#WetlandCenters

A Manual for Integrating Social Media, Data Sharing and Outreach into Public Education and Engagement at Wetland Centers

A collaborative project of the
Russia-USA Wetland Center Exchange Program

Table of Contents

Introduction to Russia-USA Wetland Center Exchange Program 3

Project Partnerships 4

Leadership Team 4

Wetland Center Partnerships 5

Driftless Area Wetlands Centre (USA) and Khakassky State Nature Reserve (Russia) 5

John Bunker Sands Wetland Center (USA) and Baltic Fund of Nature (Russia) 7

The Wetlands Institute (USA) and Smolensk Lakeland National Park (Russia) 9

Exploring Shared Interests and Challenges in Wetland Education 11

Interpretation Techniques 11

Visitor Centers 11

Participation 12

Education and Communication 12

General 12

Introduction to the Manual 13

Purpose of the Manual 13

Structure of the Manual 13

List of Supporting Best Practice Materials 14

Chapter 1: Social Media 15

Role of Social Media in Wetland Center Education 15

Successful Utilization of Social Media Techniques 17

Infrastructure and Support Needed for Social Media 22

Chapter 2: Data Sharing 23

Role of Data Sharing in Wetland Center Education 23

Successful Utilization of Data Sharing Techniques 24

Infrastructure and Support Needed for Data Sharing 28

Chapter 3: Outreach Education 29

Role of Outreach in Wetland Center Education 29

Successful Utilization of Outreach Education Techniques 30

Infrastructure and Support Needed for Outreach 35

Self-Assessment of Wetland Education Centers 36

Social Media 36

Data Sharing 37

Outreach Education 38

Introduction to Russia-USA Wetland Center Exchange Program

Having been awarded a grant through the US State Department's US-Russia Peer-to-Peer Dialogue Program, The Wetlands Institute (TWI), Wetland Link International (WLI) and Wetlands International Russia (WIR) teamed up to generate a beneficial international dialogue between wetland centers in the US and Russia. This project, *Russia-USA Wetland Center Exchange Program: Linking People and Wetlands*, sought to identify the shared challenges of those working in wetland education and outreach throughout the US and Russia and assemble cases of best practice and delivery.

Wetlands provide real and essential benefits to society and currently rank among the world's most critical ecosystems. Both the US and Russia have internationally important wetland areas that are also vital components of global ecological networks and critical sites along the flyway routes of migratory water birds making hemispheric migrations. However, it is evident that the high biodiversity and socio-economic values of wetlands have not been adequately communicated to decision-makers, users and the public at large. There is a need for enhancing knowledge on wetland values and functions, including active promotion of wetland conservation and wise use objectives through the implementation of Communication, Education, Participation and Awareness (CEPA) activities. Wetland education centers provide a structured and accessible way to engage and stimulate these audiences.

Now that people are starting to understand the value of wetlands, the role of wetland centers as a keystone for engaging education is developing. The outcomes of the *Russia-USA Wetland Center Exchange Program: Linking People and Wetlands* program provide the start of a critical mechanism to transfer best practices between wetland centers to propel conservation education forward rapidly. We are increasingly aware that we face shared environmental issues, such as climate change, invasive species, and loss of wetlands to agriculture, development and increased use of water. Working internationally brings a focus on these shared threats, while allowing participants to develop new ideas and solutions to address them. Changing human behavior is essential to start addressing these problems, and wetland center staff have the training and experience to do this.

Project Partnerships

Leadership Team

The *Russia-USA Wetland Center Exchange Program: Linking People and Wetlands* project is led by a collaboration between The Wetlands Institute (TWI), Wetland Link International (WLI) and Wetlands International Russia (WIR).

The Wetlands Institute is a 501c3 organization that was founded in 1969 by the Executive Director of the World Wildlife Fund with the purchase of 6,000 acres of coastal wetlands to create a center that promotes the appreciation, understand and stewardship of wetlands and coastal ecosystems through our programs in research, conservation, and education. The institute plays a lead role in the Wetland Link International network for North America. The Wetlands Institute employs 15 permanent employees, 20 seasonal employees and approximately 130 adult and junior volunteers, hosts 20,000 general admission visitors annually, and more than 12,000 school-aged children participate in hands-on, experiential learning. TWI is unique in that it utilizes its in situ scientific research to implement community-based conservation initiatives and are embedded into public and school-based education programs.

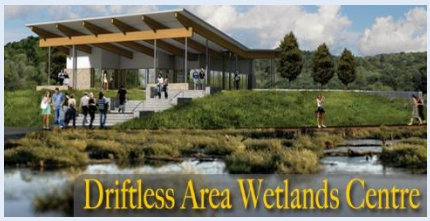
Wildfowl and Wetlands Trust (WWT), UK was set up in 1946 by the artist and naturalist Sir Peter Scott. The concept of educating the public about wetlands was relatively new, but nearly 70 years later WWT's nine wetland centers receive around one million visits every year. *Wetland Link International* (WLI) was set up in 1991, and is a support network for those working in wetland education centers, with over 300 members worldwide, and active regional networks including WLI Russia and WLI North America. WLI hosts a central website with resources, news and information on their members, to inspire and support those working in education and engagement at wetland sites. WLI has an official agreement with the Ramsar Convention on Wetlands to support the delivery of CEPA activities.

Wetlands International (WI) is a global non-profit organization, dedicated to the conservation and restoration of wetlands for their environmental values, as well as, for the services they provide to people. WI has a network of 18 regional offices that facilitate activities in over 100 countries. *WI Russia Programme* (WIR) was launched in 1997. To date, WIR has implemented more than 25 projects focused on national wetland policy and legislation development, promotion of wise wetland use and restoration practices, establishment of wetland centers, and support to wetland CEPA activities. As a core partner of Wetlands Link International, WIR plays a critical role among CEPA actors in Russia, and acts as a national non-governmental organization (NGO) Focal Point for CEPA under the Ramsar Convention on Wetlands.

Wetland Center Partnerships

The *Russia-USA Wetland Center Exchange Program: Linking People and Wetlands* project is centered on an international wetland center exchange. Six wetland education centers throughout the US and Russia were selected for participation in the project and matched according to needs, challenges, strengths and capacity shared between the centers. The project wetland center partnerships were comprised of: Driftless Area Wetlands Centre (USA) and Khakassky State Nature Reserve; John Bunker Sands Wetland Center (USA) and Baltic Fund for Nature (Russia); and The Wetlands Institute (USA) and Smolensk Lakeland National Park (Russia). International partnerships such as these afforded wetland education center staff the opportunity to share experiences and techniques through the use of modern and innovative techniques, creating a lasting relationship and shared set of resources applicable not only in the US and Russia, but worldwide.

About the Centers



Driftless Area Wetlands Centre
Location: Iowa, USA
Information: Website Facebook

Khakassky State Nature Reserve
Location: Abakan, Russia
Information: Website WLI Profile

Driftless Area Wetlands Centre (USA) and Khakassky State Nature Reserve (Russia)

The ***Driftless Area Wetlands Centre*** is located in Marquette, Iowa, along the Mississippi River and in the southwest corner of the Driftless Area Zone, a location where the last glacial advance did not touch this area of the state. The melting glaciers carved the valley, filled the floodplains, and left steep cliffs, deep valleys, and rich riverine wetlands. The incredibly rich bottomlands adjacent to the river valley fed the passage of migrating wildlife, such as hawks and eagles, egrets and cranes, ducks and geese, herons and terns, warblers and orioles. The area is rich in human history, as well as, many Native Americans, explorers, fur trappers, soldiers, settlers, railroad employees, farmers, and road and bridge builders called this area home. Endemic species, such as the Iowa Pleistocene Snail (an endangered species and important climate change indicator) and Northern Monkshood (a threatened species under the Federal Endangered Species Act), live here. Threats to the unique ecology and geology of this area include: habitat fragmentation, increasing urbanization, grazing cattle, industrial agriculture practices, and most recently, frack sand mining.

The Driftless Area Wetlands Centre opened in April 2013, and ran a pilot project throughout 2014 with 12 events ranging on topics from astronomy to pottery to photography, and from prairie plantings to Hawk Watch. Their participation rate was 2-50 students per event (with 10+ students per event considered a success in 2014 numbers), and the experiences and publicity

gained from running the pilot project enabled them to launch their Driftless Area Ambassadors Program in 2015. Additional center activities include a diverse mix of environmental education and free play/discovery activities, such as: Movie Mania (showing environmental animated films such as, *Avatar*, and *The Lorax*), snowshoeing, acrylic painting, trout fishing, a renewable energies tradeshow, a wild edibles restoration effort, participating in the Great American Backyard Campout, and public presentations of scientific research.

The center's 3-year goal is to expand the Ambassadors Program to other nature centers/schools/nature clubs across the Midwest, with different ecologies informing the programming. There are many efforts taking place to enable children and adults to get involved in the outdoors, and marketing seems crucial to taking it to the next level.

Partnered with the Driftless Area Wetlands Centre, is ***Khakassky State Nature Reserve*** located in Abakan, Republic of Khakassia, Russia. The Khakassky State Nature Reserve has a variety of educational opportunities located in different natural zone including the taiga, forested steppe and steppe. In Khakassia, there are more than 200 lakes, ranging from freshwater to saltwater. The variety of landscapes and biogeographic zones are concentrated in a relatively small area and the Reserve has four visitor centers, two of which are located in natural areas, and two in the settlements.

In the period from 2011 to 2014, the Reserve invested more than 40 million Rubles to the construction of new centers and modernization of existing ones. While each center's major thematic area varies from wetland themes to archaeological and cultural-historical heritage, they all deal with the nature of Khakassia, and hence, with the lakes. The wetland center located on the Khakassky Reserve, in the steppe zone of Khakassia, is the only educational facility in Khakassia dealing with the conservation of wetlands, and the center not only provides tour services during the high tourist season from June to August, but also conducts regular environmental education programs with students and young people, and holds various ecological camps. These programs cover such topics as the water bird migrations, the ecology of wetlands, their functions and benefits to humans, the ornithological diversity in Khakassia, adaptation mechanisms in nature, and many others.

The area surrounding the center includes large lakes, which are home to over 200 species of birds, including rare and endangered species, such as the Demoiselle Crane, Golden Eagle, Saker Falcon, Peregrine Falcon, Pallid Harrier, Swan Goose, and Great Black-headed Gull. Due to the attractive natural features of the region, the range of visitors is quite extensive. The center is visited not only by the residents of Khakassia, but also by people from the Kemerovo, Novosibirsk, Tomsk and Krasnoyarsk Regions. At the same time, about 70% of the visitors are children and teenagers aged 12 to 18 years. Since its opening in July 2013, the center has been visited by over 12,000 people. The main educational goals of the reserve are to describe the value of the Reserve's territories, teach about the historical and cultural heritage of the area, and instill a code of ethical behavior towards wildlife. The Reserve plans to further develop the center by improving the skills of its staff, increasing the number of visitors, as well as, creating new educational programs.

John Bunker Sands Wetland Center (USA) and Baltic Fund of Nature (Russia)

The ***John Bunker Sands Wetland Center*** is situated in Seagoville, Texas on a 2,000-acre constructed wetland, located in the center of a 5,000 acre (810 hectares) private cattle ranch on the west side of the East Fork of the Trinity River 25 miles southeast of Dallas, Texas. This center is the educational arm of a water reuse project that provides over 40 million gallons of water a day to a regional municipal water district serving a large portion of fast-growing North Central Texas. The wetland project pulls treated wastewater off the river, filters it through the wetland by removing sediment, nitrogen and phosphorous, and then pumps it back to the reservoir of origin, providing water for 1.6 million people.

The original geography of the land was bottomland hardwood forest. A portion of the hardwood forest still remains, with an interpretive trail leading down to the river. Located in a rural county, away from larger city conveniences, the John Bunker Sands Wetland Center is a unique partnership of a wetland center, major water district and working cattle ranch. The mission of the center is to educate the public and provide research opportunities in the areas of water quality and supply, wildlife management and wetland systems. Water conservation and water ecology, especially in light of Texas' longstanding drought, are increasingly critical educational challenges for the region, which is expected to surpass 10 million residents by 2040.

About the Centers

John Bunker Sands Wetland Center
Location: Texas, USA
Information: Website Facebook

Baltic Fund for Nature
Biologists for Nature Conservation
Location: St. Petersburg, Russia
Information: Website
Biologists for Nature Conservation

Annually, center educational programs serve approximately 4,150 students and over 1,200 members of the general public. On weekdays, the center serves mostly students in grades 4-12, with a student breakdown of 42% high school, 17% middle school, 28% elementary school, 9% home school and 4% college. On weekends, the center is open to the general public and host many family and adult visitors. The center offers seminars and workshops, adult training and citizen science, and educator training for both formal and informal educators.

The region surrounding the wetland center has an increasingly diverse population. As the North Texas population continues to expand, youth and adult visitors to the wetland center are growing more diverse and international. The center's goal is to be the premiere wetland location in the region and, eventually, a national resource. How other centers educate visitors about water quality, supply and conservation is of great interest to the John Bunker Sands Wetlands Center. A long term goal of the wetland center is to be regarded as the place to come for definitive answers about why individuals should conserve water and how to do it.

Partnered with John Bunker Sands Wetland Center, Biologists for Nature Conservation, located in St. Petersburg, Russia, acts as the environmental education unit of the ***Baltic Fund for Nature*** **(BFN)**, a non-governmental organization (NGO) established in 1995. The focus of BFN's work is the conservation of biodiversity in the Russian part of the Baltic Sea basin. It includes the development and implementation of research and conservation projects and the coordination of activities of other environmental NGOs working in the Baltic Sea regions of Russia, in particular at the Ramsar sites located along the Baltic coast.

Biologists for Nature Conservation was one of the first Russian educational organizations to join the Wetland Link International network in 2010 and has considerable experience in the development and implementation of educational and awareness-raising programs. Significant accomplishments include: 1) four expert training courses certified by St. Petersburg State University; 2) a series of field guides; and 3) methodological materials on ecosystem research for educational institutions. Recently, Biologists for Nature Conservation prepared and published a set of wetland education materials, including an illustrated manual on public awareness actions to be organized by wetland centers (Educational Wetland Centre: Ideas and Decisions).

On a contract basis, Biologists for Nature Conservation works with 50 schools and education centers throughout St. Petersburg, the Leningrad region and the Republic of Karelia. Over the past five years, more than 1,200 students and over 150 teachers have been involved in the education programs, over 800 people participate in public events annually and between 100 to 250 teachers annually participate in seminars and trainings. Biologists for Nature Conservation features a traveling mobile education center equipped with tents, tables, chairs and everything you would need to setup a mobile outdoor classroom. The mobile education center feature on-site activities including a mobile nature trail, equipped with large and small display stands and posters, an electronic peat bog guide for iPad, and other educational activities.

In addition to the traveling education program, Biologists fore Nature Conservation has implemented a series of projects under a joint name of OLONIA in cooperation with the Financial Support Fund "The Old City" (Olonets, Republic of Karelia). An output of this collaboration is a visitor and wetland center in Olonetskiye Fields which is listed as an Important Bird Area by BirdLife International and is partly included in the Olonetsky State Nature Reserve (Zakaznik) of Federal Importance. The reserve supports large populations of water birds migrating from their breeding areas in the Arctic to the West-European wintering areas.

About the Centers

The Wetlands Institute
Location: New Jersey, USA
Information: Website Facebook

Smolensk Lakeland National Park
Location: Smolenskaya Oblast, Russia
Information: Website WLI Profile

The Wetlands Institute (USA) and Smolensk Lakeland National Park (Russia)

Founded in 1969 and situated on 6,000 acres (2,500 hectares) of protected salt marsh, ***The Wetlands institute*** (TWI) is a non-profit organization with a long history dedicated to understanding, preserving, and protecting coastal and wetland ecosystems. TWI is located in Stone Harbor, New Jersey, part of greater Cape May County, New Jersey, which provides critical habitat for over 300 species of migrating birds including raptors, shorebirds, songbirds, waterfowl, and seabirds travelling through the area. This area is well known as a site of importance for many federally protected species including Piping Plover, Black Skimmer, and Least Tern, and provides valuable foraging habitat for southbound arctic-nesting shorebirds.

The Delaware Bay beaches are classified as a site of Hemispheric Importance by the Western Hemisphere Shorebird Reserve Network as they are a crucial stopover site for spring migrating Red Knots, Ruddy Turnstones, Semipalmated Sandpipers and Sanderlings and host the world's largest spawning population of Atlantic Horseshoe Crabs. The Cape May Peninsula is a part of a critical migratory flyway from songbirds, raptors, seabirds, owls, bats, butterflies and dragonflies, and, as such, an important ecotourism destination.

The Wetlands Institute Education Department hosts more than 17,000 visitors each year. Participants of all ages are able to choose from a number of hands-on activities and experiences including guided tours, aquarium feedings, lectures, touch tank demonstrations and featured programs. In addition to visitor programs, formal education programs annually serve over 11,000 children from nearly 150 local schools and organizations. Formal education programs include Environmental Education Field Trip Programs, Traveling Environmental Education Programs, Science Education at Sea (SEAS) Programs, Group Outreach Programs, Homeschool, Scout Programs, and Summer Nature Programs.

The Wetlands Institute Research and Conservation Department is actively engaged in research projects pertaining to the habitats, processes, and wildlife of the local barrier beach and wetland ecosystems. Wetland center staff teach field-based wetlands ecology courses, and regularly host visiting researchers, graduate students, and course instructors from academic institutions and agencies for research and educational opportunities. The Wetlands Institute aims to take an active role in developing accessible and impactful research

based conservation initiatives that promote awareness and behavior change among the community and engage volunteers in critical conservation projects. TWI works to develop collaborative programs and welcome sustainable and scientifically based partnerships. Research and Conservation efforts are currently focused on projects related to Avian, Fisheries, Wetlands and Northern Diamondback Terrapin Conservation.

Partnered with The Wetlands Institute, ***Smolensk Lakeland National Park*** is situated in the northwestern Smolensk Oblast. The National Park was established in 1992. In 2002, it was included into the World Network of Biosphere Reserves within the framework of UNESCO Man and Biosphere Programme (MAB). The National Park protects over 35 glacial lakes, many rivers and streams, floodplain wetlands and meadows, and old-growth coniferous, spruce and broad-leaved forests. Peatlands cover 28% of the total area of the park, and include 33 peatland complexes from small bogs in the hollows between the hills to large open and forested mire massifs. Among the 234 bird species registered in the area, 18 are listed in the Red Data Book of the Russian Federation. The site is particularly important for breeding water birds including the Great Crested Grebe, Bittern, Grey Heron, White Stork, dabbling and diving ducks, Marsh Harrier, Crane, as well as gulls and other birds. Geese and ducks occur in large numbers during migration. There are several visitor and educational centers located in the areas most visited by tourists and a small wetland exposition was established at the Baklanovo education center. There is also a conference hall with educational rooms on ornithology, local history, computing and a hotel.

The National Park actively collaborates with many protected nature areas in Russia and abroad and holds a key position in the regional system of ecological education. While environmental education has been a key work area for the staff since the national park was established in 1992, the wetland center has only recently been established along the lake shore. This wetland center serves as a starting point for two nature trails. Currently, education activities serve children and visitors from Moscow, Smolensk and other cities participating in ecological summer camps, training workshops, community festivals, excursions, lectures, and boat based eco-tours. The education initiatives seek to target school children, university students, teachers, local people and visitors from other regions.

Exploring Shared Interests and Challenges in Wetland Education

Critical to the project and fostering productive partnerships was the opportunity for matched wetland education centers to explore and share different techniques and strategies regarding public education programs, volunteer coordination, wetland field studies, nature interpretation, exhibit creation, formal education programs and other common themes and/or challenges. To assist in guiding this process, a series of shared common interest topics were established to allow wetland center participants to learn from each other and develop tools and best practices that can support members in the US, Russia and other parts of the world.

Throughout the exchange visits, items italicized below emerged as areas of greatest importance to all participating wetland centers. While important to this specific project, these shared themes can be explored as universal commonalities between wetland centers throughout the international network.

Interpretation Techniques

This will look at how each center communicates information to its visitors across a range of interest groups, ages and abilities. These techniques include:

1.1 signage / site information
1.2 dioramas and displays
1.3 written materials
1.4 *using audio-visual tools*
1.5 *off-site and mobile education tools*
1.6 developing nature trails
1.7 *training staff to deliver walks and talks*

Visitor Centers

As a central theme of the project, visitor centers are key to acting as a 'node' for engaging visitors in a number of ways. We would like to think about a range of centers, from large buildings to smaller, temporary structures and their settings. Themes could include:

2.1 setting up a new visitor center
2.2 managing / creating habitat
2.3 running *a visitor center*
2.4 building / maintaining structures

Participation

Encouraging local communities and other stakeholders to play an active role in supporting the wetland center's aims is vital. This will take a broad range of activities, from practical conservation tasks, wetland CEPA work, and outreach to local communities. Areas of work include:

3.1 disabled people
3.2 *engaging hard-to-reach groups*
3.3 engaging *young people*
3.4 engaging *the local community*
3.5 working *with volunteers*

Education and Communication

Raising awareness of wetland issues is an essential role of wetland centers, and again should address a number of groups in order to get the messages understood as widely as possible. Groups that could be engaged include:

4.1 early years education (<5 year olds)
4.2 *working with primary schools*
4.3 *working with high schools*
4.5 *lobbying / running campaigns*
4.6 *adult education*
4.7 *developing resources / materials*

General

As well as core themes around education and awareness-raising, or those related to centers, there are other areas that are useful in order for the wetland center to run well. As with any organization or business, these are more generic. To include:

5.1 auditing / assessing effectiveness
5.2 *PR and marketing*
5.3 *running effective administration*
5.4 health and safety
5.5 *fund-raising*
5.6 project planning
5.7 *research and work with universities and scientific institutions*

Introduction to the Manual

Purpose of the Manual

This manual seeks to create a methodology to effectively utilize social media, data sharing and outreach to advance public education and engagement at wetland education centers. It is intended to provide tangible and transferrable activities and resources related to social media, data sharing and outreach for use in wetland centers throughout the international network. This manual is not designed to be a comprehensive instructional 'how-to' regarding the implementation of social media, data sharing and outreach, but rather an advisor guide to the best practices and uses of each component as they pertain to furthering wetland center education. This manual is intended to supplement the existing *Handbook on Best Practice for the Planning, Design and Operation of Wetland Education Centres* published by The Ramsar Convention Secretariat and the Environmental Ecosystem Research Foundation (ERF) in 2014.

The target audience for this manual is anyone involved in the operation of wetland centers. The manual may be of particular interest to smaller wetland education centers operating with minimal staffing and limited resources.

Structure of the Manual

The manual is divided into thematic chapters. Each chapter is dedicated to discussing one aspect related to utilizing social media, data sharing and outreach to advance public education and engagement at wetland education centers. Each chapter utilizes the following framework:

- Explanation of Topic
- Role of Topic in Wetland Center Education
- Successful Utilization and Implementation Techniques for Topic
- Infrastructure and Support Needed to Implement Topic

The content of each chapter was crafted by members of the project team after being discussed collectively at an international conference held at The Wetlands Institute in October 2015. Content draws upon, and occasionally references, personal or organizational experience and expertise, institutional knowledge and lessons learned throughout the *Russia-USA Wetlands Center Exchange Program* project. As applicable, embedded within each chapter are tangible and transferable best practice materials or examples that illustrate effective methods of integrating social media, data sharing or outreach into wetland center education.

List of Supporting Best Practice Materials

A guide to these best practice materials and examples is summarized in the following table:

Best Practices	Contributing Center	Page
Social Media		
1.1 *#Oglakhty: A Social Media Campaign to Boost Followers*	Khakassky State Nature Reserve, Russia	18
1.2 *Digital Analytics: Understanding Social Media Insights*	The Wetlands Institute, USA	21
Data Sharing		
1.3 *reTURN the Favor: Sharing Data with Infographics*	The Wetlands Institute, USA	26
1.4 *Fascinating World of Bogs: An Exercise in Data Sharing*	Smolensk Lakeland National Park, Russia	27
Outreach Education		
1.5 *Comprehensive Outreach with Limited Staffing*	John Bunker Sands, USA	32
1.6 *Naturewatch Baltic: Mobile Outreach Education*	Baltic Fund for Nature, Russia	34

Chapter 1: Social Media

For the past 10 years, social media usage has increased from millions to billions of users. Defined as 'computer-mediated tools that allow people to create, share or exchange information, ideas, and pictures or videos in virtual communities and networks', social media is considered to be one of the most powerful and modern communication tools. Yet, to wetlands centers, this can encompass a bewildering and ever-changing set of tools, depending on what your center is trying to achieve, and where you are in the world.

Some of the most popular social networks in the world include: Facebook, Twitter, LinkedIn, Pinterest, Google Plus+ Tumblr, Instagram, VK, Flickr, Vine, Meetup, Tagged, Ask.fm, YouTube, and Reddit. However, these are just a handful of all social media platforms available across the world. In Russia, the most popular social media sites are VK, Odnoklassniki, and Moy Mir, while in the United States, the most popular social media sites are Facebook, YouTube, and Twitter encompassing about 72% of all social media usage. With each social networking site boasting a specific audience and user platform, popularity and usage vary from city to city and country to country. Most users of LinkedIn are professionally oriented people older than 22–24 years, while users of VK are usually people under 24 years old. Similarly, Facebook and VK users can share documents, photos, video and audio files, while users of Instagram can only share photos and short videos. Depending on geographic area, a quick internet search will be necessary to identify current social media trends applicable to your wetland center.

Role of Social Media in Wetland Center Education

It is well-known that social media is a powerful tool of public relations and marketing studies and campaigns, since they can provide targeted advertising, communicate information to a specific audience and create sustainable communities. For wetland centers, as with many others, it is an area that cannot be ignored, as an increasing number of people get and share information this way. So, although it can bring great benefits, to get the most from social media, wetland centers need a well-thought out and informed approach.

Social media allows wetland centers to solve the following tasks within environmental education:

- Identify and build wetland center audience
- Provide targeted communication of information
- Assist in the formation of sustainable communities
- Use different tools to interact with wetland center visitor

In evaluating your wetland center's use of social media, it is important to define what you are trying to achieve by using social media. Depending on whether you want to promote your wetland center, share information, run

a social media or marketing campaign, communicate conservation messages or allow your users to exchange ideas and information, different social media tools will be used.

At a Glance: Social Media Platforms

Social media tools can be used for networking, image-sharing, blogging, microblogging, video-sharing or collaboration. Evaluating how you want to interact with your wetland center audience will be an important first step in deciding which social media platforms you will use.

Image credit Education Council New Zealand: http://teachersandsocialmedia.co.nz/

To build an action plan for social media use, you should consider the following questions:

- Who is your audience?
- What messages do you want to communicate to the audience?
- What do you want the audience to do after they receive the messages?
- What tools do you plan to use to communicate with the audience?
- How will you measure the results of the communication?

When determining which social media application to use, it is necessary to consider each of their specific features, including tools and audience. For example, to share ideas with the young people in Russia, it is better to use VK and Instagram, while the professional photographers can more readily be reached on Instagram, LinkedIn, and Facebook. It is important to understand that the possibilities of any social network are limited and

it may be necessary to utilize a variety of social networking application to be able to provide sustainable communication and messaging to your wetland center's biggest core audience.

Successful Utilization of Social Media Techniques

Communication through social media should be conducted with the support of professionals who can apply the modern tools of public relations management. However, most wetland centers and environmental institutions use common tools of social media, although the utilization of these tools may be used in different ways. When messaging across social media, it is important to be creative, but concise by grabbing attention without distracting from your overall goals. When used effectively, social media is a powerful tool for reaching new audiences and grabbing attention.

A handful of examples outlining successful usage for social media are included below. As appropriate more comprehensive best practice examples are highlighted in more detail.

Public Relations and Marketing

Facebook and Twitter and other similar social media sites can be used quite effectively to advertise upcoming events, fundraisers, programs, celebrations and current events. Project partner, Baltic Fund for Nature, uses social media to provide updates about ongoing projects and to announce scheduled events. They established Naturewatch Baltic – a special education programme that is widely communicated in Facebook and Twitter to announce new activities, such as educational journeys, online projects for school teams and seminars for teachers. Most of the Programme news are published simultaneously at the website and Facebook.

Photo, Video and Naming Contests

Using Facebook, Twitter, Vimeo, Vine, Instagram or You Tube to post quizzes, contests, videos and photos is a great way to keep the public's interest and engagement. John Bunker Sands Wetland Center provides us with an example of using social media in this way. They carried out a "Name the Alligators Contest" campaign which used Facebook to have a contest to name the resident alligators they use for their programs.

Social Media Tips!

- Be on the major social media platforms, but be careful not to spread yourself too thin!
- Facebook and Twitter are still the major players in the United States. VK and Odnoklassniki in Russia.
- Instagram is growing rapidly and becoming another essential platform to be on.
- Pinterest works for some users but if it is not working for you, focus you efforts on the other major platforms.
- Create a YouTube channel for your organization and publish videos! Google owns YouTube and ranks You Tube videos above most other content. Be sure to optimize your video by using relevant descriptions that both describe the video's content and repeat keywords from your website.
- Tie Google+ or Google Business in with your YouTube channel to boost your search engine ranking.
- Use the free or pro version of HootSuite to manage multiple networks in one dashboard.

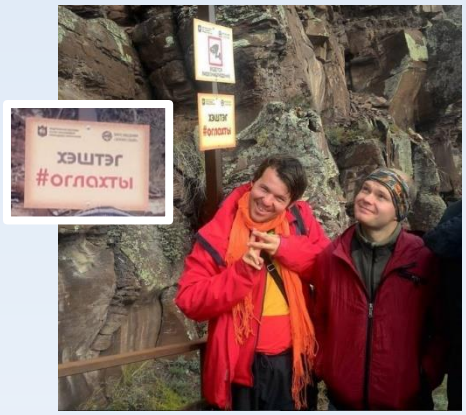
Written by Christine Mattera,
The Wetlands Institute

Wetland center staff posted the contest on Facebook over the period of a week to get suggestions of the alligator's name. The following week, the top name suggestions were posted to Facebook for people to vote on. Similar examples have been carried out at other wetland education centers with great success.

Social Media Campaigns

Employing the power of the hashtag to engage your wetland center audience in wetland center education and encourage the tagging and reposting of critical organization messaging can be a very effective social media strategy.

1.1 #Oglakhty: A Social Media Campaign to Boost Followers



Knowing your audience and users is important in working out what information to communicate and which tools to use. After careful analysis of intended audiences, the Khakassky State Nature Reserve was able to classify their social media following into four main groups, including:

1. Friends of employees of the reserve (40-50%)
2. Colleagues from fellow organizations (30%)
3. Mass media representatives (10-15%)
4. People interested in advertising their products and not likely to read our news (5-7%)

Understanding their current audience, Khakassky State Nature Reserve sought to promote their public image and increase its recognition throughout the region. However, the reserve faced difficulties in accumulating an audience on its internet platforms in spite of the fact that their touristic attractions were very well visited. In efforts to boost their social media following, they launched a social media campaign during one of their special events that attracted about 1,000 visitors to the reserve. Prior to the event, staff installed a sign with an Instagram logo and special hashtag on one of the most beautiful viewing and most frequently visited and most photographed points in the territory of the reserve. This sign contained the reserve's area name "Oglakhty" but no special instructions on using the hashtag.

As a result, the number of reserve's subscribers on Instagram doubled within a week after the campaign ended, as people themselves put the hashtag "Oglakhty" to the photos posted on internet platforms. Doubling the Instagram audience then increased the amount of subscribers on the reserve's other social media platforms by 30%. This campaign was very low cost and effort to undertake but gave very useful results.

Written by Igor Yegorov, Khakassky State Nature Reserve

Nature Blogging

Nature blogging can be a great method for combining place-based education and social media to not only engage the public, but also educate about the local flora and fauna of the region. At The Wetlands Institute, they installed an osprey nest camera that supplies a 24/7 live video feed to their website, allowing people to view the osprey from the comfort of their own home. Every few days or so they provide pictures, updates and educational information on all social media platforms that then directs visitors to the Institute's website to watch the osprey camera live. During the nesting season, the cameras received an unprecedented 43,923 views. This similar technique can be applied to any wildlife viewing opportunity.

Analytic Tools

With social media, there is an added layer of social media statistics analysis that is necessary to truly understand how effectively your social media strategies are working and what audience you are reaching. Two powerful tools for understanding your impact are Google Analytics and Facebook Insight.

Google Analytics

Google Analytics (GA) is a very comprehensive but also complex tool. Once set up, it offers access to a plethora of useful data you can use to measure the success of your online communication efforts. GA provides information about who, when, why, what, how, and where people visit or use your website – all in real time. The data provides insights that is helpful in managing website content effectively.

Customizable reports are available and contain information such as: Audience including number of visitors by date ranges or new or returning; location and language of visitor; technology used including browser and operating system or mobile device; acquisition meaning whether a visitor found you via a search engine or clicked on a link on a social media platform; behavior including how long they stayed and how many pages (and which ones) they visited; and many more advanced data sets.

As you can imagine, GA is far from being a simple tool. It is rather complex but can be used for basic data retrieval. The dashboard is user friendly and information is clearly highlighted. Set up of GA includes creating an account and copying a line of Java Script in the <head> section of each page to be tracked. If you don't have administrative access to your website, you may have to ask your website developer to do this for you. You can sign up for GA's standard version for free at https://www.google.com/analytics/standard/. A premium version is also available but would probably be too advanced for a novice user.

There are several tools offered by Google and partners to help you along the way. One of these tools, Google Analytics Academy, offers free video training for users who want to move past the simple entry level skills.

At a Glance: Social Media Analytic Tools

Google Analytics provide information about who, when, why, what, how, and where people visit or use your website – all in real time.

Facebook Insights provide information on reach, page likes, action taken and page views.

Twitter Counter provides hourly updates on the impact, progress and reach of your twitter account.

Facebook Insights

Per Facebook user rules and guidelines, Facebook profiles are for use by individuals and Facebook pages are for businesses/organizations. So, as long as you are using a Facebook page and not a profile for your organization, you have access to valuable insights to help you measure the engagement of your posts. There is no need to set anything up aside from your page. In applicable, be sure that you categorize your page as a "non-profit" which allows you to create a "Donate Now" call-to-action which can even be "boosted" or promoted for a nominal investment.

Data available on Facebook Insights includes: Reach, meaning how many people saw your post, overall for a specific date range and for each post individually; page likes, meaning how many followers you have gained or lost; action taken, meaning how many people clicked a call-to-action on your page; and page views, including how many viewed your page, who viewed your page (gender, age, location, device used, etc.), and referral source (your website, a search engine, etc.). Facebook also offers many learning resources for businesses.

Twitter

Photos and videos can now be posted to Twitter. Make sure to use relevant # (keywords) in all your posts and include a link to a relevant landing page on your website. If it doesn't fit, there are several free link shortening tools available (ow.ly, bit.ly, goo.gl). As of now, Twitter does not include analytics tools but free tools are available to help measure the results of your efforts. Visit http://twittercounter.com/ and sign up is free for access to useful tools and data.

An effective follower growth strategy is to follow organizations, media outlets and business with common interests. News from the fellow organizations add variety to the online content, therefore it could be better if such organizations shared each other's publications/information. Not only will this help reach potential donors but often times, the organization or individual will follow you back. Similarly, you can setup your Facebook page to duplicate your post to your Twitter account. Although this is not the best way to tweet since it only displays the first 140 characters of your original post, it helps if you need to save time. You can set this up here: https://www.facebook.com/twitter.

1.2 Digital Analytics: Understanding Social Media Insights

The Wetlands Institute has greatly benefitted from utilizing Google Analytics (GA) and Facebook Insights. One way GA has helped us is by observing behavior of visitors to our Osprey livecam during the nesting season. We were able to determine how many people were watching nest activity, at what times most users watched, where they were watching from, and how many watched overall. We were then able to assert the valuable investment of having such a camera as traffic to our website grew exponentially. We were able to attract these visitors to our social media accounts where they became new followers. We were also able to add several to our mailing list and some even came for a special visit.

Similarly, an analysis of Facebook insights highlighted the importance of using pictures to draw on people's emotions. Pictures are proven to be most effective at catching the eye and driving engagement. When someone likes, shares, or comments on a picture, this increases your reach to their friends and/or audience. For TWI, pictures of animals, especially turtles, have brought significant engagement to TWI's Facebook page.

A few lessons learned along the way:

- 501 (c)3 non-profit organization are eligible for great free benefits from Google, including $10,000 per month of free Google AdWords pay-per-click advertising. TWI has achieved amazing results with AdWords by nearly doubling our website traffic in just one year! Be sure to visit: https://www.google.com/grants/. The application process is simple and the benefits are astounding.
- Be sure to maximize your results by using sound Search Engine Optimization (SEO) practices to avoid hurting your online search ability. Content must reflect titles and descriptions and be relevant. One of the data set on GA is "Bounces". Bounces hurt your website's search engine ranking. They occur when a user visits a single page on your website and exits without clicking any links. Google also provides useful information on bounce rates and how to minimize them.

Written by Christine Mattera, The Wetlands Institute

Infrastructure and Support Needed for Social Media

As with any project, there is certain infrastructure and support that is needed to implement an effective social media effort. Needs will vary based on organization and social media goals. However, each organization should review the following items and consider what resources are currently in place at the wetland center and what resources would need to be amended or added in order to effectively create and implement a social media plan.

- **Computer Hardware**
  From desktop computers to laptops to handheld devices, such as tablets and mobile phones, any device with access to the internet will work. The best devices will allow the user to take video and photos, so using a mobile device with these components included is the easiest. But use of digital cameras or computer webcams will also accomplish the intended goals. It is strongly discouraged to not to use personal devices to access work accounts. If personal devices are the only option, this practice should be kept at a minimum or at the very least tightly managed.

- **Basic Computing/Programing Abilities**
  It is necessary for one to have basic computing abilities and knowledge of social media tools in order to use social networking in effective ways. Luckily, technology has advanced at a rapid pace recently, and allow even inexperienced people the option to take photos and films, and upload them virtually instantly

- **Organization Website**
  It is important to note that an organization's website is a standalone platform and should be considered essential to any social media plan. With an established website in place, social media can be used as a tool that can be leveraged to drive visitors to your website.

- **Dedicated Staff Person**
  Once social media tools are selected, it is necessary to have a dedicated person on staff responsible for updating social media content and analyzing current social media usage in efforts to stay current and in touch with your audience. Having a staff person who understands the basic social media tools and principles will assist with creating a viable and effective social media plan.

Chapter 2: Data Sharing

When one hears the words “data sharing” everything from sharing scientific research data to information sharing to verbal and written communication come to mind. For the sake of this discussion, data sharing should be interpreted as successful methodologies for making data including scientific research data, youth collected data, citizen or visitor collected data, and other publically relevant data available to others. Data can be shared, or made available to others, in a variety of ways including downloadable in its most basic form on an organization’s website or other data sharing site and/or interpreted and explained in booklets, newsletters, infographics, displays, digital applications, and other creative meanings of data interpretation.

Regardless of the method, data sharing is an important part of scientific research and wetland center education, but at times can require efforts beyond the capabilities of smaller wetland education centers. Much time is involved in not only the collection of the data, but also the preparation of the data for sharing. If done correctly data sharing can have mutual benefits for both the researcher/data collector and the general public. Sharing data increases the amount of data available for use in the scientific community, offers more readily accessible information for the general public and can ultimately lead to a more informed and environmentally literate citizenry.

> DATA SHARING BENEFITS THE RESEARCHER, RESEARCH SPONSORS, DATA REPOSITORIES, THE SCIENTIFIC COMMUNITY, AND THE PUBLIC. IT ENCOURAGES MORE CONNECTION AND COLLABORATION BETWEEN SCIENTISTS, AND BETTER SCIENCE LEADS TO BETTER DECISIONMAKING.
>
> -UNITED STATE GEOLOGICAL SURVEY, ‘WHY SHARE YOUR DATA?’

Role of Data Sharing in Wetland Center Education

Some would argue that modern environmental education is impossible without the use of consistently updated scientific data. Infusing current and relevant scientifically collected data into wetland center education programs or informational materials allows wetland center staff to adequately explain and interpret natural processes occurring in wetland ecosystems and give accurate information to visitors. However, there are several important questions to ask before obtaining or collecting data to ensure that the entire process flows smoothly and results in the final data being both relevant and usable.

- What is the ultimate use of the data?
- Who is collecting the data or from what source is the data being acquired?
- Who is the intended audience of data and what is their level of expertise?
- How will the data be stored?
- Does the data contain sensitive personal or scientific information? How will this be protected?
- What is the best way to utilize the data in order to reach the intended audience?

Once data has been acquired, whether it be scientific research data, youth collected data, citizen or visitor collected data, or other publically relevant data available on a reputable and trustworthy data sharing site, the role of most wetland education centers in data sharing should be:

- To analyze data for authenticity and relevance.
- To store and/or share the data (if collected on-site).
- To make the data relatable and accessible to the intended audience.
- To allow the public to learn more about the topic.
- To raise awareness related to the topic.

Successful Utilization of Data Sharing Techniques

Scientific data collected by research staff is often not available in a form suitable for a wide audience. Sharing data in its raw form is a wonderful way to share the data with the broader research community at large. However, having data available in this way is not the best way to share the data with the general public. Therefore, wetland center education staff often find themselves processing scientific data and translating it into a more accessible form.

Data Sharing Tips!

Documentation

Describe the data content and process thoroughly.

- Good, clear documentation will make it easier for others to see your data, understand its content, and encourage collaboration.
- Create robust metadata. Metadata describes how, when and by whom a particular set of data was collected.
- Invite other data contributors to review your metadata to ensure accuracy.

Data Storage

Allow for easy location and access to the data makes them easier to share.

- Store the data in a repository that can be easily accessed.
- Include archival and reference information.
- Select a format for the data that is intended for long term.

Discovery

Put it out there.

- Make the data discoverable by publishing your metadata in data portals and clearinghouses.
- Advertise the data online through social media and blogs.

Source Credit: United States Geological Survey, 'Why Share Data?'

A handful of examples outlining successful methods of data sharing are included below. As appropriate more comprehensive best practice examples are highlighted in more detail.

Web-based Data Sharing Portals

The majority of data collected at wetland education centers is likely to be youth or citizen science collected data. While useful for education and integrating into unique engagement programs for wetland center visitors and volunteers, this collected data is typically of little value to the scientific research community. However, the data does have value to a more informal audience including teachers, general public and other citizen science based organizations and if collected properly can be used anecdotally to further bolster research claims. For this reason, this data can be shared on your organization's website, or a relevant citizen science website. For example, youth or visitor collected phenological data can be uploaded and shared on websites such as Project Budburst, USA-National Phenology Network, or Journey North. Such sites also exist for the sharing of regional water quality monitoring and international bird observations including FieldScope and eBird, respectively.

Additionally, if appropriate, research level data sets collected by an organization's research staff or visiting researchers should be made discoverable on the organization's website and through a reputable data portal or clearinghouse. The type of data collected will ultimately determine what data portal is utilized. In the USA, use of websites such as data.gov or Data Observation Network for Earth might be useful locations for sharing the data. If you have a data set, either citizen collected or research level, that you would like to share, but cannot currently find an existing portal for sharing the data, considering working in collaboration with other organizations to create your own data sharing portal.

Printed Materials and Publications

Once evaluated, any relevant data can most easily be shared with the wetland education center audience through the use of written print materials including booklets, brochures, pamphlets, flyers, newsletters, bulletins or other printed materials. Using data collected by National Park research staff, project partner, Smolensk Lakeland National Park, successfully created a series of educational booklets related to wetland plants and animals. The National Park also publishes a quarterly newsletter, "Lakeland", which is distributed to schools, libraries and information centers of the Smolensk region. These newsletter covers a myriad of data supported topics and activities including: general information related to wetlands and their inhabitants; information that may not be covered in the media, or which are surrounded with a lot of prejudices, like venomous snakes; global environmental issues like waste disposal and climate change; and children's gaming activities or scientific experiments.

Digital Materials and Publications

Similarly, websites are just as critical, if not more critical, to the dissemination of data and information to the general public and other interested parties as print materials and publications. Websites and e-bulletins are dynamic and powerful tools that allow wetland education centers to instantly update information as new data becomes available. Utilizing an electronic library on the website is one way an organization can share data with

the broader community. An e-library is the ideal location for downloadable teacher materials, press releases related to the organization, visitor and youth collected data, visiting research data and many other important pieces of information.

Infographics

Infographics are a visual image such as a chart, diagram or map used to represent information or data. Infographics are very useful tools for presenting complex data in a readily accessible "at-a-glance" medium.

1.3 reTURN the Favor: Sharing Data with Infographics

reTURN the Favor is a multi-partner program working to rescue overturned or impinged horseshoe crabs stranded on New Jersey's Delaware Bay beaches. Though this program works to rescue horseshoe crabs on beaches open to the public, it primarily concentrates on rescuing crabs stranded on beach areas that are seasonally closed during the shorebird migration and horseshoe crab spawning season occurring in May and June. Many horseshoe crabs spawn on these closed beaches and oftentimes become stranded, overturned, or even impinged behind natural or manmade structures. The reTURN the Favor program works with the New Jersey Department of Environmental Protection so that horseshoe crabs stranded on closed beaches can be rescued by sanctioned volunteer groups.

reTURN the Favor Program Goals

1. Rescue stranded horseshoe crabs.
2. Provide an organized way to rescue horseshoe crabs on New Jersey's closed beaches.
3. Increase awareness of horseshoe crabs, shorebirds and their management.
4. Collect data and information on stranded crabs, potential hazards, and tagged crabs to aid in management and restoration.

Each season, the volunteer collected data, and other important information about the program, is shared in the form of a two-page infographic and executive summary on the program's website: http://returnthefavornj.org/ and in print material. The website also includes smaller, impactful infographics right on the homepage.

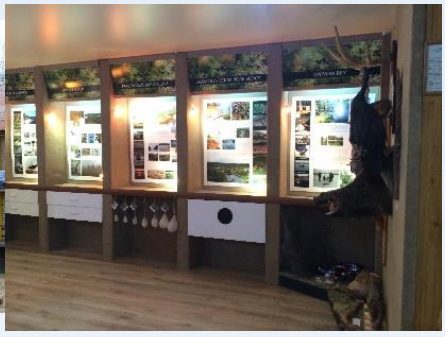
Written by Brooke Knapick, The Wetlands Institute

Visual Displays and Static Models

Used throughout many wetland education centers in both the USA and Russia, visual displays and models provide the easiest and most accessible method for interpreting basic information concerning various data. They can be relatively easy to design and construct and can range in price from inexpensive to very expensive.

1.4 Fascinating World of Bogs: An Exercise in Data Sharing

Smolensk Lakeland National Park is rich in wetlands. Peatland habitats, including raised bogs, fens and transitional mires, cover 11,500 ha. The majority of peatlands are small isolated sites, 155 in total. However, the Park also incorporates a large well-preserved peatland complex of Vervizhsky moss, which is ranked among the ten largest peatlands in the Smolensk region. Unfortunately, the general public's attitude towards bogs is still unfriendly. To overcome this attitude and show the beauty and benefits of the bogs, a peatlands display was established that uses research collected data and facts to illustrate the important role the bogs play in the biosphere and human life.



Many interactive exhibits and displays help to make scientific data related to plants, animals, birds, and water quality of wetlands more visible and apparent to the general public. These exhibits include:

- A 3-D topographic model of the National Park that highlights the main lakes, rivers and peatlands within the park.
- A large-scale map of Russian Ramsar sites which helps orient visitors to their current location.
- A "dry aquarium" using models of fish, shells of freshwater mussels and related waterfowl exhibits to replicate the wetland ecosystem.
- Exhibits explaining the processes of peat formation, mire development, and the different ecological types of lakes found in the National Park along with their associated plant communities.

Written by Dmitry Belyaev, Smolensk Lakeland National Park

Digital Displays or Applications

Digital displays and applications are becoming an increasingly popular method for wetland education centers to share complex data. Similar to infographics and websites, digital displays and applications appeal to visual learners, those looking for quick information and data analysis, and are flexible platforms to allow for content to be refreshed quickly. Project partner, The Wetlands Institute, provides us with a great example of using digital displays to share complex data through their utilization of a digital monitor displaying the current solar information for their solar panel installation.

Infrastructure and Support Needed for Data Sharing

As with any project, there is certain infrastructure and support that is needed to implement data sharing. Needs will vary based on organization and data collection and data sharing goals. However, each organization should review the following items and consider what resources are currently in place at the wetland center and what resources would need to be amended or added in order to effectively engage in data sharing.

- **Close Collaboration with Research Staff and/or Access to Trustworthy Data**
  The first step in data sharing is actually having validated and trustworthy data to share with your audience. This is most easily facilitated with an in-house research staff, but can also be accomplished by having wetland center staff overseeing visitor or student collected data or locating reputable sources of data available for use.

- **Organization Website and/or Access to Another Data Sharing Portal**
  An organization's website is the easiest way to share data. If you do not currently have an organization website, it might be necessary to contract out for website creation services, or using website creation software like Adobe Dreamweaver to create one. Once a website is in place, adding downloadable data files is a simple process. If you do not have, or do not wish to share your data on your organizations' website, you will need access to a shared data sharing portal or upload your data to an existing data sharing website created for this purpose.

- **Computer Design Software**
  Create documents that make your data accessible to the general public. Applications included in Microsoft Office (Word, Publisher, and PowerPoint) will work for creating simple pamphlets, brochures, flyers and other printed materials. To create infographics, it is often necessary to have access to a more advanced computing and design software like Adobe Creative Suite software to allow for more flexibility in design and appearance of your infographic.

- **Leverage Current Wetland Education Center Resources**
  To maximize communication of data and effectively communicate it to a range of audiences, you can use the existing displays, interactive exhibits and staff resources at your center. Based on the above, incorporate newly created data sharing techniques into existing or new exhibits. Ensure your staff are knowledgeable about the data so they can pass it on accurately and at various levels of expertise.

Chapter 3: Outreach Education

One visit to a wetland center will raise your awareness about wetland education with hands on activities, interpretative lead programs, and field excursions with binoculars in tow. Behind the scenes of a well-run physical location can also be a vibrant and engaging outreach component that truly brings the awareness of wetlands into the local and regional communities. Outreach can be defined as programs, presentations, or activities that are conducted off site or through technology that bring the mission and vision of the center to the region or community.

Outreach can be categorized as educational, community, or distance learning. Educational outreach programs address formal or informal educational groups including elementary and secondary education students, universities, community colleges, home schools, and other educational organizations. The topics of these type of programs are more of a specific nature with focus on wetlands, wildlife, conservation, and research. Community outreach programs are conducted to mainly to informal groups that address specific sectors of community members. The community members range from the general public to senior citizens, neighborhood organizations, business or community clubs, and religious or spiritual groups. Community outreach programs are designed to raise awareness of wetlands through ecological events, festivals, and school or community fairs. These programs are meant to inspire the community to appreciate, preserve and protect wetland systems.

Distance Learning is a relatively new type of outreach that is technology based and social media driven. This type of outreach is unique as it can interact with the community in a more flexible platform and enables the outreach educator to engage with the community without physically being in the same location. It provides a venue for instant feedback, interaction, and awareness thorough applications like Skype, Go-To-Meeting, Google Hangout, Facebook, Twitter, Instagram and other social media outlets. Distance learning can also be passive allowing the community member to observe and appreciate nature though wildlife cameras, electronic field guides, websites, podcasts, on-line courses, and blogposts. This type of technology will increase in its complexity while providing information to more individuals that physically cannot visit the wetland ecosystem.

Role of Outreach in Wetland Center Education

The main role of wetland center outreach is to raise awareness and increase knowledge of wetlands through a positive motivational message that encourages community involvement and volunteerism to conserve and protect water, wetlands and wildlife. Memorable experiences can help accomplish this goal with live animal exhibits, hands-on feet-wet activities, and dynamic programs that bring the wetland environment to life. Secondary roles of outreach encompass providing professional development to teachers, affording a conduit for sharing research studies and promoting research initiative of the organization. Outreach can also open lines of communication to form national, regional, or local partnerships for raising awareness and solving local ecological issues within the community.

Outreach opportunities are numerous and diverse and can be either simple or complex in nature. When considering an outreach strategy for your wetland education center, it is important to ask the following questions:

- Who is your audience? Do they have specific needs or interests?
- What messages do you want to communicate to the audience?
- What do you want the audience to do after they receive the message?
- How far are you willing to physically travel for outreach events?
- What resources (equipment and staff time) are needed to accomplish outreach goals? What limitations exist at the venue?
- How will you measure the results of the outreach?

Considering these questions before implementing an outreach plan will allow for a more realistic outcome and a more robust and meaningful outreach strategy. However, it is important to remember that funds are needed to purchase materials, supplies, pay for travel and staffing. As such, funding is dependent upon, and can limit, the degree to which a wetland center engages in outreach activities.

Successful Utilization of Outreach Education Techniques

The implementation of outreach programming can take many forms, making it a great addition to bring wetland system awareness to a community. Technology has become an increasingly popular resource for people to find out specific information to make informed decisions before visiting or exploring a wetland center, making it an important component of any outreach program or strategy.

A handful of examples outlining successful methods of outreach are included below. As appropriate more comprehensive best practice examples are highlighted in more detail.

Outreach Tips!

- Research your audience and location properly before you go so that you can better tailor your activities and teaching methods.
- Be present at your outreach events and bring something to capture audience attention.
- Get hands-on and interactive. Bring live animals, artifacts and/or interactive games or exhibits to community festivals, fairs, and events.
- Provide an impactful take-home message and action item.
- Give a memorable experience.
- Develop partnerships with other organizations that share a similar mission.
- Outreach is just as important in your local community as it is to audiences further away.
- **Teach the science!** Infuse scientific data into outreach presentations and materials.
- Use technology to your advantage and consider blogging, posting on social media, investing in wildlife cameras or creating a weekly, monthly, or quarterly podcast.

Written by Kaitlin Gannon
The Wetlands Institute

Nature Identification and Learning Applications

Smartphone applications are another great extension for real time interaction and outreach. This is a great opportunity to reach the local community in a very modern interface. Arguably, wildlife identification and learning applications are in many cases better than printed materials, because they can include not only text and pictures, but also interactive animations and voices. Consider working with a technology specialist to create a nature identification or learning application similar to the ones below, but specific to your wetland education center and surrounding ecosystem.

In lieu of your own tailored application, here are several free apps that we suggest for smartphones and tablets:

NatureFind (USA)	Finds the closest parks, forests and nature centers. Users are able to submit events to the website. This service is free and can be a great way to get the word out about your wetland education center.
Baltic Promenade (Russia)	Photos and short description to help identify the typical inhabitants of the sand dunes, reeds and rocky shoals of the Baltic Region.
iBird Lite (USA)	Look through illustrations and photos to find the bird in your backyard. You can even listen to the bird's sound.
WildObs Observer (USA)	Allows you to report sightings and identify species with observations showing up on the National Wildlife Federation's Wildlife Watch website.
iNaturalist (USA)	Allows observers to log in wildlife sightings, does not require a photo and there is ample room for notes. Automatically fills in the date and your location to help recording easier.
Leaf Snap (USA)	Uses facial recognition software from a leaf on a white background to identify species.

Website Blogging and Social Media Updates

Social media is the key to connecting with the youth of today. Participating in all social media platforms available allows a center to make connections they may not otherwise make through traditional outreach strategies. As discussed in the social media chapter of this manual, some of these sites include Facebook, Twitter, LinkedIn, Pinterest and Instagram. Website blogging provides a creative and colorful means of outreach for those users looking for information on your wetland education center or the surrounding ecosystem.

Outreach Kits

Self-led outreach kits containing animal skins, aquatic ecology materials, educational displays, PowerPoints and brochures is an excellent and efficient way to deliver a quality program at an off-site location. Outreach strategies like this are especially effective with limited staff and very effective for outreach to schools, especially if coupled with teacher training on how to use the kit properly in the classroom.

1.5 Comprehensive Outreach with Limited Staffing

The John Bunker Sands Wetland Center resides in the middle of the East Fork Wetland Project, a 2,000 acre man-made wetland that recycles over 50 million gallons of treated wastewater each day. This unique environment was created to supplement the water supply for over 1.7 million people living in 13 cities and 30 communities in the north Texas region while providing wildlife habitat for migratory birds and native wildlife. Visitors are welcomed from all cities and communities but limited capacity and community awareness has increased the need for community outreach.

To meet the initial challenge of community outreach and awareness, outreach materials were developed for volunteers to take to earth day festivals, neighborhood associations, and seasonal festivals. Increase in staff members allowed expansion of the programs with the creation of two outreach kits including signage, animal study skins, bird adaptations, water conservation games and Precious the Water Drop, the Center's mascot. Specialty outreach programs that focus on the need for water conservation, how the wetland operates, and research and education programs are delivered by the center Director to Rotary Clubs, Women's Clubs, and state and regional conferences. Since 2010 over 25 communities, and 7,500 people have been informed about the John Bunker Sands Wetland Center and the East Fork Wetland Project.

Written by John DeFillipo, John Bunker Sands Wetland Center

Wildlife Cameras

Wildlife cameras are a great avenue to give an audience real time information on animal's nests, habitats and views of wetland ecosystems in the comfort of their homes, offices and classrooms. This can extend to lessons being created for classroom teachers based on the location of where the cam is placed, and/or used as a pre assignment before visiting the center. Web camera footage or links can also be shared with families and colleagues, extending the awareness beyond the initial viewer. A successful webcam is based on the quality of the webcam feed and the feed being up and running when viewers "click in" via a web link. It is important to conduct a beta testing period, a pre-release testing, before going online publicly. This testing period prevents glitches with the webcam feed, energy source or web link.

Distance Learning Programs

Utilizing distance learning programs is a create method of outreach for smaller centers. A great example of distance learning comes from project partners, Baltic Fund for Nature, who have developed and implemented 3 different distance learning programs, each lasting six months. These projects included: 1) a journey through seasons; 2) wildlife garden at your school; and 3) migratory bird study. Project participants consist of teams of students with one or two teachers. Teachers are responsible in obtaining the monthly tasks and moderating the required education process, while all the rest is student work either group, individual, at home, at school, or outdoors. Distance learning programs require little teacher specialization and if two teachers work with the group, it is better for them to have different background. Each month group gets new task and reports their results. After six months they show their results and meet at final conference.

Educational Excursions

A unique form of outreach education are education excursions. These programs are typically organized bus trips to another location different from wetland center. To make the journey special, the trips include stops in previously selected sites with interactive activities onsite. Timing the excursions around special nature events like bird migration or fish spawning, or internationally celebrated dates like World Migratory Bird Day or World Wetlands Day will add importance to the event.

Traveling Exhibits and Traveling Education Programs

Although technology is a great way to reach many audiences for outreach purposes, the traditional approach of traveling exhibits and traveling education programs to ecological events, local schools, or community fairs and festivals is still a necessary component to bring awareness to wetland centers. Traveling exhibits taken to conferences, festivals or fairs can be as simple as banners, displays or other items that showcase the wetland education center. Conducting traveling education programs tailored to the needs of the formal education teacher and students can provide a valuable source of wetland center outreach during the colder winter months when outdoor activities and visitor center attendance is not as popular.

1.6 Naturewatch Baltic: Mobile Outreach Education

Located in the historic central part of St. Petersburg (North-Western Russia), Baltic Fund for Nature (BFN) does not have their own wetland education center. As a result, the majority of communication, education, participation and awareness (CEPA) activities conducted by employees and volunteers of BFN's Naturewatch Baltic program are outreach. Naturewatch Baltic started in 1996 when BFN was involved in an international Naturewatch Baltic project managed primarily by WWF Sweden.

Outreach activities through Naturewatch Baltic seek to include local nature sites and typical regional biodiversity into formal and informal education. To do this BFN deploys their "Mobile Wetland and Forest Education Center" to any suitable location to conduct public festivals, field labs, seminars and/or professional trainings. The mobile center includes a special set of equipment, including tent, tables and all related educational materials. The mobile center also has a set of stand-alone signposts for a traveling nature trail. The nature trail educates about the peat bogs and pine forests in the northern latitudes in Russia. These peat bogs and forests are very typical in NW Russia. Therefore, the signs may be installed in most locations along the edge between forest and peat bogs.

Despite the lack of visitor center, BFN frequently uses the field visitor center and hostel in Alexala village (Olonets region, Karelia) as a facility for seminars. This visitor center was created in collaboration between BFN and partner organization "Ancient city" in Karelia. This is a unique example of outreach since both educators and visitors come to the visitor center. Every year, during the spring bird migration, Olonets fields host the community Geese Festival, which attracts hundreds of local people, as well as, guests from other parts of the Karelia and whole country.

Written by Evgeny Genelt-Yanovskiy, Baltic Fund for Nature

Infrastructure and Support Needed for Outreach

As with any project, there is certain infrastructure and support that is needed to implement effective outreach education. Needs will vary based on organization outreach goals. However, each organization should review the following items and consider what resources are currently in place at the wetland center and what resources would need to be amended or added in order to effectively engage in outreach education.

- **Dedicated Staff or Volunteers**
  Outreach programs for a small wetland center can be challenging when most of the staff is onsite conducting programs or have other job related duties. Staff expansion is a necessary component to implement any of the above mentioned outreach program. Additional staff will be needed to give outreach presentation or deliver materials to a site. Although some staff may not leave the site, staff with knowledge about technology are necessary to ensure web based outreach is successful. Having a skilled volunteer may resolve this staffing issue. However, in many countries, any staff or volunteers working with children or vulnerable adults must be approved by the relevant official body. Please check local and national legislation before you send staff or volunteers out to work with vulnerable groups.

- **Reliable Transportation**
  Transportation to and from the outreach sites can be challenging. Volunteers and staff members can use their personal vehicles, but mileage reimbursement can be costly. A large van or small bus that is donated or purchased would be suggested. Possible donation options would be from donors, local dealerships, auction, and members.

- **Resources for Teachers and the General Public**
  One of the goals of outreach is to make an impression on those participating in the event/program and teaching about wetland systems and their importance. For this to be accomplished, the teacher/general public needs to extend the concepts and topics after the program ends. Having follow-up materials available for teachers and the public to take with them is critical. An outreach staff person is needed to write these materials and evaluate their effectiveness.

- **Physical Site Location or Community Partnerships**
  Although not mandatory, effective outreach programs benefit from having either a physical wetland education center or a wide-range of community partnerships that can offer locations to conduct educational programs, seminars, field labs and other outreach education.

Self-Assessment of Wetland Education Centers

This informal self-assessment on social media, data sharing and outreach acts to help you take a look at how your wetland education center is functioning, whether there are any gaps, and (if done year on year) to help you chart progress toward your strategic goals in each area. This is an internal tools intended to help you reflect upon, assess and improve your work. Information gathered during this self-assessment should provide you with an understanding of your current resources in terms of social media, data sharing and outreach and think about ways to leverage them.

Social Media

What are we trying to achieve and evaluate?

Social media is an extremely broad set of tools, and we would like to focus on the following issues:

- Has current social media usage brought more visitors or new visitors to the wetland center?
- Has it increased awareness of wetlands?
- Has it encouraged users to change their attitude towards wetlands?
- Has it resulted in users taking action or changing their behavior to benefit wetlands?

How can we evaluate the impacts of social media usage?

As a 'virtual' and potentially long-distance means of interacting with people, it is not always easy to detect whether social media use has had its intended impact. In addition, as only one of a number of influences or actions, it can also be difficult to attribute a specific change in visitor behavior to a specific social media action.

As a means of evaluation, some centers have used oral surveys, or interaction with the visitors, to find out informally whether social media use has had an impact. Extensive surveys or outreach to visitors / users can be much more time consuming, difficult and expensive.

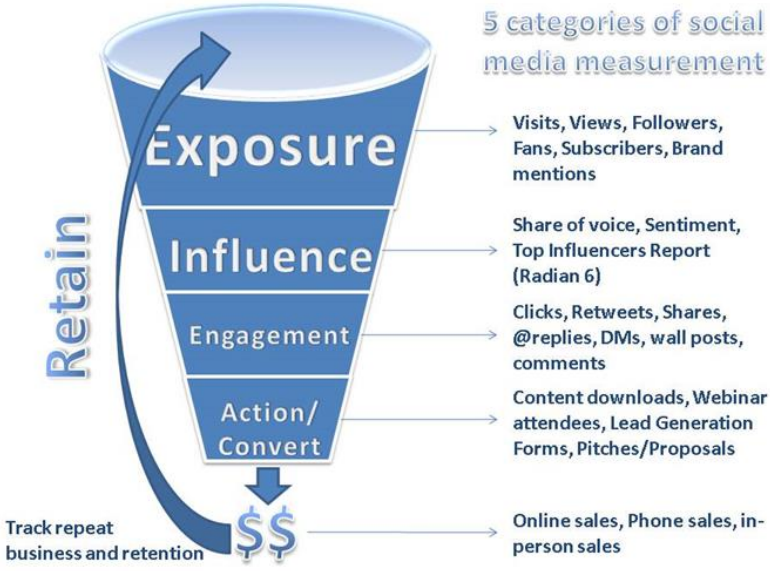


Image credit Social Media Examiner: http://socialmediaexaminer.com

Some ways of tracking response to social media are listed as follows. Consider how or if you are using these particular tracking responses.

- Monitor direct response to your social media (likes or shared on Facebook, retweets on Twitter, etc.)
- Monitor hits to your website, using google analytics or similar, to see whether there is a response to your social media activity.
- Talk to your visitors when they arrive – Had they used social media to find out about an event, your center or anything else that you posted recently? Either as a formal or information activity.
- Carry out a social media survey / campaign to ask for responses directly via your social media.
- Use an e-mail campaign to carry out structure survey.

Data Sharing

What are we trying to achieve and evaluate?

Ultimately data sharing relies on sound collection of reliable data, efficient means of storing and updating that data, and targeted and imaginative ways of sharing the data. Evaluating the effectiveness could therefore be looked at in the following sections:

- Is the data reliable and up-to-date?
- Is it stored in an organized, suitable and updatable format?
- How is it shared and disseminated?
- As before, has it resulted in users taking action or changing their behavior to benefit wetlands?

How can we evaluate the impacts of data sharing?

Citizen science is a great way to both collect data and raise awareness of specific issues. The act of collecting, recording and collating information gives those involved a good understanding of the issues, as well as improving their ability to communicate this. Monitoring the number of volunteers involved, the training courses given and the amount of data successfully collected are all good ways of evaluating progress. For those centers which employ scientists to collect this data, similar measures can be used.

Effectively storing and updating data, ensuring good quality data, is also important. Measuring this can be done in various ways:

- Regular review of data sources (depends on type of data, but check good practice).
- Organized data is essential. Is it catalogued appropriately? Is it digitized? Is it stored in one, logical location either physically or digitally? If in more than one, how will it be updated and/or reviewed across different versions? Can it be combined into a single location?

- Is the data sensitive? If so, does it need to level of protected access? E.g. sites where rare or endangered species are found.
- Has the data been peer-reviewed by other relevant experts or organizations?
- Is the data available online in an accessible format?

How is the data presented and communicated to users? Again, this will very much depend on the type of data being discussed. Key questions:

- Is the data type and format appropriate to the audience?
- Is the data up-to-date and accurate?
- Is the data publicized adequately? Some data will not be suitable for sharing widely, but if it is publically interesting, it should be actively promoted.
- How much is the data being used by visitors, the media, schools or local groups?
- Is the data changing behavior or impacting on wetland management?

Outreach Education

What are we trying to achieve and evaluate?

Clearly what we can achieve at a wetland center is often limited to the boundaries of the center, which houses the exhibits, staff, nature reserve and acts as a centralized location to offer a focused set of activities, delivered to a limited group of people - your visitors! Outreach allows us to extend the impact of the wetland center much further, getting our wetland conservation messages out to a much bigger audience, including many that may not be able to visit the center.

Outreach gives us the opportunity to embed wetland learning and experiences off site, which is particularly useful when factors such as limited classroom space, sensitive protected sites, isolated sites or poor weather restrict visitation. When conducting outreach programs, some areas of evaluation include:

- Are outreach efforts building the capacity of our partners to deliver effective wetland communication, education, participation and awareness activities? For example, do teacher training sessions held at schools provide teachers with suitable resources and lessons plans? Do these resources allow them to deliver enhanced conservation education at their school?
- Are outreach programs attracting and involving new audiences?
- Are outreach events acting as an introduction to the wetland center? Are these efforts ultimately leading to increased visitors to the wetland center at a later date?

How can we evaluate the impacts of outreach?

During outreach activities, it is important to give participants the possibility to complete feedback on how they found the activities. Ideally, this would happen before the activity, at the end of your session with them, and afterwards, to check on how much of the themes they understood, retained or acted upon. If time or resources are limited, a simple questionnaire (written or oral) at the end of an outreach activity is better than no evaluation at all. This can be done:

- Online, using a tool such as survey monkey or other online questionnaire. If you have a website, use this to encourage teachers to download lessons plans, encourage pupils to explore it, or give local groups the chance to download relevant resources before your visit.
- By posting paper copies of questionnaires to the partners. This can be useful if partners have limited internet access, or with simple questionnaires to encourage school students or local group members to fill them in directly.
- By meeting with partners either at your center, or at their site, before and after the main event. Teacher training or building a local group's capacity is a long-lasting and effective way to get them regularly using wetland stories and themes.
- By using other interesting means of evaluating partner's knowledge. This could include: art (ask children to draw what they think is a typical wetland before the visit, then again after the visit. What has changed?); video, encouraging students to interview each other about wetlands, for example, or making a film of a visit to a local wetland; story telling; model-making etc. Whatever you use, make sure you know who you will analyze the results, and do a test run of it beforehand.

The information contained above represents only a small portion of the tools and techniques available to wetland centers for evaluation and assessment. Formal assessment and evaluation plans, created by professionals, are recommended to wetland centers that wish to have more detailed and quantifiable information regarding their social media, data sharing and/or outreach efforts.

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