



Welcome to the 2018 National Conference for the
Alliance of Natural Resource Outreach and Service Programs!

Mission

ANROSP promotes awareness and citizen stewardship of natural resources through science-based education and service programs.

Vision

ANROSP envisions healthy ecosystems and communities through citizens who learn, teach and practice natural resource stewardship.

Local Host Organization:

Louisiana Master Naturalist Program



The Louisiana Master Naturalist Association offers an opportunity for citizens to expand or sharpen their skills in natural history, with special focus on the diverse habitats of the Sportsman's Paradise - Louisiana.

With Natchitoches being the state's oldest city (1714) and New Orleans one of the earliest major ports in the U.S. (1718), Louisiana has played a pivotal role in our knowledge of the flora and fauna of North America. Naturalists arrived on many of the earliest ships and sent specimens of species then new to science back to the museums of the Old World. Most of the early natural historians traveled Louisiana's byways, as demonstrated by John James Audubon's many contributions to our knowledge of early 1800s biota.

The primary purpose of the LMNA is to offer a statewide program that educates Louisiana citizens about their precious flora and fauna, as well as other aspects of their environment and ecosystems. Once certified, the Louisiana Master Naturalists are required to use their talents to educate others or assist programs that promote and protect Louisiana's natural heritage.

LMNA is a confederation of chapters focused on regions and habitats throughout the state. Chapters may differ in their content and approach, but the coordination will ensure consistency in quality and focus. All present a broad overview of the state's natural history, but chapters will vary based on geography. You may choose whichever you wish. Chapters share presenters and enjoy co-hosting field trips with other chapters. We host an annual state gathering to meet one another and share knowledge and ideas.

Tuesday, September 11, 2018

12:00pm **Registration Opens & Lunch**

Copeland Tower Suites Conference Room, Lunch Provided

12:15pm **Opening Remarks ANROSP President**

12:45pm **Keynote Speaker**

Bob Thomas, President, Louisiana Master Naturalist Association and Director, Center for Environmental Communication, Loyola University New Orleans

Dr. Thomas is a proud Texan by birth, but a New Orleanian by choice, having spent most of his life in Louisiana. He earned a B.S. degree in zoology from the University of Southwestern Louisiana (now the University of Louisiana - Lafayette), M.S. and Ph.D. in Vertebrate Zoology (herpetology) from Texas A&M University, and served a post-doctoral fellowship in biochemistry at Louisiana State University Medical Center New Orleans.

His career has focused on the field of environmental education and communication. He was Founding Director of the Louisiana Nature Center, served as Vice President for Environmental Policy at the Audubon Nature Institute, and taught various biology courses at the University of New Orleans from 1979-1996. In September, 1996, Dr. Thomas joined the Loyola faculty and holds the Loyola Distinguished Scholar Chair in Environmental Communication, is professor of mass communication, and adjunct professor of biological sciences.

Dr. Thomas' life-long research interest has been in the systematics of tropical snakes, especially in the New World tropics. He is very involved in various tropical studies, including environmental education, conservation of rainforests and reefs, and environmental communication. His communication research has centered on environmental education and how it can be effectively communicated to audiences.

He is presently involved in research analysis of how environmental issues have been covered in Louisiana and nationally on Louisiana-based topics. He is enamored with the study of interactions between the environmental and corporate communities. He frequently visits with representatives from industry to discuss improvement of their environmental programs and to suggest how they may more effectively address the needs of social justice in their neighboring communities.

1:30pm **Get to Know your ANROSP Partners**

Bindu Bhakta, Extension Natural Resources Educator, Michigan Conservation Stewards Program and Mary Pearl Meuth, Program Coordinator, Texas Master Naturalist Program

Participants of the 2018 ANROSP Conference represent a wide variety of experiences/roles in the world of Master Naturalist programs and ANROSP. Whether

you consider yourself a beginner and have little experience with Master Naturalist programs and/or ANROSP, or you are a seasoned program pro, there is something for everyone in this session focusing around a series of lively “learning” dates centered on specific Master Naturalist-related topics of interest. Participants will be assigned a first date in which they will buzz about a specific topic. When you hear the bell/gong, it is time to switch dates! After a series of dates, extended conversations, networking, and friendships are guaranteed to spill outside this session throughout the duration of the conference.

2:00pm *Sharing Your Story – Evaluation Matters*

Amy Rager, Program Director and Andrea Lorek Strauss, Extension Educator, Minnesota Master Naturalist

Minnesota Master Naturalist has been working to share our yearly evaluation data with participants and decision makers in a way that is easy to understand and visually pleasing. Story mapping and info graphics are two of the newest tools we are using.

2:30pm *Wisconsin’s First Five Years – Finding our Footing while Running a Marathon*

Becky Sapper, Director, Wisconsin Master Naturalist Program, University of Wisconsin Extension

The Wisconsin Master Naturalist Volunteer Training Course provides 40 hours of coursework in geology, ecology, wildlife, plant communities, water, aquatic life, human influences, and volunteerism. This course combines field experiences with classroom instruction taught by professional natural resources educators and scientists. Using a train-the-trainer model, the Wisconsin Master Naturalist Program teaches instructors from partner organizations, and these instructors offer the volunteer courses throughout the year at their organizations statewide. After the training, individuals who volunteer 40 hours each year and take eight hours of additional training maintain their certification as a Wisconsin Master Naturalist Volunteer and receive a recognition pin. Volunteers provide service for organizations involved in Wisconsin’s natural resources in education, citizen science, and stewardship. Hours served are reported by the volunteers through the Wisconsin Master Naturalist website, www.wimasternaturalist.org.

The program, launched in 2013, has had great success in the first five years and results from a rigorous evaluation program have shown that a vast majority of survey participants (92%) agree that the Volunteer Training Course met its objective. This presentation will focus on both the successes and challenges seen in Wisconsin’s first five years. This equates to finding our footing while running a marathon. The presentation will also include an interactive portion designed to use the collective experience gathered at the conference to find solutions to the challenges that may face many outreach service programs, whether just you’re putting on your running shoes, mid-training, or at mile marker 22. Topics covered will include funding models, volunteer management, training others on how to work with volunteers, database management and more.

3:00pm Avoiding a Meltdown: Three Perspectives on Risk Management for Natural Resource Service Programs

Michelle Prysby, Extension Associate, VMN Program Director, Virginia Master Naturalist Program

LoriAnne Barnett, Director, Arizona Master Naturalist Association

Wanda MacLachlan, Extension Educator, University of Maryland Extension and Joy Rafey, Extension Educator, University of Maryland Extension

Risk management includes all the policies, procedures, and practices we follow to protect our volunteers, partners, program reputation, and more. These responsibilities may differ depending on the format of your natural resource service program. In this presentation, we will talk about risk management practices from three points of view: a chapter-based program with a lead sponsor that provides liability insurance for the volunteers, an instructor-based program in which local partners are responsible for risk management, and an independent 501(c)3 program. Each will share the risk management policies, training, and documents we use. We will discuss what has worked well for us and what challenges we have faced related to risk management. We will also solicit your ideas and experiences in order to improve our practices.

3:45pm Break - Poster Sessions

4:00pm Diversity in Natural Resource Outreach Programs

Shelly Johnson, Statewide Program Coordinator, Florida Master Naturalist Program

Sabrina Drill, Associate Director/Natural Resources Advisor, UC California Naturalist

Marisa Rodriguez, Community Education Specialist, UC California Naturalist and

Mark Larese-Casanova, Extension Assistant Professor, Utah Master Naturalist

Although natural resources are important for everyone in a community, participants in natural resource outreach programs often do not represent the diversity of their community. In this interactive session, we open the conversation on diversity of participants in Natural Resource Outreach Programs in the United States. We will discuss types of diversity (e.g., ethnic, class, gender, inter-generational, rural-urban) and barriers to increasing diversity (e.g., economic, social, cultural). We will present case studies from 3 states varying in diversity (Florida, California, and Utah), and share some successful programs that have been developed to target specific populations. Guided facilitation and short breakouts throughout this session will encourage all ANROSP attendees to engage in the conversation.

4:45pm Showing the Value of Your Program: How we can be as good at selling our programs as we are at creating them

Bindu Bhakta, Extension Natural Resources Educator, Michigan Conservation Stewards Program

For many ANROSP member programs, many which face challenges such as limited time, budgets, staff, etc., sharing the successes of their program to help justify the existence of their program to our organizations, internal and external partners, funders, and our communities is extremely important. In this day and age, showing the value of our programs seems more pressing each day even though we know our educational

programs and services provide incredible platforms to train and inspire thousands of people to serve the environmental needs of their communities. This session will use a panel format to showcase multiple Master Naturalist programs, each of which will share the tools and techniques they use to tell their stories in compelling and eye catching ways. Participants will have a chance to ask questions and gain ideas on how they might develop a way to tell their own stories.

5:15pm **Everything's Bigger in Texas – 20 Years of Growing**
Mary Pearl Meuth, Assistant State Coordinator, and Michelle Haggerty, State Coordinator, Texas Master Naturalist Program

The Texas Master Naturalist Program is celebrating its 20th Anniversary in 2018 and we've got a lot to celebrate. Hear some of the history of the program as it grew, new aspects explored, tribulations along the way, and the stories we've collected from all the fun. We'll review our 20th anniversary project, a qualitative survey of sorts and the impacts measured. Finally, we'll discuss our plans for the next 20 years and of course we've got dreams the size of Texas!

5:45pm **End Technical Sessions**

6:00pm **Dinner on your Own**

Wednesday, September 12, 2018

7:00am **Breakfast**
Copeland Tower Suites Conference Room, Breakfast Provided

8:00am **Depart for Jean Lafitte Conference Center**
Transportation Provided

9:15am **Coffee and Refreshments (Compliments of LMNA)**

9:25am **Welcoming Remarks**
Timothy P Kerner, Mayor of Jean Lafitte

Mayor Kerner has held his public service office for 26 years. Previously he has worked as a commercial fisherman, barkeep and local tax collector. The Kerner family settled in Jean Lafitte in the early 1800's and a Kerner has held the top public office of the town since 1888.

9:30am **Film on Coastal Culture of Southeastern Louisiana**
Tour Wildlife and Fisheries Museum

10:15am **Break**

10:30am **Integrating Project Learning Tree into the California**
Naturalist Program

Marisa Rodriguez, Community Education Specialist, UC California Naturalist

Project Learning Tree (PLT) is an internationally recognized, award winning environmental education program. In every US state and several partnering countries, PLT's collective network consists of committed educators, curriculum specialists, science professionals, and forestry partners. PLT's professional development workshops model a hands-on, inquiry-based approach to learning that strives to teach students how to think, not what to think, and endeavors to implement change in the way teachers are teaching about the environment. The methodology is based on the 5E approach to constructivist teaching and learning: Engage, Explore, Explain, Elaborate, and Evaluate.

This presentation will describe the integration of California Project Learning Tree into the California Naturalist program, two programs with the University of California, Division of Agriculture & Natural Resources. In 2017, CA PLT was awarded a grant to create new pathways of educator training. It allowed CA PLT and the California Naturalist Program to design California Naturalist courses that meet all the existing criteria for naturalist certification with integrated options for course participants to become certified educators for CA PLT. These California Naturalist courses include an integration of CA PLT activities where appropriate, and all course participants have the opportunity to learn more about PLT activities through the course. There are special PLT options to expand on this learning and provide additional hands-on training. Participants interested in the Project Learning Tree program, materials, and additional training can then opt-in to become a certified educator for CA PLT.

The integration expands the ability to improve science literacy for formal and informal educators by exposing them to an interdisciplinary curriculum aligned to state science standards to the benefit of school aged children statewide. It creates synergy that increases the reach of both programs and will improve environmental literacy for all ages.

11:00am **Creating Accessible Learning Environments**

Andrea Lorek Strauss, Extension Educator, and Amy Rager, Program Director, Minnesota Master Naturalist

Natural resource outreach and service programs bear an obligation to serve a wide range of audiences whether the program is University, local government or nonprofit sponsored. But many audiences experience barriers to accessing our programs, and many program staff feel poorly equipped to serve diverse audiences. If we change our thinking from "accommodating special needs" to "fostering accessible learning environments" we realize that every learner needs help finding success in a new learning setting. This presentation will explore concepts such as Equal Opportunity and Reasonable Accommodation in the context of nonformal educational settings such as Master Naturalist courses, and describe experimental efforts by the Minnesota Master Naturalist program to reduce perceived barriers for participants. Through a series of scenarios, we will encourage discussion about efforts by other programs to strengthen diversity of our audiences.

11:30am **The Georgia Master Composter Program: Increasing Small Scale Waste Reduction and Education**

Amanda Tedrow, County Extension Coordinator, UGA Extension/Georgia Master Naturalist Program

The Georgia Master Composter Program was created in 2011 to address the growing demand for composting education across the state of Georgia. A partnership between University of Georgia Extension and the Athens-Clarke County Solid Waste Department, the program is both an adult environmental education courses and an Extension volunteer program. Participants partake in a nine-week course that includes lectures by professors and experts, hands-on learning and field trips. Through partnering with statewide organizations, program coordinators provide participants with the most current and scientifically accurate composting information. Upon completing the course, Master Composters share their composting knowledge with others by volunteering in the community. They commit to doing 40 hours of volunteer service within the first year and 20 hours each year thereafter to retain their certification. Participants have widened the efforts of UGA Extension, fulfilling composting education requests and fostering relationships with a range of community groups. More than 60 participants since the program's creation. Each year, these Master Composters volunteer 500-700 hours to their community and reach 1,000 individuals through food scrap reduction and composting education. This session will provide an overview of the Georgia Master Composter Program, including course curriculum and materials, program partnerships, student final projects, and examples of volunteer opportunities. By gaining an understanding of the program from the coordinator's perspective, session participants will learn the basics of starting a Master Composter Program in their own community or engaging with an existing program.

12:00pm **Lunch by DesFamilies**
Meal Provided

1:00 pm **Guided Nature Study along Raised Board Walk through Cypress Swamp**

1:30 pm **Boat Tour of Coastal Restoration Projects**

Board flat-bottomed, overhead-cover tour boat at back of nature trail. Restrooms aboard. Bottled Water in cooler. Milton Walker at the helm, knowledgeable and fully licensed and insured by State and Coast Guard. Also on board, other coastal and local natural history content experts.

See the Cajuns of the Bayou living and surviving in harmony with the swamps. Here, the waterways are their highways. From the relaxed comfort of our covered New Orleans Swamp Tour Boats, we will drift slowly past a 2000-year-old Indian Burial Mound, a Cajun cemetery and Fishing village! You may see the wildlife that made the Barataria Swamps the Crown Jewel of the Louisiana Purchase. Here, birds, snakes, turtles, fur animals, and Gators are the king of the swamp. The slow drift of our tour boats through moss draped trees and small waterways, will provide ample opportunity for viewing and photography. The New Orleans swamp tour boats are fully narrated and our captains are natives of the Barataria Swamps with a background of gator hunting, fishing and trapping. They will entertain you and amaze you with the ecology of the swampland.

Board our Swamp Tour Boats have a roof, restroom, cushioned seats, and windows that can be raised or lowered during cold or rainy weather, along with plenty of standing and walking room. Bottled water provided as well.

3:30 pm Boat Tour Stop at Bayou Dupont Coastal Restoration Site
A guided visit to where Mississippi River sand is being pumped from the river to restore deteriorated marshes. Project highlights include the Christmas Tree Project where Christmas trees are being recycled to prevent soil erosion.

5:30pm Return from Boat Tour

6:00pm Dinner by DesFamilies with Happy Hour
Meal Provided

6:30pm Awards Presentation

8:30pm Vans Return to Copeland Towers

Thursday, September 13, 2018

7:00am Breakfast
Copeland Tower Suites Conference Room, Breakfast Provided

8:00am Annual Membership Meeting

8:30am Creating a Community of Learners with Hybrid Master Naturalist Courses
Mark Larese-Casanova, Extension Assistant Professor, Utah Master Naturalist
Description TBD

9:00am Case Study: Incorporating a Volunteer Certification into a College Credit Course (Tentative)
Wanda MacLachlan, Extension Educator, and Joy Rafey, Extension Educator, University of Maryland Extension

Maryland has a proposal from a professor who wishes to include Master Naturalist training and certification in his undergraduate-level course. This conference session will review how the Maryland Master Naturalist Program and University of Maryland Extension are approaching this request in order to build a sustainable partnership.

9:30am Using blended learning to teach critical thinking and leadership skills: A model for Master Naturalist Programs
LoriAnne Barnett, Director, Arizona Master Naturalist Association

Master Naturalist programs can bridge content area knowledge with valuable critical thinking, leadership, and life skills to provide volunteers with tools to lead rather than simply engage in volunteer service. Members are drawn to Master Naturalist programs to learn about bioregions and are life-long learners. They seek to further knowledge and

may expect a collegiate model (memorization of place-based information about the natural world designed to demonstrate expertise). They tend to enjoy utilizing Internet resources and welcome connections to experts at local universities, county programs, and related non-profits.

While presentation using formal educational methodologies is necessary for training natural resource volunteers, even more important is education for successful volunteer-community contributions. Community and organizational volunteer coordinators seek and benefit from volunteers who are not only self-starters but can deliver content about natural resources to the public. Volunteers who can synthesize information and provide program planning and leadership are coveted because they need only basic supervision and provide valuable services where organizational staff are stretched too thin.

Thus the 3-year old Arizona Master Naturalist curriculum, steeped in systems-based natural history, also focuses on reflective practice, collaborative program design, and higher-level thinking.

In addition to the 16-week classroom sessions instructed by local experts AZMN utilizes an online course management system to engage participants in homework assignments designed to further engagement, individually and with each other, outside of the course. This “blended learning” platform allows students to use digital media to document reflective practice and collaboratively discuss assignments and deliverables. It also provides a space for students to thoughtfully practice responding to real-world questions. This aspect alone is valuable to natural resource training programs because content knowledge may not translate to application in the field. Having the extra time and space to educate participants in program planning to directly assist partners is also valuable and possible using this platform as an extension of their learning.

This presentation will provide examples of the blended learning platform and the curriculum utilized during the 16-week course. Preliminary evaluative results indicate volunteers successfully create novel programs for organizations of their choice and tend to lead rather than follow. The full program evaluation is designed to not only measure the value to the individual of having reflective practice built into the training but also to evaluate the efficacy of the training on a community level, connecting with partners to evaluate the value of Master Naturalist contributions.

Students report the benefits of the program when asked to describe their experience. For example, “(AZMN) [goes]...beyond the traditional naturalist curriculum. While providing the essential coursework ...related to the Sonoran Desert region, [it] contains strong elements of collaborative team-building and leadership development skills. This, together with the opportunity to be introduced to partnering organizations where this newly-acquired knowledge and skills can be utilized as a volunteer, make this course an outstanding opportunity for any prospective naturalist.”

10:00am **Break - Poster Sessions**

10:30am **The Air Potato Patrol - Utilizing IPM, Innovation and New Technologies to Solve Problems**

William Lester, UF/IFAS Extension Horticulture Agent II, Member of ANREP and FANREP

Florida is home to many exotic invasive organisms- everything from plants to insects and even lizards and salt water fish. But one problem plant that many Florida residents are familiar with is *Dioscorea bulbifera*, or the air potato vine. Native to parts of Africa and Asia, this rapidly growing vine has caused environmental problems in landscapes and natural areas alike. This invasive vine is not limited to Florida; it has become a problem in all the Gulf Coast states. In 2011, a leaf beetle native to SE Asia, *Lilioceris cheni*, was released for the first time in Florida as a biological control agent. The beetle began to have a positive impact on the volume of air potato plants in many areas. Many questions remain to be answered by researchers concerning the vine's growth and the distribution (and effects) the beetles are having across the state.

In order to better educate Florida residents about this invasive vine and how to control it, a citizen science project, The Air Potato Patrol, was created. This program was created by Dr. William Lester, UF/IFAS Extension in Hernando County, and Dr. Chris Kerr, Florida Department of Agriculture and Consumer Services (FDACS) and was launched in early June of 2017. Their website, located at <https://airpotatobeetle.com/> includes ten educational tutorials on how to properly identify the air potato vine, some common look-alike plants, and the biology and identification of the air potato leaf beetle.

A blog with updates and a forum to ask questions is an important part of the Air Potato Patrol website, giving members a way to communicate with the extension educators and state researchers. Participants can sign up to become citizen scientists and submit data about the vines growing on their property. Data includes timing of when the vines begin growth in the spring, presence of beetles and, if present, how populous they are.

During the program's first six months, 458 individuals became members, the website received 6926 visits and the ten educational videos were viewed 3689 times. A survey sent to measure how the program has impacted members and if it has led to better control overall showed that 83% felt that the videos were very useful, and 88% felt the information helped them with identifying and obtaining the air potato beetle biological control. Approximately 10% of respondents stated that they had youth assisting them in this endeavor, with over 200 children reported to be involved (n=275). Two surveys were distributed over the summer of 2017 to gather air potato vine and beetle data, with 324 returned. This data has already been used to create more accurate distribution maps of the air potato beetle's presence, which is important in developing new control strategies. Over the spring and summer of 2018, a strong effort will be made to create partnerships with Extension and other agencies in Gulf Coast States to broaden the impact of this program in other areas that are experiencing an air potato problem.

11:00am **Biscayne Bay Water Watch: A Citizen Science Water Monitoring Program**

Ana Zangroniz, Florida Sea Grant Extension Agent, Florida Sea Grant/UF IFAS Extension

Biscayne Bay is a subtropical estuary that extends approximately 55 miles along the east coast of Miami-Dade County, FL. Compared to other Florida waters, Biscayne Bay is characterized by very low concentrations of nutrients and pollutants and has excellent water clarity. These conditions support extensive seagrass habitat, hardbottom communities, soft and hard corals, economically vital fisheries populations and a variety of endangered and threatened marine species.

The Biscayne Bay ecosystem contributes about 10 percent to the Miami-Dade economy each year with activities related to Biscayne Bay generating \$12.7 billion in economic output, \$6.3 billion in incomes, 138,000 jobs, and \$627 million in tax revenue to the local economy annually.

Over the past decade several algal blooms have threatened the quality, health and beauty of the Bay, impacting its marine life and over 10,000 acres of bay bottom habitat. Algal blooms stem from a number of causes, both natural and anthropogenic. These blooms suggest that the Bay may be experiencing a reduction in resiliency to withstand such events, which can lead to significant consequences for the ecosystem. Cascade effects include economic impacts for local fishing and tourism, in addition to reducing the intrinsic, aesthetic and recreational opportunities that the Bay provides for South Florida residents.

As of 2015, the South Florida Water Management District (SFWMD), and the Miami Dade County Division of Environmental Resource Management (DERM) were forced to revise their monitoring program (Biscayne Bay Water Quality Monitoring Network) and eliminate 47% of their sampling locations in Biscayne Bay due to budget constraints and reduced funding.

Biscayne Bay Water Watch (BBWW) is a community-based volunteer water quality monitoring program developed and managed by the UF/IFAS Sea Grant Extension Program in Miami-Dade County. The goals of BBWW are: 1) volunteer recruitment and establishment of monitoring sites for monthly sampling; 2) volunteer trainings to collect quality assurance/quality controlled (QA/QC) water quality data and samples; 3) the use of water quality data by local resource managers to garner attention to the health of Biscayne Bay and promote awareness about the importance of water quality.

The boat-based water monitoring sites required targeted outreach to recruit the volunteers. Volunteers consist of partner organizations and private citizens. Volunteers sample their “adopted” sites monthly and are trained in the collection of samples for temperature, salinity, pH, dissolved oxygen, nutrients, and chlorophyll. The data collected will help to: identify emergent or existing algal blooms, identify changes and trends in water quality over time, and be reviewed to help assess the health and status of Biscayne Bay. Now in its third year, BBWW employs 11 volunteers monitoring 11 sites in north, central, and south Biscayne Bay. The program has also been employed state-wide, addressing needs specific to county or region as appropriate, and can serve as a model for other locations facing water quality issues.

11:30am Partnering with Citizens to Inform Resilient Infrastructure and Long-Term Planning: ISeeChange Case Studies in flooding and indoor urban heat

Julia Kumari Drapkin, Founder, ISeeChange and Lindsey Wagner (potentially)

When it comes to the impacts of weather and climate, the granular local data and context needed to inform infrastructure and long-term planning can't be scraped from satellites, remote sensing, or radar data. This is particularly the case with respect to the heat inside people's homes and urban street flooding. Based on successful pilots with policy impacts in Harlem and New Orleans, ISeeChange has launched new tools that empower citizens, scientists, city planners, and local community groups to collaborate equitably and iteratively fill the data gaps, alongside qualitative story data, as conditions change in real time.

12:00pm Supporting Community and Citizen Science around the State: UC Agriculture and Natural Resources and California Naturalist

Sabrina Drill, Associate Director/Natural Resources Advisor, UC California Naturalist and Sarah Angulo, Heidi Ballard, Greg Ira, Ryan Meyer

Land grant universities and cooperative extension programs were created to bring science to resource managers, and to bring real-life management questions to scientists. Hence, they are positioned to play a key role in both fostering and utilizing citizen and community science. We recently examined ways in which UC Agriculture and Natural Resources programs utilize CS in areas such as natural resources, pest management, urban forestry, and youth development, and ways in which CS as both an educational and a research methodology could be expanded. California Naturalist, a program of UC ANR, has incorporated citizen science in several ways. Since its inception in 2012, the program has certified over 2,078 California Naturalists and approximately 25% of these naturalists have recorded over 25,300 hours of volunteer service hours directly related to PPSR. In the next five years, nearly 700 new naturalists are expected to support PPSR in California communities. The effectiveness of the tools, approaches and training methods used by the California Naturalist program could soon have a measurable impact on the growth and sustainability of PPSR efforts across the state. Each training course contributes to a class or programmatic iNaturalist program to assess biodiversity, and additionally chooses another CS project to develop or contribute to as a class. Individual naturalists may choose to participate in CS for a capstone project, may continue involvement with CS after graduation as volunteers or in other capacities, and may identify opportunities and track CS hours contributed through our volunteer portal. Since 2012, California Naturalists have logged over 27,000 hours volunteering with and contributing to numerous citizen science projects statewide. The program now has over 40 established partners across the state, and we are looking for ways to leverage this network to provide greater coordination to undertake participation in CS projects across partners to cover the bio-geographic diversity of the state, particularly for two UC led projects, the California Phenology Project, and Cal EDNA.

12:30pm Lunch by Copeland

Copeland Tower Suites Conference Room, Lunch Provided

1:00pm **Depart for Field Session at Jean Lafitte National Park**
Transportation Provided

1:45pm **Jean Lafitte National Park and Guided Tour of Coquille Trail**

The Bayou Coquille Trail starts in hardwood forest then follows along a bayou. From this point, the habitat changes to a cypress-tupelo swamp and then becomes a freshwater marsh at the end of the trail. Join the Louisiana Master Naturalist for a chance to see an alligator and learn about the local flora and fauna. All on a paved walkway and completely handicapped accessible with great learning potential. LAMN Greater New Orleans members will be trail leaders helping to ID plants, spiders, insects, herps, birds and anything else that walks or slithers across the trail.

3:15pm **Return to Vans for Trip back to Hotel**

4:00pm **End Conference**

Poster Presentations

Submitted as of June 1st

The Georgia Master Composter Program: Increasing Small Scale Waste Reduction and Education

Amanda Tedrow, County Extension Coordinator, UGA Extension/Georgia Master Composter Program

The Georgia Master Composter Program was created in 2011 to address the growing demand for composting education across the state of Georgia. A partnership between University of Georgia Extension and the Athens-Clarke County Solid Waste Department, the program is both an adult environmental education course and an Extension volunteer program. Participants partake in a nine-week course that includes lectures by professors and experts, hands-on learning and field trips. Through partnering with statewide organizations, program coordinators provide participants with the most current and scientifically accurate composting information. Upon completing the course, Master Composters share their composting knowledge with others by volunteering in the community. They commit to doing 40 hours of volunteer service within the first year and 20 hours each year thereafter to retain their certification. Participants have widened the efforts of UGA Extension, fulfilling composting education requests and fostering relationships with a range of community groups. More than 60 participants since the program's creation. Each year, these Master Composters volunteer 500-700 hours to their community and reach 1,000 individuals through food scrap reduction and composting education. This session will provide an overview of the Georgia Master Composter Program, including course curriculum and materials, program partnerships, student final projects, and examples of volunteer opportunities. By gaining an understanding of the program from the coordinator's perspective, session participants will learn the basics of starting a Master Composter Program in their own community or engaging with an existing program.

Developing a Sustainable Extension Program - Lessons Learned from the Florida Master Naturalist Program

Shelly Johnson, Statewide Program Coordinator, Florida Master Naturalist Program

Educating and motivating the public to understand, support and participate in conservation efforts and education is becoming increasingly important, especially at regional scales. Challenges associated with developing, implementing, evaluating, and providing continued financial support for regional programs that reach large audiences are substantial. This presentation details strategies that have proven successful for the Florida Master Naturalist Program (FMNP), a statewide extension program that includes multiple courses offered by a network of more than 150 professional educators representing dozens of organizations and over 60 training teams throughout Florida. The FMNP is curriculum-based and includes 3 core courses (Coastal, Freshwater, and Uplands Systems) and 5 courses on special topics. All courses include classroom and experiential learning. The FMNP curriculum is supported by educational materials, program evaluation tools, and a fee-based structure that makes the program self-sustaining. Registration support and all instructional materials are provided without

cost and 30% of the tuition fee is distributed to the Instructor organization to offset costs associated with providing FMNP courses. During 2001-17, the FMNP issued 13,000 course certificates to 7500 persons, 2200 of which have completed all 3 core courses. This presentation explains FMNP strategies that will be useful for individuals and organizations interested in developing regional extension programs and to provide evidence of the programmatic success of the FMNP as obtained through evaluative procedures. Additional information about the FMNP is available at www.MasterNaturalist.org.

DRAFT

Presenter Biographies

Sarah Angulo

Sarah Angulo advances new and continuing CalNat programs in central California and throughout the Sierra. Sarah has a strong interest and background in environmental education, having taught California natural history to kindergarteners through adults at the tide pools of the Sonoma Coast and Santa Cruz redwood forests, all the way through gold country to the snowy Castle Peak at Donner Pass and Mono Lake's high desert. She leads backpacking trips every summer for the Sierra Club, and is Northern Chair Elect this year on the board of the California Association for Environmental and Outdoor Education.

LoriAnne Barnett

LoriAnne Barnett coordinates the USA-NPN's education activities, focused on engaging a variety of formal and non-formal audiences in experiential education and phenology via the Nature's Notebook program. She has worked in a number of educational settings over the last two decades, teaching both youth and adults the importance of place and connections to the natural world, and serves as an advocate for citizen science, education and stewardship of the land.

LoriAnne holds a B.A. in Environmental Studies from Shippensburg University in Pennsylvania and a M.A. in Environmental Science and Environmental Education from Prescott College in Arizona. She has led workshops on leadership development, Wilderness First Aid, outdoor adventure safety, and risk management. Her areas of expertise include youth development, program and curriculum development, and environmental education. Current Board service includes President of the Arizona Association for Environmental Education and founding board member and Statewide Coordinator of the Arizona Master Naturalist Association.

Bindu Bhakta

Bindu Bhakta has served as a Natural Resources Educator for Michigan State University Extension (MSUE) based in Oakland County in the Detroit Metropolitan area since November 2005. She earned a double Bachelor's Degree from University of Michigan in 1995 in Natural Resource Management (School of Natural Resources) and Anthropology-Zoology (School of Literature, Science and Arts). She earned her Master's Degree from Cornell University in the Department of Floriculture and Ornamental Horticulture in 2001. She develops and delivers public education programs for adults and youth on a variety of topics such as inland lake ecosystem management and the importance of natural shorelines, landscaping for water quality, invasive species management, onsite wastewater management, and nutrient management. She recently helped develop and deliver a new water education program, Michigan Water School, targeting for local officials. Bindu also helps coordinate MSUE's Michigan Conservation Stewards volunteer training Program, a program that trains volunteers in an ecosystem-based approach to natural resource management so they can so they can engage in conservation activities in their local communities. She currently serves on the Boards for the Alliance of Natural Resource Outreach Service Programs (ANROSP) and Association

of Natural Resource Extension Professionals (ANREP). In her spare time, she enjoys traveling, exploring the out-of-doors, and chasing after her 4 and 7-year-old kids.

Julia Kumari Drapkin

Julia Kumari Drapkin is the CEO and founder of ISeeChange, an award-winning citizen journalism and citizen science platform that empowers communities to connect to each other and their changing environment. Drapkin created ISeeChange after spending over a decade reporting natural disasters and climate change science stories across the globe and in her own backyard. Drapkin currently serves on the board of the National Federation of Community Broadcasters and is a consultant for the think tank Resources for the Future and NASA.

Founded in 2012, ISeeChange is the nation's first community crowdsourced climate and weather journal that empowers users to document environmental changes with others and discuss the impacts over time. The groundbreaking environmental reporting platform—available online and through mobile apps—personalizes and tracks climate change from the perspective of every day experiences.

Sabrina Drill

Sabrina Drill is the Natural Resources Advisor for UC Cooperative Extension in Los Angeles and Ventura Counties and Associate Director of California Naturalist. Her current areas of research and extension include restoration of urban streams, terrestrial and aquatic invasive species, fire ecology and recovery, and public participation in science. She is the Southern California lead for the UC California Naturalist Program where she is especially interested in community science and ways to engage with underserved communities. Dr. Drill has conducted research in Southern California, the Colorado River, the Hudson River, and the East African Great Lakes. She holds a Ph.D. in Geography and a M.S. in Biology from UCLA, a B.S. in Biology from Virginia Tech, and an A.A. in Natural Science from Simon's Rock of Bard College.

Shelly Johnson

Dr. Shelly Johnson is a State Specialized Extension Agent at the University of Florida and the Statewide Program Coordinator for the Florida Master Naturalist Program.

Mark Larese-Casanova

Mark Larese-Casanova has been the Director of the Utah Master Naturalist program since the program was created in 2006. Over the years, Mark has continually adapted the program to best meet the needs of the audience and instructors. The latest direction for Utah Master Naturalist has involved teaching through online courses.

Wanda MacLachlan

Wanda MacLachlan, Area Educator, University of Maryland Extension, is the Maryland Master Naturalist Program Coordinator. She oversees a unique partnership with University of Maryland Extension and local parks, nature centers and conservancies to produce a corps of trained natural resources volunteers for those sites. She also works in the area of residential landscape water quality issues, for urban, suburban and rural homeowners, by training Maryland Master Gardener volunteers. Bay-Wise landscape

management is the name of the program she has created to address these water quality issues. She is also involved with the Maryland Urban and Community Forestry Committee, the Howard County Forestry Board, the Alliance of Natural Resource Outreach and Service Program, and was a founding member of the Chesapeake Conservation Landscape Council. Wanda received her education from Kansas State University, where she earned a BS in Horticulture and from the University of Maryland, where she obtained her MS in Horticulture. In her spare time, Wanda enjoys travel, knitting, practicing yoga and reading.

Mary Pearl Meuth

Mary Pearl is the Assistant State Coordinator of the Texas Master Naturalist Program working to represent Texas A&M AgriLife Extension Service in the partnership established with Texas Parks & Wildlife Department to administer the TMN Program. Mary Pearl was a lead editor for the Statewide Curriculum published in 2016, organizes the TMN Annual Meeting each fall and serves as program coordinator tackling a number of program duties as they arise.

Ryan Meyer

Ryan Meyer directs the Center for Community and Citizen Science at the UC Davis School of Education. They are building a home for programs and partnerships that revolutionize how – and with whom – science gets done. He was formerly Program Director at the California Ocean Science Trust, and has worked with CSIRO, (Commonwealth Scientific and Industrial Research Organization). He received his PhD from Arizona State University.

Michelle Prysby

Michelle Prysby has led the Virginia Master Naturalist program for most of its 12-year existence. She is an Extension Associate in the Department of Forest Resources and Environmental Conservation at Virginia Tech.

William Lester

Dr. William Lester holds a graduate degree in Plant Medicine from the University of Florida and currently works for UF/IFAS Extension in Hernando County, FL. Combining a mix of horticultural knowledge and management skills, his current responsibilities include teaching the public and working closely with county and professional clients. As a frequent guest on radio and writing for local newspapers, his goal is to put complex scientific findings into language that can be understood by school age children and the public alike.

Joy Rafey

Joy Rafey has served as the Maryland Master Naturalist Program Assistant since 2013, and is a Certified Maryland Master Naturalist herself. With an extensive background in non-profit and volunteer management, Joy spent more than a decade as Executive Director of the Council for Resource Development at the National Center for Higher Education. Joy holds a Masters in Recreation and Parks Management from Frostburg

State University, and sits on the Downcounty Recreation Advisory Board for Montgomery County, Maryland.

Amy Rager

Marisa Rodriguez

Marisa Rodriguez advances California Naturalist programs in southern California through active collaboration with partnering organizations. She is a California Naturalist, Master Gardener, and has worked with a range of environmental education programs in California and New York.

Becky Sapper

Becky has worked for the University of Wisconsin-Extension since 2007. She is the director of the Wisconsin Master Naturalist Program with her office located at the Northern Great Lakes Visitor Center in Ashland. Becky has been involved with the Wisconsin Master Naturalist Program since its inception in 2012. She worked with the founding director on the original model for Wisconsin's program, which was based on a successful program in Minnesota. Becky helped write the Wisconsin Master Naturalist course curriculum, Great Lakes Advanced Training curriculum, and co-led a pilot course for Volunteer Training in 2012. She continues as an instructor of annual Volunteer Training courses in the Ashland/Cable area together with the Cable Natural History Museum and the Northern Great Lakes Visitor Center. Becky became the director of the program in October 2015.

Originally from southern Illinois, Becky attended both Northland College and the University of Wisconsin-Stevens Point, where she majored in Wildlife Management and Biology. She worked on stewardship, land protection and education efforts in northern Wisconsin for 10 years with The Nature Conservancy prior to her work with UW-Extension. Becky spent 13 years working to establish and grow the Lake Superior National Estuarine Research Reserve. She has also served as a Natural Resources Educator within UW Extension, primarily providing facilitation and coordination for the Lake Superior Landscape Restoration Partnership.

Andrea Lorek Strauss

Andrea Lorek Strauss and Amy Rager are Extension Educators with the University of Minnesota Extension. Amy is the State Program Director for the Minnesota Master Naturalist program, and Andrea contributes to the program through curriculum development, instructor training, the annual conference, and more.

Amanda Tedrow

Amanda is the Athens-Clarke County Agriculture and Natural Resources Cooperative Extension Agent and Extension County Coordinator. She received her Master's degree in Plant Protection and Pest Management and her Bachelor's degree in Horticulture, both from the University of Georgia.

Amanda coordinates the Athens Area Master Gardener, Master Composter, and Master

Naturalist programs, which teach participants about numerous gardening topics and environmental education.

Ana Zangroniz

Ana Zangroniz serves as the Florida Sea Grant Extension Agent in Miami-Dade County. Her Extension Program areas include promoting healthy habitats and ecosystems, and improving marine literacy and environmental stewardship. Ana's programs put her into direct contact with boaters, fishers, scuba divers, natural resource managers, and local members of the community.

DRAFT