Engaging Communities with Local Wetlands

A HEAD, HEART AND HANDS APPROACH

Photo courtesy of Ducks Unlimited Canada

Alberta NAWMP Partnership

ABOUT US

This guide was developed under the direction of the Education and Public Action Group of the Wetland Education Network (WEN).

WEN is a project of the Alberta North American Waterfowl Management Plan (NAWMP) Partnership. The goal of WEN is to determine wetland education and outreach needs for four sectors: municipalities, industry, agriculture and education/public. Organizations collaborate to create tools and resources to meet these identified needs.

The Alberta NAWMP Partnership was established in 1986 to protect wetland habitat and associated wildlife species across North America. The Alberta NAWMP Partnership is a collaboration of federal, provincial and municipal governments, non-governmental organizations, private companies and many individuals, all working towards achieving better wetland habitat for the benefit of waterfowl, wildlife and people. Core partners are:

- Alberta Agriculture and Forestry
- Alberta Environment and Parks
- Ducks Unlimited Canada
- Environment and Climate Change Canada
- The Nature Conservancy of Canada

For more information about AB NAWMP, visit www.abnawmp.ca.

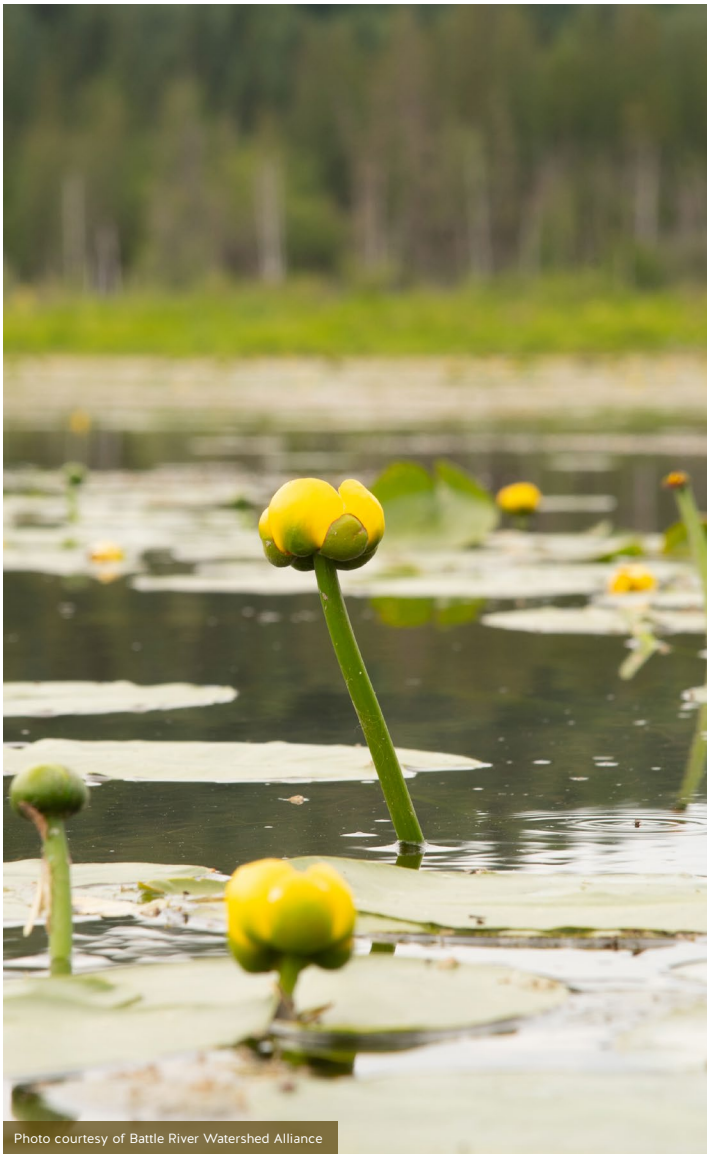


Photo courtesy of Battle River Watershed Alliance

Contents

ABOUT US i

1. INTRODUCTION 1

2. THE HEAD - UNDERSTANDING THE IMPORTANCE OF WETLANDS 3

3. THE HEART - CONNECTING WITH VALUES 10

4. THE HANDS - CREATING LASTING MEMORIES 14

5. GET INSPIRED THROUGH CASE STUDIES 19

6. CONCLUSION 23

7. ACKNOWLEDGMENTS 23

1. Introduction

ABOUT THIS GUIDE

Wetlands are a critical and valued part of our communities. They provide habitat for wildlife, filter our water, provide water storage, sustain biodiversity and provide visual beauty to our landscapes. It turns out, all these qualities also make wetlands an excellent place for community engagement, outdoor classrooms, and other adventures for everyone in your community.

This guide offers some inspirational and creative ideas for integrating wetlands into community activities using a head, heart and hands approach. Also included are profiles of existing programs that exemplify effective techniques.

Photo courtesy of Fuse Consulting Ltd.

WHY HEAD, HEART AND HANDS?

Engaging the public in wetland education is not always easy. It requires a general understanding of wetlands (the head), an appreciation of the values of a community (the heart), and skills in place-based education to encourage communities to think and act on behalf of our wetlands (the hands).

This approach is modelled after many successful programs. For example, 4-H organizations have built their programs on a model of Head, Heart, Hands and Health. Scott D. Sampson, paleontologist, science communicator, and nature advocate, also teaches an approach of Head (knowledge), Heart (mentorship) and Hands (experiences) to raise children connected to nature in his book "How to Raise a Wild Child." This guide will walk you through each of these components of public engagement and provide tips to implement these techniques to effectively engage your own community members in your local wetland.

WHY ENGAGE YOUR COMMUNITY WITH WETLANDS?

1. We Need Nature

Being outdoors and enjoying the sights and sounds of nature supports our physical, emotional and mental health. Urban wetlands are an oasis of natural beauty and calm that can awaken us to the possibilities of new life, ground us in the steadiness of seasonal change, and remind us of Earth's majesty.

2. Wetlands Need a Voice

Despite legislation to protect wetlands, they are often permanently replaced by roads and urban development. When communities actively engage with their local wetlands and understand the array of ecosystem services wetlands offer, the loss of wetlands and wetland functions can be prevented or reduced.

3. Sense of Place and Community

Strong, safe communities have neighbours who know each other. When we spend time outdoors, we meet others who live near to us. These personal interactions help build friendships and strengthen community bonds. They also make us feel more safe and secure. Building these relationships and connections could start with you by organizing a community wetland event!

i | ECOSYSTEM SERVICES

This term is used to describe the benefits people freely gain from the natural environment and functioning ecosystems. Examples include: food and clean water, flood regulation, oxygen and recreational benefits.

4. Benefit Wildlife and Enable Critical Ecosystem Services

Animals, insects and plants need a place in our increasingly urban landscape. Wetlands are that oasis for the wild creatures who share our communities.

Wetlands also provide our communities with critical ecosystem services like water filteration and flood control.

5. Give People Hope Through Action

People can be turned off by environmental education that teaches about 'doom and gloom' before building a hands-on, heart-felt appreciation for nature. When youth and other community members see the impact of their actions, they feel empowered to invest their ideas, money, time and talents into conservation efforts.

Photo courtesy of communiTEA Pond Parties - Strathcona County

2. The Head - Understanding the Importance of Wetlands

The head, heart and hands approach to community engagement begins with the head because, as Baba Dioum explains, we will love only what we understand. Providing your community with information about the benefits of wetlands is a key component of outreach. Informing yourself of the key features of your unique wetland and the more general facts about all wetlands will help you:

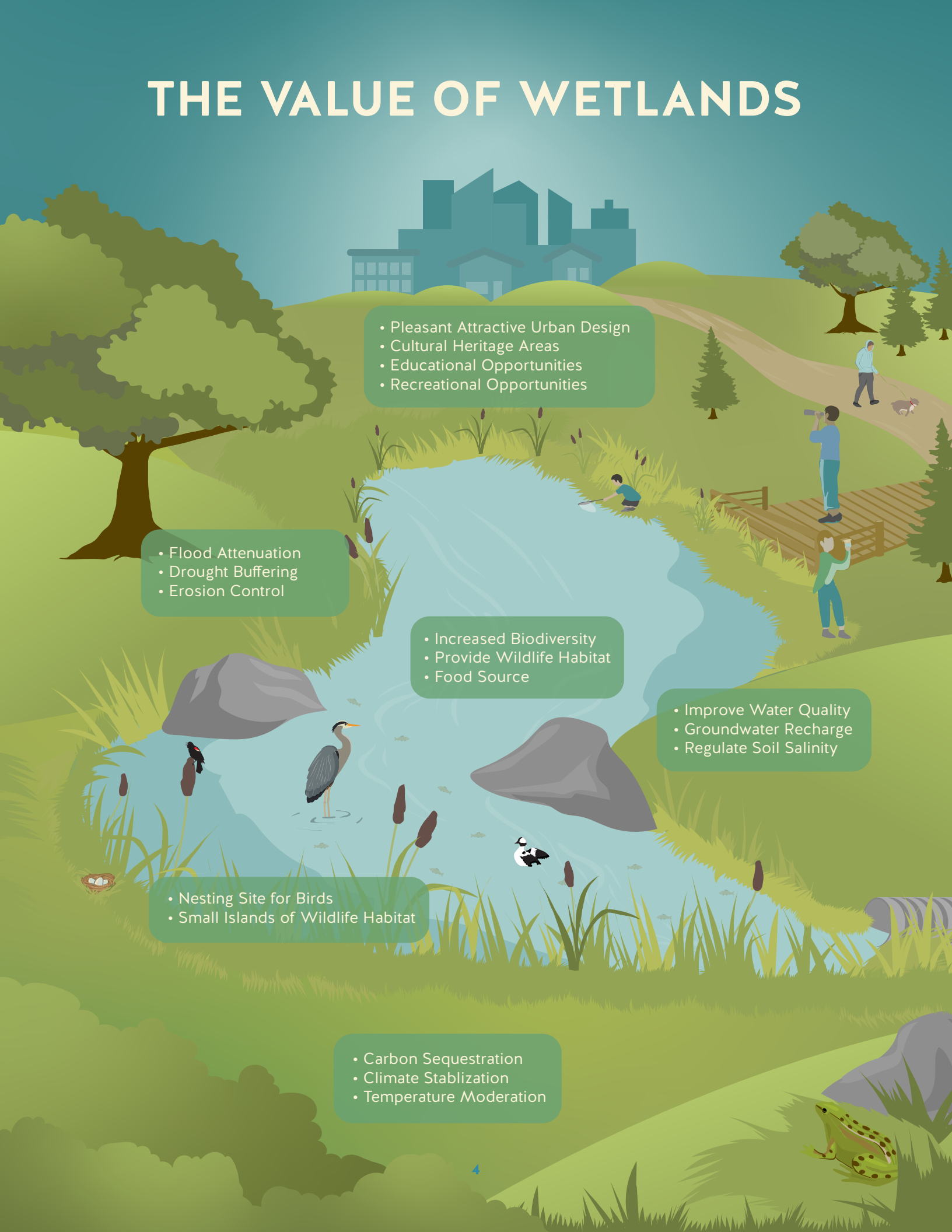
- Spark curiosity to get people engaged
- Hold their attention to keep them coming back!

Wetlands are among the most productive ecosystems in the world. Wetlands and surrounding habitats play an important role in improving water quality and help mitigate water quantity during times of drought and floods. It is estimated that 65% of wetlands in the settled areas of Alberta have been lost due to development in rural and urban areas. The ecosystem services provided by wetlands are extremely difficult to replicate. We need these important areas!

> *"In the end we will conserve only what we love, we will love only what we understand, and we will understand only what we are taught."*
>
> *Baba Dioum, 1968.*

Photo courtesy of Dave Mussell

THE VALUE OF WETLANDS



UNDERSTANDING WETLANDS – WHAT IS YOUR WETLAND STORY

Every wetland is unique but they share three common characteristics:

- Filled with water for at least part of the year
- Home to water loving plants (think cattails)
- Soil has been heavily saturated by water

If an area meets these three criteria, it is a wetland and is protected under provincial law.

The lush green area of vegetation surrounding a wetland is called a buffer zone or riparian area.

This area plays a key role in wetland conservation, providing additional habitat and helping protect wetlands, and their inhabitants, from disturbance, including contamination from storm water runoff.

WHAT TYPE OF WETLAND DO YOU HAVE?

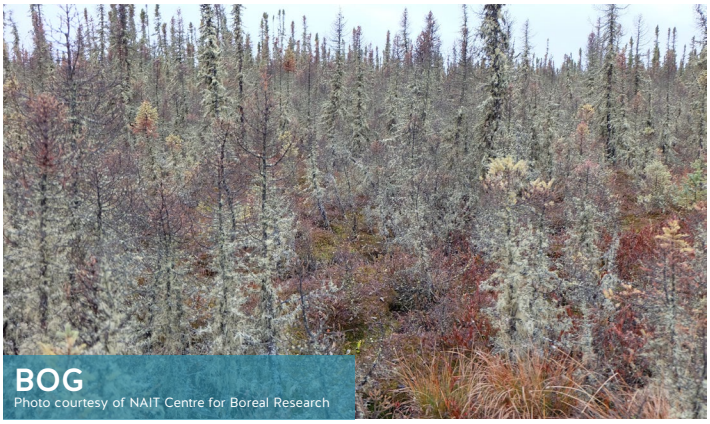
What kind of wetland do you have in your community? Based on their features, wetlands are divided into two groups: peatland and non-peatland wetlands.

Peatlands

Peat or peat moss is a layer of very slowly accumulating dead and decaying plants, mostly mosses. Peatlands are primarily found in the boreal forest of northern Alberta and have more than 40 cm of accumulated peat. These wetlands can be further divided into bogs and fens.

Bogs

- Poor drainage, very wet soils. Water inputs are from precipitation.
- Mosses and woody plants including Labrador tea.
- Spruce trees are often found growing on hummocks or mounds within the bog.
- Acidic surface water (low pH) that is very low in nutrients.



BOG
Photo courtesy of NAIT Centre for Boreal Research

Fens

- Water inputs are from precipitation and the flow of groundwater.
- Fens are more productive than bogs and are home to sedges, mosses, shrubs and sometimes trees such as tamaracks.
- Surface water in a fen is more basic (higher pH).

FEN
Photo courtesy of NAIT Centre for Boreal Research

Non-Peatland Wetlands

These wetlands can be found all over Alberta but are most common in the Prairie Parkland area. They are commonly ringed by lush areas of cattails, willows and shrubs and can be divided into three types.

Shallow Open-Water Wetland

- Relatively small areas of open water that are less than two meters deep.
- Can occur along streams and river banks.
- Water may be flowing or standing.
- Aquatic vegetation like duck weed or lily pads.

Marshes

- Rich in nutrients.
- Plant life such as reeds, cattails and sedges.
- Covered by standing or slowly moving water for at least part of the year.
- Water remains high enough to cover plant roots for most of the growing season.

Swamps

- Swamps are flooded seasonally or for long periods of time. Look for vegetation adapted to seasonal flooding.
- Contain many trees and shrubs.
- Swamps are full of nutrients and are very productive.

SHALLOW OPEN-WATER WETLAND
Photo courtesy of Battle River Watershed Alliance

MARSH
Photo courtesy of Bow Habitat Station

SWAMP
Photo courtesy of Ducks Unlimited Canada

IS IT NATURAL OR CONSTRUCTED?

Communities in Alberta are home to natural and constructed wetlands. Constructed wetlands share some of the values of natural wetlands but are engineered to retain surface water and remove contaminants from stormwater run off. The next time you visit your local wetland, do your best to determine whether it is natural or constructed.

Stormwater ponds and constructed wetlands are designed to meet specific water quality and quantity objectives. Because of this, stormwater ponds can have rapidly changing water levels and water quality. You should always use caution around stormwater ponds by staying out of the water and off the ice. If you have a storm pond or constructed wetland in your community, it can still be a gathering place for community events and nature connection, but please just be aware of the restrictions and plan activities accordingly.

Rain and snowmelt run down our rooftops, driveways, sidewalks and streets collecting dirt, gravel and pollutants as they go. Stormwater ponds capture this water and act like a natural water treatment facility.

WHAT TYPES OF WILDLIFE AND PLANTS LIVE IN YOUR WETLAND?

Wetlands are home to thousands of different types of plants, mammals, insects and more. Wetlands are full of life - they provide safe spaces for reproduction and rearing young and are a food source for herbivores, omnivores and carnivores.

The next time you visit your local wetland, be on the lookout for these common wetland plants and animals:

MOSSES
Photo courtesy of Fuse Consulting Ltd.

RED-OSIER DOGWOOD
Photo courtesy of Fuse Consulting Ltd.

SEDGES
Photo courtesy of NAIT Centre for Boreal Research

CATTAILS
Photo courtesy of Fuse Consulting Ltd.

LILY PADS
Photo courtesy of Dave Mussell

TAMARACK TREES
Photo courtesy of NAIT Centre for Boreal Research

SPRUCE TREES
Photo courtesy of Fuse Consulting Ltd.

RED-WINGED BLACKBIRDS
Photo courtesy of Tony LePrieur

BEAVERS
Photo courtesy of Tony LePrieur

MUSKRATS
Photo courtesy of Tony LePrieur

MALLARD DUCKS
Photo courtesy of Tony LePrieur

WILLOWS
Photo courtesy of Dave Mussell

SPHAGNUM MOSSES
Photo courtesy of NAIT Centre for Boreal Research

WOOD FROG
Photo courtesy of Dave Mussel

GREAT BLUE HERON
Photo courtesy of Fuse Consulting Ltd.

CANADIAN GEESE
Photo courtesy of Fuse Consulting Ltd.

Try to identify the presence of wildlife in your local wetland by looking for these tell-tale signs:

- Beaver lodges or dams
- Muskrat push-ups
- Nests in the reeds and tall grasses
- Holes in trees and perches used by birds
- Animal scat
- Animal trails or tracks

For more information about wetland characteristics and inhabitants visit: www.wetlandsalberta.ca or Ducks Unlimited Canada www.ducks.ca.

Photo courtesy of Bow Habitat Station

ACCESSING YOUR WETLAND

While planning to explore your wetland, make sure you know what sort of access points there are. Common examples include:

- Boardwalks
- Docks
- Walking trails
- Viewpoints
- Shoreline
- Bird blinds
- No access (due to water quality)

Photo courtesy of Bow Habitat Station

Remember stormwater ponds are used to manage water levels and quality. For your safety, avoid recreation in or on stormwater ponds and enjoy them at a distance.

WHAT DOES YOUR COMMUNITY KNOW ABOUT WETLANDS?

The best education and outreach builds on the knowledge and questions of the audience. What does your community already know about their wetland? What do they want to know? Reach out to your municipality and/or local naturalist groups if you need help providing specific information to your audience.

There are different ways to learn what your community may want to know about their wetland. For example, put up a sign board at the wetland with pens and sticky notes and ask questions such as, "What do you love about this place?" or "What do you know about it?" Visit the homes surrounding the wetland and ask residents about the wetland. The more information you gather, the better you will be able to create events and experiences that meet the needs of your community and increase their level of engagement with their local wetland.

REFLECT

You've now familiarized yourself with the type of wetland you have, the benefits it provides the community, the plants and animals that live there, and some good access points for exploration. Before moving on to the Heart section, consider writing a brief summary that describes your wetland. This could become part of your advertising campaign or it could be used to get others interested in learning more about this particular wetland.

RESOURCES

Check out these resources for more information on wetlands.

Ducks Unlimited Canada
https://www.ducks.ca/places/alberta/

Wetlands Alberta Stewardship page
http://www.wetlandsalberta.ca

Cows and Fish (Alberta Habitat Management Society)
http://cowsandfish.org/

Living by Water
http://naturealberta.ca/programs/living-by-water/

Water for Life
https://www.alberta.ca/water-for-life-strategy.aspx

The Land Stewardship Centre
http://www.landstewardship.org/stewardship/

3. The Heart - Connecting with Values

When it comes to wetland conservation and education, communicating the scientific facts about wetlands is not enough. Engaging people in an environmental cause or community project requires connecting with their values – their Heart.

Once you start talking about wetlands with your community, you will quickly find that people already associate wetlands with certain feelings and values. Are these values and feelings positive? If so, begin your advertising campaign by tapping into these existing sentiments. If your community has negative feelings towards wetlands, consider how you could help switch this for them by finding common positive values in your community and connecting them to wetlands. An example may be focusing on family time or building community.

Photo courtesy of Bow Habitat Station

KNOW YOUR AUDIENCE

By reflecting on a few basic questions, you can better understand your community and identify effective ways to engage them in wetland stewardship. Here are some suggestions to get you started:

What do they believe?

If you're hoping to build a network of volunteers willing to be stewards of your local wetland, or you want to change behaviours of a particular group through a public campaign, start by writing down and reflecting on the audience you are targeting. Do they believe wetlands have value? Do they think it is their responsibility as citizens to care for the wetland?

What do they care about?

Does your audience place value on the aesthetic, recreational and/or ecosystem services provided by wetlands? If you were to identify a theme that described what your community cares about, what would it be? For example, if a community is focused on its youth, plan a youth activity day or barbeque in and around your local wetland.

What are they willing to do?

Based on your audiences' beliefs and values around wetlands, what would be the best way to engage them in hands-on experiences or stewardship projects? Are they motivated to increase the ecosystem services provided by the wetland? Do they want to enjoy it as a recreational area? Would they be willing to help develop infrastructure that gives more people access to the wetland?

Once you have reflected on the following questions, head out into the community to test your assumptions. Start by talking to a few members of your community in an informal setting like a barbeque or tea. People like to be asked their opinions, especially when it has to do with something in their own community, and you may be surprised by what you learn! Use the information you gather to inform your outreach program at your wetland.

WHAT RELATIONSHIPS ALREADY EXIST IN YOUR COMMUNITY?

Understanding the existing connections and relationships within your community is a key component of effective community outreach. By identifying and appreciating the people and partnerships in your community, you can increase the effectiveness of your outreach approach. All the program profiles included later in this guide attribute their success to robust partnerships with organizations in their community.

Look up groups or clubs that may already exist in your community. Most communities have a variety of organizations, stewardship groups and municipal programs. Do some research to discover who is already active in your community and how you may be able to work together to get people interested in their local wetland.

If you have a specific target audience in mind, research the organizations that already reach that target group and approach them with an idea. While your focus is on wetlands, consider how connecting people to their environment could contribute to addressing other community concerns and priorities (such as healthy child development, mental health, action projects for youth, building safer communities, climate adaptation, property values, water quality, etc.).

One great way to connect with people is by being, or finding, authentic nature mentors. If you are passionate about birds, use this passion to infuse your events with a love of wetlands. If you understand the importance of getting people outdoors and developing stewardship attitudes but are just beginning your journey, build a relationship with a community partner who has an infectious love for the outdoors.

FIND LOCAL PARTNERS

Start with your community association and municipality and then expand further into the community. Two places to start are:

Nature Alberta – lists local nature clubs across the province and has great information about nature in Alberta: http://naturealberta.ca/

Alberta Watershed Planning and Advisory Councils (WPACs) – there are 11 WPACs in Alberta, find yours here: https://www.alberta.ca/watershed-planning-and-advisory-councils.aspx

Photo courtesy of Dave Mussell

REFLECT

You've now described your target audience and what they believe and care about. You thought about the questions your community is already asking about their wetland and the programs and partnerships that already exist in your community. Before moving on to the Hands section and thinking about the specific event or activity, write down what you think will be critical to the success of your community engagement project regardless of the type of program you develop.

Techniques to Try:
Community-Based Social Marketing

WHAT IS COMMUNITY-BASED SOCIAL MARKETING?

Community-based social marketing is a process that applies marketing principles to influence people's behaviour to benefit society and themselves. For example, encouraging people to use a rain barrel to collect water for their garden or pick up after their pets.

Community-based social marketing can be more effective than a traditional information intensive campaign as it focuses on promoting a specific behaviour and removing barriers that are currently preventing people from adopting the behaviour.

Want to learn more?

The definitions and steps listed here were found in the book, Fostering Sustainable Behavior at www.cbsm.com and Social Marketing Service at https://www.socialmarketingservice.com/site/assets/files/1010/socmkt_primer.pdf

Click here for planning worksheets to take you through the step-by-step process https://www.socialmarketingservice.com/publications/planning-worksheets/

For a real-life example of community-based social marketing, look at Strathcona County's Blue Broom Crew and the Sweep Not Spray campaigns.

THE 5 STEPS OF COMMUNITY-BASED SOCIAL MARKETING

1. Select specific behaviours that can be changed.

These can be repetitive or one-time behaviours such as reducing water usage, capturing run-off on your lot, participating in clean up events, planting native species, etc.

2. Identify barriers and benefits that underlie individual behaviour choices.

Try using a literature search, observations, focus groups and surveys to determine why people are making the behavior choices you are seeing.

3. Develop program strategies that use "tools" for behaviour change.

How can you make it easy for people to make the change you want to see and still feel part of the group they identify with? How can you address any system or infrastructure gaps that would make it more convenient for people to adopt the new behaviour? What incentives could you provide for those who adopt the new behaviour? How will you get them to make a commitment to change? Can you reach them face to face with a personal appeal?

4. Conduct a pilot program to test effectiveness of delivery by measuring behaviour change and/or resource use.

This is critical for gathering feedback and retooling your strategies.

5. Implement a broad-based program and evaluation.

This should only be done after a comprehensive evaluation of the pilot project has been completed. Choose direct measurement of behaviour change over self-reports or increases in awareness.

Evaluation is an important part of this process, you need to know if it worked as you intended and if changes are necessary moving forward.

Resource Highlight - Best Practices for Community Engagement

The North American Association for Environmental Education created a Guidelines of Excellence document on Community Engagement (https://naaee.org/eepro/publication/guidelines-excellence-series-set). They outline five areas of focus:

1. **COMMUNITY CENTERED**
   Focus on community interests, issues and capacity. Get to know the community and connect with community assets, concerns and goals.

2. **BASED ON SOUND ENVIRONMENTAL EDUCATION PRINCIPLES**
   Choose age appropriate activities, consider accessibility, start from learners' past experiences and let people guide their learning and reflect on what they've learned.

3. **COLLABORATIVE AND INCLUSIVE**
   Build strategic partnerships, value diversity, plan and implement collaboratively.

4. **ORIENTED TOWARD CAPACITY BUILDING AND CIVIC ACTION**
   Support capacity building for ongoing civic engagement in community life, contributing to long-term community well-being, sustainability and resilience.

5. **LONG-TERM INVESTMENT IN CHANGE**
   Working in communities to create change is typically a long-term initiative, requiring a commitment to relationship building and an ongoing and evolving process of engagement. Celebrate your progress and be open to changes.

Photo courtesy of Battle River Watershed Alliance

Photo courtesy of communiTEA Pond Parties - Strathcona County

5. The Hands - Creating Lasting Memories

> *"Tell me and I will forget, show me and I may remember, involve me and I will understand."*
>
> *Xun Kuang*

PLACE-BASED EDUCATION AND ENGAGEMENT

People are inspired by experiences that connect with their emotions and inspire their imagination. Just as information is not enough to get people to come out to your event or to visit their wetland, facts about the wetland are not enough to teach them about it. They need to experience the thrill of a wriggly creature in their pond net, the pride of identifying a new bird, or the satisfaction of planting new willows along the shore.

KEY CONCEPTS FOR ENGAGING THE HANDS

Choose an appropriate activity:

- **Make memories**
  Think about experiences that are unique, exciting, self-directed and/or sensory in nature. Avoid lecturing. Instead ask questions of the group and let their curiosity guide the conversation. It is better to help people ask good questions about their environment than to have all the answers.

- **Self-directed activities**
  While scavenger hunts can be a good first step, avoid prescriptive activities and focus on activities that are non-comparative and non-competitive. Learners of all ages will be more motivated to continue their learning outside the program if they are inspired by a great teacher and are then able to explore and direct their own learning. For example, one way to do this is to provide the tools and basic instruction required for the activity but then let groups and individuals decide what, where and how they will get involved.

An experiential learning environment...
- **Respects learners and their previous experiences**

It makes space for...
- **Conversational learning**
- **Development of expertise**
- **Doing and reflecting**
- **Feeling and thinking**
- **Self-directed learning**

- **Age appropriate**
  Think about the age of your audience and make your activities play-based for younger children and adventure-based for older children. Don't host events for young children in sensitive habitats! This age group will thrive in an environment where they are allowed to collect and play with natural materials. Consider mobility and be sure that strollers and seniors can reach the destinations.

Play-based activities are unstructured and let participants explore natural materials, places and ideas with peers or independently.

Adventure-based activities start with a quest, a mystery or a challenge and youth are encouraged to be strong, brave, clever and to take on pretend roles.

Be Prepared:

- **Materials**
  Make sure you have enough materials or stations to avoid line-ups. Have people provide an email address at sign-up so you can contact them with additional information or last-minute changes. If the event is drop-in, give plenty of information on the event advertisement so people come prepared with the clothing, food and materials they need to be comfortable and have a great experience.

  For example, suggest they bring:
  - *Binoculars*
  - *Buckets for collecting*
  - *Lawn chairs*
  - *Extra warm clothes or sets of dry clothes*
  - *Snacks (if they aren't provided)*
  - *A coffee cup*
  - *Other things like toboggans, shovels, dip nets, etc., that you may not be able to provide*

- **Groupings**
  Have enough volunteers so people learning a new skill have the one-on-one support they need to be successful. In the case of adventure-based journeys for children, have enough volunteers so they can split up and have the freedom to explore and discover.

- **Permits and Permissions**
  Check with your municipality to see if you need any special permits to host an event at your location. Also ask if they have any supplies or materials that they can lend or share. Some municipalities have tents, tables, activities and other items available for community events.

Get Settled:

We all have a need to feel settled in our environment. Try to have signage, tents, tarps, tables, big blankets or a covered fire bowl that can define a central gathering place or individual destination. Use these spots to start and end the event. If you are running a recurring event, establish routines so people know what to expect each time. Add elements that make people feel welcome like signage, nametags, warm drinks, music, circular seating arrangements, banners or cultural traditions.

Concepts, Reflection and Connections

Connecting key concepts about your wetland with information your audience already knows is an important approach to education and outreach. Teaching people how to make good observations and draw connections between what they are seeing is far more powerful than leaving them with lots of facts. Quality experiential learning will leave learners with new information but also teach them to reflect on their experiences, question what they know (or don't know), and incorporate new information.

Avoid bombarding people with all the information at once. Give them some clues and have them work through how to learn from their environment and about their environment through direct experience.

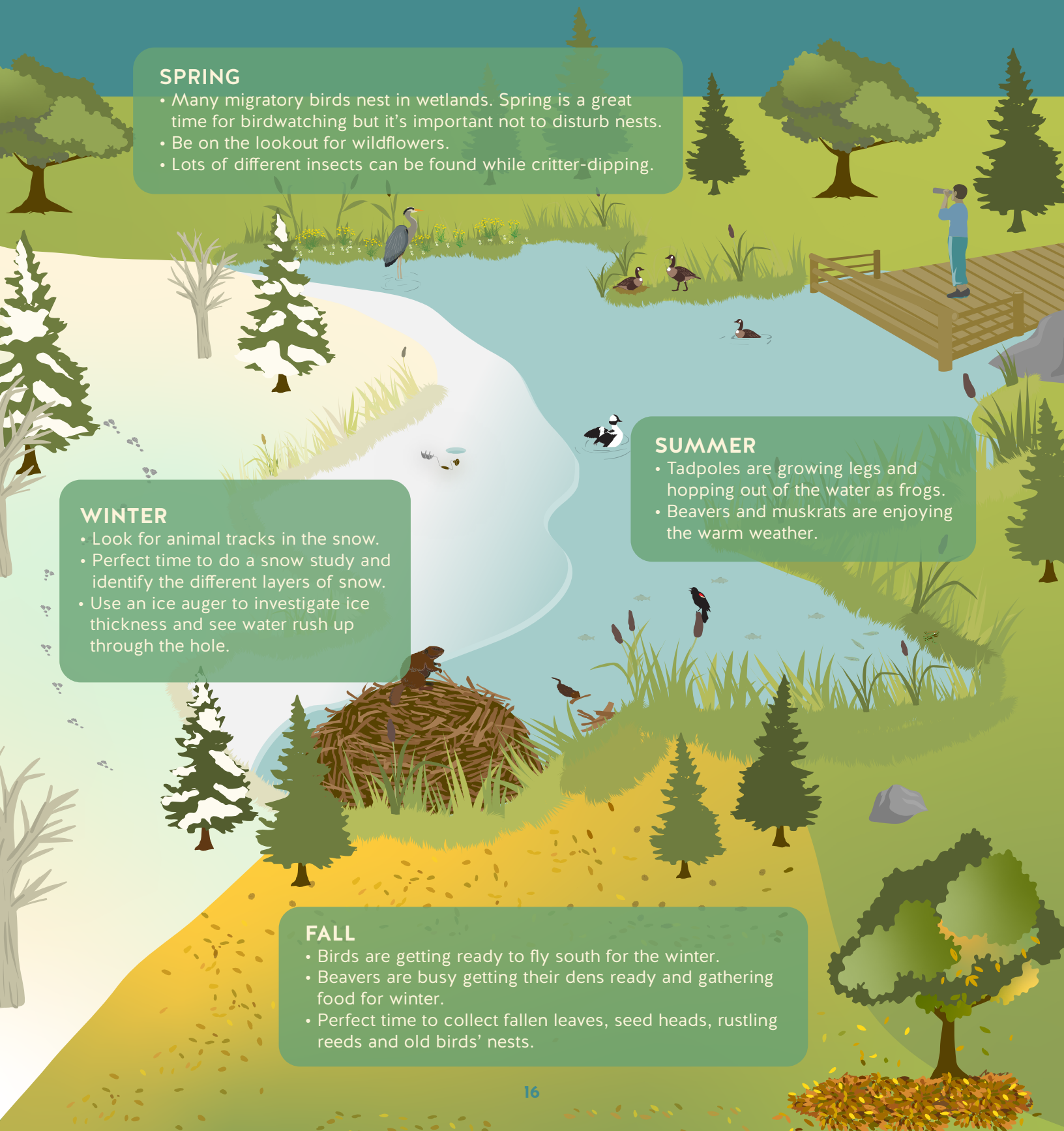
Tips for Playful Nature-Education

1. **1 in 20 Rule.** If you find 20 specimens (e.g., pine cones), you may collect one.
2. **Dirty is OK!** Try to encourage a positive association with soil and all the life it supports!
3. **Facilitate rather than instruct.** Use thought-provoking questions such as, "I wonder..." "Why do you think..?"
4. **Go off the beaten path** (where permitted). Use the 'I can see you and You can see me' rule.
5. **Celebrate discoveries!** Have a place to display what people find or a time to share stories.

Photo courtesy of City of Calgary

EXPLORING WETLANDS IN EVERY SEASON

Not every visit to a wetland needs a planned activity. Just knowing what to expect and bringing some tools for exploration is enough to have a great deal of fun and learning at your wetland! Here are some things you could expect to see at your wetland each season.



SPRING
- Many migratory birds nest in wetlands. Spring is a great time for birdwatching but it's important not to disturb nests.
- Be on the lookout for wildflowers.
- Lots of different insects can be found while critter-dipping.

SUMMER
- Tadpoles are growing legs and hopping out of the water as frogs.
- Beavers and muskrats are enjoying the warm weather.

WINTER
- Look for animal tracks in the snow.
- Perfect time to do a snow study and identify the different layers of snow.
- Use an ice auger to investigate ice thickness and see water rush up through the hole.

FALL
- Birds are getting ready to fly south for the winter.
- Beavers are busy getting their dens ready and gathering food for winter.
- Perfect time to collect fallen leaves, seed heads, rustling reeds and old birds' nests.

RESOURCES

You can find excellent step-by-step lesson plans and activity guides online. Here are a few to get you started:

Duck Unlimited Canada

From field trip notebooks to action guides, DUC has many online resources that help bring wetlands to life for communities, teachers and students. Visit https://www.ducks.ca/resources/educators/

Trout Unlimited Canada

Yellow Fish Road and Water Edu-Kits are two programs available from Trout Unlimited to help youth and adults learn about and take action to protect water in their community. Visit their Education section here: https://tucanada.org/

REFLECT

Now that you've seen a range of tools and techniques for connecting communities to their wetlands, what hands-on experience would you like to try? Remember to refer to the criteria on page 14 and 15 to help you choose an appropriate activity for your age group, number of volunteers, schedule, group size, materials available, season and location.

Photo courtesy of Dave Mussell

Techniques to Try: Citizen Science and Community-Based Monitoring

Citizen science and community-based monitoring are key ways to connect your community to your wetlands.

Why Monitor?

Environmental monitoring can be useful when trying to determine environmental or wetland health. You can collect basic types of information such as:

- Water quantity
- Water quality
- Presence or abundance of plant and animal life

Data is collected and analyzed by scientists which benefits their research in many ways. It provides:

- A broader sampling of wetlands then they alone can monitor
- A longer timeframe for their studies
- Baseline data to compare their findings

The Benefits of Citizen Science

Unlike traditional environmental monitoring programs, community-based monitoring uses engaged citizens from different backgrounds and sectors to monitor, track, and respond to environmental issues. Individuals are given basic training and/or procedures to follow and sent out to collect or monitor the desired information. This makes it much easier for large amounts of data to be collected from a broad geographical region.

Community-based monitoring can lead to increased awareness of local stewardship issues, improved local and traditional knowledge, and stronger connections to the natural area that is being monitored. It is also a great way to encourage individuals, organizations, and families to get out and explore their local natural areas.

Get Involved

- The Great Backyard Bird Count
- Lake Watch
- Alberta Plant Watch
- Alberta Volunteer Amphibian Monitoring Project

Going digital? Try out these Apps

- iNaturalist
- NatureLynx
- Ebird

What is Citizen Science?

"Citizen science typically refers to research collaborations between scientists and volunteers ... to expand opportunities for scientific data collection."

- The Cornell Lab of Ornithology

Check out the profiles called 'Call of the Wetland' and 'MarshKeepers' on pages 19 and 21 to learn more and see community-based monitoring in action.

6. Get Inspired Through Case Studies

The following four profiles from across Alberta highlight successful wetland programs that you can use for inspiration. These examples range from community-based monitoring programs, to social marketing campaigns, to events and partnerships.

PROFILE 1: MIISTAKIS – CALL OF THE WETLANDS CITIZEN SCIENCE PROJECT

Location: Calgary
Focus: Head and Hands

Call of the Wetlands is a citizen science project focused on collecting information on amphibians living in Calgary's wetlands. The project was created with goals of filling wetland data gaps and creating awareness and connection to wetlands among Calgarians. Call of the Wetlands finished data collection in 2019. This data will be used by the City of Calgary and other partners to make sound management decisions

The project is led by the Miistakis Institute. A smartphone app serves as the framework for people to collect and submit data. Once a person has downloaded the app, they are given information on how to correctly ID amphibians, locations of wetlands that need to be surveyed and proper procedures to follow. Volunteers are asked to visit at least one wetland during a specified time period to collect information. If volunteers are unsure about species identifications, the app gives an option to upload photos and sound files. To provide additional support, the Miistakis Institute offers hands-on training sessions for volunteers. Other quality controls such as wildlife Automated Recording Units (ARU's) are used to ensure they are collecting the highest quality data possible.

In total, the Call of the Wetlands project monitored 51 wetland sites along the Rotary/Mattamy Greenway Project, a 138 km network of parks and pathways within the City of Calgary. More than 180 people signed up to monitor sites and collect data through the smartphone app.

Tracy Lee of the Miistakis Institute attributes the success of the citizen science project to powerful partnerships that helped bring the project to life and project funding from Enbridge.

Keys to Success

- **Connect with partner organizations and potential funders in your community.**
- **Make the project easy to access for people.**
- **Use pre-existing platforms such as iNaturalist or NatureLynx for data collection.**
- **Invite decision makers to participate in your project so they understand your goals and are involved from the start.**

Photo courtesy of Miistakis Institute

PROFILE 2: CommuniTEA POND PARTIES – STRATHCONA COUNTY

Location: Sherwood Park
Focus: Head and Heart

Strathcona County has several environmental programs that connect people with nature and help them reduce their environmental impact.

CommniTEA Pond Parties evolved from open houses where community members would gather and learn about stormwater management over a cup of tea. In 2014, they moved these events outside to a variety of stormwater management facilities in Strathcona County and they have been taking place ever since. Pond Parties are hosted in the evening and are full of fun and fantastic activities to help community members learn more about their local wetlands and stormwater management systems.

These events include tours by local biologists and interactive stations run by local groups such as Nature Alberta, the Yellow Fish Road and the Strathcona Wilderness Centre. A program favourite is drop-in 'pond dipping' where children collect and identify different aquatic insects that live in wetlands. During the events, simple "sticky messages" are used like explaining how water from local stormwater ponds and wetlands drain back into the North Saskatchewan River. The events also showcase small actions residents can take to support a healthier environment.

The success of these community events is due partly to the broad appeal of participants, regardless of age and interest. Not only are local experts and naturalists engaged but so are community associations, libraries, family resource councils and different departments within the county.

Keys to Success

- **Recruit a team! Reach out to local groups, businesses, and individuals. You'll be surprised how many want to get on board.**
- **Have a variety of fun activities to attract a larger audience.**
- **Give your event a fun/creative name and host it in a visible location to encourage drop-ins.**

Photo courtesy of communiTEA Pond Parties - Strathcona County

PROFILE 3: MARSH KEEPERS - DUCKS UNLIMITED

Location: Province-wide
Focus: Hands

The MarshKeepers volunteer program offered by Ducks Unlimited Canada (DUC) enables people of all ages and abilities to help take care of local wetland conservation projects. It is available throughout Alberta and includes project sites in rural and urban locations. For anyone looking to learn more about wetlands and get some boots-on-the-ground hands-on experience, the MarshKeepers program is a perfect fit.

MarshKeepers was developed by DUC in 2015 to give volunteers an opportunity to get outside and explore their local wetlands, while also providing valuable information to other DUC projects. These volunteers visit DUC's many conservation sites to make observations, record conditions and wildlife sightings, and collect garbage. Volunteers provide the information to DUC so that any necessary maintenance or repair work can be done by their field staff.

Lee Ann Singleton, MarshKeepers program coordinator, says that partnerships and dedicated volunteers are two of the things that make this program such a resounding success. She encourages anyone who is interested in more information to email her at l_singleton@ducks.ca or visit Ducks Unlimited Canada's website.

DUC has conservation projects throughout Alberta. To find out where they are located, go to Alberta Discovery Guide.

Keys to Success

- **Volunteers are engaged and dedicated.**
- **Partnership: Whether it's with volunteers, funders, or local organizations, partnerships are a powerful tool.**
- **Research what activities/programs people are interested in and plan your event or program around that.**

Photo courtesy of Ducks Unlimited Canada

PROFILE 4: THE BEAVER BOARDWALKS IN HINTON ALBERTA

Location: Hinton
Focus: Head and Hands

The Beaver Boardwalk in Hinton, Alta., is one of the longest elevated nature boardwalks in Canada. The boardwalk is a result of partnerships between community groups, industry and the town of Hinton. West Fraser Mills Ltd. sponsored the construction of the boardwalk to commemorate the 50th anniversary of the town's incorporation. Click here or visit www.hinton.ca to learn more and see a map of the boardwalk.

The Beaver Boardwalk is open to the public. Whether visitors are looking to enhance learning with the outdoor classroom, explore the boardwalk and gravel trails that lead through the wetland complex, or climb the observation tower for a look at the bigger picture, there is something for everyone to enjoy. Because of this versatility, the boardwalk is host to a variety of activities. This includes guided walks with local birding groups, summer camps, field trips for local schools and musical events.

According to Heather Wayne with the Town of Hinton, "The success of the boardwalk lies in its accessibility as a connecting place. It is a place to connect with nature, with history and learning, with family, friends, and community! For visitors, the boardwalk may be a once in a life time experience or an ever-changing landscape worth visiting again and again."

An unexpected and welcome consequence of the Beaver Boardwalk is an increase in tourism to the area. In 2018, the town received requests from four international television networks, including BBC, to film at the boardwalk.

Keys to Success

- **Versatility: If you are building infrastructure, make sure it can be used for multiple purposes and events.**
- **Accessibility: Located in town with parking close by and maps available at multiple locations, the Beaver Boardwalk is accessible to everyone.**
- **Partnerships: Large scale projects can be made possible through partnerships with local industry, volunteers and other organizations.**

Photo courtesy of Battle River Watershed Alliance

6. Conclusion

Have fun exploring your local wetland!

Looking to take a big picture view of wetlands in your municipality? Consider reviewing Making Wetlands Work in Your Municipality, another great resource created by Alberta NAWMP.

7. Acknowledgments

WEN would like to thank the following contributors to this guide:

Written by: Shelagh Pyper and Kaylyn Jackson, Fuse Consulting Ltd.

Artwork and layout by: Georgina Campos, Fuse Consulting Ltd.

Photographs courtesy of:

- Battle River Watershed Alliance
- Bow Habitat Station
- City of Calgary
- CommuniTea Pond Parties - Strathcona County
- Dave Mussell
- Ducks Unlimited Canada
- Fuse Consulting Ltd.
- NAIT Centre for Boreal Research
- Miistakis Institute
- Tony LePrieur

Case study profiles provided by:

- Tracy Lee, Miistakis Institute
- Kendra VanderKooy and Jocelyn Thrasher-Haug, Strathcona County
- Lee Ann Singleton, Ducks Unlimited Canada
- Heather Wayne, Town of Hinton

Special thanks to WEN Public and Education Action Group Committee members:

- Dave Mussell, Alberta Environment and Parks
- Cathy MacKenzie, Ducks Unlimited Canada
- Nalini Mohan, City of Calgary
- Natalie Graveline, Inside Education
- Nathalie Olson, Battle River Watershed Alliance
- Catherine Brown, NAIT
- Kate Zeiler, Alberta Environment and Parks Bow Habitat Station
- Robyn Rush, Alberta Environment and Parks Bow Habitat Station
- Brie Nelson, Alberta WaterSmart
- Kevin Cantelon, Alberta Environment and Parks

We would also like to thank Knit Strategies (Amber Bennett, Andrea Linkert and Michelle Mueller) whose presentation informed the approach in this guide.

Photo courtesy of Dave Mussell