

SHARE:

[Join Our Email List](#)

Winter 2019

## In this issue

### [President's Corner](#)

#### [ANREP Updates](#)

New ANREP Executive Secretary  
 Extension Wildland Fire Initiative  
 ANREP Professional Development Opportunities

#### [Upcoming Conferences & Workshops](#)

NACDEP  
 North American Association for Environmental Education  
 National Sustainability Summit + National Extension Energy Summit  
 Sustainable Tourism and Outdoor Recreation

#### [Submitted Articles](#)

Building Partnerships to Protect Water  
 Engaging Citizen Scientists in Idaho  
 Monitoring Stony Coral for Tissue Loss Disease  
 Save Water, Every Drop Counts!  
 FL Seafood Industry Post-Hurricane Michael  
 Science Strikes Back!

#### [ResourceExchange](#)

Story Map: Engaging Women Woodland Owners  
 MN Non-Native Species Guide

#### [IdeaExchange](#)

North Central Region Forestry Meeting?

#### [A Word From Your Editor](#)

## President's Corner

---

Hello ANREP Members!

I hope your New Year is off to a great start; it certainly is for ANREP! We welcome our new Board members to ANREP. **Lara Milligan** from UF/IFAS Extension in Pinellas County is our President-elect. **Beth Clawson** is our new North-Central Representative from Michigan State Extension in Kalamazoo. We also have **Jennifer Dindinger** with the University of Maryland Sea Grant



returning for another term as Northeastern Representative. Also returning is **Kris Tiles** from the University of Wisconsin, as Treasurer. **Leslie Boby-Sabatinelli** from the University of Georgia is our new Executive Secretary.

Certainly we are most grateful for the continuing service of our other Board members. **James Henderson** is all smiles moving into the role of Past-President. **Kevin Zobrist** is continuing as Secretary, **Alicia Betancourt** as Southern Representative, **Lauren Grand** as Western Representative, and **Eric Norland** as our NIFA Representative. We also want to recognize the service of those that stepped off the ANREP Board: **Bindu Bhakta** as North-Central Representative, **Chris Jones** as Past-President, and **Bill Hubbard** as Executive Secretary.

In particular, I want to pay a special tribute to Bill Hubbard and his service to ANREP. Bill served as Executive Secretary over 20 years. He was 'The Man' behind the scenes keeping ANREP moving. He managed our database of members including collection of dues, organized our conference calls which are held monthly, handled correspondence with the IRS, helped manage our PayPal account, worked on committees as assigned, archived ANREP records. With so many years of service to ANREP, Bill had an institutional knowledge of our organization that proved useful to the Board on many occasions. We wish Bill every success in his new position with the University of Maryland.

Our breaking news for 2019 is that after many years of determined effort, we have a charitable foundation attached to ANREP: the Natural Resources Extension Education Foundation (NREEF), Inc. Now we shall be able to collect donations toward natural resource education as a charity through NREEF. This will help lower registration fees to our biennial conferences, and support travel scholarships to conferences, for all educators in natural resources. As a charity, the funds collected will be distributed regardless of membership in ANREP. We are indebted to the tireless effort of Chris Jones who persevered thorough his entire 3-year term to see this to fruition. We are also obliged to our former ANREP Presidents, especially Sandy Smith, for helping develop the charter and bylaws to NREEF.

ANREP is off to a wonderful start in 2019. I look forward to serving this amazing organization as President this year. If you ever want to talk to me about issues in ANREP, please do so!

Sincerely,

[John Kushla](#)

(662) 566-8013

ANREP President, 2019

North Mississippi Research & Extension Center  
Mississippi State University

## Leslie Bobby: ANREPs New Executive Secretary



Leslie Bobby, a colleague of former ANREP Executive Secretary Bill Hubbard, has recently assumed two of Bill's former roles. She has become the interim Coordinator for [Southern Regional Extension Forestry](#) (SREF) based at the University of Georgia but serving the thirteen states of the southern region. In addition to the SREF coordinator role, Leslie will also be serving ANREP as the Executive Secretary.

Leslie has worked as an Extension Associate with SREF for the past seven years working on various forestry related issues including climate change, bioenergy, prescribed fire, forest economics and more. Leslie is originally from Chicago but found enough tucked away spots in her city neighborhood and forest preserves to become very interested in natural resources. Her career in Extension started in the Peace Corps in Kenya, where she served as an Agroforestry Extension volunteer, though there was a lengthy 12-year break before she came back to it. She has an MS in Forest Ecology from University of Florida and a BS in Biology from University of Illinois. Leslie is excited to be serving ANREP as the Executive Secretary and looks forward to finding more ways to contribute to the organization and to ANR Extension personnel.

## National Extension Wildland Fire Initiative Update

Since the National Extension Wildland Fire Initiative (NEWFI) became the fourth initiative to be endorsed and approved by the ANREP Executive Committee in October 2018, they have had three leadership calls, and have already started working towards several of their goals. For example, the leadership team is collaborating on an article regarding current wildland fire Extension programs across the country, as well as making preparations to contribute to the ANREP 2020 Conference, and several other upcoming conferences. They are in the process of prioritizing other activities to accomplish their goals in both the short and long term, which will be shared in future ANREP newsletters.

### Are You Interested in Participating?

If you would like to be added to the ANREP Wildland Fire Google Group to receive email communications and updates in the future, please go to <https://groups.google.com>, search "ANREP Wildland Fire Initiative" and request to join from a Google email account.

If you have any questions, please contact:

[Jennifer Fawcett](#), Extension Associate

Dept. of Forestry and Environmental Resources, North Carolina State University  
919-515-8288

## ANREP Professional Development Committee Compiles Webinar Opportunities

The ANREP Professional Development has been compiling upcoming webinar opportunities and shares the information with ANREP members. If you have a webinar that you would like to share with ANREP members, simply forward the webinar announcement to [anreppd@anrep.org](mailto:anreppd@anrep.org) one month in advance and it will be promoted to the ANREP membership.



If you have any questions about these webinar announcements, please contact ANREP PD Chair, [Nicole Strong](#).

## Upcoming Conferences & Workshops

### NACDEP 2019 Conference Details Announced



The [National Association of Community Development Extension Professionals](#) (NACDEP) 2019 Conference will be held June 9 - 12, 2019 in Asheville, North Carolina. We are extending an invitation to our friends in ANREP to join us for stimulating speakers, informative sessions and energizing mobile learning experiences. We will be staying downtown at The Renaissance Asheville and there will be plenty of opportunity to sample the local flavor that has made Asheville a Foodtopia and a Beer City USA. Save the date and look for conference registration to open soon. Questions? Email Conference Co-Chair [Susan Kelly](#).

### North American Association for Environmental Education (NAAEE) Conference

The call for presentations is [OPEN](#)

In partnership with

LEXINGTON, KENTUCKY  
naaee.org

# 48<sup>TH</sup> Annual Conference

OCTOBER 16-19

# 16<sup>TH</sup> Annual Research Symposium

OCTOBER 15-16

# LEX2019

EDUCATING FOR A JUST AND SUSTAINABLE FUTURE

Mural by Eduardo Kobra

## National Sustainability Summit & National Extension Energy Summit

# NSS+NEES

## Tampa 2019

National Sustainability Summit & National Extension Energy Summit

April 16-19 2019

#NSSTampa #NEESTampa

f t i

[NSS+NEES 2019](#) is a forum for connection and exchange at the nexus of science and stewardship. Join 200+ fellow Extension agents, educators, researchers, students, community partners, and sustainability and energy leaders from across the U.S. at this joint national conference. Learn about the latest research, exchange innovative programming strategies, update or reinvigorate your educational toolbox, and cultivate new communities of practice around ENERGY, WATER, FOOD SYSTEMS, LAND, CLIMATE, AND COMMUNITY RESILIENCE.

[Regular registration closes March 1](#)

## Sustainable Tourism & Outdoor Recreation Conference

**SAVE THE DATE** October 8 – 11, 2019  
Astoria, Oregon

**Sustainable Tourism & Outdoor Recreation Conference**

Join professionals from Extension, Sea Grant, and other Institutions including government agencies, and private industry to learn and explore current issues in sustainable tourism and outdoor recreation. The conference will present research, case studies, educational materials, and funding models. Special themes include coastal tourism and agritourism and includes field presentations. This national conference is open to everyone including students.

**Keynote Speakers:**

- Don Albrecht, Director, Western Rural Development Center,
- Nan Marchand Beauvois, Senior Vice President, U.S. Travel (Washington, D.C.)
- Todd Davidson, CEO, Travel Oregon

For more information about attending or presenting at the conference, or to explore sponsorship opportunities visit [ExtensionTourism.net](http://ExtensionTourism.net)

Presented by:   

The [Sustainable Tourism & Outdoor Recreation Conference](#) hosted by the [National Extension Tourism Design Team](#) will be held in **Astoria, Oregon, October 8-11, 2019.**

[Proposals are due March 8](#)

## Submitted Articles

---

### Building Partnerships to Protect Water

[Northland NEMO](#) (Non-point Education for Municipal Officials) is a program with a funny name but an important purpose - to provide local leaders with research and support to help them make informed decisions about protecting their water resources. Hosted by University of Minnesota and the National Sea Grant College Program, NEMO delivers educational programming for city councils, watershed boards, county commissioners, and advisory committees. This fall, NEMO coordinator John Bilotta helped staff from the city of Forest Lake and the Rice Creek and Comfort Lake - Forest Lake Watershed Districts to plan an educational tour and workshop in Forest Lake.

During the Sept. 11 NEMO workshop, 40 local leaders boarded a bus to visit project sites in the city and learn how they are helping to keep Forest Lake's lakes and wetlands clean. First, they heard about the city's new street sweeping program and how it will help to keep phosphorus out of the lakes and extend the lifespan of city stormwater ponds. Then, they traveled to the Forest Lake Area High School to hear about two new water reuse projects under construction at the school and Forest Hills Golf Club. Themes from the workshop included teamwork and partnerships, using research to inform action, and planning for growth and resiliency.

During his workshops, Bilotta likes to talk about what he calls "the three Ps" - planning, policies and practices - and how communities can use those three different strategies to protect water resources while still supporting vibrant economies and using tax money wisely. In Forest Lake, for example, the Comfort Lake - Forest Lake Watershed District and Emmons and Olivier Resources found that the city could purchase and operate its own street sweeper to keep more phosphorus out of city lakes for the same price it was paying to hire a contractor two times a year. Along the St. Croix River, cities in the Middle St. Croix Watershed Management Organization have found that they are better positioned to get grants after researching and identifying priority restoration projects in the WMO's plans.



*John Bilotta, Extension Educator, discusses stormwater operation and maintenance practices and policies with local leaders from the City of Forest Lake during a fall 2019 NEMO Extension Program. Here he is discussing the most recent University research related to enhanced street sweeping and stormwater pond maintenance.*

Throughout the evening, speakers at the Forest Lake workshop emphasized the importance of using research to guide watershed protection and restoration efforts. Comfort Lake - Forest Lake watershed administrator Mike Kinney talked about using the Pareto Principle, a concept from economics, to focus on a few key projects that will have the biggest impact on water quality. "There are lots of things we could be doing," he explained, "but we need to focus on the ones that really work." In the example of the stormwater harvest and reuse project at Forest Hills Golf Club, the project will save 260 million gallons per year of groundwater and prevent 70 pounds per year of phosphorus from running off into Shields Lake, which flows to Forest Lake. Combined with a whole-lake alum treatment in Shields Lake, the project will keep 250 pounds of phosphorus out of Forest Lake annually, which will help to reduce algal growth and make the lake's water clearer.

Perhaps the best value of NEMO workshops is the unique opportunity for local leaders to network, learn from one another, and build partnerships for action. Often, a conversation begun on a boat or a bus will translate into a new grant application or research project later that year. Participants leave with a sense of purpose and a list of concrete actions they can take to protect water in their communities. In Forest Lake, leaders agreed there was a lot to be proud of, even with more work to do.

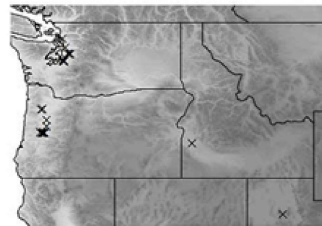
*Submitted by:*

[John Bilotta](#), *Minnesota Extension and Minnesota Sea Grant Program*.  
[Angie Hong](#), *the author on the article works as strong and longtime collaborator with John and Minnesota Extension on NEMO programs*.

## Engaging Citizen Scientists in Idaho

University of Idaho Extension Water Outreach is developing two new citizen science modules to add onto the existing IDAH<sub>2</sub>O water quality monitoring framework, which complements the [Project WET Healthy Water, Healthy People Water Monitoring protocol](#). One of these is a crayfish population study, in partnership with the [Columbia River-wide The River Mile](#), administered by the Lake Roosevelt National Recreation Area. The other is a cyanobacteria detection study, in partnership with [NOAA's Phytoplankton Monitoring Network](#).

Crayfish (or crawfish or crawdads or mudbugs) live in waterways ranging from small mountain streams to big rivers to lakes and reservoirs. Crayfish are important species because they can eat a wide variety of foods from varying trophic levels. Crayfish population densities can become very high, with strong effects on the local waterway ecology. They are moderately pollution-tolerant.



*Invasive to Idaho Red Swamp Crayfish*





*Native Signal Crayfish*

Considering the ecological, economic, and historical importance of crayfish, population studies of native and invasive species are rare. In general, the ecological function of non-native crayfish is very different from that of native species. Introduction of non-native crayfish regularly results in the transformation of lakes and wetlands from clear to turbid by excessive burrowing and consuming large areas of aquatic plant beds.

Harmful algae (cyanobacteria) blooms are an increasing global phenomenon, usually due to changes in nutrient concentrations in waterways. HABs have resulted in mass losses to livestock, irrigated agricultural productivity, wildlife, house pets, and drinking water supplies.

Extension Water Outreach contacted the NOAA National Phytoplankton Monitoring Network (PMN) to inquire about providing HAB identification training to Idaho citizen scientists. PMN has been active in monitoring harmful algae in coastal waters for some time. About two years ago, they joined with the EPA to include freshwater HABs monitoring in inland areas. Under the program, volunteers collect water samples every two weeks, identify key harmful algae using a 200-400x light microscope. Volunteers must attend an online or in-person training and must provide one's own microscope. Volunteers identify five target cyanobacteria species, and then submit the info online. While participants are not required to include dissolved oxygen and pH, etc., they are encouraged to do so and there are places on the submission form to do so.

*Submitted by:*

[Jim Ekins](#)

*Area Water Educator*

*University of Idaho Extension*

## **Citizen Science Monitoring of Stony Coral Tissue Loss Disease**

In South Florida, we are fortunate to live next to the largest barrier reef in the continental United States! The coral reef system is called the Florida Reef Tract (FRT), which extends from the east coast of Florida in Martin County south through Palm Beach, Broward, Miami-Dade and Monroe counties, and continues to the Dry Tortugas. Coral reefs are often referred to as "rainforests of the sea" because they support a rich and diverse web of life in the world's oceans. Even though coral reefs cover less than 1% of the seafloor, they are extremely important for food, fishing, tourism, coastal protection, and a source for many human medicines.

Globally, coral reefs are under direct threat from many different stressors, including land-based sources of pollution, sedimentation from dredging and coastal construction, overfishing, and warming temperatures. Reefs worldwide all face these pressures and Florida's reefs are no different. Today, the FRT faces its latest and biggest threat: an outbreak of a devastating coral disease that has been active since 2014. This disease event has affected more than 20 species of reef-building stony corals, and in some areas, has caused a drastic decline in the abundance of local coral populations.

The disease is called Stony Coral Tissue Loss Disease (SCTLD). The exact cause is unknown, although it is suspected to be a waterborne bacterial infection. Since this disease event is unprecedented in scale and duration, more than 45 partners have gathered together for a multi-faceted response effort. This effort includes research, monitoring, management, treatment strategies, preservation, education and outreach. The University of Florida/IFAS Extension and Florida Sea Grant have joined the multi-agency Community Engagement team, and lead the charge in creating disease response training courses for recreational SCUBA divers.

Modeled after the Florida Department of Environmental Protections' [Southeast Florida Action Network](#) program that asks ocean users to report observations of marine disturbances, two Florida Sea Grant agents, Shelly Krueger and Ana Zangroniz, have developed instructional materials and have begun to train divers as citizen scientists. The divers learn how to identify the top-affected corals, identify the disease, and learn a basic monitoring technique that will increase the observer network underwater. These trainings will serve a critical role moving forward, as there are still unaffected reef areas in Monroe County south of Key West and the Dry Tortugas. These SCUBA divers will assist in monitoring the progression of the disease and document coral recovery in areas where the disease outbreak has already run its course.

If you would like more information about the SCTLD citizen scientist training program, please contact the [Shelly Krueger](#) (Monroe County Extension) or [Ana Zangroniz](#) (Miami-Dade County Extension).

*Submitted by:*

[Shelly Krueger](#)

*Sea Grant Marine Extension Agent*

*UF/IFAS Monroe County Extension Services*

## 'Save Water, Every Drop Counts!' Displays are a Win-Win in New Jersey

With over 9 million people living in New Jersey and each person using about 70 gallons of water per day, the opportunity exists to save part of the 630 million gallons used in people's everyday activities. Rutgers Cooperative Extension (RCE) of Ocean County created several water conservation displays (Figure 1, Figure 2) to place throughout southern New Jersey and teach a large number of residents to save water.

The 'Save Water! Every Drop Counts!' display consists of a slideshow playing on a digital picture frame securely mounted onto a rain barrel (non-functional). The slideshow provides information outlining what people can do every day to save water at home. A [flyer](#) accompanies the display so that people who view it can take the information and work at saving water at home.



Figure 1: Water conservation display at Seaside Borough Park. (Credit: Steve Yergeau)



Figure 2: Close up of the construction of the top of the display. (Credit: Steve Yergeau)

To

ensure as many people as possible saw the display, RCE collaborated with municipalities in Ocean and Atlantic Counties for locations to exhibit the displays. As an incentive for municipalities, we ensured that the displays would fulfill the public outreach and education requirements for their [Municipal Stormwater General Permits](#). The towns could also use the displays to satisfy actions in their Sustainable Jersey certification. Sustainable Jersey is a voluntary certification program for towns based upon their adoption of environmentally friendly actions. The displays were designed to fulfill the requirement for the [Water Conservation Education Program action item](#).

The displays were shown at the following locations/events throughout southern New Jersey in 2018:

- Upper Township Library and Town Hall (Cape May County)
- Ventnor City Hall (Atlantic County)
- Jersey-Friendly Yards Conference (Ocean County)
- State Rutgers Master Gardeners Conference (Middlesex County)
- Seaside Park Borough Hall (Ocean County)
- Ocean County Fair (Ocean County)
- Brigantine City Hall (Atlantic County)
- Agricultural Extension Center (Ocean County)

These displays show how outreach impact can be maximized when designed to achieve multiple goals that consider the clients' needs. For example, the display shown in Brigantine, NJ was hosted by the city's Green Team to promote a rain barrel workshop held on July 21, 2018 (Figure 3). The display was part of the city's weekly farmers market for residents with many people attending both the workshop and market. The Brigantine Green Team plans to use the workshop and the display in their Sustainable Jersey certification. All of this was possible because of the planning of all the potential uses of the 'Save Water! Every Drop Counts!' display.

For those interested in building a similar display a parts list is given below (use close up of display in Figure 2 as a guide for assembly). The Phillip Alampi Fund of the

Department of Agriculture and Natural Resources provided funding for this project and the author gratefully acknowledges their support.

Parts list for water conservation display:

This parts list makes one (1) of the displays.

- One digital picture frame (I use a 15" digital picture frame in black)
- Two 24" X 18" plexiglass/polycarbonate sheets (0.093" thick)
- Two right angle/L brackets
- One 8½" X 11" magazine/document holder
- Eight 1" aluminum spacers for between the plexiglass sheets (the length will depend on the thickness of your digital frame)
- Eight 2" bolts with corresponding nuts to secure the plexiglass together
- Two bolts and nuts to hang picture frame to plexiglass
- Four 1" screws to secure brackets to barrel
- Epoxy to secure the brackets to the barrel
- Eight finishing washers (same size as the bolts and nuts separating the plexiglass)
- One 55 gallon plastic drum/barrel [OPTIONAL]
- One ¾" hose spigot [OPTIONAL]





Figure 3: Participant building a rain barrel as part of the Brigantine rain barrel workshop. (Credit: Janette Kessler, Brigantine Green Team)

Submitted by:

[Steven Yergeau](#)

County Agent III / Assistant Professor, Ocean & Atlantic Counties

County Extension Department Head - Ocean County

Cooperative Extension of Ocean County

New Jersey Agricultural Experiment Station Extension Center

## A Rough 2018 for Mid-Florida Panhandle Seafood Industry: Post-Hurricane Michael

It will be a long time before the memories of Hurricane Michael fade in the mind's eye of many seafood workers in the mid-Florida Panhandle. Most people have been made aware of how destructive the storm surge was around Mexico Beach, Florida but there were many smaller, less "news-worthy" communities with seafood-based economies that were devastated. This storm was a record-breaking tropical cyclone in many respects. People were caught off guard as it continued to strengthen beyond early predictions during its rapid path through the Northern Gulf of Mexico. It was so big that water levels in areas east-of-center started rising long before it came ashore and stayed up through multiple tidal cycles. Communities that were not even impacted by the massively destructive winds were seeing tides of up to eight feet above normal. When folks went to bed the night before landfall, they had no idea what terrifying news would greet them upon waking; that a still-strengthening, category 4 hurricane was about to rumble ashore.

It was not long after the wind slackened that folks began looking around and realizing the horrible devastation left behind. Even far inland, where most hurricanes would have lost much of their power, people were reeling. Cotton crops in the path of the storm in North Florida and South Georgia suffered near 100% losses. Peanut crops were also severely impacted just at the time that harvest was beginning. The estimated damage to timber harvests alone were coming in around 1.3 billion dollars for Florida as virtually entire forests were leveled. Even more damage was realized

near the coastline where storm surge across the region ranged from 8 to 14 feet above normal tidal levels; smashing or flooding homes and businesses to total loss.

The seafood industry was hit hard; everyone from producers to dealers, processors, retail markets, restaurants, charter fishing fleets and critical infrastructure like fueling and ice house facilities that service fishing vessels. Governor Scott requested a fisheries disaster declaration from the Federal Government and on November 1 the Secretary of the Department of Commerce granted it. This determination provides an opportunity for Congress to appropriate fishery disaster assistance. To further facilitate recovery efforts in Florida and beyond, the Department of Commerce can also look to the Economic Development Administration, which spearheads the federal government's efforts for economic assistance and long-term support after natural disasters.

One specialized segment of the seafood industry that sustained significant losses was the oyster farming community in the region. Most growers had equipment and a growing crop of shellfish in the water. For those who were able to scramble to their growing areas before the storm and sink floating cages to the bay bottoms, losses of gear were minimal. Gear that was unable to be submerged was prone to break loose and drift away. Even growers who did sink gear experienced significant crop losses due to sediments from churned up water that smothered shellfish in silt.

Marinas, docks and vessels were also hard hit, particularly in Gulf and Bay Counties. Government agencies estimate the number of damaged vessels in these two counties alone to exceed 400. It will take some time for charter boat and commercial fishing operations to rebound. Scallop restoration projects in both St. Joseph Bay and St. Andrews Bay have suffered setbacks, as well. The hurricane has not only devastated coastal counties economically and ecologically, but also geographically. There are two new inlets that have been carved through the St. Joseph Peninsula.

The University of Florida Extension faculty in the region began to mobilize as soon as it was safe. Many agents put their personal cleanup and repair tasks on hold as they worked to help others. All Extension program agents were involved with assessing damage and losses for their respective program constituents. Florida Sea Grant Extension agents worked particularly with their seafood industry clientele to gather data that could be rolled up through NOAA for congressional consideration eventually.

The impacts from this storm will be affecting our regional economies for years to come. Lessons learned by industries as well as individuals can improve our chances to reduce the loss of life and property in the future as we better adapt to what Mother Nature sends our way. For people not living in the heavily impacted communities, this may already be a forgotten storm. Believe me though, there are many neighbors still trying to make it...day by day. Hang in there.



*Pine forest blow down at Tyndall AFB. Credit: Erik Lovstrand.*



*St. Joe Peninsula breached by Michael. Credit: NOAA photo.*



*Mexico Beach pre- and post-Michael. Credit: NOAA photo.*

Submitted by:

[Erik Lovestrand](#)

Sea Grant Regional Specialized Agent II

UF/IFAS Franklin County Extension Director

## Science Strikes Back! Community Science Fair Creates a Space for All Scientists to Flourish

[Upham Woods](#), alongside [Escuela Verde](#), hosted the third year of [Science Strikes Back](#), a Milwaukee-based community science fair. This fair encourages community members to critically analyze environmental issues and solve problems in their communities, producing a strong network for continued environmental education and natural resource stewardship. This year focused on water and the scientific process to answer learner driven research questions. This year's theme of water was inspired and supported by Upham Woods' participation in the Environmental Protection Agency Local Environmental Education grant number NE 00E02399. Upham Woods is a part of the Natural Resources Institute in the University of Wisconsin-Madison's Division of Extension.

Upham Woods Research Naturalist staff played a critical role in the planning and execution of the event. Research Naturalists connected weekly with Escuela Verde to plan for the fair. In addition to logistical support, the Research Naturalist team travelled to Milwaukee twice before Science Strikes Back to support projects and met with 162 students. Research Naturalists worked with students to refine their scientific procedure, relevant variables, and connected them to experts in their field.





*Upham Woods staff member Isabelle Herde leads training for the science fair judges*

Through this effort, 35 projects were entered ranging from testing how classroom temperatures affect student attention to understanding the physics of sledding. 37 community members volunteered to serve as judges some representing local organizations like the Reflo Sustainable Water Solutions, Arts at Large, Milwaukee Metropolitan Sewerage District and the North Central Region Water Network. Judges spoke with project teams and picked winners for six categories: Science, Technology, Engineering, Art, Math and Weird Science. An additional grand prize was awarded to a project that addressed water in their community. While there are awards, Science Strikes Back emphasizes passion and curiosity above perfect execution. The event boasts weird science, projects in progress, and a judging rubric that accounts for originality, voice, community contribution and team collaboration.

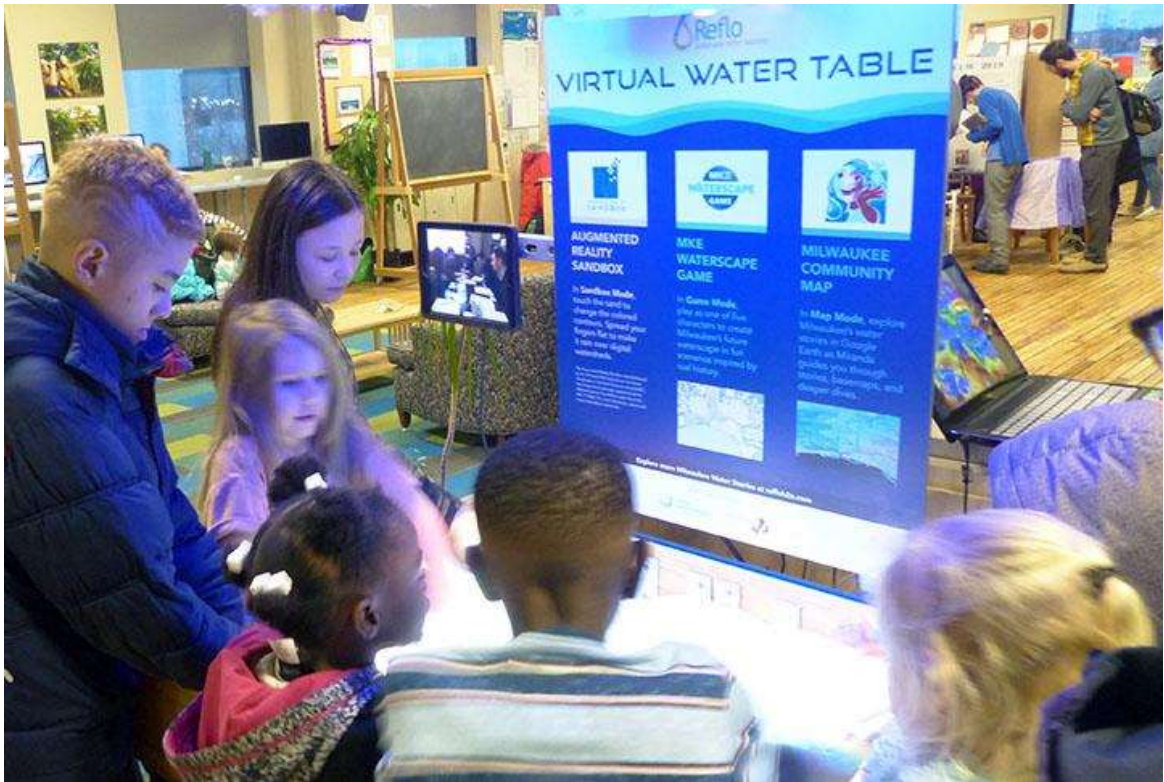


*One student presented her project on clouds in both English and Spanish*

Projects entered for the grand prize included designing bath bombs and testing how nitrogen circulates in an aquaponic system. The community emphasis produces projects meaningful to the scientist, the Young Scientist Club from the neighboring Urban Ecology Center studied how water critters in the Menomonee River behind the center adapt to chemical changes like pH. Feedback from the judges is made available to participating teams to encourage a circular scientific process.

Community members wandered between projects contributing their own insight in discussion with the project team. Science flourished amidst the diverse group; one high school student commented that they, "loved the opportunity to get community members, scientists, and students all in one place." One judge was struck by the utility of the science projects commenting on a project where a student designed their own glove, "I loved how your experiment was derived from a daily problem you have. You wanted a solution to your problem, a true engineers mind."

At the end of the night the grand prize, an original piece of art designed by a Mark Winter, went to the Virtual Water Table by Khari from Bradley Tech High School. An interactive and colorful sandbox with a projector above it designed to superimpose topography and watershed demarcation. It was a hit amongst the younger crowd and adult educators. Winners from each category also won entrance to the University of Wisconsin Stevens Point Youth Summit in April and Upham Woods' data summit camp in August.



*Participants gather around the Virtual Water Table project*

As Science Strikes Back continues, Upham Woods will continue to play a role in engaging Milwaukee's burgeoning scientists through local environmental issues in new and creative ways. Isabelle Herde, Tempestt Morgan, John Celley and Justin Hougham contributed to this article.

*Submitted by:*

[Justin Hougham](#)

*Director-Upham Woods Outdoor Learning Center*

*Environmental Education Specialist*

*University of Wisconsin-Madison Division of Extension*

## ResourceExchange

---

### Explore New Online Story Map: Engaging Wisconsin's Women Woodland Owners



A new online story map about engaging Wisconsin's women landowners is now available! The "[Woodland Stewardship for Women](#)" story map includes audio interviews, photos, and a collection of techniques and downloadable resources that professionals can use to connect with women landowners at outreach events, online, or in the field.

In the story map, listen to Emily Silver Huff, assistant professor of forestry at Michigan State University; Carol Nielsen, a private consulting forester; and Barb, a private landowner who owns land in the Driftless Region. If, after reading and listening, you want to learn more - join the national Women Owning

Woodlands professionals group listserv by sending an email request to [wownet-professionals+owners@googlegroups.com](mailto:wownet-professionals+owners@googlegroups.com).

The story map was developed by Alanna Koshollek (Aldo Leopold Foundation), Katy Thostenson, (Wisconsin Department of Natural Resources), and Bret Shaw (University of Wisconsin-Madison and University of Wisconsin-Extension), in collaboration with editor Will Cushman at the UW Environmental Resources Center.

Contact: [Bret Shaw](#) , UW-Madison/Extension Specialist

## New All-Taxa Field Guide to Non-Native Species Published in Minnesota



We recently published a new tool for those exploring Minnesota's great outdoors.

### ***By Land and By Sea: Identification Guide to Non-Native Species for Minnesota***

recently hit the bookshelves of the University of Minnesota Bookstore. This new guide encompasses non-native species across both aquatic and terrestrial environments to provide easy to understand identification tips with

photographs for 86 species either currently present in Minnesota or of high priority for early detection in the state. One of the most exciting pieces of this publication is the crowd-sourcing campaign that was used to secure much of the imagery inside. We enlisted the help of volunteers within the various natural resources programs at UMN Extension and other members of the public to help provide high-quality images of our species list. The response was huge with hundreds of images being loaded to our site that could be used royalty-free for this publication and other Extension work! We estimate the value of the images received to be over \$9,000.

The field guides are [available online](#) from the University of Minnesota Bookstore for \$19.99.

Contact: [Angela Gupta](#), Forestry Extension Educator, University of Minnesota Extension

## IdeaExchange

---

### North Central Region Forestry Virtual Meeting Interest?

In recent conversations with many individuals in Extension across multiple states, there seems to be some interest in an online meeting of Extension forest resource professionals in North Central region. There is a lot going on in each state, and I know that we don't always hear about all of these activities.

With that in mind, [a short questionnaire](#) has been developed to gauge your interest in such a meeting. Some more background:

- **Audience:** Extension professionals that work in forest resources
- **Meeting focus:** An online meeting (up to three hours) to learn about ongoing Extension forest resource activities, new opportunities, and other topics brought up by participants
- **Region:** North Central USA (loosely defined)
- **When:** Likely in spring 2019

Contact: [Matt Russell](#), Extension Specialist, University of Minnesota

## A Word From Your Editor \_\_\_\_\_



Mid-February. Six weeks into 2019. Only a few weeks until Spring if you believe the groundhogs but I'm looking out my window at a rather substantial snow covering. The words "Polar Vortex" (heard in a deep voice with an echo) are still ringing in my ears and causing involuntary shudders occasionally. The last two to three weeks have been made interesting with an alternating pattern of ice and snow storms. I can't count how many hours I've spend on Zoom meetings lately. Actually, I don't WANT to count. Whatever number it is, it's too high. However interesting winter has been so far, I know things are already starting to slide towards Spring. The bright sun today is warm, despite the 10 degree temperature. It's lighter a lot longer into the evening now and I'm sure the robins will be back soon (if they ever left).

ANREP is welcoming a new President and a new Executive Secretary to the mix and keeps rolling on. It's great to see news of the new foundation...thanks to those who worked hard to make that a reality. As always, I'm impressed with the articles submitted for this issue. The breadth of Extension's reach is wide and I'm constantly reminded that I work with amazing people across the country. I hope you enjoy (or enjoyed, depending on the order in which you read the newsletter) the selection of material in this issue and consider sharing your own stories for the next issue.

The next deadline for content submittals is May 3. With luck, the next newsletter will be out around May 15. Submit content at any time. Try to limit article length to 600 words. Photos (with captions/credit) are appreciated but please send them separately. Don't embed them into a document. As always, please contact me if you have questions.

[Chad Cook](#) | ANREP Newsletter Editor | University of Wisconsin - Madison, Division of Extension

