão, where the EU-LIFE project Saramugo is being carried out (See Photo #11). The project investigates negative impacts of invasive species and methods to minimize these. The fish fauna (11 native species) is being threatened by as many as 14 species of non-native, mostly predator species. The vegetation on the stream banks is locally invaded by tall non-native reeds, *Arundo donax*. In the afternoon a heavy metal mine waste site was visited, where wetlands are designed to work with the acid mine drainage. The second trip concentrated on

Mediterranean temporary ponds in the area Vila do Bispo and Sagres, where the EU-LIFE project Charcos is in full swing. Ponds in good condition as well as ponds in the stage of being restored were visited.

Europe Chapter President Mathew Simpson, Europe Chapter Past President Jos Verhoeven, Ramsar Representative Nick Davidson, Europe Chapter members Rob McInnes and Rebecca Woodward, SWS President Elect Arnold van der Valk, and SWS President Gillian Davies held a conference call with SWS Professional Certification Program (PCP) President John Lowenthal and Harold Jones to discuss strategies for improving the international process for certification. Matthew Simpson recently completed the Professional Wetland Scientist certification process, allowing him to provide useful feedback to the PCP, as did others in the group.

SWS loyalty runs strong in Europe, as every single SWS Europe Chapter Past President attended the Europe Chapter Annual Meeting (See Photo #12). One of the best things about joining SWS and getting actively involved is the friendships that form and that persist through decades of professional work. We should note that wetland scientists are a very special and enjoyable group of people who work to address some of the most pressing problems facing our world, all while wading through every possible variety of wetland that the world offers. If you have not renewed your membership, please do so right away! ■



PHOTO #11: Field trip to Ribeira do Vascão.



PHOTO #12: SWS Europe Chapter past and current presidents stand in order of presidency from left to right: Chris Freeman, Rob McInnis, Jan Vymazal, Jos Verhoeven, Matthew Simpson and Dominik Zak (not pictured). Matthew assumed office during the Chapter Meeting.

Board and Membership Survey Responses Regarding U.S. Policy

Over the past several months, the SWS Executive Board and Staff have received numerous emails and other communications expressing concerns and views about the wetlands, climate change, and natural resource policy direction that the U.S. Administration is pursuing. SWS, in concert with many other scientific societies, has been responding to these changes in policy with letters and by Partnering with March for Science. Wishing to represent with fidelity the views of our membership and our Board of Directors, the Executive Board sent a survey in March to both our membership and the Board of Directors. The Summary below provides the results of this survey, and we are pleased to report that our actions as a Society do represent the views of the significant majority of both our members and our Board of Directors, in addition to being consistent with our Strategic Plan. The SWS Strategic Plan is available on our website at: <http://www.sws.org/category/governance.html>. Foundational in our decision-making with regard to responses to policies is the component of our Strategic Plan that states that SWS will “Promote sound science in wetland policy and stewardship”. ■

1. How concerned about, or supportive of, are you about the new U.S. Administration’s goal to repeal the Waters of the United States Clean Water Rule (<https://www.whitehouse.gov/america-first-energy>)? 336 Members Responded; 18 BOD Members Responded

Answer Options	Membership Responses	Board Responses
Extremely concerned	75.0% (252)	72.2% (13)
Somewhat concerned	12.8% (43)	16.7% (3)
Neutral	3.3% (11)	5.6% (1)
Mildly supportive	4.5% (15)	0% (0)
Enthusiastically supportive	4.5% (15)	5.6% (1)

2. How concerned about, or supportive of, are you about the new U.S. Administration’s goal to weaken or eliminate the U.S. EPA? 334 Members Responded; 17 BOD Members Responded

Answer Options	Membership Responses	Board Responses
Extremely concerned	85.6% (286)	88.2% (15)
Somewhat concerned	6.6% (22)	11.8% (2)
Neutral	1.5% (5)	0% (0)
Mildly supportive	3.6% (12)	0% (0)
Enthusiastically supportive	2.7% (9)	0% (0)

3. How concerned about, or supportive of, are you about the new U.S. Administration’s stance on climate change? 335 Members Responded; 18 BOD Members Responded

Answer Options	Membership Response	Board Response
Extremely concerned	84.5% (283)	77.8% (14)
Somewhat concerned	7.2% (24)	11.1% (2)
Neutral	3.3% (11)	5.6% (1)
Mildly supportive	3.3% (11)	5.6% (1)
Enthusiastically supportive	1.8% (6)	0% (0)

4. If you are an SWS member from outside the U.S., what impact do you think the current U.S. Administration’s policies concerning wetland issues will have on wetland protection, restoration and management in your home country? 43 Members Responded; 5 BOD Members Responded

Answer Options	Membership Response	Board Response
Negative impact	79.1% (34)	40% (2)
No impact	18.6% (8)	60% (3)
Positive impact	2.3% (1)	0% (0)

- The majority of respondents of both membership and the board, felt that the proposals from the current U.S. Administration would cause a deterioration of the environment and a reduction in wetlands protection.
- Some respondents noted that the EU is actively looking at Asia for cooperation on environmental policies and the US policies will have a lesser impact in the EU – assuming the EU policies remain in place.

5. How do you think recent and proposed changes in U.S. policies regarding wetlands will affect information exchange to / from wetland scientists in the U.S.? 292 Members Responded; 17 BOD Members Responded

Answer Options	Membership Response	Board Response
Will have a significant effect on information exchange	53.8% (157)	58.8% (10)
Will have minor effect on information exchange	33.2% (97)	29.4% (5)
Will have no effect on information exchange	13.0% (38)	11.8% (2)

6. How will your travel to / from the U.S., for scientific reasons, be affected by the current U.S. Administration's policies concerning wetland issues and/or travel restrictions? 247 Members Responded; 17 BOD Members Responded

Answer Options	Membership Response	Board Response
Negative impact	25.9% (64)	23.5% (4)
No impact	73.3% (181)	76.5% (13)
Positive impact	0.8% (2)	0% (0)

- Over half of the membership respondents indicated that they don't currently travel/don't plan on traveling out of the US to conduct research. The majority of the other respondents felt that travel to/from the US for scientific reasons may have an unnecessary burden on scientists conducting research and educating the public.
- A few membership respondents supported the travel ban and/or discouraged SWS from engaging in political matters.
- The one comment received from the board noted that for the time being, they would give it the benefit of doubt but opinions may change if further actions of the US administration unfold.

7. What specific suggestions do you have for the Executive Board for future actions or strategies that would support the SWS Mission and Strategic Plan goals (see <http://www.sws.org/category/governance.html>), as they relate to wetlands and natural resources? 116 Members Responded; 9 BOD Members Responded

- The majority of both the suggestions to the board from membership and from the board themselves, focused on education and advocacy. Educating the general public specifically through media efforts and partnering with other organizations to provide information about the impact of wetlands. There was also resounding feedback to advocate for strong policies based on sound science through white papers and contact with law makers as examples.
- Several comments suggested that SWS engage in lobbying and many responses indicated that SWS should partner with states to advance the SWS mission and strategic plan goals.
- A few comments noted that SWS should not engage in politics.

8. Are you able to answer a question about the March for Science. If yes, you will be taken to the question. 320 Members Responded; 18 BOD Members Responded

Answer Options	Membership Response	Board Response
Yes	72.8% (233)	72.2% (13)
No	27.2% (87)	27.8% (5)

9. The March for Science (April 22, 2017) mission statement (<https://www.marchforscience.com/mission/>) is consistent with the SWS Mission and Strategic Plan. SWS leaders Gillian Davies, Kim Ponzio, Julia Cherry, Loretta Battaglia, Jim Perry, Bill Morgante, Beth Middleton, Dennis Whigham, Julie Alcon and Ingeborg Hegemann will be leading an SWS presence at the March for Science in Washington, D.C. What are your thoughts on the March for Science? 237 Members Responded; 13 BOD Members Responded

Answer Options	Membership Response	Board Response
I am in support of the March, and plan on attending in Washington, D.C.	11.8% (28)	46.2% (6)
I am in support of the March, and plan on attending a satellite march in another location.	49.4% (117)	38.5% (5)
I am in support of the March, but am not attending.	28.7% (68)	15.4% (2)
I am neutral about the March.	5.5% (13)	0% (0)
I do not support the March.	4.6% (11)	0% (0)

- SWS members are attending marches from coast to coast in 25 states (AK, AZ, AR, CA, CO, FL, HI, IL, IN, IA, LA, ME, MA, MN, MO, NM, NY, ND, OH, OR, PA, TX, UT, WA, WI). The marches with the highest concentration will be in Boston (11) and Seattle (10).
- Other comments on the march noted that the march must be nonpartisan to accomplish anything and that it be a true promotion of science.

10. Would you be interested in contacting your legislators about wetlands issues, if SWS provided you with timely information in this regard? 324 Members Responded

Answer Options	Membership Response
Yes	85.8% (278)
No	14.2% (46)

SWS Joins Other Organizations in Supporting Federal Research, Aquatic Habitat Conservation

SWS has joined fellow CASS societies in signing the letters supporting FY18 funding for NOAA, NASA, and EPA, and has sent them to the relevant House and Senate Appropriations Subcommittees as "Outside Witness Testimony". Proposed cuts to the aquatic and wetland-related programs at these federal agencies have the potential to lead to significant ecological damage. These letters support the continued funding of programs essential to the protection of wetlands and aquatic resources. An example of the one of the letters - this one supporting EPA activities - follows. Copies of all letters can be viewed at <http://sws.org/Resources/letters-of-comment.html>. (Note: CASS has recently added a new member to its list of cooperators - the Freshwater Mollusks Conservation Society.)



April 26, 2017

The Honorable Lisa Murkowski, Chairman
Senate Committee on Appropriations Subcommittee
on Interior, Environment, and Related Agencies
U.S. Senate
Washington, D.C. 20510

The Honorable Tom Udall, Ranking Member
Senate Committee on Appropriations Subcommittee
on Interior, Environment, and Related Agencies
U.S. Senate
Washington, D.C. 20510

Dear Chairman Murkowski and Ranking Member Udall,

The Consortium of Aquatic Scientific Societies (CASS) is comprised of six professional societies representing diverse knowledge of the aquatic sciences. CASS members include the: American Fisheries Society, Association for the Sciences of Limnology and Oceanography, Coastal and Estuarine Research Federation, Phycological Society of America, Society for Freshwater Science, and Society of Wetland Scientists. Our collective membership totals almost 20,000 individuals that span the private sector, academia, non-governmental organizations, and various tribal, state, and federal agencies. The CASS organizations represent professionals who combine deep subject-matter expertise, a commitment to independent objectivity, and the critical review of environmental information, along with a passion for the natural places and resources that form the foundation of American greatness. We support the development and use of the best available science to sustainably manage our freshwater, estuarine, coastal, and ocean resources to the benefit of the U.S. economy, environment, and public health and safety.

CASS writes in strong support of the **Environmental Protection Agency (EPA)** and EPA programs that support the research, conservation, restoration, and sustainable use of aquatic ecosystems required by all U.S. citizens, who rely on clean and abundant water for their health and well-being. On March 16, the Trump Administration released a budget blueprint that identified drastic cuts to the EPA that would eliminate many critical programs that support sustainable use and economic development of aquatic resources. The Administration's internal spend plan memo from David A. Bloom, Acting CFO, dated March 21, directly targets many programs that protect and restore water resources. Among the programs listed for elimination: Great Lakes, Chesapeake Bay, Puget Sound, and other geographic restoration programs; nonpoint source pollution grant funds; the National Estuary Program; and research grant programs on safe and sustainable water resources and climate change. We urge you to reject these recommendations and instead provide your full support to EPA and its aquatic science and management programs.

CASS recognizes that the Appropriations Committees face difficult decisions given fiscal constraints; we support EPA and the programs noted above because they are vital to our Nation's economic and environmental well-being, and are an efficient and effective use of funds appropriated by the federal government. They support a clean and adequate water supply, sustainable fish populations for food and recreation, natural and human communities that are resilient to hazards and changing climates, healthy and diverse aquatic ecosystems, and abundant outdoor recreation opportunities that protect America's conservation heritage and provide enormous economic and cultural benefit. The federal funding provides an enormous return on investment that sustains and creates jobs and protects lives and natural resources. We hope that the Committee will continue its support for these vital EPA programs.

Respectfully,

Joe Margraf
President, American Fisheries Society

Linda Duguay
President, Association for the Sciences of
Limnology and Oceanography

Robert R. Twilley
President, Coastal and Estuarine Research
Federation

Tim Nelson
President, Phycological Society of America

Emily Bernhardt
President, Society for Freshwater Science

Gillian Davies
President, Society of Wetland Scientists

Consortium of Aquatic Science Societies
c/o American Fisheries Society
Douglas Austen, Executive Director
425 Barlow Place, Suite 110
Bethesda, MD 20814
301-897-8616
dausten@fisheries.org

SWS also joined the American Institute for Biological Sciences and many other leading biological science organizations in signing a letter to Congress urging strong investment in scientific research and education in fiscal year 2018, and rejecting deep cuts to federal research programs, such as those proposed by the U.S. President in his proposed budget. See letter below. ■

May 23, 2017

Dear Members of Congress,

As leading scientific organizations in the biological sciences, we urge you to make strong investments in scientific research and education in fiscal year 2018, and to reject the deep cuts to federal research programs proposed in the President's budget request.

Research is an important engine that powers our economy. Over the past 50 years, roughly half of our nation's private sector economic growth has resulted from research and development.

Analysis of the return on the federal government's \$12 billion investment in the Human Genome Project found that it generated an estimated \$800 billion in economic return. Other economic analyses of investments in agricultural research have estimated a \$10 return on every \$1 the federal government invests. These are just some examples and others may be found in a recent report from the American Institute of Biological Sciences (see https://www.aibs.org/public-policy/resources/AIBS_Biological_Innovation_Report.pdf). In short, taxpayer support of scientific research pays dividends.

The federal government provides more than half of the funding for basic research in the United States. Indeed, industry counts on the federal government to support fundamental discovery so that the private sector may target its resources to new product development. For example, 80,000 patents awarded over a 10-year period were based on research initially funded by the National Science Foundation.

Although the United States has long been a global leader in science, our leadership is waning. Foreign countries are allocating growing shares of their Gross Domestic Product to research and development. New investments in federal research programs must be a priority if we are to remain a global scientific power.

The budget cuts outlined by the Administration for 2018 would set back American innovation for years. Funding rates for programs that support foundational biological research are already extremely low, with roughly four out of five research proposals rejected by the National Science Foundation, National Institutes of Health, and Agriculture and Food Research Initiative. The proposed budget would slash these funding rates even further for researchers at universities, colleges, marine labs, field stations, biological collections, and other non-profit research centers. Research conducted at federal labs would be harmed by likely staff reductions and cuts to research budgets.

Congress has shown bipartisan leadership by advancing science and thus stimulating American innovation and entrepreneurship. Please continue to demonstrate this bipartisan national leadership as Congress makes fiscal year 2018 appropriations.

Sincerely,

American Institute of Biological Sciences
American Arachnological Society
American Ornithological Society
American Society of Ichthyologists and Herpetologists
American Society of Mammalogists
American Society of Naturalists
American Society of Plant Biologists
American Society of Primatologists
Animal Behavior Society
Association of Ecosystem Research Centers
Belle W. Baruch Institute for Marine and Coastal Sciences,
University of South Carolina
BioQUEST
Botanical Research Institute of Texas
Botanical Society of America
Coastal and Estuarine Research Federation
Delaware Museum of Natural History
Entomological Collections Network
Entomological Society of America
Florida Atlantic University
Human Anatomy and Physiology Society

National Tropical Botanical Garden
Natural Science Collections Alliance
Organization of Biological Field Stations
Paleontological Society
Sam Noble Oklahoma Museum of Natural History
San Diego Natural History Museum
Sitka Sound Science Center
Society for Behavioral Neuroendocrinology
Society for Integrative and Comparative Biology
Society for Mathematical Biology
Society for the Study of Amphibians and Reptiles
Society for the Study of Evolution
Society of Systematic Biologists
Society of Vertebrate Paleontology
Society of Wetland Scientists
Southern Appalachian Botanical Society
Southwestern Association of Naturalists
The Coleopterists Society
US Chapter of the International Association for Landscape Ecology
Weed Science Society of America
Willi Hennig Society

SWS Sends Letter of Support for the Herring River Restoration Project at the Cape Cod National Seashore in Wellfleet and Truro, Massachusetts

Project partners and supporters include the US Fish and Wildlife Service, NOAA, the Natural Resources Conservation Service, and the Massachusetts Division of Ecological Restoration. This project will apply cutting edge wetland science and management to restore approximately 1,000 acres of salt marsh on one of the largest tidally-restricted estuaries in the northeastern United States. Removal of the tidal restriction will allow this estuary to resume playing an important role in the aquatic food chain of the Gulf of Maine, and has the potential to provide substantial Blue Carbon (the carbon sequestered and stored long-term in coastal wetlands) benefits, while serving as one of the first such projects at this scale, both nationally and internationally. More information can be found in this background pamphlet (http://sws.org/images/sws_documents/SWSHerringRiver-background.pdf), as well as in this project highlights document (http://sws.org/images/sws_documents/SWSHerringRiver-highlights.pdf). ■



SOCIETY of WETLAND SCIENTISTS

June 6, 2017

Board of Selectmen
Town of Wellfleet
300 Main Street
Wellfleet, MA 02667

Michaela.Miteva@wellfleet-ma.gov

Board of Selectmen
Town of Truro
4 Town Hall Road, PO Box 2030
Truro, MA 02666

ntudor@truro-ma.gov

Kathy Tevyaw
Acting Superintendent
Cape Cod National Seashore
99 Marconi Site Road
Wellfleet, MA 02667

kathy_tevyaw@nps.gov

RE: Support for Herring River Restoration Project
Towns of Wellfleet and Truro, Massachusetts
Cape Cod National Seashore

Dear Boards of Selectmen for the Towns of Wellfleet and Truro and Acting Superintendent Kathy Tevyaw for the Cape Cod National Seashore,

The Society of Wetland Scientists (SWS) is an international scientific society, representing approximately 3,000 members from 58 countries, whose mission is to promote understanding, conservation, protection, restoration, science-based management, and sustainability of wetlands. SWS members work in the private sector, academia, and various tribal, state, federal, and international agencies. The New England Chapter of the SWS is dedicated to fostering conservation, restoration and understanding of wetland issues in the six New England states.

SWS supports the Herring River Restoration because of the regional, national and international significance of the project, which will provide extensive benefits to estuarine wetlands as well as contributing to the advancement of the science of wetland restoration (as outlined in the attached information and in this letter). SWS wishes to endorse ongoing support for the project as it moves forward with the implementation phase.

Incorporating an extensive stakeholder process, this project has been developed over the past decade (design began in 2007, implementation phase began in 2016), under the auspices of the Towns of Wellfleet and Truro and the Cape Cod National Seashore (CCNS), which share ownership of this resource area. In addition to the Towns and CCNS, partners and supporters of the project include the US Fish and Wildlife Service, NOAA, the Natural Resources Conservation Service, and Massachusetts Division of Ecological Restoration.

The Herring River system is one of the largest tidally-restricted estuaries in the northeastern United States. The restoration of tidal flow in the Herring River system has the potential to restore 1,000 acres of estuarine wetlands, which will provide habitat for fish, shellfish, shorebirds and terrestrial wildlife. Healthy coastal wetlands also make shorelines more resilient by buffering the effects of storm surge and sea level rise. Restoration of tidal flow will allow the Herring River system to once again play an important role in the aquatic food chain of the Gulf of Maine, thereby having an impact on a coastal system that both New England and southeastern Canada depend upon.

SWS also supports the project because of its use of advanced wetlands science, including innovative modeling and adaptive management techniques. The project design was developed through an assessment of restoration alternatives and their associated environmental impacts guided by national experts in estuarine science, civil engineering and environmental resource management. The application of leading edge wetlands science will contribute to our understanding and use of these tools and techniques in other settings. This project proposes exploring potential Blue Carbon benefits (the carbon sequestered and stored long-term in coastal wetlands) of large scale salt marsh restoration. Once the project stabilizes the establishment of salt marsh, researchers expect to see a reduction in methane emissions as well as the potential storage of hundreds of tons of carbon within the floodplain soils of the Herring River. This project will add significantly to our understanding of the potential for salt marshes to address climate change, both in terms of carbon mitigation and climate resiliency. This project is one of the first of its kind nationally and internationally, particularly given its large scale, making it a model for many more potential projects around the world.

For these reasons, SWS considers the Herring River Restoration to be a project of national and international significance and one that deserves our strong support.

Sincerely,



Jennifer Karberg, Ph.D.
President, New England Chapter
Society of Wetland Scientists



Gillian Davies, M.E.S., P.W.S.
President
Society of Wetland Scientists

cc: Senator Elizabeth Warren
Senator Edward Markey
Congressman William Keating
Senator Julian Cyr
Representative Sarah Peake
Friends of Herring River
US Fish and Wildlife Service
Pat Montanio, Director, NOAA Fisheries, Office of Habitat Conservation
Natural Resources Conservation Service
Tim Purinton, Director, Massachusetts Division of Ecological Restoration
Hunt Durey, Deputy Director, Massachusetts Division of Ecological Restoration

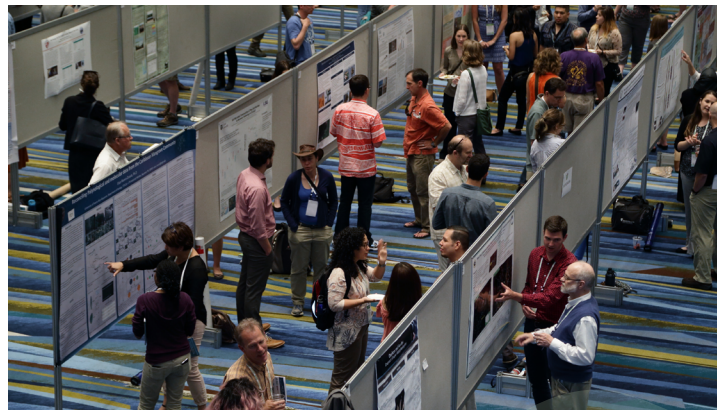
Society of Wetland Scientists Annual Meeting

SWS 2017

Puerto Rico

June 5-8

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President's Message continued from page 35

Perry, Steve Faulkner and Ben LePage, Wetlands Journal Editor Marinus Otte, SWS Fellow Gene Turner, Oceania Past President Jenny Davis, Ramsar Representative Nick Davidson, incoming President Arnold van der Valk, incoming President-Elect Beth Middleton, myself and many other SWS members have been working to improve the internationalization of SWS.

As a Society, SWS has supported these efforts with the recently implemented Chapter Development grant fund program, and the Executive Board Chapter Outreach program. Since inception of the Chapter Outreach program, the SWS Executive Board has provided an outreach visit to the Rocky Mountain Chapter (host of the 2018 Annual Meeting), and two outreach visits to the Europe Chapter using Outreach funds. In person, face-to-face outreach has also been provided to the Asia, proposed China, Oceania, International, and Canadian Chapters, using other funding means. In the fall, incoming President Arnold van der Valk is planning to attend the North Central Chapter Annual Meeting at the request of the chapter.

We are now seeing the fruits of these efforts, which in combination with other efforts by our chapters and members, have contributed to results that include proposals for a new China Chapter, a new Student Association in Wales, and a jump in the percentage of Europe Chapter Annual Meeting attendees who are chapter members, from 15% in 2016 to 52% in 2017. The Asia Chapter hosted an

international chapter meeting, the International Wetland Convention, with over 500 people in attendance, including many high-level government officials. At this meeting, SWS renewed our Memorandum of Understanding with the Taiwan Construction and Planning Agency, Ministry of the Interior, and heads of several Taiwanese government agencies signed an unprecedented agreement for inter-agency cooperation regarding wetlands.

Further contributing to our internationalization effort, we are holding a joint meeting in Quebec City, Quebec in 2020 with the Society for Ecological Restoration and the Canadian Land Reclamation Association, and the Asia Chapter is proposing an Annual Meeting in Taipei in 2024.

Last July, I asked incoming President Arnold van der Valk to chair an Internationalization Ad Hoc Committee, and to have the committee develop recommendations for ways that SWS could improve our internationalization. Along with committee members Samantha Capon (Australia), Nick Davidson (U.K.), Fred Ellery (South Africa), Kevin Erwin (U.S.), Wei-Ta Fang (Taiwan), and Beth Middleton (U.S.), Arnold has prepared a report for the Board of Directors with a number of pro-active recommendations. Thank you to Arnold and the members of the committee for their time and thoughtful work.

Due in large part to the efforts of many SWS members, particularly Organizing Committee co-chair Gene Turner, who served on the Organizing and Scientific Committees for



PHOTO 2: SWS gathers in front of Washington Monument before marching for Science.

the 10th INTECOL International Wetlands Conference, SWS was given a prominent role at various conference events in Changshu, China last September. In meetings with Ramsar Convention Deputy Secretary General Ania Grobicki and Secretary General Martha Rojas-Urrego at INTECOL and the recent Europe Chapter Annual Meeting, Nick Davidson, Jos Verhoeven, Kim Ponzio, Arnold van der Valk and I have been able to raise the SWS profile. As a result, the Ramsar Convention is looking at new ways to partner with SWS, to further develop existing partnerships, and has extended an invitation to SWS to be represented at the Ramsar Convention of the Parties (COP) in Dubai in October of 2018. The SWS Ramsar Section has collaborated with Ramsar, the World Wetland Network, and Wildfowl & Wetland Trust, in support of Ramsar's Citizen Science Wetland Assessment of the Condition of the World's Wetlands project (<http://www.worldwetnet.org/about-us/world-wetlands-survey-2017>), in which all SWS members are encouraged to participate. Following conversations that Nick Davidson and I had with the Ramsar Deputy Secretary General at INTECOL, the Ramsar Secretary General travelled to the Europe Chapter Annual Meeting in Faro, Portugal, where she and I signed and renewed our Memorandum of Cooperation. The Europe Chapter outgoing President, Jos Verhoeven, signed two ad-

ditional Memoranda with other European wetlands organizations, and the meeting was co-sponsored with the European Pond Network (See article on page 40 for details about the Europe Chapter Annual Meeting).

This spring, I formed a Governance Structure Ad Hoc Committee to examine SWS governance structures with current growth patterns, Strategic Plan goals, organizational challenges, and the recommendations of the Internationalization Ad Hoc Committee in mind. This Ad Hoc Committee will confer with the Board of Directors and other SWS stakeholders to develop recommendations that address the continued growth and internationalization of SWS in the context of fulfilling the Strategic Plan and addressing organizational challenges as effectively as possible. Regarding SWS governance, I would like to thank Kimberli Ponzio, who, with assistance from SWS staff and the Executive Board, has completed a substantial revision of the SWS Leadership Manual to bring it up to date. The revised Leadership Manual will be more accurate, clearer, and more consistent, and will be an essential tool for SWS leadership in the coming years.

WETLAND AMBASSADORS

Bianca Wentzell has been doing an outstanding job launching the Wetland Ambassadors program, an international



PHOTO 3: SWS veterans Eugene Turner and Dennis Whigham support swamps!



PHOTO 4: SWS Treasurer Julia Cherry, President Gillian Davies, Secretary-General Loretta Battaglia, and Immediate Past President Kimberli Ponzio, standing for Science.



PHOTO 5: Keeping it real.

exchange program that offers graduate research fellowships, and further develops our capacity as an international organization. During the summer of 2017, our first Wetland Ambassador, Ph.D. candidate Amr Keshta, will carry out his Wetland Ambassador fellowship at University of Hamburg in Hamburg, Germany, with Dr. Kai Jensen serving as his mentor. Bianca and our Ramsar Representative are exploring potential Ramsar projects that would engage our Wetland Ambassadors.

WEBINARS AND PARTNERSHIPS

The SWS Webinars program, started in September of 2015, continues to offer relevant and interesting educational opportunities, many with international applicability, such as our June 2017 Ramsar Convention webinar, featuring a presentation on wetlands and culture from Ramsar Secretariat staff David Pritchard (Ramsar Culture Network Coordinator) and Miriam Kenza Ali (Ramsar Culture & Livelihoods Manager). Mariam Kenza Ali comments, “Our current focus is on Rapid Cultural Inventories for Wetlands (<http://www.ramsar.org/activities/rapid-cultural-inventories>). The objective of these inventories is to bring to light the powerful role that cultural values and practices can play in wetland conservation and wise use. We have active projects in Africa, the Middle-East, Western Ghats and planned

projects in the Mediterranean, Oceania, and urban and peri-urban wetlands in Australia.”

SWS has strengthened our partnership with the SWS Professional Certification Program by collaborating on a pre-certification plan for SWS webinars, allowing Professional Wetland Scientist credit to be earned by accumulating webinar attendances. Europe Chapter leadership has been coordinating with SWS PCP and SWS leadership to improve the PWS certification process for non-U.S. wetland scientists. Matt Simpson and Rob McInnes have been testing the application process, and Matt recently received his PWS certification.

Over the course of the past year, we have established a new partnership with the Society for Ecological Restoration (SER) via the signing of a Memorandum of Cooperation. By establishing this relationship and opening dialogue between leadership of the two organizations, the two Societies have exchanged organizational advice, have been working towards a joint meeting that also includes the Canadian Land Reclamation Association in Quebec City in 2020, and SER signed the March 1st SWS letter to President Trump and Congress regarding the Waters of the United States Clean Water Rule (http://sws.org/images/sws_documents/SocietiesLetterSupportWOTUSAmiciCuriaeBrief_ToPresidentTrump.pdf).



PHOTO 6: Need we say more? Thank you, Julie Alcon.

SCIENCE-BASED POLICY

Our Consortium of Aquatic Science Societies partnership continues to develop and strengthen, with numerous educational and policy-related collaborations occurring over the course of the year. Three CASS Societies co-signed the SWS WOTUS Clean Water Rule letter, and in May, SWS signed CASS letters in support of FY 2018 federal funding for EPA, NOAA and NASA (<http://www.sws.org/Resources/letters-of-comment.html>), as well as a December, 2016 letter to then President Elect Trump informing him about CASS and expressing support for aquatic sciences (http://sws.org/images/News/CASS-Trump-Transition-Letter_Final.docx.pdf). CASS continues to grow, as the Freshwater Mollusk Conservation Society joins our ranks. Two other societies are inquiring about joining CASS as well.

Both the Ecological Society of America and the American Institute of Biological Sciences signed the SWS WOTUS Clean Water Rule letter, leading to the letter collectively representing over 200,000 society members. SWS sent this letter the day after President Trump issued his February 28th Executive Order to rescind or revise the WOTUS Clean Water Rule. The Washington Post, Science

Magazine, Digital News, E&E News, and various news outlets around the world reported on our letter, and a television outlet interviewed SWS member and WOTUS Clean Water Rule *amicus* brief co-author Joy Zedler (http://www.stetson.edu/law/international/biodiversity/media/amici_curiae_brief_of_wetland_and_water%20_scientists-01-20-17_filed.pdf). I would like to thank Dennis Whigham for his work over the past year as our AIBS representative. His service has enabled us to maintain our connection with an organization that provides timely and relevant information and opportunities related to science-based policy.

The vast majority of SWS members and Board members who replied to the March SWS member survey are concerned about the environmental policies that the U.S. Administration has been promoting and implementing since the end of January, and supported SWS involvement in the March for Science. SWS joined countless other scientific societies as a Partner to the March for Science, and SWS members and leaders marched in several U.S. cities, with a particularly strong presence in Washington, D.C. where approximately 25 – 30 SWS members gathered to march together. We were joined by SER Executive Director



PHOTO 7: Father-daughter team advocates for coral reef science.



PHOTO 8: Albert Einstein chimes in. According to our March, 2017 SWS member survey, the preponderance of our members agree with Albert, and the decision for SWS to support the March for Science.

Bethanie Walder and some members of SER. Although the weather was cool and rainy, a good time was had by all, and SWS posters brought attention to wetlands, as can be seen in Photos 1 through 9.

In December, SWS Board member and Chair of the Awards Committee Mal Gilbert requested that SWS prepare a policy letter on wetlands and climate change. In response, *Ad Hoc* Committee Chair Jim Perry and I, along with wetland scientists Gail Chmura, Max Finlayson, Ariana Sutton-Grier, Beth Middleton, Sue Natali, and Nigel Roulet have been preparing an article on the relationship between wetlands and climate change (carbon cycle, climate resiliency and adaptation services, impacts to wetlands) with climate scientist William Moomaw, for publication in the *Wetlands* journal. This article will then be available as a peer-reviewed article that could be referenced in letters to policy-makers around the world.

SWS WETLANDS OF DISTINCTION, FORMERLY KNOWN AS WETLAND TREASURES

SWS Wetlands of Distinction continues to move forward towards full implementation, with leadership from co-chairs Bill Morgante, Roy Messaros, and Jason Smith. We anticipate 2017-2018 being a period of exciting growth for this program, and thank Abbey Tyrna for her substantial efforts to launch and promote SWS Wetlands of Distinction.

COMMUNITY

I am thankful for the community of wetland scientists that was brought into existence in 1980, inspired by Richard Macomber, a biologist with the U.S. Army Corps of Engineers. As a community, we amplify our efforts to understand, conserve, restore, and sustainably manage wetlands around the world, which is a service to the biosphere and all who live here. In the face of our uncertain climatic and societal future, let's take every opportunity to be present as a community on behalf of the ecological sustainability of wetlands, and to be present with each other. I look forward to continuing the work of SWS as next year's Immediate Past President. ■



PHOTO 9: SWS Education & Outreach Chair Bill Morgante with SWS Immediate Past President Kimberli Ponzio, SER Executive Director Bethanie Walder, and SWS President Gillian Davies in front of the Capitol.

Wetland Science and Wetland Culture - Evolutions in the Ramsar Convention

Dave Pritchard, Ramsar Culture Network Coordinator¹

When the Ramsar Convention on Wetlands was signed forty-six years ago, the text of the treaty explicitly recognised the interconnected importance of ecology, economics and culture. Major investments have been made by Ramsar in scientific research and in techniques for economic valuation, but the cultural aspects of wetlands, or at least institutional attention to them, have taken longer to receive focused attention.

In recent years, however, this has changed markedly, not only with specific initiatives on culture, but also with the growth of a broader approach to forms of evidence, knowledge and understanding. This approach seeks to integrate traditional and indigenous wisdom and contemporary social science along with research on ecology and hydrology.

In 2002 and 2005, the Conference of Parties adopted two Resolutions on culture that address (*inter alia*) collaboration issues, rights issues, and the role of cultural values in wetland management and site designation. A list of 27 guiding principles was provided. A major guidance document was then produced by a Working Group in 2008.

The two main enduring Ramsar obligations are the wise use (or sustainable use) of all wetlands, and the conservation of listed sites. Those were once rather distinct ideas, but their respective interpretations have progressively converged, so they are both now defined in terms of “maintaining the ecological character” of wetlands. The definition of ecological character was changed to include the ecosystem services of the wetland, and ecosystem services include cultural services. So all Ramsar Parties are formally obliged to maintain cultural ecosystem services of wetlands. Research, assessment and documentation of such services (e.g., in wetland inventories, and on datasheets for Ramsar Sites) therefore need to address this dimension.

Many wetlands have great cultural significance, but sometimes this is just a matter of coincidence. For example, a site may be sacred because a saint was born there or a temple was built there, yet it also happens to be a wetland. With the cultural services idea, however, there is the added element of a necessary and intimate link with the functioning of the ecosystem. Examples of this include mythologies about the seasonality of the water regime, traditional uses of the wetland products, and reflections of the special aesthetic of these environments in contemporary art.

This is, in general, a two-way relationship: wetlands support culture, but culture also supports wetlands. Traditional sustainable management practices, protection afforded by religious taboos, and specialist knowledge and skills

passed on through social customs that are not text based, are some examples of this.

The Convention’s Scientific & Technical Review Panel (in which SWS is represented as an observer organisation) has a work programme which now includes tasks that embrace these issues in, for example, assessing the status and trends of wetlands worldwide, updating guidance on wetland management, and enhancing tools for evaluating wetland ecosystem services.

The current Strategic Plan for the Convention contains a target which mirrors Target 18 in the global Strategic Plan for Biodiversity concerning the documentation and integration of traditional knowledge, innovations and practices of indigenous peoples and local communities. Technical collaboration between Conventions is going to be helpful in operating indicators to measure progress towards achievement of this target.

Work on these subjects is supported by the Ramsar Culture Network - an expanding community of interest which includes both individuals and institutions and covers all regions of the world. The Network already includes a number of SWS members, and it remains open to any others who wish to join – details can be found at <http://www.ramsar.org/activity/ramsar-culture-network>. Project activities and Secretariat capacity have been generously part-funded until 2018 by the MAVA Foundation.

The scope for collaboration with the SWS on these issues is growing, and we look forward to further dialogue in the months ahead. Meanwhile look for a session on culture and wetlands to be presented by Ramsar contributors in the SWS webinar series in June of this year, where more will be revealed, and your thoughts and questions will be invited! ■

Attention Readers: *An excellent example of wetland culture can be found in South Sudan where the Sudd, perhaps the largest wetland complex in the Nile Basin (reportedly second in size in the world, behind South America’s Pantanal) and a designated Ramsar wetland, is vital to local peoples. An excellent UNEP report about the Sudd and human relations - The Economic, Cultural and Ecosystem Values of the Sudd Wetland in South Sudan: An Evolutionary Approach to Environment and Development - can be found at: https://evolution-institute.org/wp-content/uploads/2016/09/20160913_ei_south-sudan_low-res.pdf. Several high-quality photographs by Yann Arthus Bertrand showing how people live among the wetlands can be viewed at: <http://blog.gessato.com/2012/08/24/wetlands-of-sudd-in-southern-sudan/>.*

¹Contact email: culture@ramsar.org

Please help us add new books and reports to this listing. If your agency, organization, or institution has published new publications on wetlands, please send the information to Ralph Tiner, Editor of Wetland Science & Practice at: ralphtiner83@gmail.com. Your cooperation is appreciated.

BOOKS

- Wetland Indicators – A Guide to Wetland Formation, Identification, Delineation, Classification, and Mapping <https://www.crcpress.com/Wetland-Indicators-A-Guide-to-Wetland-Identification-Delineation-Classification/Tiner/p/book/9781439853696>
- Wetland Soils: Genesis, Hydrology, Landscapes, and Classification <https://www.crcpress.com/Wetland-Soils-Genesis-Hydrology-Landscapes-and-Classification/Vepraskas-Richardson-Vepraskas-Craft/9781566704847>
- Creating and Restoring Wetlands: From Theory to Practice <http://store.elsevier.com/Creating-and-Restoring-Wetlands/Christopher-Craft/isbn-9780124072329/>
- Salt Marsh Secrets. Who uncovered them and how? <http://trnerr.org/SaltMarshSecrets/>
- Remote Sensing of Wetlands: Applications and Advances. <https://www.crcpress.com/product/isbn/9781482237351>
- Wetlands (5th Edition). <http://www.wiley.com/WileyCDA/WileyTitle/productCd-1118676823.html>
- Black Swan Lake – Life of a Wetland <http://press.uchicago.edu/ucp/books/book/distributed/B/bo15564698.html>
- Coastal Wetlands of the World: Geology, Ecology, Distribution and Applications <http://www.cambridge.org/us/academic/subjects/earth-and-environmental-science/environmental-science/coastal-wetlands-world-geology-ecology-distribution-and-applications>
- Florida's Wetlands <http://www.pineapplepress.com/ad.asp?isbn=978-1-56164-687-6>
- Mid-Atlantic Freshwater Wetlands: Science, Management, Policy, and Practice <http://www.springer.com/environment/aquatic+sciences/book/978-1-4614-5595-0>
- The Atchafalaya River Basin: History and Ecology of an American Wetland <http://www.tamupress.com/product/Atchafalaya-River-Basin.7733.aspx>
- Tidal Wetlands Primer: An Introduction to their Ecology, Natural History, Status and Conservation <https://www.umass.edu/umpress/title/tidal-wetlands-primer>
- Wetland Landscape Characterization: Practical Tools, Methods, and Approaches for Landscape Ecology <http://www.crcpress.com/product/isbn/9781466503762>
- Wetland Techniques (3 volumes) <http://www.springer.com/life+sciences/ecology/book/978-94-007-6859-8>

- Wetland-related publications: [-http://acwc.sdp.sirsi.net/client/en_US/default/search/results?te=&lm=WRP](http://acwc.sdp.sirsi.net/client/en_US/default/search/results?te=&lm=WRP)
[-http://acwc.sdp.sirsi.net/client/en_US/default/search/results?te=&lm=WRP](http://acwc.sdp.sirsi.net/client/en_US/default/search/results?te=&lm=WRP)
- National Wetland Plant List publications: <http://rsgisias.crrel.usace.army.mil/NWPL/>
- National Technical Committee for Wetland Vegetation: http://rsgisias.crrel.usace.army.mil/nwpl_static/ntcvv.html
- U.S. Environmental Protection Agency wetland reports and searches: <http://water.epa.gov/type/wetlands/wetpubs.cfm>
- A Regional Guidebook for Applying the Hydrogeomorphic Approach to Assessing Wetland Functions of Forested Wetlands in Alluvial Valleys of the Coastal Plain of the Southeastern United States [ERDC/EL TR-13-1](http://erdc.gov/ERDC/EL-TR-13-1)
- Hydrogeomorphic (HGM) Approach to Assessing Wetland Functions: Guidelines for Developing Guidebooks (Version 2) [ERDC/EL TR-13-11](http://erdc.gov/ERDC/EL-TR-13-11)
- Regional Guidebook for Applying the Hydrogeomorphic Approach to Assessing the Functions of Flat and Seasonally Inundated Depression Wetlands on the Highland Rim [ERDC/EL TR-13-12](http://erdc.gov/ERDC/EL-TR-13-12)

U.S. FISH AND WILDLIFE SERVICE, NATIONAL WETLANDS INVENTORY

- Wetland Characterization and Landscape-level Functional Assessment for Long Island, New York http://www.fws.gov/northeast/ecologicalservices/pdf/wetlands/Characterization_Report_February_2015.pdf or http://www.aswm.org/wetland-sonestop/wetland_characterization_long_island_ny_021715.pdf
- Also wetland characterization/landscape-level functional assessment reports for over 12 small watersheds in New York at: <http://www.aswm.org/wetland-science/134-wetlands-one-stop/5044-nwi-reports>
- Preliminary Inventory of Potential Wetland Restoration Sites for Long Island, New York http://www.aswm.org/wetlandsonestop/restoration_inventory_long_island_ny_021715.pdf
- Dichotomous Keys and Mapping Codes for Wetland Landscape Position, Landform, Water Flow Path, and Waterbody Type Descriptors. Version 3.0. U.S. Fish and Wildlife Service, Northeast Region, Hadley, MA.
- Connecticut Wetlands Reports
- [Changes in Connecticut Wetlands: 1990 to 2010](http://www.aswm.org/wetland-science/134-wetlands-one-stop/5044-nwi-reports)
- [Potential Wetland Restoration Sites for Connecticut: Results of a Preliminary Statewide Survey](http://www.aswm.org/wetland-science/134-wetlands-one-stop/5044-nwi-reports)
- [Wetlands and Waters of Connecticut: Status 2010](http://www.aswm.org/wetland-science/134-wetlands-one-stop/5044-nwi-reports)
- [Connecticut Wetlands: Characterization and Landscape-level Functional Assessment](http://www.aswm.org/wetland-science/134-wetlands-one-stop/5044-nwi-reports)
- Rhode Island Wetlands: Status, Characterization, and Landscape-level Functional Assessment http://www.aswm.org/wetlandsonestop/rhode_island_wetlands_llww.pdf

ONLINE PUBLICATIONS

U.S. ARMY CORPS OF ENGINEERS

- Regional Guidebook for the Functional Assessment of Organic Flats, Slopes, and Depressional Wetlands in the Northcentral and Northeast Region http://acwc.sdp.sirsi.net/client/en_US/search/asset/1047786

- Status and Trends of Wetlands in the Coastal Watersheds of the Conterminous United States 2004 to 2009. <http://www.fws.gov/wetlands/Documents/Status-and-Trends-of-Wetlands-In-the-Coastal-Watersheds-of-the-Conterminous-US-2004-to-2009.pdf>
- The NWI+ Web Mapper – Expanded Data for Wetland Conservation http://www.aswm.org/wetlandsonestop/nwiplus_web_mapper_nwn_2013.pdf
- Wetlands One-Stop Mapping: Providing Easy Online Access to Geospatial Data on Wetlands and Soils and Related Information http://www.aswm.org/wetlandsonestop/wetlands_one_stop_mapping_in_wetland_science_and_practice.pdf
- Wetlands of Pennsylvania's Lake Erie Watershed: Status, Characterization, Landscape-level Functional Assessment, and Potential Wetland Restoration Sites http://www.aswm.org/wetlandsonestop/lake_erie_watershed_report_0514.pdf

U.S. FOREST SERVICE

- Historical Range of Variation Assessment for Wetland and Riparian Ecosystems, U.S. Forest Service Rocky Mountain Region. http://www.fs.fed.us/rm/pubs/rmrs_gtr286.pdf
- Inventory of Fens in a Large Landscape of West-Central Colorado http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5363703.pdf

U.S. GEOLOGICAL SURVEY, NATIONAL WETLANDS RESEARCH CENTER

- Link to publications: <http://www.nwrc.usgs.gov/pblctns.htm> (recent publications are noted)
- A Regional Classification of the Effectiveness of Depressional Wetlands at Mitigating Nitrogen Transport to Surface Waters in the Northern Atlantic Coastal Plain <http://pubs.usgs.gov/sir/2012/5266/pdf/sir2012-5266.pdf>
- Tidal Wetlands of the Yaquina and Alsea River Estuaries, Oregon: Geographic Information Systems Layer Development and Recommendations for National Wetlands Inventory Revisions <http://pubs.usgs.gov/of/2012/1038/pdf/ofr2012-1038.pdf>

U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE

- Link to information on hydric soils: <http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/>

PUBLICATIONS BY OTHER ORGANIZATIONS

- The Nature Conservancy has posted several reports on wetland and riparian restoration for the Gunnison Basin, Colorado at: <http://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/Colorado/science/climate/gunnison/Pages/Reports.aspx> (Note: Other TNC reports are also available via this website by looking under different regions.)
- Book: Ecology and Conservation of Waterfowl in the Northern Hemisphere, Proceedings of the 6th North American Duck Symposium and Workshop (Memphis, TN; January 27-31, 2013). Wildfowl Special Issue No. 4. Wildfowl & Wetlands Trust, Slimbridge, Gloucestershire, UK.
- Report on State Definitions, Jurisdiction and Mitigation Requirements in State Programs for Ephemeral, Intermittent and Perennial Streams in the United States (Association of State Wetland Managers) http://aswm.org/stream_mitigation/streams_in_the_us.pdf

- Wetlands and People (International Water Management Institute) <http://www.iwmi.cgiar.org/Publications/Books/PDF/wetlands-and-people.pdf>

ARTICLES OF INTEREST FROM VARIED SOURCES

- Comparative phylogeography of the wild-rice genus *Zizania* (Poaceae) in eastern Asia and North America; American Journal of Botany 102:239-247. <http://www.amjbot.org/content/102/2/239.abstract>

LINKS TO WETLAND-RELATED JOURNALS AND NEWSLETTERS

JOURNALS

- Aquatic Botany <http://www.journals.elsevier.com/aquatic-botany/>
- Aquatic Conservation: Marine and Freshwater Ecosystems <http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291099-0755>
- Aquatic Sciences <http://www.springer.com/life+sciences/ecology/journal/27>
- Ecological Engineering <http://www.journals.elsevier.com/ecological-engineering/>
- Estuaries and Coasts <http://www.springer.com/environment/journal/12237>
- Estuarine, Coastal and Shelf Science <http://www.journals.elsevier.com/estuarine-coastal-and-shelf-science/>
- Hydrobiologia <http://link.springer.com/journal/10750>
- Hydrological Sciences Journal <http://www.tandfonline.com/toc/thsj20/current>
- Journal of Hydrology <http://www.journals.elsevier.com/journal-of-hydrology/>
- Wetlands <http://link.springer.com/journal/13157>
- Wetlands Ecology and Management <http://link.springer.com/journal/11273>

NEWSLETTERS

Two of the following newsletters have been terminated yet maintain archives of past issues. The only active newsletter is "Wetland Breaking News" from the Association of State Wetland Managers.

- Biological Conservation Newsletter contained some articles that addressed wetland issues; the final newsletter was the January 2017 issue; all issues now accessed through the "Archives") <http://botany.si.edu/pubs/bcn/issue/latest.htm#biblio>
- For news about conservation research from the Smithsonian Institution, please visit these websites:
 - Smithsonian Newsdesk <http://newsdesk.si.edu/>
 - Smithsonian Insider <http://insider.si.edu/>
 - The Plant Press http://nrmnh.typepad.com/the_plant_press/
 - SCBI Conservation News <http://nationalzoo.si.edu/conservation>
 - STRI News http://www.stri.si.edu/english/about_stri/headline_news/news
- Wetland Breaking News (Association of State Wetland Managers) <http://aswm.org/news/wetland-breaking-news>
- National Wetlands Newsletter (Environmental Law Institute) – access to archived issues as the newsletter was suspended in mid-2016 due to the changing climate for printed publications. <https://www.wetlandsnewsletter.org/>

Wetland Science & Practice Manuscript – General Guidelines

LENGTH:

Approximately 5,000 words; can be longer if necessary.

STYLE:

See existing articles from 2014 to more recent years available online at:

<http://www.sws.org/category/wetland-science-practice.html>

TEXT:

Word document, 12 font, Times New Roman, single-spaced; keep tables and figures separate, although captions can be included in text. For reference citations in text use this format: (Smith 2016; Jones and Whithead 2014; Peterson et al. 2010).

FIGURES:

Please include color images and photos of subject wetland(s) as WSP is a full-color e-publication.

Image size should be less than 1MB – 500KB may work best for this e-publication.

REFERENCE CITATION EXAMPLES:

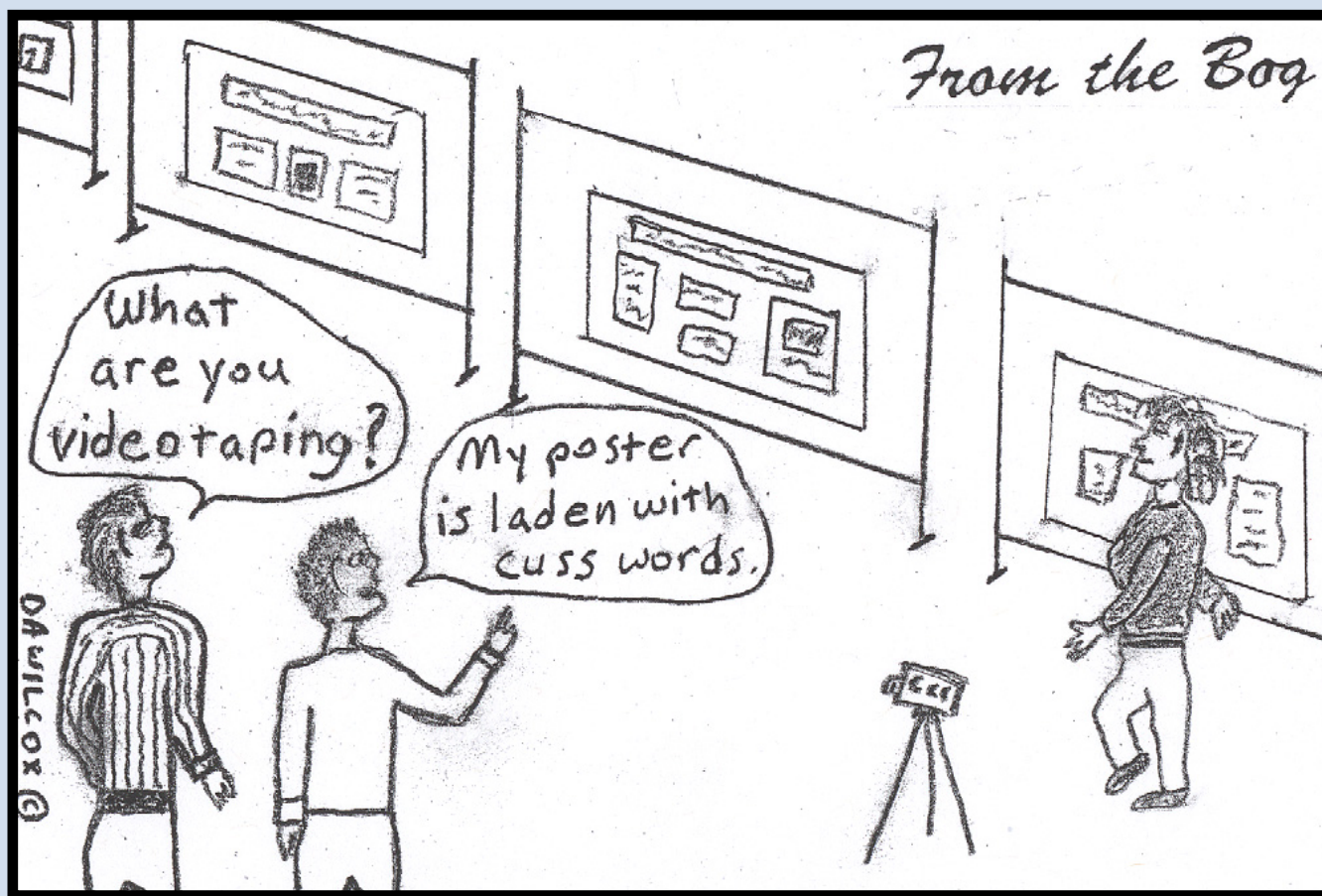
- Claus, S., S. Imgraben, K. Brennan, A. Carthey, B. Daly, R. Blakey, E. Turak, and N. Saintilan. 2011. Assessing the extent and condition of wetlands in NSW: Supporting report A – Conceptual framework, Monitoring, evaluation and reporting program, Technical report series, Office of Environment and Heritage, Sydney, Australia. OEH 2011/0727.
- Clements, F.E. 1916. *Plant Succession: An Analysis of the Development of Vegetation*. Carnegie Institution of Washington. Washington D.C. Publication 242.
- Clewell, A.F., C. Raymond, C.L. Coultas, W.M. Dennis, and J.P. Kelly. 2009. Spatially narrow wet prairies. *Castanea* 74: 146-159.
- Colburn, E.A. 2004. *Vernal Pools: Natural History and Conservation*. McDonald & Woodward Publishing Company, Blacksburg, VA.
- Cole, C.A. and R.P. Brooks. 2000. Patterns of wetland hydrology in the Ridge and Valley Province, Pennsylvania, USA. *Wetlands* 20: 438-447.
- Cook, E.R., R. Seager, M.A. Cane, and D.W. Stahle. 2007. North American drought: reconstructions, causes, and consequences. *Earth-Science Reviews* 81: 93-134.
- Cooper, D.J. and D.M. Merritt. 2012. Assessing the water needs of riparian and wetland vegetation in the western United States. U.S.D.A., Forest Service, Rocky Mountain Research Station, Ft. Collins, CO. Gen. Tech. Rep. RMRS-GTR-282.

If you have questions, please contact the editor, Ralph Tiner at ralphtiner83@gmail.com ■

Resources at your fingertips!

For your convenience, SWS has compiled a hefty list of wetland science websites, books, newsletters, government agencies, research centers and more, and saved them to sws.org.

Find them on the Related Links page sws.org.



An observational experiment.

wetland science & practice

WSP is the formal voice of the Society of Wetland Scientists. It is a quarterly publication focusing on the news of the SWS and providing important announcements for members and opportunities for wetland scientists, managers, and graduate students to publish brief summaries of their works and conservation initiatives. Topics for articles may include descriptions of threatened wetlands around the globe or the establishment of wetland conservation areas, and summary findings from research or restoration projects. All manuscripts should follow guidelines for authors listed above. All papers published in WSP will be reviewed by the editor for suitability and may be subject to peer review as necessary. Most articles will be published within 3 months of receipt. Letters to the editor are also encouraged, but must be relevant to broad wetland-related topics. All material should be sent electronically to the current editor of WSP. Complaints about SWS policy or personnel should be sent directly to the elected officers of SWS and will not be considered for publication in WSP. ■