2014 OFWIM Annual Conference & Business Meeting

High Country Conference Center, Flagstaff, AZ

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GEOSPATIAL SOLUTIONS
2014 OFWIM Annual Conference & Business Meeting Agenda

“Exploring Emerging Technological Tools and Solutions for Common Fish and Wildlife Information Management Challenges.”

CONFERENCE SCHEDULE AT-A-GLANCE

SUN, Sept. 28
6:00 pm  ExComm Meeting and Social Gathering at Beaver Street Brewery

MON, Sept. 29
7:30 am  Registration - All day
8:00 am - 11:30 am  Welcome & Conference Session I
11:30 am - 1:00 pm  LUNCH - Student/Professional OR Lunch on your own/Geocache
1:00 pm - 5:05 pm  Conference Session II & III
5:05 pm – 6:30 pm  OPEN - Poster set-up; Geocache
6:30 pm – 9:00 pm  “Hackers Ball” - Poster and Technical Demonstrations

TUE, Sept. 30
7:30 am  Registration - 1/2 day
8:00 am - 11:10 am  Conference Session IV & V
11:10 am – 12:00 pm  OFWIM Planning Session
12:00 pm – 1:00 pm  LUNCH – On your own
1:00 pm – 3:10 pm  Conference Session VI
3:30 pm – 4:30 pm  Drone Panel Discussion
5:30 pm  Meet in lobby to carpool to Banquet
6:00 pm – 9:00 pm  Banquet at Lowell Observatory

WED, Oct. 1
8:00 am – 11:30 am  Field trip - Sunset Crater Volcano National Monument
11:30 am – 1:00 pm  Lunch Break – Boxed lunches
1:00 pm – 5:30 pm  Field trip - Wupatki National Monument
6:30 pm – 8:00 pm  Dinner and Annual Business Meeting

THU, Oct 2
8:00 am – 12:00 pm  Workshop / Training sessions
Option A:  Python Applied – hands-on programming to create several scripts that do useful things for information managers
Option B:  Fulcrum – Web-based mobile application development software for iOS and Android devices.
12:00 pm  Adjourn
1:00 pm – 5:00 pm  Bonus Field Trip – Page Springs Hatchery*
* West Fork Oak Creek Canyon is closed due to fire and flood
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Sunday - September 28, 2014

Travel Day
TBD  Suburbans will be available to pick up attendees who need a ride from the Phoenix Airport to Flagstaff (times will be decided based on flight schedules)
6:00 pm  ExComm Meeting and Social Gathering at Beaver Street Brewery

Monday - September 29, 2014

Welcome and Keynote
7:30 am  Conference Registration – All Day
8:00 am  OFWIM Welcome, Conference Introduction and Logistics
Jim Husband, OFWIM President, Virginia Department of Game & Inland Fisheries
8:25 am  Welcome to Flagstaff!
Sabra Tonn, Arizona Game and Fish Department
8:50 am  OFWIM Geocache
Don Katnik, Maine Department of Inland Fisheries and Wildlife
9:00 am  Keynote: Potential for Energy Harvesting in the Arena of Wildlife Tagging and Bio-Logging
Michael Shafer, Ph.D., Assistant Professor, Mechanical Engineering, Northern Arizona University
9:40 am  Break
Keynote Speaker: Michael Shafer, Ph.D.

Energy harvesting takes wing in merger of engineering and biology

A bird flapping its wings or a fish’s deep dive may be pictures of nature in action, but in their elegant simplicity Michael Shafer sees the complex challenges of merging technology with a biological system.

As an engineer interested in energy harvesting, Shafer also knows that animal movement offers opportunity, at least on a limited scale. While solar panel arrays and towering windmills generate electricity from natural forces, a pod of dolphins with battery packs isn’t going to light a city. But the motion of animals could power small devices that allow biologists to collect information about behavior that eludes them under the limitations of current technology. “I’m trying to take energy that’s all around us—differences in temperature, mechanical energy, kinetic energy—and convert it into something useful,” said Shafer, assistant professor of mechanical engineering at Northern Arizona University.

As a Ph.D. student at Cornell, Shafer helped bring that vision into reality by developing what is essentially a bird backpack: an ultra-light device that generates power through the flapping of a bird’s wings. A piezoelectric material—one that produces electricity when pressure is applied—lies at the heart of the device, which recently caught the attention of Popular Science.

Today, having returned to his undergraduate alma mater, Shafer is investigating ideas beyond birds, such as terrestrial and marine applications. But he continues to apply the lessons he has learned, including his use of a systems approach to solve engineering problems and establishing a two-way channel of communication with biologists. “If I were going to design an energy harvester for a building system, or a static remote sensor on a bridge, that can be challenging,” Shafer said. “But it’s much harder to take that system and apply it to an animal.”

In the case of birds, the biggest limitation was the small amount of weight they can carry. Most weigh less than 100 grams and can carry only about four percent of their own mass. “If I have a bird flapping at a certain frequency that can carry only so much mass, I have to ask how I can design something to maximize power given those conditions,” Shafer said. “There isn’t much margin for error.”

Shafer points to a “confluence of technologies” that is making energy harvesting more accessible. The field is not new, with research having been conducted on solar, piezoelectric, kinetic, electromagnetic, thermoelectric and other processes. But progress is occurring rapidly. “What has really created viability for the technology and really spurred people to investigate energy harvesting is a precipitous decline in the power consumption of microelectronics,” Shafer said. “Now low energy sources are suddenly starting to become viable as a method of powering electronics.”

Yet as technological advances make smaller devices possible, Shafer must always consider “second order” effects, such as not creating too much drag on an animal and fabricating a device that biologists can handle easily. “Animals don’t have a great way of putting on an engineering system,” Shafer said. “Form factor is a big driver—the system has to fit the animal. That’s really where you start going to the biologists, and there’s a lot of back and forth.”
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Presentation Session I: GIS and Mapping Tools
Moderator: Jeanette Jones, Tennessee Wildlife Resources Agency

9:55 am     Raffle

10:00 am    Using GIS Tools to Enhance Permit Compliance
            James Husband, Virginia Department of Game and Inland Fisheries

10:20 am    Leveraging ArcGIS JavaScript API - mobile application development
            Jay Kapalczynski, Virginia Department of Game and Inland Fisheries

10:40 am    Leveraging Your Geo-spatial Data Investments with Quantum GIS: An Open Source Geographic Information System
            Don Schrupp, Colorado Division of Wildlife – Retired

11:00 am    Field Data Collection on a Tablet Using Quantum GIS, and a Comparison to ArcPad
            Michael Barbour, Alabama Natural Heritage Program

11:30 am – 1:00 pm  Student/Professional Lunch
        Lunch on your own, Geocache

Presentation Session II: Mobile Data Collection/Online Tools
Moderator: Julie Mikolajczyk, Arizona Game and Fish Department

1:00 pm     Raffle
1:05 pm     Using Tablets for Field Data Collection: An overview on how Missouri Department of Conservation is using tablets for data collection
            Philip Marley, Missouri Department of Conservation (REMOTE speaker)

1:25 pm     SAFIS/Mobile: Update on the development of a handheld application for fisheries trip reporting
            Julie Difilippi, Atlantic Coastal Cooperative Statistics Program

1:45 pm     Connecting Hunters, Biologists, and Enforcement in a Mobile World
            Joe Kirby, Missouri Department of Conservation

2:05 pm     Arizona's New and Improved Online Environmental Review Tool
            Sabra Tonn, Arizona Game and Fish Department
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2:25 pm  **EnviroAtlas: Exploring Ecosystem Services and Biodiversity Data for the Nation**  
*Anne Neale, U.S. Environmental Protection Agency* (REMOTE speaker)

2:45 pm  Break

3:00 pm  Raffle

3:05 pm  **Everything is Awesome! How to deliver your mobile project from idea to reality**  
*Chris Gerecke, Timmons Group* (REMOTE speaker)

**Presentation Session III: Data Sharing/Data Management**  
*Moderator: Keith Hurley, Nebraska Game and Parks Commission*

3:25 pm  **A Security Model for Wildlife Data**  
*Eric Woodsworth, Canadian Wildlife Service of Environment Canada*

3:45 pm  **Sharing data across regulatory and geographic boundaries improves landscape scale decision making**  
*Rebecca Scully, U.S. Geological Survey*

4:05 pm  **Developing a Fisheries Data Exchange Standard**  
*Julie Difilippi, Atlantic Coastal Cooperative Statistics Program*

4:25 pm  **Single Points of Failure in Data Management: Lessons Learned**  
*MaryEllen Wickett, Maine Department of Inland Fisheries and Wildlife*

4:45 pm  **What will you remember about your data in 10 years? Preserving project documentation for the long term**  
*Jacquelyn Schei, U.S. Geological Survey*

5:05 pm – 6:30 pm  OPEN - Poster set-up; Geocache

6:30 pm – 9:00 pm  **Hackers Ball (Poster and Technical Demonstrations) – Raffle**
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Hackers Ball Presentations

- Using Satellite Telemetry to Facilitate Future Management of Missouri Elk, Tim Bixler
- 21st Century Strategies for Mobile and Desktop Wildlife Data Dissemination and Reporting, Andrew Duff, Gretchen Blatz, and Jeff Foisy
- Tennessee's SWAP Priority Habitats, Jeanette Jones
- onXMaps Custom Public Lands Data Sets, Craig Koller
- iMapInvasives, Jami Kuzek
- Mapping the American Badger's Distribution and Range in Missouri, Philip Marley
- Mapping Species and Communities with the Missouri Heritage Database, Philip Marley
- Chronic Wasting Disease Management in Virginia, Justin Ray and Jess Suders
- Web-Based Salmon Recovery Report Increases Access and Understanding of Species Indicators, Colin Spikes and Jennifer Johnson
- Virginia’s Elk Restoration Initiative, Jesse Suders and Justin Ray
- Virginia Department of Game and Inland Fisheries Statewide Resources Reference Map, Jesse Suders and Justin Ray
- Arizona's New and Improved Environmental Review Tool, Sabra Tonn
- UAS demo video & T-Hawk sUAS, John Vogel & Rian Bogle
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Tuesday - September 30, 2014

7:30 am  Conference Registration – All Day
8:00 am  Welcome back, Conference logistics

Presentation Session IV:  USGS Core Science Analytics, Synthesis, and Libraries - Tools available to Fish and Wildlife Professionals
Moderator: Julie Prior-Magee, U.S. Geological Survey

8:05 am  Raffle
8:10 am  Integrated Taxonomic Information System
         Gerald Guala, U.S. Geological Survey (REMOTE speaker)

8:30 am  Biodiversity Information Serving Our Nation (BISON): Mapping species occurrence data now includes ITIS-enabled search
         Annie Simpson, U.S. Geological Survey (REMOTE speaker)

8:50 am  ScienceBase: A scientific data cataloging and collaborative data management platform
         Natalie Latysh, U.S. Geological Survey (REMOTE speaker)

9:10 am  National Fish Habitat Partnership Data System
         Andrea Ostroff, U.S. Geological Survey (REMOTE speaker)

9:30 am  Species Conservation Analysis Tool – A compilation of State Wildlife Action Plans Species of Greatest Conservation Need
         Andrea Ostroff, U.S. Geological Survey (REMOTE speaker)

9:50 am  Break

Presentation Session V:  Knowledge Exchange/Education
Moderator: Beth Stys, Florida Fish and Wildlife Conservation Commission

10:05 am  Raffle
10:10 am  Griffin Groups: A Free Online Tool to Support Conservation Activities and Knowledge Transfer
         Ed Laurent, Connecting Conservation (REMOTE speaker)
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“Exploring Emerging Technological Tools and Solutions for Common Fish and Wildlife Information Management Challenges.”

10:30 am    The application of spatial modeling tools to predict native bee abundance in Maine's lowbush blueberries
Shannon Chapin Groff, Southern Environmental Law Center, 2013 Student Scholarship Winner

10:50 am    There's a word for that!
Keith Hurley, Nebraska Game and Parks Commission

OHWIM Planning Session

11:10 am    OFWIM Technology Survey Results
Philip Marley (REMOTE speaker)

11:30 am    OFWIM Committee Meetings / Brainstorming Sessions for 2015 (Raffle)

12:00 pm – 1:00 pm   Lunch on your own/ Geocache

Presentation Session VI:  General Session/Drone Technology
Moderator: Jim Husband, Virginia Department of Game and Inland Fisheries

1:00 pm    Raffle

1:10 pm    Web Maps with Leaflet
Dyanne Cortez, Texas Parks and Wildlife Department

1:30 pm    Wildlife TRACS: Tracking and Reporting Actions for the Conservation of Species
Tim Smith, USFWS

1:50 pm    Geospatial Privacy
Tony Spicci, Missouri Department of Conservation (REMOTE speaker)

2:10 pm    Slow Flight: The Trials and Tribulations of a Department of the Interior sUAS Project Manager
John Vogel, U.S. Geological Survey

2:30 pm    Northern Arizona University’s New UAV Instrumentation and Measurement Validation
Temuulen “Teki” Sankey, Northern Arizona University
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3:10 pm Break

3:25 pm Raffle

Moderator: Sabra Tonn, Arizona Game and Fish Department
3:30-4:30 pm Drone Panel Discussion

4:30 pm Adjourn

5:30 pm Meet in lobby to carpool to Banquet

6:00 pm – 9:00 pm Banquet at Lowell Observatory
Astronomy Jeopardy & Telescope Viewing
Speaker: Gerard van Belle, Astronomer

Biography: Gerard’s research concentrates on the fundamental properties of stars — masses, linear radii, and temperatures. These parameters tell us about the internal structure and evolution of stars, which in turn is essential in understanding the plethora of new planets being discovered about nearby stars. He has also applied his interests in the highest-resolution, highest-precision, astronomical techniques to detect such planets and map the surfaces of stars.

Gerard has worked on every major optical interferometer on the planet, including the Infrared-Optical Telescope Array, the Palomar Testbed Interferometer, the CHARA Array, the Very Large Telescope Interferometer, and the Keck Interferometer. His pioneering stellar surface imaging work on PTI won him the first director’s research award at the Jet Propulsion Laboratory.
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“Exploring Emerging Technological Tools and Solutions for Common Fish and Wildlife Information Management Challenges.”

Wednesday – October 1, 2014

Field Trips

8:00 am – 11:30 am  Morning field trip, Sunset Crater Volcano National Monument

At Sunset Crater Volcano Experience The Surreal!

Roughly 900 years ago, the eruption of this volcano reshaped the surrounding landscape, forever changing the lives of people, plants and animals. Hike the trail through the lava flow and cinders and you’ll likely discover colorful, ruggedly dramatic geological features coexisting with twisted Ponderosa Pines and an amazing array of wildlife. Climb the Lenox cinder cone to see Penstemon clutei, a rare Penstemon that grows only on the cinders; or walk through the lava flows and see lava “tubes” – long underground tunnels formed from lava flowing.

From Sunset Crater, we will drive through several ecosystems. We will start near 8000 foot elevation in the largest continuous stand of Ponderosa Pine in the world. As we drive east we will drop down to Pinyon pine and juniper as the elevation drops. Then we will drop further onto the Colorado Plateau, home of the Great Basin Grassland. You will see the Painted Desert to the East (an area recognized as an official “Badlands”).

11:30 am – 1:00 pm   Lunch

1:00 pm – 5:30 pm  Afternoon field trip, Wupatki National Monument

We will then explore several different pueblo ruins left by Native American tribes, abandoned around 1060 – the same time as the beginning of the Tower of London construction. You can climb amongst the ruins where a civilization once stood. Interesting views, birds, lizards, and plants are awaiting your arrival.

6:30 pm – 8:00 pm   Dinner and Annual Business Meeting (Raffle)
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“Exploring Emerging Technological Tools and Solutions for Common Fish and Wildlife Information Management Challenges.”

Thursday – October 2, 2014

8:00 am – 12:00 pm  Workshop / Training sessions

Option A:  
Python Applied – hands-on programming to create several scripts that do useful things for information managers  
*Don Katnik, Maine Department of Inland Fisheries & Wildlife*

Link to pre-conference training webinars:  
http://www.ofwim.org/meetings/2014/workshop.html

Option B:  
**Fulcrum** – Web-based mobile application development software for iOS and Android devices.

Link to pre-conference training webinars:  
http://www.ofwim.org/meetings/2014/workshop.html

12:00 pm  Adjourn Meeting – Safe Travels!

Suburbans will be available to transport participants from Flagstaff back to the Phoenix Airport; specific times depend on flight schedules.
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Thursday Afternoon – October 2, 2014
Bonus Optional Field Trip

1:00 pm – 5:00 pm  Bonus Field Trip – Page Springs Hatchery*

*Due to fire and flood West Fork Oak Creek Canyon is closed to visitors, we will be touring Page Springs Hatchery instead.

Page Springs Hatchery

Page Springs is located on beautiful Oak Creek approximately 10 miles south of Sedona and 10 miles north of Cottonwood off Highway 89A on the Page Springs Road. The best access is from Interstate 17. Take the McGuireville exit (exit 293), turn west for approximately 10 miles to Cornville; turn north on Page Springs Road for five miles to hatchery entrance.

Page Springs Hatchery was named after the Page family, the previous owners of the property who had been raising trout as far back as the early 1930s. The Department acquired a lease to the hatchery in 1938 and eventually purchased the hatchery in 1949. The facility has been through some major renovations, the most recent was in 1993 when it was completely rebuilt with new raceways and covered canopies.

It takes a staff of 10 people to run this facility which is the largest trout growing facility in Arizona. Page Springs raises more than 600,000 catchable rainbow trout (9.5 inches), 50,000 brown trout of assorted sizes, and around 100,000 rainbow fingerlings each year. Fish from this hatchery are distributed year-round all across the state.

Water temperature at this hatchery is unique among trout culture facilities. Normally, trout are cultured in water temperatures between 45 to 55 F. The water temperature from the Cave Spring here is a constant 68 F, with a flow capacity of up to 17 million gallons daily. The warmer water allows for faster growth and it takes about 9-13 months to produce a catchable size fish versus up to 24 months at other hatcheries. However, the water is too warm for transporting trout efficiently, so the hatchery has a giant ice machine capable of making 500 pounds of ice daily to cool down the water in the hatchery stocking trucks.
OTHER INTERESTING SIGHTS AT PAGE SPRINGS HATCHERY:

There are wildlife viewing areas at the site with visitor parking. There are short hiking trails from the parking lot on the North end of the property. On the South end of the hatchery we have additional hiking trails and wildlife watching opportunities. The department has partnered with the Northern Arizona Audubon Society to develop this aspect of the site. Trails at this site are more developed than those of the adjacent Bubbling Ponds Hatchery. Visitation for this area is dawn to dusk seven days a week.

Page Springs Hatchery also has a Visitor Center with public restrooms and picnic tables. Pending available funds, the Visitor Center is scheduled to be remodeled in the next couple years, so please pardon any dust while renovation is underway. There is a show pond where visitors can view and feed fish.

There are wildlife viewing areas at the hatchery site and designated visitor parking. In addition, the hatchery provides crucial habitat for rare or declining species such as northern Mexican gartersnake, Page springsnail, and a rare species of caddisfly.

Walking trails from the visitor parking lot lead to remote areas of the 100-acre portion of the property that are excellent for viewing wildlife. The department has partnered with the Northern Arizona Audubon Society to develop and maintain wildlife watching opportunities as well as wildlife habitats. It is not uncommon to see big game animals on site or other species such as otters, skunks, osprey, herons, raccoons, other mammals, amphibians, and about 200 species of birds. Bring your hiking boots and a pair of binoculars and enjoy the scenery!
Presentation

Abstracts
GIS and Mapping Tools

Using GIS Tools to Enhance Permit Compliance

James Husband, Virginia Department of Game and Inland Fisheries

Abstract: The Virginia Department of Game and Inland Fisheries manage a permit system that issues all wildlife permits, tracks compliance, and collects species data. Information collected and reported through this program is combined with other data sources (biologists, partner organizations) forming the primary database for all species management and environmental impact decisions. These databases serve multiple Virginia Agencies, the USFWS and NGOs. This presentation discusses how ongoing automation of the legacy permits system to provide highly accurate data for existing fish and wildlife databases. Over the past four years scientific permit requests, environmental impact reviews, and species information demands have increased in an environment of decreasing manpower and budget cuts. These realities have forced the Department to rethink and re-engineer the entire permit process, from permit issuance through data collection. Additionally, several field collection and other permit violations has required a need to step up compliance and enforcement strategies to ensure the protection of the resource. Utilizing several GIS mapping tactics, Permits staff have had moderate success in addressing increased data accuracy, increased enforcement and permit compliance, collection of more relevant information, and justifying permit conditions while decreasing the man hours required to issue an ever increasing demand for wildlife permits.

Biography: James Husband is the Fish and Wildlife Information/Permits Manager at VA Department of Game & Inland Fisheries in Richmond, VA. He has over 20 years of experience with information technology, education, criminal justice, and government agencies and institutions. Currently, he directs a multidisciplinary team of biologists, GIS, database, and application programmers within the Statewide Resource Division of the Department. Mr. Husband has held previous management positions in the private sector in several IT firms and with higher education, working with distance learning technologies and strategies. Additionally, Mr. Husband has worked as a college professor and had a distinguished career in law enforcement and criminal justice planning.
Leveraging ArcGIS JavaScript API - mobile application development

Jay Kapalczynski, Virginia Department of Game and Inland Fisheries

Abstract: The availability of low-cost mobile devices has changed the way we interact with one another, how we do business and how we perceive the world around us. These hardware solutions coupled with a variety of “out of the box” applications have allowed us to share and manipulate data on an ever growing scale. While there does not seem to be a lack of application solutions out there, we often find ourselves at a point where the existing solution no longer meets our business objectives. So begins the search for an alternate customizable solution. This presentation will briefly hint upon a few available web/mobile options but primarily focus on leveraging ArcGIS JavaScript API. We will discuss this API and the frameworks available to enhance the functionality, look and feel of the applications, as well as, illustrate start up examples with a few demos.

Biography: Jay Kapalczynski is the GIS Coordinator for Virginia’s Department of Game and Inland Fisheries (DGIF). He earned his Master’s degree in Quantitative Methods in GIS with a minor in Natural Resource Management from The College of Environmental Science and Forestry at Syracuse NY. Over the last 15 years Jay has leveraged his knowledge of GIS, GPS, programming, database design and website development to develop and integrate GIS systems with cutting edge web based and mobile technologies.

Leveraging Your Geo-spatial Data Investments with Quantum GIS: An Open Source Geographic Information System

Don Schrupp, Colorado Division of Wildlife – Retired

Abstract: Many agencies and organizations have invested significant resources in developing geo-spatial data sets. Quantum GIS, a free and open source geographic information system, offers a cost-effective way to leverage ones investment in geo-spatial data. Quantum GIS allows for “viewing of geo-spatial data, exploration and composition of maps, the creation, editing, managing and export of data, analysis of data, the publishing of maps on the Internet, and extension of the QGIS functionality through plugins” (from the QGIS website: www.qgis.org). A graphical tour of the components of Quantum GIS (QGIS) [menu bar, tool bar, map legend, map view and status bar] will help highlight its capabilities in accessing and using vector, raster, OGC (web-based) and GPS data. A number of the 'plug-ins' (extensions) to Quantum GIS that have been developed by the QGIS Community will be described. In addition, examples of QGIS applications will be offered.

Biography: Donald L. Schrupp – Colorado Division of Wildlife – Retired, Danny Lewis – Texas Parks and Wildlife Department. Don is a retired (CDOW-2006) wildlife ecologist. He developed Colorado's Wildlife Resource Information System. He was the Colorado PI for the COGAP and SWReGAP. He is a longtime member of OFWIM and a member of the Training & Education Committee. Danny has provided computing support to TPWD for 22 years, receiving the 2013 Customer Service Award from the agency. He has been a member of OFWIM since the 2008, serving as Past President this year.
Field Data Collection on a Tablet Using Quantum GIS, and a Comparison to ArcPad

Michael Barbour, Alabama Natural Heritage Program

Abstract: Mobile GIS is becoming ever more popular in organizations, driven in large part by the advent of low-cost mobile smartphones and tablets. One of the more common uses of mobile GIS is data collection to replace the traditional method of using pen and paper. The increased interest in mobile GIS has led to an expanding number of apps to choose from. Quantum GIS (QGIS), a free and open source geographic information system, offers a cost-effective option for field use of GIS software. The capabilities of QGIS for field data collection will be demonstrated using the data collection protocols for an ongoing gopher tortoise (Gopherus polyphemus) survey. Data collection using QGIS will be compared to using ArcPad.

Biography: Michael has been the GIS and Database Manager for the Alabama Natural Heritage Program® for 12 years. He received BS degrees in Biology and Wildlife Management from Virginia Tech and an MS in Wildlife Ecology from the University of New Hampshire. He has been an OFWIM member since 2002.

Mobile Data Collection/Online Tools

Using Tablets for Field Data Collection: An overview on how Missouri Department of Conservation is using tablets for data collection.

Philip Marley, Missouri Department of Conservation

Abstract: {Need an Abstract}

Biography: Philip Marley is a GIS Specialist with the Missouri Department of Conservation in Columbia, Missouri. He received his B.S. in Biology from Georgia Southern University and is currently finishing his M.S. in GIScience at Northwest Missouri State University. Philip’s research interests include herpetology, wildlife tracking, and UAVs. Philip also enjoys spending time outdoors, especially hunting and fishing.

SAFIS/Mobile: Update on the development of a handheld application for fisheries trip reporting

Julie Difilippi, Atlantic Coastal Cooperative Statistics Program

Abstract: The Atlantic Coastal Cooperative Statistics Program (ACCSP) is a cooperative state-federal program. The Standard Atlantic Fisheries Information System (SAFIS) has become a critical component of fisheries-dependent data reporting. SAFIS has undergone numerous revisions to accommodate changes in technology, the needs of program partners, and end-user requests. A pilot program for Rhode Island has been designed to determine the feasibility of a handheld trip reporting application. A group of approximately 15 commercial and for-hire captains have worked alongside ACCSP in the design and functionality of a mobile version of the eTRIPS application of SAFIS. A software application which can track the details of a trip and accept real time data removes some uncertainty resulting from recollection errors occurring when completing a log at the end of a fishing trip. Additional data, such as vessel position and speed, can be logged automatically through such applications while lengths and dispositions can be key entered by captains as the catch comes aboard. The pilot has determined that data collected via the handheld device can be successfully and correctly submitted into the
eTRIPS. Continued work is being done to ensure the application meets data collection standards, is cost effective, and will be accepted and easy to use. At the completion of the pilot in July 2014, the basic application will be available to any interested program partners at no cost.

Biography: Miss Julie Defilippi is the Senior Data Coordinator for the Atlantic Coastal Cooperative Statistics Program (ACCSP). Her primary responsibilities include providing quality control, oversight and coordination for Partner data feeds and technical support for end-user data requirements. She aids users in accessing the Data Warehouse, performs custom data requests and participates in data intensive activities such as stock assessments. Julie is the staff person for the ACCSP Biological Review Panel and Bycatch Prioritization Committee.

Connecting Hunters, Biologists, and Enforcement in a Mobile World

Joe Kirby, Missouri Department of Conservation

Abstract: With the increased use of mobile devices, the Missouri Department of Conservation saw the need to allow hunters to purchase permits, see permits they have and check and view their harvest from a single mobile application. We also saw the need for our Protection Agents to have quick access to information about a hunter he was in contact with. This system has to allow for quick access while in the field giving the agent all available information on a hunter. The system should also allow the agent to receive notifications of activity on a hunter of interest as well as quickly see what interactions other agents have had with a hunter. Back in the office biologists, agents, and leadership can update, analyze and report on all activity throughout the state. This presentation will walk you through how all these technologies interact with each other to better manage wildlife in Missouri.

Biography: Joe Kirby is the Application Development Supervisor with the Missouri Department of Conservation. He has been with the Organization for 17 years involved in various aspects of development throughout his career.

Arizona's New and Improved Online Environmental Review Tool

Sabra Tonn, Arizona Game and Fish Department

Abstract: The Arizona Game and Fish Department has been working on updating our Online Environmental Review Tool (Tool). The first Tool was launched in 2006 and satisfies the Phase I Environmental Compliance under NEPA in an easy to use web application. Technology has changed since the Tool was first launched; it was built on an ArcIMS/ ArcSDE platform. The new system is an ArcGIS Server platform with a Drupple component which allows for easy updates to the web site, business model, triggers, and report language. The new system is a repeatable solution and has started to integrate other Arizona Game and Fish Department Web Applications, like our HabiMap™ Arizona, which supports our State Wildlife Action Plan. Other improvements include many new draw tools, filters and search features, adding resources and shapefiles on the fly, and editing existing projects.
Biography: Sabra Tonn is currently the Program Supervisor for Arizona’s Heritage Data Management System (within the Arizona Game and Fish Dept.). She started working with the HDMS in 1989, after receiving her B.S. in biology from Northern Arizona University. Except for two years spent working in the Penguin Encounter at Sea World of Florida, she has spent her entire career with the HDMS, starting as data manager. Sabra serves on several technical teams for the AZ Game and Fish Department, including iMapInvasives, TRACS Implementation Team, and currently is vice-chair for NatureServe’s Board of Directors. Sabra has been an OFWIM member since 2002. She served on the Executive Committee as Member-At-Large for one year and also served as president.

EnviroAtlas: Exploring Ecosystem Services and Biodiversity Data for the Nation

Anne Neale, U.S. Environmental Protection Agency

Abstract: EnviroAtlas is an online collection of interactive tools and spatially explicit data allowing users to explore the many benefits people receive from nature. The purpose of EnviroAtlas is to provide better access to consistently derived ecosystems and socio-economic data to facilitate effective decision-making while also providing data to the research and education community. To serve this purpose, EnviroAtlas is free and open to the public, and does not require any special software to use. EnviroAtlas contains a multitude of indicators related to biodiversity and conservation, most of which are habitat related and some of which are based on species occurrences. The US Environmental Protection Agency is partnering with the USGS National Gap Analysis Program and with NatureServe to develop these indicators for the contiguous United States. Data include indicators of habitat pattern and composition such as connectivity and ecosystem rarity; habitat suitability to support groups of species such as total vertebrate, amphibian, threatened and endangered, and bird species; and species occurrences such as numbers of observed at-risk aquatic animal or plant species. This presentation will demo EnviroAtlas with a focus on data of the most potential interest to wildlife management professionals.

Biography: Anne Neale is the Project Lead for EnviroAtlas, a web-based interactive tool that integrates over 300 mapped data layers and helps users understand the implications of planning and policy decisions on our fragile ecosystems and the communities who depend on critical goods and services from these ecosystems. Anne has a background in landscape ecology and ecosystem services and has been with EPA since 1991. One of her primary interests has been examining relationships between spatial patterns of landscape characteristics and conditions of and risks to ecological resources and to the ecosystems services they provide.

Everything is Awesome! How to deliver your mobile project from idea to reality

Chris Gerecke, Timmons Group

Abstract: This presentation will focus on how to overcome the challenges faced by organizations trying to make a mobile app dream into a reality. The presentation will cover real-world examples of how fish and wildlife organizations like Missouri Department of Conservation and Virginia Department of Game and Inland Fisheries were able to turn a few vague requirements into a "product backlog" and finally or eventually (in VDGIF's case) into a finished product. We will cover how to conduct "project discovery" efforts that will lead to project success and also the numerous considerations for an organization to design, develop, and maintain a mobile application.
Attendees should leave this presentation with a clear path forward to achieve mobile awesomeness for their project!

**Biography:** Chris's focus on any given workday is creatively solving geospatial challenges. Chris’ comprehensive knowledge on custom application project delivery and Esri, open source, and best-of-breed technology solutions, enables Timmons Group to provide geospatial application development and implementation for a growing list of clients. Chris runs the enterprise custom solutions group at Timmons Group which prides itself on developing web and mobile applications that integrate complex business workflows with extremely intuitive and elegant user experiences to generate significant Return on Investment (ROI) for their clients.

**Data Sharing/Data Management**

**A Security Model for Wildlife Data**

*Eric Woodsworth, Canadian Wildlife Service of Environment Canada*

**Abstract:** The G8 nations have signed on to an Open Data Charter that makes government data "open by default". Justification for withholding data must therefore be well-founded. The Canadian Wildlife Service is developing a security model that will become policy across the organization. Resultant consistency in practice will help to protect data the release of which would negatively affect resources such as sensitive species at risk. Conversely, a clear policy will clarify which datasets are not sensitive and should therefore be shared promptly. This presentation will provide details of the nascent model.

**Biography:** Eric Woodsworth is a senior information manager with the Canadian Wildlife Service of Environment Canada in Saskatoon, Saskatchewan. He has been working for many years on key IM issues such as the security model and an ISO-compliant wildlife-specific metadata profile, while also participating in departmental working groups that are strengthening IM best practice and toolsets.

**Sharing data across regulatory and geographic boundaries improves landscape scale decision making**

*Rebecca Scully, U.S. Geological Survey*

**Abstract:** In the Pacific Northwest, multiple efforts are underway to streamline and improve efficiencies in sharing aquatic monitoring data between federal and state agencies, Tribes, and non-profits. To enhance efficiency and effectiveness of efforts, the Pacific Northwest Aquatic Monitoring Partnership (PNAMP) provides a forum to support collaboration and coordination between these organizations. PNAMP has identified some key components for sharing data between entities. The most basic level of information identified to share is who is collecting information and the geographic location of the data collection. PNAMP and regional partners drafted a Monitoring Metadata Exchange Template to exchange site-level metadata associated with research, monitoring, and evaluation efforts to support better integration of information across time, space, and programs. The Monitoring Metadata Exchange Template is the foundation on which PNAMP’s metric level stream habitat data sharing template is designed. PNAMP has also supported development of a standard at the indicator level, for sharing Columbia River Basin anadromous fish data. This group is currently working on setting up an exchange on the EPA Data Exchange Network. The lessons learned by PNAMP are being scaled up to the
Developing a Fisheries Data Exchange Standard

Julie Difilippi, Atlantic Coastal Cooperative Statistics Program

Abstract: Many agencies and organizations conduct fisheries and aquatic ecology surveys that result in a wealth of data. These data could significantly advance the goals of local, state, regional and national scale initiatives if information was more readily exchanged between research, management and other interested communities. Past efforts to justify the need for a fisheries data exchange standard have been generally accepted, but the proposed solutions to derive and implement a standard focused primarily on database structure and have not been universally endorsed. The American Fisheries Society and the U.S. Geological Survey have brought together a team of aquatic biological data specialists to investigate and develop phase one of a national fisheries data exchange standard. This collaboration has included a series of meetings and has focused on the preliminary review of methods and protocols currently employed by fisheries data and information managers; the identification of desirable measurements, elements, metrics and indicators; and the development of options for moving forward with a broad scale data exchange initiative. These proposed standards must be presented to a broader audience of fisheries professionals for refinement and additional input before going forward. Ultimately, the results will provide a foundation for developing a national data exchange standard, leading to more effective management of fisheries and aquatic resources.

Biography: Miss Julie Difilippi is the Senior Data Coordinator for the Atlantic Coastal Cooperative Statistics Program (ACCSP). Her primary responsibilities include providing quality control, oversight and coordination for Partner data feeds and technical support for end-user data requirements. She aids users in accessing the Data Warehouse, performs custom data requests and participates in data intensive activities such as stock assessments. Julie is the staff person for the ACCSP Biological Review Panel and Bycatch Prioritization Committee. She is currently the Incoming President and Communications and Outreach Coordinator for the AFS Fisheries Information and Technology Section.
**Single Points of Failure in Data Management: Lessons Learned**

*MaryEllen Wickett, Maine Department of Inland Fisheries and Wildlife*

**Abstract:** This presentation will share data management challenges the Maine Department of Inland Fisheries & Wildlife has faced, how these needs were met, and changes made in data management approaches to avoid these issues in the future. In presenting this topic, I hope to stimulate a discussion among staff from other state agencies along a similar vein – enabling us to learn from each other’s experiences and challenges and enhance our proactive approaches towards data management.

**Biography:** MaryEllen Wickett is a wildlife biologist and Programmer Analyst with the Maine Department of Inland Fisheries and Wildlife. She has been with MDIFW since 1993. Her current responsibilities include developing customized applications and tools in GIS and developing and maintaining wildlife/habitat databases.

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**What will you remember about your data in 10 years?  Preserving project documentation for the long term**

*Jacquelyn Schei, U.S. Geological Survey*

**Abstract:** The Pacific Northwest Aquatic Monitoring Partnership (PNAMP) provides a forum to support coordination between organizations with differing mandates, but similar needs in terms of data management. To enhance efficiency and effectiveness of efforts, PNAMP works toward identifying best practices for data management and sharing and supporting implementation of practices. Currently, PNAMP coordinates development of cloud-based applications to promote documenting details of projects. The suite of complementary tools (www.monitoringresources.org), assists practitioners with describing how, when, where and why data are collected and analyzed. The goal is to allow practitioners to document information once and share it many times – greatly leveraging their information investment. Colleagues and information systems (e.g., project tracking systems, databases, metadata repositories) can access and learn from the details. Funders and managers can review existing and proposed work and better understand gaps/overlaps in a given spatial extent. Besides guidance and a glossary of terminology used on the site, Monitoring Resources contains a method and protocol documentation tool, sample design creation tool, and a tool to explore locations on a map. The tools are integrated for sharing between systems and colleagues. Finally, Monitoring Resources offers users long-term storage, making it easy to find out how data were collected or analyzed, which can facilitate future data sharing efforts.

**Biography:** Jacque is a Biologist with the USGS where she works with the Pacific Northwest Aquatic Monitoring Partnership (PNAMP). In her work with PNAMP, Jacque’s focus is development of online tools to support project design and documentation, as well as better collaboration and coordination between aquatic monitoring programs. She envisions many opportunities in the future for development of tools to support the natural resources community as technology continues to advance. In her previous work with USGS, Jacque was involved with research on juvenile salmon migration through hydroelectric facilities on the Columbia and Snake Rivers. Jacque is a native of Michigan, but calls Washington state home these days.
Core Science Analytics, Synthesis, and Libraries (CSAS&L) is part of the Core Science Systems Mission Area of the U.S. Geological Survey (USGS). With expertise in technology, informatics, and science, CSAS&L leads in the management and delivery of scientific data and information for the USGS. CSAS&L implements and promotes standards and best practices to enable efficient, data-driven science for decision making at multiple scales. Critical relationships are established and fostered to identify and access data, and to develop and deploy appropriate technological solutions that support rapid response to emerging natural resource issues. CSAS&L staff have a longstanding relationship with OFWIM due to our common interests in using the best technology and data to address natural resource conservation and management. This session will provide an overview of several CSAS&L tools available to fish and wildlife professionals.

**Integrated Taxonomic Information System**

_Gerald (Stinger) Guala, U.S. Geological Survey_

**Abstract:** The Integrated Taxonomic Information System (ITIS) (http://www.itis.gov/) serves as the authoritative Federal reference for the names and taxonomic classification of all living organisms in North America and, in many cases, globally. It provides free, publicly accessible, and scientifically credible taxonomic information. Because the same species can occur under many (sometimes more than 100) different names, having the correct name and all of its synonyms is the only way to find all existing information about it. It’s also the only way to effectively combine datasets using those different names.

**Biography:** Gerald "Stinger" Guala is the Branch Chief for Eco-Science Synthesis in Core Science Analytics, Synthesis, and Libraries, U.S. Geological Survey. His duties include directing the Integrated Taxonomic Information System (ITIS) and Biodiversity Information Serving Our Nation (BISON), as well as facilitating other activities at the national level to deliver, integrate, analyze, and visualize Federal and non-Federal biodiversity information.

**Biodiversity Information Serving Our Nation (BISON): Mapping species occurrence data now includes ITIS-enabled search**

_Annie Simpson (Presenter), Elizabeth Sellers, Elizabeth Martin; U.S. Geological Survey_

**Abstract:** The species occurrence data that are available through BISON (http://bison.usgs.ornl.gov/) are contributed by various Federal and State agencies, universities, and non-profit organizations, either directly to BISON or indirectly through their participation in the Global Biodiversity Information Facility (GBIF) (http://www.gbif.org). From the graphical user interface, BISON search results may be displayed on an interactive map or downloaded as a .csv text file, .kml Google Earth file, or .zip shapefile bundle. Created by the USGS and housed at the Department of Energy’s Oak Ridge National Laboratory, BISON has also partnered with the Integrated Taxonomic Information System (ITIS) (http://www.itis.gov) to provide improved species search capabilities, and with the USGS National Map and others to offer more than 30 data layers for data visualization.
of BISON’s 126+ million records. Recent improvement in BISON’s infrastructure allows ITIS-enabled searches of larger taxonomic groups and the ability to include taxonomic synonym records in search results. With its newly integrated taxonomic disambiguation for improved data retrieval and its Web services, BISON provides a gateway for serving, searching, mapping, and downloading integrated species occurrence records from multiple data sources. BISON also provides data modeling opportunities and solutions for ecologists and resource managers.

Biography: Annie Simpson is an entomologist and a librarian. She works with the U.S. Geological Survey’s Core Science Analytics, Synthesis, and Libraries (CSAS&L) specializing in data management and invasive species information. Currently she is recruiting a variety of species occurrence datasets for inclusion in the BISON project; preparing metadata for these datasets; and configuring millions of data records for upload to BISON each year. In her free time Annie enjoys bicycling, reading, woodturning, and drawing.

ScienceBase: A scientific data cataloging and collaborative data management platform

Natalie Latysh, U.S. Geological Survey

Abstract: ScienceBase is an open-source data cataloging and collaborative data management platform providing access to aggregated information derived from user-contributed content and other data/information domains. ScienceBase also provides Web services enabling data to be used in other applications. Developed by the U.S. Geological Survey (USGS), ScienceBase is used by science communities, including Federal, State, and academic, to gather, aggregate, centralize, and enhance information resources obtained from various sources. Government and scientific organizations are mandating data management plans and practices, and the Federal Government is implementing a digital strategy requiring information be open and machine-readable. ScienceBase is helping to comply with these requirements. Multi-disciplinary initiatives such as Landscape Conservation Cooperatives (LCC) and the USGS National Climate Change and Wildlife Science Center, are using ScienceBase to manage and share metadata and data; track project activities; and use Web services to deliver metadata, files, and spatial data to Web sites and applications. To benefit LCCs, integration was established between Data Basin, a platform used by natural resource specialists, and ScienceBase to enable users to leverage these systems. Through engagements with landscape-scale, multi-partner efforts, ScienceBase is helping scientists and data practitioners manage information to enhance scientific understanding.

(http://www.sciencebase.gov)

Biography: Natalie Latysh is a physical scientist with the U.S. Geological Survey’s Core Science Analytics, Synthesis, and Libraries (CSAS&L). Her primary role is managing ScienceBase. Other related tasks and projects focus on data management, data visualization, data standards, and systems. Natalie’s education focused on earth sciences (B.S., UC Santa Cruz) and geochemistry (M.S., New Mexico Tech). During initial employment with the USGS, Natalie worked with the National Atmospheric Deposition Program, determining data quality and performing data analysis. Natalie benefits from her past experience collecting and analyzing data, and publishing findings when contemplating and promoting the coupling of science, data management, and technology.
National Fish Habitat Partnership Data System

Andrea Ostroff, U.S. Geological Survey

Abstract: The National Fish Habitat Partnership (NFHP) supports coordinated efforts of scientific assessment and data exchange among the partners and stakeholders of the aquatic habitat community. Under the guidance of the NFHP Science and Data Committee, the NFHP Data System provides data access and visualization tools for authoritative NFHP data products and contributed data from partners. The NFHP Data System consists of two major components to address multiple needs of the NFHP. The first component, the National Assessment Results Viewer, presents results reported in “Through a Fish’s Eye: The Status of Fish Habitats 2010” and will present the 2015 national assessment results when completed. The Data Theme Viewer, the second component, provides a summarized look at available data by themes which are displayed to show data distribution and density nationally. The underlying data management tools and best practices are the foundation enabling partners, researchers, and managers to not only access, but also to understand and use data now and in the future. For more information please visit (http://ecosystems.usgs.gov/fishhabitat/).

Biography: Andrea Ostroff is a biologist with U.S. Geological Survey’s Core Science Analytics, Synthesis, and Libraries (CSAS&L), serving as Operations Manager of the Aquatic Gap Analysis Program (GAP). She works to implement informatics approaches that promote data standards and data management best practices in the initiatives Aquatic GAP supports, such as NFHP, of which she co-chairs the National Science and Data Committee. Andrea has initiated a partnership with the American Fisheries Society to develop and implement a fisheries data exchange standard. She collaborates with managers and researchers of Federal partners, Association of Fish and Wildlife Agencies, State agencies, universities, and NGOs to align program priorities with partner needs.

Species Conservation Analysis Tool – A compilation of State Wildlife Action Plans Species of Greatest Conservation Need

Andrea Ostroff, U.S. Geological Survey

Abstract: State Wildlife Action Plans outline the steps needed to conserve wildlife and habitat before they become too rare or costly to restore. In 2005, all 50 States and five U.S. territories developed a State Wildlife Action Plan. One approach to advance the national conservation agenda is to use common language to identify and communicate common needs that extend across state boundaries. The U.S. Geological Survey (USGS) has built a framework to compile the Species of Greatest Conservation Need from the State Wildlife Action Plans submitted by each state and territory in the United States. Upon completion of the framework, a Species Conservation Analysis Tool was built which allows users to gain an understanding for the numbers of species and their distribution among taxa groups and states nationwide. Revisions of State Wildlife Action Plans are currently underway and will be completed by 2015. The USGS is coordinating with the Association of Fish and Wildlife Agencies and individual state agencies to provide access to compiled species lists from the revised plans. The Species Conservation Analysis Tool will be updated with the new data to enable up-to-date information to inform decisions effecting conservation. For more information, please visit (http://www.usgs.gov/core_science_systems/csas/swap/sgcn/index.html).
Biography: Andrea Ostroff is a biologist with U.S. Geological Survey’s Core Science Analytics, Synthesis, and Libraries (CSAS&L), serving as Operations Manager of the Aquatic Gap Analysis Program (GAP). She works to implement informatics approaches that promote data standards and data management best practices in the initiatives Aquatic GAP supports, such as NFHP, of which she co-chairs the National Science and Data Committee. Andrea has initiated a partnership with the American Fisheries Society to develop and implement a fisheries data exchange standard. She collaborates with managers and researchers of Federal partners, Association of Fish and Wildlife Agencies, State agencies, universities, and NGOs to align program priorities with partner needs.

Knowledge Exchange/Education

Griffin Groups: A Free Online Tool to Support Conservation Activities and Knowledge Transfer

Ed Laurent, Connecting Conservation

Abstract: Griffin Groups (https://griffingroups.com) is a free online tool for building a community of conservation communities. Connecting Conservation designed Griffin Groups to address the need for integrated knowledge transfer across disciplines, organizations, tools, and geographies in order to assist the transformation of natural resource conservation as a practice from independent to coordinated activities that address strategic public-private partnership goals. Griffin Groups provides innovative, free, user-friendly methods to 1) create networked forums and websites, 2) aggregate dynamic content about conservation topics published through other web services, 3) integrate Griffin Groups forums into other web sites and services via URL, RSS feed, and an application programing interface (API), and 4) integrate other tools into Griffin Groups via similar methods. Examples of how groups are used include those dedicated to the Southeast Conservation Adaptation Strategy, IUCN-CMP Threats and Actions Taxonomy update, Avian Knowledge Network, LCC Integrated Data Management Network Toolshed, Southeast Partners In Flight, and several groups dedicated to migratory bird species research and conservation. This presentation will focus on some recent enhancements to Griffin Groups and showcase examples of how the site is being used to improve conservation knowledge transfer and project communications.

Biography: Dr. Edward J. Laurent is the Founder and Executive Director of Connecting Conservation and Lead Designer and Administrator of Griffin Groups (https://griffingroups.com). Ed received a PhD from Michigan State University with the dissertation “Incorporating satellite imagery into analyses of avian distribution patterns across forested landscapes”. His postdoctoral activities were associated with the Southeast Gap Analysis Project, including database design and land cover classification. Ed serves on dozens of public-private partnership committees and has been intimately involved with the design, evaluation, integration, and training of many data sets and tools used for conservation purposes.
The application of spatial modeling tools to predict native bee abundance in Maine's lowbush blueberries

Sharon Chapin Groff, Southern Environmental Law Center, 2013 Student Scholarship winner

Abstract: Non-native honeybees historically have been used to pollinate many crops throughout the United States, however, recent population declines have revealed the need for a more sustainable pollination plan. Native bees are a freely available resource that can play an important role in pollination. My master’s research focused on the use of spatial modeling tools to evaluate relationships between landscape factors and native bee abundance, with a focus on the wild native bees that pollinate Maine’s lowbush blueberries. I applied the InVEST Crop Pollination ecosystem spatial modeling tool, which predicts pollinator abundance based on available floral resources and nesting habitat, to the Downeast Maine region. I evaluated the sensitivity and explanatory power of the InVEST model with four model parameterization methods, though I will only talk about the following three methods: 1) suitability values assigned through an expert survey; 2) informed suitability values developed through an optimization based on a sensitivity analysis; and, 3) uninformed suitability values developed through machine-learning simulated annealing optimization. Although the InVEST model reliably predicts bee abundance across Maine’s Downeast landscape, simpler models quantifying relationships between bee abundance and proportional land cover around focal fields may be suitable alternatives to the InVEST model.

Biography: Shannon Chapin Groff is a Geospatial Analyst at the Southern Environmental Law Center in Chapel Hill, North Carolina. She recently graduated with an M.S. in Ecology & Environmental Sciences from the University of Maine; her previous degrees include a B.S. in Geography from Penn State University and a graduate certificate in Geospatial Sciences from Humboldt State University. Prior to graduate school, Shannon worked for 5 years as a field ecologist and GIS Specialist for various federal agencies across the country. This is Shannon’s first time living in the Southeast and she and her husband, Luke, are looking forward to exploring their new home through future backpacking, canoeing, biking and hiking adventures.

There's a word for that!

Keith Hurley, Nebraska Game and Parks Commission

Abstract: At some point, we all have realized the importance of data and the impact that the ability to work with data would have on our careers; however, we rarely get a chance to pass that on to students and young professionals. In 2014, I was given the opportunity to provide two seminars to fish and wildlife students on data management and relational databases. This opportunity allowed the students to consider data-related logistic and technological issues in their own projects and helped demystify the steep learning curve of relational database use. Along the way, hopefully that moment of data enlightenment was experienced by future Fish and Wildlife Information Managers. If only there was a word for that moment.

Biography: Keith is a Fish and Wildlife Specialist – Database Manager with the Nebraska Game and Parks Commission. He holds a B.S. from South Dakota State University in Fish and Wildlife Science and a M.S. in Zoology (Fisheries Ecology) from Southern Illinois University in Carbondale. Current job duties include creation, maintenance, and operation of fisheries division databases; data-mining of divisional data stores; coordination of the statewide creel project; statewide fisheries research; fisheries human dimensions research; divisional oversight of IT budget and purchasing, and whatever other odd jobs that can be assigned that might possibly involve the use of electrons and a keyboard.
**General Session/Drone Technology**

**Web Maps with Leaflet**

*Dyanne Cortez, Texas Parks and Wildlife Department*

**Abstract:** When it comes to creating consumer-friendly maps for public websites, Google is no longer the only game in town. A rising star in this world of mapping software is Leaflet, a free open-source JavaScript library for use on public and private web servers. Leaflet maps have been served up by craigslist and The Wall Street Journal. Its open-source code powers Mapbox services, which are utilized by a range of organizations including The Washington Post, Foursquare Labs and Pinterest. Using sample maps from the Texas Parks and Wildlife Department website, this presentation will demonstrate how to build a basic Leaflet map that includes placemarks and pop-up windows. It will show how to define your own marker icon, customize the pop-up window, and create mouseover tooltips. Finally, you will see how to load marker data from a separate source file and generate a source file from a database.

**Biography:** Dyanne Cortez holds a B.S. in Horticulture from Texas A&M University, but has spent most of her professional life translating science into plain language for the general public. She’s been with Texas Parks and Wildlife Department since 2001, serving as web and publications coordinator for the Inland Fisheries Division, working with colleagues in other divisions on various communication projects, and writing occasional articles for the award-winning Texas Parks & Wildlife Magazine.

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**Wildlife TRACS: Tracking and Reporting Actions for the Conservation of Species**

*Tim Smith, USFWS*

**Abstract:** In 2011, USFWS’ Wildlife and Sport Fish Restoration (WSFR) Program faced a dilemma: the system for managing 14 grants programs was being decommissioned to make way for a new, centralized Federal system. At the same time, OMB advised that some grant programs were at risk unless WSFR could prove their effectiveness. WSFR leadership envisioned a software solution that would accommodate the move to FBMS and still meet the Program’s need to track and report project performance. WSFR asked its state partners to help create a system to streamline grant administration while establishing a national data standard for project and effectiveness reporting. WSFR’s Program and Accomplishment Reporting (PAR) Branch was responsible for system development and for the continued evolution of the database and system applications. PAR derived the systems functionality from three sources: federal grant program reporting requirements; the needs of the 14 grant programs; and state and federal user input on “value added” functions and features. In March, WSFR’s Wildlife TRACS system went live for use by partner agencies in all 56 states and territories. TRACS is map-based and hosted in the Amazon Web Services “cloud”. Both the secure federal back-end and the public front-end are accessed via the Web. Direct entry reduces grant administration time and costs for all parties and the spatial platform makes it easy to identify and communicate project locations, relationships, and outcomes.

**Biography:** Tim serves as States and Stakeholders Liaison for USFWS’ Program and Accomplishment Reporting (PAR) Branch. PAR is responsible for tracking and reporting the effectiveness of 14 federal grant programs that funds state conservation, recreation, and education projects. Tim served 12 years as Special Assistant to the Director of the Washington State Department of Fish and Wildlife where he was responsible for crafting the
States response to the listing of Pacific Salmon under the Endangered Species Act. Prior to joining the USFWS, Tim served in a number capacities in the software industry, including Subject Matter Expert, Product Manager, Business Development Executive, Senior Government Consultant, and Technology Evangelist.

Geospatial Privacy

Tony Spicci, Missouri Department of Conservation

Abstract: What is privacy within the context of the geospatial community and what expectations, if any, can we expect of any policies or legislation?

Biography: Tony serves as the site administrator for the new Missouri Department of Conservation (MDC) Columbia Regional Office / Columbia Research Center. He is also a Research Supervisor in the Resource Science Division. He began his career with the Department of Conservation in 1992 where he implemented a pilot program that studied the feasibility of implementing GIS for project support within the Department. Today, Tony supervises the GIS program, Human Dimensions, Technology Support and Ecological Classification Systems projects at MDC. Tony also served as Missouri’s Geospatial Information Officer. Tony has been very active in facilitating the use of GIS throughout the state and nation and has served in numerous leadership roles.

Slow Flight: The Trials and Tribulations of a Department of the Interior sUAS Project Manager

Jon Vogel, U.S. Geological Survey

Abstract: A brief presentation of how the DOI sUAS Program has evolved, where it stands, and how the future appears through a cloudy crystal ball. Sample imagery and video will be shown, for better or worse!

Biography: John Vogel has been involved in the U.S. Geological Survey sUAS Program for over four years, and has been a geographer and GIS specialist with the USGS for over twenty, following graduation from UC Santa Barbara and time spent as a U.S. Air Force Intelligence Officer.

Northern Arizona University’s New UAV Instrumentation and Measurement Validation

Temuulen “Teki” Sankey, Northern Arizona University

Abstract: NAU recently acquired a custom-engineered, cutting-edge UAV. The UAV has a unique capability to carry a large payload including a hyperspectral sensor, which images the Earth surface in over 350 spectral bands at 5 cm resolution, and a lidar scanner, which images the land surface and vegetation in 3-dimensions. Both sensors represent the newest available technology with extremely high resolution, precision, and accuracy. The lidar’s cm-resolution, 3-dimensional mapping capability will be valuable for a large range of science and engineering applications, spanning from engineering-grade mapping of built or natural environments to detailed geologic mapping and inventory of forest biomass and carbon. The hyperspectral imagery is particularly valuable for detailed investigation related to soils, minerals, plants, water, and hydrologic cycling.
High resolution remote sensing images and datasets are typically acquired at a large cost, which poses big a challenge for many scientists. We can now generate our own images with the instrument. Once the UAV imaging capabilities are quantitatively demonstrated, the new instrument will also provide many new research opportunities. NAU faculty Sankey plans to launch a series of validation studies with the UAV instrumentation. The pilot studies range from applications in forestry, geomorphology, and rangeland ecology and will be conducted in study areas across northern Arizona. I will present these pilot studies.

Biography: Dr. Temuulen “Teki” Sankey is currently an Assistant Professor in the Informatics and Computing Program in the School of Earth Science and Environmental Sustainability at Northern Arizona University. She has the Ph.D. in Land Resources and Environmental Sciences from Montana State University. Teki has an active research background with emphasis in Remote Sensing, multispectral satellite data, hyperspectral data and point cloud data fusion and UAV image application and analysis.
Hackers Ball

Abstracts
Using Satellite Telemetry to Facilitate Future Management of Missouri Elk

Tim Bixler, Missouri Department of Conservation

Abstract: Locating animals and understanding their movement patterns are crucial components of conservation management. Collecting these data can be expensive and require considerable staff time. However, the use of satellite GPS telemetry collars allows tracking of wildlife from the confines of an office or remote location and generates animal locations at a higher rate and with greater accuracy than traditional techniques. The Missouri Department of Conservation (MDC) is using these satellite telemetry collars on numerous research projects. MDC has deployed a variety of collars each collecting location data at predetermined times and sending the information to the researcher. These data are then used for a variety of analyses including: home-range, habitat use, movement patterns, social interactions and demographic characteristics. Results will greatly facilitate future management of these species.

Biography: Tim Bixler is a GIS Specialist for the Missouri Department of Conservation where he provides GIS project management and technical support to researchers and projects located throughout the agency. Tim is a 2003 Missouri State University graduate of the Geography, Geology, and Planning Department. Prior to his employment with MDC, he was employed with the Missouri Department of Natural Resources as well as the City of Branson Engineering Department.

21st Century Strategies for Mobile and Desktop Wildlife Data Dissemination and Reporting

Andrew Duff, Gretchen Blatz, and Jeff Foisy; Washington Department of Fish and Wildlife

Abstract: The primary objective of the Washington Department of Fish and Wildlife’s (WDFW) Wildlife Program is to protect, restore and enhance Washington’s native wildlife and their habitats. To meet this objective, staff and external survey and permitting cooperators rely on open access to centralized wildlife data collected by agency biologists, other state and federal agencies, tribes, non-governmental organizations and trained citizen scientists. Agency datasets provide the foundation for conservation and management efforts based upon best available science. The Wildlife Survey Data Management (WSDM) database is an Enterprise Geodatabase
that stores point and polygon wildlife occurrences and tabular information about survey efforts, site occupancy and productivity, and biological details, among others. Overall, WSDM contains information on over 250 threatened, endangered, and other Species of Greatest Conservation Need in Washington. Traditionally, WSDM data have been distributed in file-based Geographic Information Systems (GIS) formats, but we have been increasing our use of web services to provide open access for viewing data and generating reports (e.g. WDFW's 'PHS on the Web' interactive mapping tool, http://wdfw.wa.gov/mapping/phs/). Additionally, in an effort to improve digital workflows for WSDM, we have developed several new web-based tools that further our efforts to display and capture validated wildlife observations using smartphones, tablets, or simply a web browser. By augmenting traditional data dissemination strategies with web service technologies, data access and recording efficiencies are attained to better serve staff, partners and constituents, and to facilitate citizen engagement in wildlife conservation and management.

Biography: Andrew is the Wildlife Data Systems Manager at Washington Department of Fish and Wildlife (WDFW). Andrew graduated with a M.S. and B.S. in Wildlife Biology (2004 and 2001, respectively) from Ball State University. His graduate work focused on developing predictive distribution models for bat species in California. Prior to his current position, Andrew served as Westside GIS and Data Support Analyst at WDFW for 5 years. Formerly, he worked for the National Park Service, Science and Collaboration for Connected Wildlands, and the U.S. Fish and Wildlife Service. Andrew is a Certified Wildlife Biologist® and a Project Management Professional (PMP).

Tennessee's SWAP Priority Habitats

Jeanette Jones, Tennessee Wildlife Resources Agency

Abstract: The Tennessee Wildlife Resources Agency (TWRA), in cooperation with The Nature Conservancy (TNC), is updating the Tennessee State Wildlife Action Plan (SWAP). The development of the first TN-SWAP was completed in 2005. The SWAP plan looked at the health of wildlife habitats and species, identifying those of Greatest Conservation Need (GCN), key threats, and conservation actions needed to conserve wildlife and habitat. The plan emphasizes habitat-based conservation and is aligned with the overall TWRA Strategic Plan. Terrestrial, aquatic, and subterranean habitats were classified and mapped, and habitat preferences for over six hundred GCN species were identified. This analysis produced the prioritization of habitats critical for the conservation of GCN species across Tennessee. This poster will feature some of the updates made to the habitat priority maps.

Biography: Jeanette Jones is the GIS Manager for the Tennessee Wildlife Resources Agency. Jeanette has been doing GIS for over 25 years and has been with the TWRA since 1994. She began as the GIS/Image Processing specialist on the Tennessee Gap Analysis Project. Her major duties at TWRA involve managing the GIS Lab and conducting GIS analysis of forest communities, wildlife habitat, and natural resource data. Jeanette has a BS in Wildlife Biology and an MS in Geography, both from Murray State University.
onXMaps Custom Public Lands Data Sets

Craig Koller; onXmaps

Abstract: I will explain the creation of our custom public lands data sets and give a basic methodology for that process. I will also give short presentation of our onXmaps web viewer and our HUNT App for iOS and Android.

Biography: Craig Koller, GIS & Sales Development, onXmaps, I grew up in Wisconsin and moved to Montana in 2012 to attend graduate school in Geography at the University of Montana. I started working for onXmaps as an Data Collection intern during my first semester. I was subsequently hired full time and have helped develop our national strategy for creating mobile Land Ownership Maps for hunters, anglers, and outdoor recreationists in all 50 states. I have contacted many State Fish and Wildlife GIS departments to access data for use in our maps.

iMapInvasives

Jami Kuzek, Arizona Game and Fish Department

Abstract: As Arizona's main database for statewide invasive species information, iMapInvasives has become a vital tool for several organizations and agencies because of its applicability to invasive species management. With emphasis on the Southern Arizona Buffelgrass Coordination Center's efforts, iMapInvasives is supporting collaborative information management between several affiliations. These current uses and, future prospective uses, designate iMapInvasives as an essential component to the battle against some of Arizona's most threatening invasive species infestations.

Biography: Jami has been working at the AZ Game and Fish Department for almost 3.5 years now. She started as a college intern in the HDMS and became a Data Specialist in the HDMS last year after she received her Bachelors in Geography: Environment and Sustainability from the University of British Columbia. She has been working on iMapInvasives since the live site was launched 3 years ago and has been managing it ever since.

Mapping the American Badger's Distribution and Range in Missouri

Philip Marley, Missouri Department of Conservation

Abstract: Historical harvest records suggest that American badgers ((Taxidea taxus)) were present but never abundant in western Missouri. Little is known about badger populations or status in Missouri. Badgers have large home ranges, occur at low densities and are generally nocturnal. Their official state status is Unrankable (SU) and they are listed as a species of conservation concern. In an effort to learn more about badger range and demographics in Missouri we began collecting badger observations in 2008 and carcasses in 2009. We are using credible badger observations to delineate probable range distribution.

Biography: Philip Marley is a GIS Specialist with the Missouri Department of Conservation in Columbia, Missouri. He received his B.S. in Biology from Georgia Southern University and is currently finishing his M.S. in GIScience at Northwest Missouri State University. Philip’s research interests include herpetology, wildlife tracking, and UAVs. Philip also enjoys spending time outdoors, especially hunting and fishing.
Mapping Species and Communities with the Missouri Heritage Database

Philip Marley, Missouri Department of Conservation

Abstract: Mapping species of conservation concern and high quality communities using the Missouri Heritage Database

Biography: Philip Marley is a GIS Specialist with the Missouri Department of Conservation in Columbia, Missouri. He received his B.S. in Biology from Georgia Southern University and is currently finishing his M.S. in GIScience at Northwest Missouri State University. Philip’s research interests include herpetology, wildlife tracking, and UAVs. Philip also enjoys spending time outdoors, especially hunting and fishing.

Chronic Wasting Disease Management in Virginia

Justin Ray and Jesse Suders, Virginia Department of Game and Inland Fisheries

Abstract: Chronic Wasting Disease (CWD) first crossed into Virginia in 2009 from deer near the West Virginia border. CWD from West Virginia have since spread the disease into Virginia and Maryland. CWD has also been found in captive and wild populations in Pennsylvania. For years, CWD within Virginia had stayed within a tight cluster next to the border with WV with one or two positives being found each year. This past hunting season, a new positive was found approximately ten miles to the east of the positive cluster. In addition, a new WV positive was found further south than previously which was near the Virginia border. This prompted the Virginia Department of Game and Inland Fisheries’ Chronic Wasting Disease Response Team to consider revising their existing Containment Area – which determines where sampling is focused as well as carries restrictions on hunters. This meeting occurred this past spring, and seven different options were considered. This poster explores the options considered and covers what the response team eventually decided upon. VDGIF uses ArcGIS to plan for the management of CWD through the development of a grid-based sampling strategy and geospatial products for containing the spread of the disease. The first three Saturdays of firearms season for deer shot in the Containment Area are staffed by volunteers and DGIF staff and maps created through ArcMap are used by hunters to place a location on each deer which is sampled.

Biography: Justin is the GIS Database and Applications Specialist with the Virginia Department of Game and Inland Fisheries in Richmond, VA. He has a B.S. in Geographic Science from James Madison University in Harrisonburg, VA and a Postbaccalaureate Certificate in GIS from Penn State. In his current position, he manages the VDGIF enterprise geospatial databases, ArcGIS Server, and provides spatial analysis, cartography, and programming to support the Bureau of Wildlife Resources. Justin previously has held positions with local government doing GIS as well as doing quality assurance & control in private industry.

Biography: Jesse Suders is a GIS analyst working with the Department of Game and Inland Fisheries. He has three years of experience as a GIS analyst in the private sector, one year as a DGIF GIS analyst, and 3 years of experience as a Conservation Police Officer within the same department. Jesse is an avid outdoors man, and will often be found cycling, fly fishing, and climbing in the Shenandoah mountains or the backwoods of Pennsylvania.
Web-Based Salmon Recovery Report Increases Access and Understanding of Species Indicators

Colin Spikes, Socrata, Inc. and Jennifer Johnson, Washington State Governor’s Salmon Recovery Office

Abstract: Paper reports are static, difficult to produce, and expensive to distribute. Citizens now expect information to be delivered online in dynamic and interesting ways to better understand data and the story it tells. Washington’s Recreation and Conservation Office (RCO) implemented a web-based solution to replace the biannually published 150-page State of Salmon in Watersheds report. This data-driven, report documents how Washingtonians have responded to the challenges of protecting and restoring salmon and steelhead to healthy status. It also serves as a tool to summarize achievements, track salmon recovery progress through common indicators, and identify data gaps that need to be filled. In partnership with Socrata, Paladin, Mt. Olympia, and SBGH-Partners, RCO delivered a product that was less expensive to produce, contained better quality data that is more frequently updated, and significantly increased accessibility to the public. The project represented a paradigm shift towards Open Data and transparency. Agencies once used to have power because they controlled data. Now, they are shifting to an expectation that we earn respect and trust by being transparent and sharing data. Learn how this innovative project leveraged the power of open data to communicate conservation, recreation, and species recovery information in a dynamic and engaging way.

Biography: Colin Spikes is a Data Solutions Architect at Socrata, where he specializes in assisting new customers and partners achieve their goals through Open Data and customized solutions. Colin poses over 6 years of experience as a Solution Architect assisting agencies worldwide to unlock the power of data to better understand and communicate information about conservation, recreation, and species recovery amongst other subject areas. Previous to Socrata, Colin worked as GIS Analyst and Urban Planner that focused on marine shoreline projection, restoration, research, and out-reach. Colin holds a BA in Urban Studies and GIS from the University of Washington.

Biography: Jennifer Johnson is the Salmon Recovery Implementation Coordinator for the Washington State Governor’s Salmon Recovery Office and the Recreation and Conservation Office. Jennifer has been working with salmon recovery data since 2005, and is the project manager for Washington’s biennial State of Salmon in Watersheds report and web site: http://stateofsalmon.wa.gov/. Jennifer received a Masters in Marine Affairs from the University of Washington and completed undergraduate work as a visual artist and fisheries biologist.

Virginia’s Elk Restoration Initiative

Jesse Suders and Justin Ray, Virginia Department of Game and Inland Fisheries

Abstract: The interest in elk restoration within the state of Virginia has been on the radar of the Virginia Department of Game and Inland Fisheries since the early 1990’s. A plan was created, taking into account environmental, social, and economic factors and, at its August 17, 2010 meeting, the Board of Game and Inland Fisheries approved a motion where VDGIF would establish a pilot program for the reintroduction of elk by stocking not more than 75 elk in Buchanan County only. The goal of the program would be to have an elk herd not to exceed 400 animals. The elk management area would include Buchanan, Dickenson and Wise counties where elk hunting would be prohibited while the herd grew in size. Active restoration options offer the best alternatives to achieve recreational and economic benefits associated with elk populations. However, public awareness and support of active elk restoration management efforts are vital to a successful elk restoration
program. To achieve this, the Virginia Department of Game and Inland Fisheries has employed the use of GPS tracking to better understand the patterns, range, and social characteristics of elk in near-real time. The department’s GIS staff provides the support and expertise in managing, analyzing, and visualizing this data for the benefit of both staff and the public. This is done using ESRI’s latest and greatest tools, including spatial analyst, python scripting, and ArcGIS 10.2. This technology has allowed the our policy makers and biological staff an unprecedented look into the wild and mysterious world of the department’s most intense, impactful, and publicized restoration project to date, elk.

Biography: Jesse Suders is a GIS analyst working with the Department of Game and Inland Fisheries. He has three years of experience as a GIS analyst in the private sector, one year as a DGIF GIS analyst, and 3 years of experience as a Conservation Police Officer within the same department. Jesse is an avid outdoors man, and will often be found cycling, fly fishing, and climbing in the Shenandoah mountains or the backwoods of Pennsylvania.

Biography: Justin is the GIS Database and Applications Specialist with the Virginia Department of Game and Inland Fisheries in Richmond, VA. He has a B.S. in Geographic Science from James Madison University in Harrisonburg, VA and a Postbaccalaureate Certificate in GIS from Penn State. In his current position, he manages the VDGIF enterprise geospatial databases, ArcGIS Server, and provides spatial analysis, cartography, and programming to support the Bureau of Wildlife Resources. Justin previously has held positions with local government doing GIS as well as doing quality assurance & control in private industry.

Virginia Department of Game and Inland Fisheries Statewide Resources Reference Map

Jesse Suders and Justin Ray, Virginia Department of Game and Inland Fisheries

The Virginia Department of Game and Inland Fisheries (VDGIF) is responsible for hunting, fishing, boating, and wildlife-associated recreation for the Commonwealth of Virginia. VDGIF is also one of the largest landowners in Virginia. To that end, a reference map has been created which displays features associated with the aforementioned activities. This reference map is to be utilized with the two other VDGIF posters presented, on the topics of CWD and elk. This map is of use to VDGIF staff as well as interested constituents and conservation-minded professionals.

Biography: Jesse Suders is a GIS analyst working with the Department of Game and Inland Fisheries. He has three years of experience as a GIS analyst in the private sector, one year as a DGIF GIS analyst, and 3 years of experience as a Conservation Police Officer within the same department. Jesse is an avid outdoors man, and will often be found cycling, fly fishing, and climbing in the Shenandoah mountains or the backwoods of Pennsylvania.

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Arizona's New and Improved Environmental Review Tool

Sabra Tonn, Arizona Game and Fish Department

Abstract: For the Hacker’s Ball, we would invite people to explore our web application. The Arizona Game and Fish Department has been working on updating our Online Environmental Review Tool (Tool). The first Tool was launched in 2006 and satisfies the Phase I Environmental Compliance under NEPA in an easy to use web application. Technology has changed since the Tool was first launched; it was built on an ArcIMS/ ArcSDE platform. The new system is an ArcGIS Server platform with a Drupple component which allows for easy updates to the web site, business model, triggers, and report language. The new system is a repeatable solution and has started to integrate other Arizona Game and Fish Department Web Applications, like our HabiMap™ Arizona, which supports our State Wildlife Action Plan. Other improvements include many new draw tools, filters and search features, adding resources and shapefiles on the fly, and editing existing projects.

Biography: Sabra Tonn is currently the Program Supervisor for Arizona’s Heritage Data Management System (within the Arizona Game and Fish Dept.). She started working with the HDMS in 1989, after receiving her B.S. in biology from Northern Arizona University. Except for two years spent working in the Penguin Encounter at Sea World of Florida, she has spent her entire career with the HDMS, starting as data manager. Sabra serves on several technical teams for the AZ Game and Fish Department, including iMapInvasives, TRACS Implementation Team, and currently is vice-chair for NatureServe’s Board of Directors. Sabra has been an OFWIM member since 2002. She served on the Executive Committee as Member-At-Large for one year and also served as president.

UAS demo video & T-Hawk sUAS

John Vogel & Rian Bogle
Annual Business Meeting
The Organization of Fish and Wildlife Information Managers conducts its annual business meeting each year at the OFWIM conference. It is important to the future of the organization to maximize participation by current and future members. The business meeting may not be quite as interesting as the presentations and social networking that brings members to the annual conference, so we have combined it with dinner to encourage more involvement.

Besides eating together, what happens at the business meeting? Each of the OFWIM officers and committee chairs makes a report on what has been accomplished over the past year. This also is when we openly discuss our goals for the next year, which is why contribution by as many members as possible is so important. Next we have elections to fill Officer vacancies.

We hope that you will join us for the 2014 OFWIM business meeting. More importantly, we hope that you will provide input into the future of this organization as well as consider serving on an OFWIM committee or even running for an officer position.
1. Call to Order

2. Determination of Quorum (10% of registered members)

3. Old Business
   a. Approval of 2013 Business Meeting minutes (on website)
   b. Officer Reports
      • President - Jim Husband
      • Secretary - Jeanette Jones
      • Member-at-Large - Jim Husband for Jenny DiMiceli
      • Treasurer - Jon Purvis
   c. Committee Reports
      • Communications, Membership & Outreach - Don Katnik
      • Conference Planning - Sabra Tonn for Kristin Rogers
      • Data Standards & Technology Trends – Jim Husband for Philip Marley
      • Training & Education - Don Katnik
      • Vision & Goals - Don Katnik
      • Elections, Nominations, & Awards - Jim Husband

4. Awards
   a. Innovation Award - Jim Husband
   b. Student Scholarship Award - Beth Stys
   c. 2014 Best Poster - Beth Stys
   d. 2014 Best Presentation - Beth Stys
   d. Service Awards - Jim Husband
      • Jon Purvis, Treasurer
      • Jenny DiMiceli, Member-At-Large

5. Elections - Attachment A
   a. President Elect Nominees
      • Keith Hurley
      • Philip Marley
   b. Member-at-Large Nominees
      • Amy Ewing
      • Jay Kapalcynski
   c. Treasurer Nominee
      • Justin Ray
   d. On-site voting
   e. Election results and installation of new officers
6. Service Award - Beth Stys for Kristin Rogers
   • Jim Husband, President

7. New Business
   a. New President’s Message - Jim Husband for Kristin Rogers
   b. Upcoming Conference Dates and Locations
      • 2015 Conference - Williamsburg, Virginia, Jim Husband
      • 2016 Conference - Nebraska, Keith Hurley

8. Comments and Discussion

9. Adjourn
I want to thank my fellow Excom members for an excellent year; Past-President Danny Lewis and our Secretary Jeanette Jones were incredibly helpful to me and kept me on task and deadline driven. President-Elect and soon to be President Kristin Rogers headed up coordinating our conference preparations (also a special congratulations for the very special addition to her family). Kristin is unable to join us in person for the conference, so we will continue to be in the capable hands of Sabra Tonn and Member-at-Large Jennifer DiMiceli who were our go to and on the ground coordinators for this year’s conference in Flagstaff. Although Jennifer has moved onto greener pastures, please take some time to thank Sabra for all her hard work when you see her at the conference. Jon Purvis has done an excellent job handling our finances, I thank him for his term of service, and Jon looks forward to seeing who wins the election for treasurer. All of these people were involved with multiple committees and provide the backbone for what goes on during the OFWIM year.

Our committees have kept things moving throughout the year as well. Rather than steal their thunder, as those committees will be reporting on their activities, I will simply mention that we would not be an effective organization without those who are not a part of Excom, but step up and chair our committees - many thanks to Beth Stys on co-chairing the Elections, Nominations and stepping in to help out during Kristin’s absence, Don Katnick for chairing the Communications / Membership & Outreach, and heading up Training & Education and Phillip Marley for chairing the Data Standards committee. Additionally, I want to personally thank everyone who served on these different committees as well.

Membership has remained constant as of this writing over last year, but may be even higher by the conference. We have been conducting outreach during the year, I attended the AFWA Fly in in Washington D.C. In addition, we had communication and coordinated with the American Fisheries Society to promote each other’s organizations consider attendance and sponsorship to each other conferences.

I was talking with Danny earlier in the week and he mentioned that when his term had concluded he was a bit sad to see the time end; that struck a nerve with me, because I am having a similar experience. My time as the organizations president was hectic and fun and in closing, I want to thank you for allowing me to have this opportunity to serve the organization in this role.
1. Recorded the minutes of monthly Executive Committee (ExComm) meetings
   a. Distributed minutes to ExComm members
   b. Posted archival copies to the OFWIM ExComm Groupsite folder

2. Maintained the OFWIM membership database
   a. Entered new members (20 as of 9/16/14)
   b. Recorded membership renewals and expiration dates (50 as of 9/16/14)
   c. Ran reports to create updated email distribution lists
   d. Supplied member information to President for welcome and renewal letters
   e. Maintained electronic copies of all 2013 membership renewals processed by the Treasurer

3. Served as Vice Chair (Ex Officio) of the Communications, Membership & Outreach Committee
   a. Conveyed information to CMO Committee Chair regarding newsletter content
   b. Maintained current member email distribution list (2013 & 2014 members)
   b. Sent email notices (newsletters and announcements) to members via the email distribution list (this consisted of 24 mailings as of 9/18/14)

4. Business Meeting Minutes
   a. Submitted 2013 Business Meeting Minutes (posted to the OFWIM website as 2013 Business Meeting Minutes)
   b. Will compile 2014 Business Meeting Minutes
### Summary Account Activity

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Notes:
1. $120 in income at 2013 meeting is from unknown source. It was a cash deposit, possibly from four memberships paid there. If so, I have no record of those people paying. If it was from another source, I have forgotten it.
2. Several people have said they paid their 2013 memberships when they registered online for the 2013 meeting. Unfortunately, SERC did not report anyone doing so, and did not forward any money to us. Given the general failure of SERC accounting, I believe they forgot they even did this. If these people could identify themselves, we will make sure and credit them with membership during that year.
3. The bank account balance is $28,402.94 as of 31 August 2014. The credits and debits above include several known activities that have or will occur before the start of the meeting. A detailed account history is available on request.
4. The Student Scholarship Fund sits at $2,225.73 as of 23 September 2014. This is part of the overall balance, and is not kept in a separate account.
2013 Annual Meeting Final Accounting

Initial SERC Bid: $3510.00
Initial Deposit 4/8/13: $877.50
Second Payment 11/15/13: $2632.50
Total payment: ($3510.00)

Actual SERC Expenses:
  Auditorium Rental: $2250.00
  Computer Lab: $60.00
  AM Breaks: $440.00
  PM Breaks: $295.00
  Poster Social: $240.00
  UEvent Fees: $307.46
Total Actual: $3592.46

UEvent Registration Revenue:
  Member: 24 @ $225.00 = $5400.00
  Nonmember: 2 @ $275.00 = $550.00
  One Day: 1 @ $70.00 = $70.00
  Early Signing Discount: 23 @ $-50.00 = $-1150.00
Total UEvent Received: $4870.00

SERC Reimbursement 1/21/14: $4787.54
  Note: $$3510.00 + $4870.00 – $3592.46 = $4787.54.

Other Costs:
  Travel Grants: $1910.93
  Student Scholarship: $500
  Misc Supplies: $27.93
  Speaker fees & travel: $1000.00
Total Other Costs: ($3438.86)

Other Revenue:
  Conference Raffle: $378.00
  Remote Attendance fees: $130.00

Payment to SERC ($3510.00)
Other Costs ($3438.86)
SERC Reimbursement $4787.54
Other Revenue $508.00
Final conference cost: ($1653.32)
Officer Reports
2014 Member-at-Large
Jennifer DiMiceli

Activities:
Elected to serve as Member-at-Large in October 2013

- Participated in most Executive Committee Conference Calls

Served on the Conference Planning Committee

- Participated in most Conference Planning Committee Conference Calls

- Actively scouted local venues suitable for outdoor field activities and venue to be used for the 2014 conference.
Committee Reports
Communications and Membership & Outreach

Chair: Don Katnik (Newsletter Editor)
Vice-Chair: Jeanette Jones (OFWIM Secretary), Jon Purvis (OFWIM Treasurer)
Members: Dyanne Cortez (Website Manager), Danny Lewis (Membership Manager), Julie Prior-Magee (Travel Grant Manager), Julie Defilippi (Social Media Manager), Robin Carlson, Jimmy White

2014 Accomplishments

In Accordance with the OFWIM CMO 2014 “Goals and Objectives”:
The Goals and Objectives for the CMO were the same as for 2013, which was the first year that the Communications and Membership/Outreach Committees were merged.

1. Manage and communicate information to OFWIM members
    a. Newsletters – newsletters were published and distributed to OFWIM members in Dec 2013, March 2014, June 2014, and Sep 2014. As in previous years, the December “post-conference” newsletter provided an in-depth review of the annual conference including a feature article from the OFWIM Student Scholarship winner. The March and June newsletters promoted the ongoing Python and Fulcrum webinars being hosted by the Training & Education Committee. The Sep newsletter was focused on the upcoming annual conference. A new feature, the “OFWIM Member Profile” interviewed long-term members Robin Carlson and Sabra Tonn. We would like to have the newsletters include more member-generated content, even an “Opinions” page where members could debate different perspectives on data management issues, but it has been difficult to get much content from the general OFWIM membership. Made a small change to the newsletter format to include a full page of OFWIM officers and committee chairs with a photo of each person.
    b. Websites – made information available to members via email list, OFWIM public website, and OFWIM GroupSite.
    c. Email Lists – maintained an email list of current members plus members from the previous two years.

2. Develop, maintain, and enhance effective communication tools to facilitate the exchange of information with members and non-members.
    a. Public Website – the public website is currently being upgraded with WordPress. Dyanne and Jimmy hope to showcase the new website at the 2014 annual conference. Also added photos of current Officers and Committee Chairs to the public website.
    b. GroupSite – no change from previous year
    c. Skype – CMO considered using Skype instead of regular conference calls for our monthly meetings but not everyone was able to run Skype software on their computer so we decided to just continue using conference calls. Skype often does not provide good audio anyway.
    d. Infographic – continued work to develop an OFWIM infographic
    e. Promotional Video – solicitations for video clips to make an OFWIM promotional video with the theme, “We Are OFWIM” did not result in any submitted clips. We proposed using the upcoming 2014 annual conference as an opportunity to record clips for the video. One suggestion was to record short interviews with random OFWIM members attending to conference, asking questions about who they are and why they are involved in OFWIM.
f. **Procedures Manual** – Committee Chairs provided edits on their draft sections to R. Carlson except for the Data Standards & Technology Trends Committee, which is still working on their Section. Next step is a review by the OFWIM Officers.

g. **AFS-FITS** – OFWIM shared our March newsletter and Technology Survey on the FITS webpage and Facebook page.

3. **Encourage new OFWIM membership and support continuing OFWIM membership renewals.**
   a. **Online payment** – explored possibilities for allowing memberships to be purchased/renewed online using a standard credit card. PayPal and Amazon seemed to provide the best services. Both charged a small fee to process the transactions, but the CMO believes that most members who want the convenience of paying for a membership this way will not object to paying slightly more for the convenience and that, as a technology-focused organization, this is a capability that OFWIM just needs to have.
   b. **Annual Conference** – encouraged both members and non-members to attend the annual conference.
   c. **Renewals** – maintained individual membership renewals from previous year to current year. Sent out renewal reminders to past OFWIM members according to the Membership Rules and Renewal Protocol.
   d. **Summary of OFWIM membership from this year (as of 9/16/2014) plus the past 7 years:**

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</tbody>
</table>

4. **Administer travel grants.** Only 2 travel grant applications were received; from Don Katnik and MaryEllen Wickett, both from Maine Department of Inland Fisheries and Wildlife. Both were awarded. Don Katnik will be teaching the Python Workshop at the annual conference and MaryEllen will be giving an oral presentation and assisting with the Python Workshop.

5. **Professionally complete the duties of the committee.**
   a. **Conference calls** – the committee met monthly via conference call to discuss ongoing committee business. Notes were taken during each meeting, circulated among members for comment, then posted to the OFWIM GroupSite.
   b. **Procedures Manual** – the Committee Chair reviewed the CMO Section of the draft Procedures Manual and provided edits/suggestions on it.
   c. **ExComm Committee Chair calls** – the Committee Chair attended each of the quarterly “Committee Chair Updates” Executive Committee conference calls to update the ExComm on the CMO’s activities.
   d. **Annual report** – prepared this annual report of the CMO’s 2014 activities for presentation during the annual conference business meeting, inclusion in the annual conference proceedings, and posting on OFWIM GroupSite.
Planning the annual conference is the primary duty of the OFWIM President-Elect so this report is both the President-Elect Officer’s Report and the Conference Planning Committee Report.

Monthly conference calls were held from We had monthly conference calls between the 2013 conference October 2013 – September 2014. The planning required significant input from virtually all of the OFWIM Officers and Committees. Detailed agendas and meeting minutes were created to track monthly planning progress. The Conference Planning Committee Procedures Manual was used to structure meeting agendas and tasks.

We chose the theme, “Exploring Emerging Technological Tools and Solutions for Common Fish and Wildlife Information Challenges”. Session topics selected included Citizen Science and Crowd Sourcing, Mobile Application Development, GIS and Mapping Tools, Remote/Automated Data Collection Devices and Data Processing Methods, USGS Core Science Analytics, Synthesis, and Libraries – Tools available to Fish and Wildlife Professionals, Teaming with AFS-FITS/AFWA/TWS, Student Research, and a General Session. All session topics were selected with travel justification in mind. We wanted the conference to be as beneficial to all members as possible. Once the abstract submissions were all in, the session topics were no longer necessary were dropped or merged as the submitted abstracts covered a wide variety of topics.

The first call for papers deadline was July 11, 2014, the second call deadline was August 15th, 2014. Eighteen abstracts were submitted during the first call, 15 abstracts were received during the second call, and two abstracts were submitted after the second call for papers deadline. Participants who submitted abstracts after the second call deadline were asked to modify their submissions to fit with the Hackers Ball format because the agenda was full. We received 6 Hackers Ball submissions and 28 oral presentation submissions, 9 of which were for remote presenters. The number of remote presenters was higher than it has been in the past; however 5 of the 9 talks were from the USGS Core Science Analytics, Synthesis, and Libraries group which has experienced travel limitations to OFWIM meetings over the past few years.

We decided to continue with electronic Proceedings for the meeting as a cost savings and environmentally conscious measure. Conference registrations followed the same pattern as previous years: slow until a jump just before the “early registration” deadline, followed by more trickling all the way to the conference (many waiting for travel approval). Registration timing is critical because the field trip, business lunch, and banquet require advance numbers. We can do little about travel restrictions of various member agencies. By early September 40 conference registrations had been received.

The block of hotel rooms expired on August 28th, 2014. We had a conservative number reserved, 25 on Sunday, 35 on Monday & Tuesday, 25 on Wednesday, and 5 on Thursday, all at $81 per night. It turned out that the start of the OFWIM conference overlapped with Northern Arizona University parent’s weekend (9/26-9/28) which made hotel room reservations a challenge and pushed rates up higher than some members were authorized to pay. This may have prevented some members from participating in the meeting. In future years is would be advisable to have an expiration data for the hotel block that is closer to the meeting start data, if possible.
We continued with the format of including a field session in the middle of the conference rather than on the first day in order to increase participation. We also included a second optional field session on the last day of the conference following the meeting wrap up; 29 registrants signed up for the Wednesday field session, 23 signed up for Thursday’s field session as of 9/9/2014.

Two companies agreed to sponsor this year’s meeting, the Timmons Group and Spatial Networks; both sponsored at the Break Service level.

We continued with the very popular and successful “GeoCache OFWIM” (GO!) conference contest. The contest continues to allow members to spend more time outside the conference room getting to know each other and having some geographic fun.

A student/mentor lunch option was available on Tuesday this year, to help students get more comfortable with the other conference members quicker. One student attended this year’s meeting, nine professionals signed up as volunteers for the lunch.

The Hacker’s Ball featured a full buffet this year following the precedent set in previous years.

This year’s Banquet, was held at the Lowell Observatory with a presentation by a staff scientist and an opportunity to view at least one celestial object through the observatory’s high power telescope. A buffet meal was catered by the Cottage Place restaurant. Reusable plates were rented from a local non-profit for $1 per person in lieu of disposable plates.

Two workshop sessions were held on Thursday morning, Advanced Python functions and Advanced Fulcrum techniques.
Committee Reports
Data Standards and Technology Trends

Chair: Philip Marley
Vice-Chair: Vacant
Members: Julie Felming, Eric Woodsworth, James Husband, Dean Jue

The committee met to discuss how to recruit additional committee members and to see what trends in technology were most interesting to members. We had other members interested in the committee at the 2013 OFWIM Conference, and hope there is still interest at the 2014 OFWIM Conference.

The Data committee also put together a survey to look at what technology was being used for electronic data collection devices. The survey originated with Bruce Schmidt, and then we did a little tweaking and went live with it. The survey is now closed, and data is currently being analyzed, but we had approximately 100 responses. Future plans include, recruiting new members, finish and report the findings of the technology survey, and explore new technologies.
Committee Reports
Training/Education

Chair: Don Katnik
Vice-Chair: Vacant
Members: Michael Barbour, Jay Kapalczynski, Julie Mikolajczyk, Justin Ray, Don Schrupp

2014 Accomplishments

In Accordance with the OFWIM TEC 2014 “Goals and Objectives”:
The Goals and Objectives for the CMO were the same as for 2013.

1. **Develop a training plan in accordance with the overall OFWIM organizational direction and objectives, provided guidance from the Vision and Goals Committee.**
   As in 2013, there was no guidance from the Vision and Goals Committee on an organizational direction or objectives for training. The concept that OFWIM should offer a structured training program to members based on the visions and goals of the organization has never been implemented. Instead, training continues to be an opportunistic effort. This year training was focused on providing members with basic skills and knowledge building towards hands-on workshops to be offered at the 2014 annual meeting.
   *If the concept of a more structured training program liked to organizational visions and goals is defunct, then this goal/objective for the Training & Education Committee should be dropped.*

2. **Work to set up a training workshop at the annual conference.**
   We will provide two training workshops at the 2014 annual conference. Both workshops were preceded by a series of webinars to provide workshop participants with basic skills and knowledge that will enable a more hands-on approach during the workshops.
   - Python Applied – hands-on programming to create several scripts that do useful things for information managers. Taught by Don Katnik, Maine Department of Inland Fisheries & Wildlife.
     - “Getting Python” - where to get the software from, how to install it, versions & different interfaces, add-ins, and running it on your computer. Feb 27, 2014.
     - “Python Lists, Dictionaries, and Other Built-in Functions.” Sep 18, 2014.
   - Fulcrum – Web-based mobile application development software for iOS and Android devices. Taught by Bryan McBride of Spatial Networks.
     - “Introduction to Fulcrum.” June 18, 2014.
     - “Advanced Concepts.” Date TBD (late Sep 2014).

Attendance of the webinars ranged from 8 to 25. Numerous OFWIM members attended multiple webinars.
This Committee worked closely with the Conference Planning Committee to plan the conference workshops. The Conference Planning Committee was able to provide some funding support for the workshop trainers.

3. Determine training possibilities for a workshop at the OFWIM annual meeting; outline what resources might be required and available; seek a trainer to lead the workshop; and provide such information to the OFWIM Executive Committee for their consideration. Work with the Conference Planning Committee to offer such workshop(s). This goal/objective seems redundant with the previous goal/objective.

4. Continue to offer distance learning opportunities to a widely distributed OFWIM membership, in collaboration with the Communications Committee and the Data Standards & Technology Trends Committee. Develop, test, and deliver at least two such web-based education/training sessions in 2014. As described above, most of the webinars offered this year by this committee were related to the training workshops for the 2014 conference. Committee members also continued to post external webinar opportunities that members might be interested in on GroupSite.

5. Make materials from the web-based education/training sessions available on the OFWIM Community Portal after the sessions are held, where appropriate, in order to allow OFWIM members to have continuing access to the training content. Videos of the OFWIM-sponsored webinars and materials such as notes, program code demonstrations, and PowerPoint slides were posted to both GroupSite and the OFWIM Public website. The Communications, Membership, & Outreach Committee assisted with publishing this information.

6. Seek input from the OFWIM membership regarding training/educational opportunities available through other sources, and announce these opportunities to the membership by posting them on the OFWIM Community Portal (ofwim.GroupSite.com). We did not solicit any input from the OFWIM membership this year regarding training interests. In the past, such attempts have received limited response which is a little frustrating given that when asked what members value the most about OFWIM membership a common response is “training opportunities.” One issue might be that the specific technologies used by individual OFWIM members are so wide-ranging that it is difficult to identify training topics that will benefit more than just a few members. This area needs further discussion among OFWIM members and guidance from the OFWIM Executive Committee and/or Visions and Goals Committee.

Professionally complete the duties of the committee, by convening conference calls, exchanging emails, and providing input to the OFWIM Executive Committee. Prepare interim and annual reports. Post agendas, minutes and related materials to the Training and Education Committee Group on the OFWIM Community Portal, as they are developed, throughout 2014. The committee met via conference call every month except for a missed meeting in August. The committee Chair briefed the OFWIM Executive Committee on the committee’s activities quarterly and prepared this annual report. We did not do well with posting agendas and minutes from the monthly meetings on OFWIM’s GroupSite. Most of the monthly meetings were focused on the webinar series so there were not lengthy minutes but we will get those posted to GroupSite before the annual conference.
Committee Reports
Vision and Goals (ad hoc)

Chair: Don Katnik
Vice-Chair: <vacant>
Members: None

2014 Accomplishments

The committee was inactive for both 2013 and 2014. The Executive Committee and OFWIM members should revisit whether we need this ad hoc committee.
The Elections, Nominations, and Awards Committee is responsible for developing and implementing various awards and recognition programs for OFWIM, and for developing a slate of candidates for the annual elections. Included in this work is implementation of the student scholarship application, in which university students studying in wildlife biology fields can attend an OFWIM conference to gain experience in the professional world.

**Accomplishments:**

**Student Research Scholarship:** In the second year of our Student Research Scholarship award, our recipient from last year, Shannon Chapin from the University of Maine, will present on progress and results for her project. We had selected a winner for the scholarship for this year, however the student later had a conflict and is unable to attend the conference. We encouraged this individual to apply again next year in Virginia.

**Innovation Award:** Also in its second year, the Innovation Award provides recognition for the outstanding use of technology and/or collaboration to advance fish and wildlife information management.

We received two applications for this award. The committee members reviewed the applications and participated in a webinar demonstration of the two applications. For the second consecutive year, the award goes to Missouri Department of Conservation. This year was for the public application “MO Hunting”. MDC will receive a 1-year free membership as part of the award.

**New Officers:** The committee worked and had success in forming a slate of nominees for 3 positions that will be open on the Executive Committee in the upcoming year. The committee was able to locate 2 candidates for both President-Elect and Member-At-Large, and 1 for Treasurer.

**Best Poster and Best Presentation Awards:** The ENA Committee was able to find volunteers to judge presentations and posters during the conference through a check-off option on the registration form. Score sheets were prepared and distributed to the volunteers. All score sheets were collected and tallied.

**Service Awards:** Service awards were prepared and presented by the Committee. Service Awards were presented to:

- Jim Husband: President 2014
- Jon Purvis: Treasurer 2013-2014
- Jennifer DiMiceli: Member-At-Large 2014
Attachment A
Officer Candidates

President-Elect

Keith Hurley
Nebraska Game and Parks Commission

Keith is a Fish and Wildlife Specialist – Database Manager with the Nebraska Game and Parks Commission. He holds a B.S. from South Dakota State University in Fish and Wildlife Science and a M.S. in Zoology (Fisheries Ecology) from Southern Illinois University in Carbondale. He spent seven years working as a district fisheries biologist for the Nebraska Game and Parks Commission before stepping into his present position. Current job duties include creation, maintenance, and operation of fisheries division databases; data-mining of divisional data stores; coordination of the statewide creel project; statewide fisheries research; fisheries human dimensions research; divisional oversight of IT budget and purchasing, and whatever other odd jobs that can be assigned that might possibly involve the use of electrons and a keyboard. Additionally, Keith is also a private contractor with University and non-profit, social-service programs creating data systems to aid in operations, data collection, and standardized reporting. He spends his time away from the computer monitor with his wife and three kids as well as fishing, woodworking, and cooking.

Philip Marley
Missouri Department of Conservation

Philip is a GIS Specialist for the Missouri Department of Conservation in Columbia, Missouri. He has been working with geospatial data and technologies and wildlife for almost 10 years. At his current position, Philip provides GIS and Remote Sensing support on numerous fish, forest, and wildlife research projects, researches new innovative technologies (ex. UAS), and helps manage the department’s geospatial data. He has also held numerous positions related to GIS and as a wildlife biologist. Philip has a B.S. in Biology from Georgia Southern University, wrapping up a M.S. in GIScience from Northwest Missouri State University, and working towards another B.S. in Computer Information Technology from Columbia College. Philip loves to hunt and fish, especially waterfowl, and is currently training to be a volunteer firefighter.
Member-at-Large

**Amy Ewing**  
*Virginia Department of Game and Inland Fisheries*

Amy is an Environmental Services Biologist at VDGIF responsible for reviewing projects, policies, and permits to determine impacts on wildlife resources and programs including threatened and endangered species. She recommends ways to avoid, minimize, and/or compensate for those impacts. Amy represents VDGIF on the inter-agency team that oversees wetland and stream mitigation banking in Virginia and inter-agency committees on water quality and hazard mitigation. Amy sits on several other VDGIF committees. She is responsible for managing VDGIF’s two Fish and Wildlife Information Services Biologists. Amy has a great interest in data management and the application of GIS and other data platforms in environmental impact review and assessment. She was an active OFWIM member from 2001–07 and served as OFWIM’s Newsletter editor and Secretary, both for multiple terms. Amy received her B.S. in Wildlife Management from Virginia Tech in 1996 and her M.S. in Environmental Science from VCU in 2002. Amy enjoys backpacking, canoeing, hiking, camping, and working on her parents’ farm. Amy is married with two children, Abby Sue and Isaac.

**Jay Kapalczynski**  
*Virginia Department of Game and Inland Fisheries*

Jason Kapalczynski is the GIS Coordinator for The Commonwealth of Virginia’s Department of Game and Inland Fisheries (VDGIF) with responsibility for coordinating and supervising all mapping and geographic information systems (GIS) integration, training, and support for the Department. Jason is originally from Buffalo, NY, married and the proud father of a two year old boy. He earned his Master’s degree in Quantitative Methods in GIS with a minor in Natural Resource Management from The College of Environmental Science and Forestry at Syracuse NY. Prior to joining DGIF, Jason was responsible for implementing and managing multi-department operations management systems, database design, planning/managing projects & programs, website development, GIS/GPS development & support, and staff supervision. And yes, unfortunately, he is still a Buffalo Bills fan.
Treasurer

Justin Ray
Virginia Department of Game and Inland Fisheries

Justin is the GIS Database and Applications Specialist with the Virginia Department of Game and Inland Fisheries in Richmond, VA. He has a B.S. in Geographic Science from James Madison University in Harrisonburg, VA and a Post baccalaureate Certificate in GIS from Penn State. In his current position, he manages the VDGIF enterprise geospatial databases, ArcGIS Server, and provides spatial analysis, cartography, and programming to support the Bureau of Wildlife Resources. Justin previously has held positions with local government doing GIS as well as doing quality assurance & control in private industry.
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Upcoming OFWIM Annual Conference & Business Meeting

2015 OFWIM Annual Conference and Business Meeting
- September 27 – October 1, 2015
- Williamsburg, VA

2016 OFWIM Annual Conference and Business Meeting
- Fall 2015, Exact dates TBD
- Nebraska, Exact location TBD