THE GREEN BOOK

get outside · au grand air

NB

GetOutside! NB's
Guide for Connecting with Nature

CPAWS
CANADIAN PARKS AND WILDERNESS SOCIETY

Nature NB

THE wellness MOVEMENT
LE MOUVEMENT DU mieux-être

Parks New Brunswick
Parcs Nouveau-Brunswick

GetOutside! NB's PARTNERS

CPAWS
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Nature NB

HEPAC
CSAAP
Healthy Eating Physical Activity Coalition of New Brunswick
Coalition pour une saine alimentation et l'activité physique au Nouveau-Brunswick

New Nouveau
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outdoor educators new brunswick

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FOREST
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NB Wildlife Trust Fund
Fonds de Fiducie de la Faune du Nouveau-Brunswick

LiveWild
Together for New Brunswick Biodiversity

Thanks, Merci, Woliwon to the GetOutside! NB community circle for the shared vision and energy required to create The Green Book! Kudos also to Chris Tompkins Goose Lane Editions, Bob Dumouchel and Cecile LePage New Brunswick Department of Tourism, Heritage and Culture for their collective professional talents which helped make the Green Book a reality.
- Ian Smith Parks NB

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Mount Carleton Provincial Park

Introduction

It is a sparkling spring day. On a boardwalk crossing a wetland in one of New Brunswick's beautiful provincial parks, the visiting grade 10 class is sharing the day on a tour with their teachers and a Parks New Brunswick (Parks NB) interpreter. They pause for a minute of silence.

With no talking or fidgeting, the group quietly listens and lists the natural sounds around them on a sound map. One of the boys suddenly begins to flail his arms, frantically shooing a dragonfly that landed on his ball cap.

"Whoa, remember our agreement to be gentle and respectful?" prompts the interpreter.

The boy lowers his arms and asks, "Don't they bite?"

"Only if you're a blackfly or mosquito," offers one of the girls.

Other voices chime in, "My grandma believes that people with dragonfly medicine are dreamers…"

"Dragonflies bring good luck!"

"That is the adult version of the nymphs we caught and released earlier…sweet!"

The interpreter steers the conversation by asking, "Any circles involved here?"

"Yeah, birth to death," replies one student.

Other students eagerly contribute the cycle of seasons and food webs, subjects they have been learning about in the classroom.

The first boy who chased away the dragonfly reconsiders. "Hey, the dragonfly is on my hand now and it feels neat. I guess this means good luck?"

The vignette demonstrates the joy and potential of outdoor education and captures the essence of the program GetOutside! NB. "Get outside!" is a clarion call being heard globally, across generations, to connect to nature. Getting out in nature is the first step toward stewarding a healthy planet, building healthy communities, and supporting a healthy park system.

GetOutside! NB is a province-wide initiative aimed at connecting youth and families to

nature using the national and provincial parks as a starting point. The initiative is a collaboration among departments of government, both federal and provincial, and non-governmental organizations, all sharing the vision of connecting people to nature. GetOutside! NB is a variation on GetOutside! BC, which just completed its third successful year. Many thanks to Becs Hoskins of BC Parks and Elyse Curley of Canadian Parks and Wilderness Society British Columbia (CPAWS BC) for their invaluable help and support in making GetOutside! NB and *The Green Book* a reality.

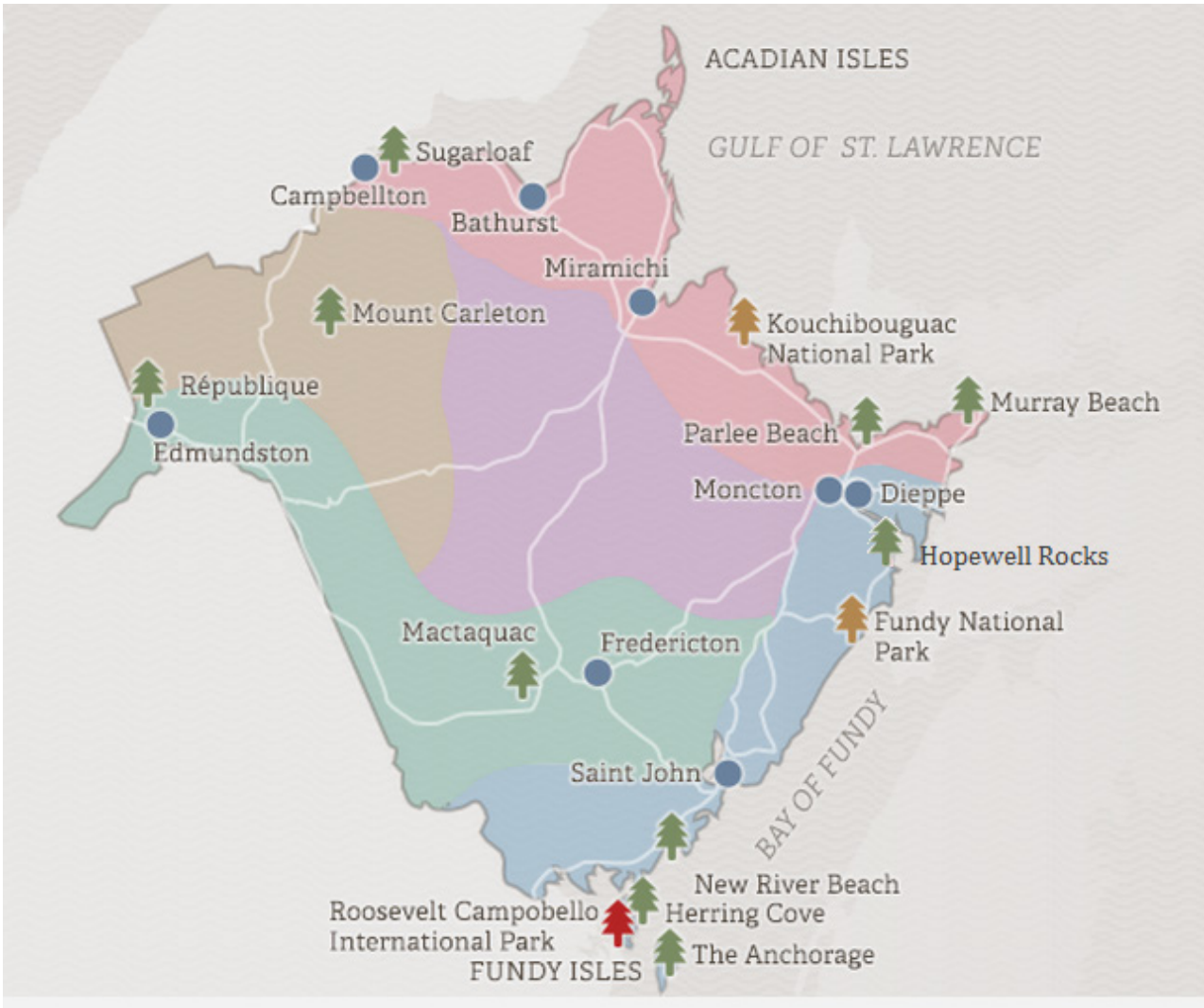
It is our hope, as partners in the creation of the GetOutside! NB *Green Book*, that the information provided will serve as a guide for all outdoor educators who wish to safely connect people to nature. The guide is intended to take you along the outdoor education cycle from planning to delivery.

The scope of the material presented in the guide is not intended to be an exhaustive coverage of ecological concepts, a complete review of outdoor education techniques, or a comprehensive collection of activities and programs. Rather, it is a brief overview of information and ideas designed to introduce the basics and to inspire individual ideas. Further, the material presented pertains to full-day, half-day, and starter programs and does not address overnight, backcountry trips.

The material in this guide is presented in five sections. The first section introduces basic ecological concepts. The second section discusses safety and risk concerns. The third section introduces outdoor education and includes topics such as leadership, program planning, and program delivery. The fourth section includes examples of games and activities for outdoor education programs, and it presents some sample programs. The final section contains reference information and contacts to aid in the development of outdoor education experiences.

We hope the guide will be useful and that our paths cross on those park boardwalks where dragonflies dance! We encourage your feedback: the GetOutside! NB *Green Book* is a living document; please try it and let us know your thoughts.

Herring Cove Beach



New Brunswick Parks

New Brunswick boasts a variety of provincial parks that both conserve nature and provide recreational opportunities for citizens and visitors alike.

The Department of Tourism, Heritage and Culture through Parks NB manages eight provincial parks, which are integral to New Brunswick's system of provincially owned natural areas.

The New Brunswick Provincial *Parks Act* states: All provincial parks are dedicated to residents of the Province, visitors and future generations to
(a) permanently protect ecosystems, biodiversity and the elements of natural and cultural heritage,
(b) provide opportunities for recreational and outdoor educational activities to promote a healthy lifestyle,
(c) provide opportunities to increase knowledge and appreciation of the natural and cultural heritage of the Province, and
(d) offer a tourism product that enhances the Province's image as a quality vacation destination.

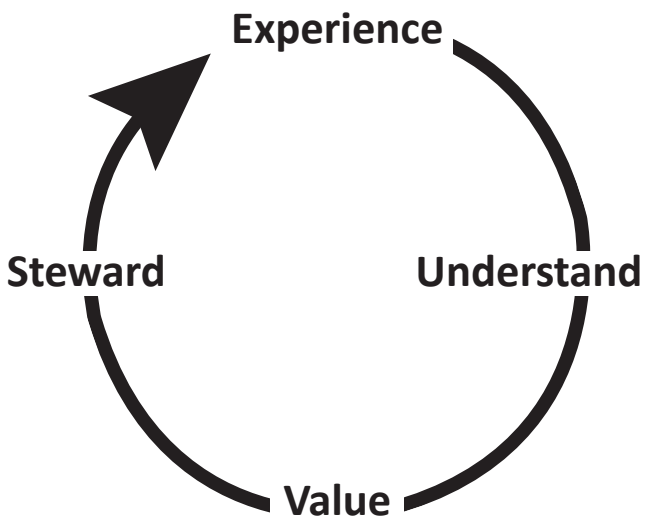
From the 17,800 hectares of Mount Carleton, home to the highest peak in the Maritimes and the pristine headwaters of two major river systems to Murray Beach's tranquil oceanside family campground, New Brunswick's provincial parks are all great places to get outside!

New River Beach Provincial Park

> If a child is to keep alive his inborn sense of wonder, he needs the companionship of at least one adult who can share it, rediscovering with him the joy, excitement and mystery of the world we live in.
>
> — Rachel Carson
> *The Sense of Wonder*

Section I: Outdoor Connections

Like outdoor education, *The Green Book* is all about connections. The collaborative link between the partners creating this guide was driven by the need to connect children and families to nature. This need is fuelled by the following continuum:



Stewardship is the unselfish act of protecting and looking after something, in this case parks, and it is carried out to benefit future generations. Most stewards will maintain and protect a natural area not for personal gain, but for the value of the natural area itself. The journey from experience to stewardship begins a cycle, creating lasting connections between people and the outdoors.

The theme of connections, depicted by the figure, encourages exploring and experiencing the "circle of life" and introduces other natural circles, both physical and metaphorical. Circles, by their very essence, exemplify connections. Look at all the orbs and ovals in nature. There are eyes, bird nests, water cycles, and even seasons. We are surrounded by circles, or circular relationships. The exploration of nature's links is the essence of the adventure we want to share. Helping people connect to nature, connect to others, and even connect to themselves is what this GetOutside! NB *Green Book* is all about.

Key Terms

As outdoor educators, it is important to have at least a basic working knowledge of some key ecological concepts. This will help during program planning because most activities will relate back to these general themes and concepts. Throughout *The Green Book*, we will be adding "tools" to your outdoor educator's tool box. The following ecological concepts are basic tools required to forge the natural connections. Break up scientific terms into pieces to better understand the parts that make the whole. Then you can more readily understand the concept and add the word to your vocabulary. A mantra worth sharing with your group is, "Big words aren't just for big people."

Biodiversity

Bio means life and *diversity* means lots of different kinds, hence *biodiversity* is lots of different kinds of life. This implies that a variety of species are needed to create a healthy ecology. What is an ecology you might ask? Let's break down the word and see.

Ecology

Eco is from the Greek *oikos* for home. *Ecology* is the study of the relationships between living organisms and their environment or home.

Ecosystem

An *ecosystem* consists of a group of living organisms (plants, animals, and micro-organisms) interacting among themselves and with the environment in which they live (soil, climate, water, and light). The interactions among many species and their habitats form an ecosystem.

Habitat

A *habitat* is more than just a place that wildlife calls home. It is a space uniquely suited to an animal's needs through the arrangement of food, water, shelter, and cover. It is the place that offers appropriate "life range" for young and old alike.

Species

A group of organisms that look similar and are capable of interbreeding to produce fertile offspring is called a *species*. The species is the most basic level of the standard breakdown of living organisms.

Conservation versus Preservation

These terms are similar since they both involve protection of areas and surrounding life. These terms are often confused even though they have key differences. The following definitions will help to better illustrate the difference between these important concepts.

Conservation

Conservation areas tend to be managed in order to improve the area or to prevent loss or major changes.

Preservation

Preservations by definition tend to be left alone, with the exception of some scientific studies, in order to keep and maintain an area's natural state.

How Do *You* Care about Nature?

From picking up and recycling a pop bottle discarded on a trail to joining a nature club, there are many ways of caring for nature. One of the first steps in creating an appreciation of nature is fostering a sense of wonder. "Wisdom begins in wonder" is often attributed to Socrates. If we outdoor educators can share "amazing nature" through safe, engaging, "natural" adventures, we are providing the foundation for stewardship of the natural world we share.

For more information on the basics of biodiversity in New Brunswick, please see:

- CPAWS NB *Teacher Resource Booklet: Companion to CPAWS New Brunswick's "Watch Your Paws" Biodiversity Conservation Educational Activities* (2011): www.cpawsnb.org

Environmental Ethics

Ethics is a rather Zen-like concept of right and wrong principles. A veteran outdoor educator shared that ethics is what you do when no one is watching. In other words, do you pick up someone else's litter? Do you leave a campsite in better condition than how you found it? As nature educators, it is important that we lead by example. When leading a nature-based activity, whether it is in the forest, on a beach, or on a man-made lawn, it is important that we respect nature and do our best to "leave no trace." It is also important to introduce your program group to the basic dos and don'ts of nature-based activities.

This is a brief set of guidelines provided by CPAWS NB to help remind us what we should do when leading an outing, whether hiking in Mount Carleton Provincial Park, visiting the national wildlife area of Cape Jourimain, or camping in Fundy National Park. Here are a few tips to help you enjoy nature while leaving only footprints behind.

- Please don't feed the animals—help keep wildlife *wild*!
- Take only photos. Leave plants, artifacts, and other objects so those who follow can enjoy a sense of discovery.
- Don't veer off the path. Stick to trails to prevent erosion.
- Pack out what you bring in; pick up trash left by others.
- Camp on durable surfaces and avoid sensitive vegetation.
- Use a stove and lanterns instead of campfires. If you must build a fire, use only dead and downed wood no larger than an adult's wrist.
- Travel quietly to avoid disturbing other visitors or nearby wildlife.
- Visit www.leavenotrace.ca for more tips.

Environmental Allies

New Brunswick has one of the strongest environmental networks in the country. We have close to one hundred non-governmental groups across the province that strive to protect New Brunswick's natural environment. Many of these groups are unknown to the general public. You can visit the New Brunswick Environmental Network (NBEN) for a full list of all the environmental groups in the province (www.nben.ca). These groups are an excellent resource when it comes to planning programs and understanding and exploring local environmental hot spots. Additionally, many groups are working hard to inform the public about current environmental issues, which you can share with those you are leading.

Mount Carleton Provincial Park
Dark Sky Preserve

Risks connect us more deeply to ourselves, as well as to the world around us. That, I feel, is a benefit well worth taking a chance on.

— Lupa
(*No Unsacred Place*)

Section II: Safety and Risk

Safety and risk are linked and are both positive parts of any successful outdoor education program. The following provides background information and best practices to help you enjoy a safe outdoor learning experience with your group.

Common sense is paramount in creating and delivering a safe outing. In order to safely manage risk, we need to be aware of factors that create risk. Accident theory classifies hazards as human and environmental. Human hazards range from poor physical condition and behavioural concerns to lack of awareness of hazards. Environmental hazards run the gamut from location concerns to weather.

The Dynamic of Accidents Model tells us: environmental hazards + human factor hazards = accident potential.

Awareness of the factors that can contribute to an "unsafe" situation allows us to do our best to prevent an accident.

The key to safety lies in creating a holistic safety approach to manage risk and minimize the chance of a mishap.

Pre-program Plan and Preparation

Always develop a pre-program plan that contains information about when and where the program will be held, arrival time, who will be participating, the program theme, and how the program will be delivered.

Once you have your plan developed, leave a copy of the details with a main office or someone who will not be participating in the program in case you need to be reached at any time. Also, clearly define an emergency plan and include all appropriate contact numbers you might need.

When adventuring with children, inform parents about expectations such as pick-up and drop-off points, duration of the program, appropriate dress and footwear, and food requirements, such

as snacks and lunches. Also, supply any forms that need to be completed before the program, such as medical and consent forms.

A pre-trip package for participants/parents, including a Needs Assessment Form and a Supplies List (see Appendices), is a great tool for gathering pertinent group and individual information and ensuring proper clothing and equipment for participants.

Know Your Organization

Know your organization's protocol on administering medication, sunscreen, and insect repellent.

Know Yourself

An honest self-evaluation will allow you to play to your strengths and highlight any weaker areas of leadership and facilitation you might improve upon.

Be aware of your own physical, mental, and emotional capabilities. Check in with yourself pre-program. Tired? Worried? Distracted? Be attuned to your current state and take the steps required to focus on leading the adventure to the best of your capabilities.

Certification in Basic First Aid is recommended. If you do not have this, bring along someone who does.

Know Your Group

It always helps to have some basic information about the group participants you will be working with. When possible, be aware of things like number of people in the group, participants' ages, their past outdoor experience, and any medical, mental, or physical conditions they might have that would affect their participation in any aspect of the program.

Always adhere to the Challenge by Choice approach. Encourage participants to join in the activities of a program to the best of their abilities and to the level at which they feel comfortable. Recognize that each activity poses a different level of challenge for each person and group. Encourage participants to extend their comfort zone in order to learn but not to the point where they may feel unsafe.

Throughout the program, watch the members of the group carefully for signs of discomfort, anxiety, heat exhaustion, or dehydration. If you are conducting programs in the winter also watch for frostbite and hypothermia. Although it is always better to prevent any of these conditions from occurring, if they are noticed take immediate action to address the situation. The necessary strategy may be as simple as stopping for a water break or as serious as an evacuation.

Know Your Area

Prior to taking a group to any location, visit it first so you can ensure the presence of key elements required for your program, such as places to gather, sites for activities, shelter from inclement weather, and areas for shade. On the day of the program, visit the location again to check for hazards, such as broken glass, holes, fallen branches, exposed roots, garbage, and dog poop.

Reviewing the locale of your program will also allow you to check for potential hazards, such as poison ivy and hornet or wasp nests. If anything untoward is discovered, be sure to remember the location and caution the group during the adventure. Recognize the safety issue but use the opportunity as a "teachable moment" for plant or animal identification. If hornets, wasps, or bees are encountered, move calmly away. If you're in the throes of mosquito and blackfly season, use repellent sparingly and try to wear light-coloured, "tucked in" clothing. Use the "biting bugs" to prompt a group chat on the importance of insects in the diets of birds, bats, and frogs—a great segue into discussion of circles and food chains!

Keep current on weather forecasts in order to ensure proper clothing and gear. Dressing in layers allows adaptability to current conditions. A forecasted thunderstorm or other seriously inclement weather requires postponement or cancellation of the adventure.

Winter Activities and Safety

Brrr, it's cold! Time to bundle up and get outside for some Canadian winter fun! The activities included in *The Green Book* are four-season adventures, but winter takes some extra planning and preparation. (Please see Winter Activities section.)

There's no such thing as bad weather, just inappropriate clothing. Heat loss becomes a concern with wintertime outdoor activities. The heat loss acronym RRECC (Respiration, Radiation, Evaporation, Conduction, and Convection), along with the thought that heat loss will "wreck" your day, is a good beginning. Be aware that water conducts heat twenty-five times faster than air. Strive to stay dry!

Here are some tips for you and group members to help manage heat loss:

"There's no such thing as bad weather, just inappropriate clothing."

Wear wool, fleece, or polypropylene fabrics as they wick moisture away from the body. Avoid cotton as it traps moisture and promotes heat loss.

Dress in layers. Zip down /remove a layer when active, bundle up when taking a break.

Discuss proper winter attire with your group and provide a clothing/equipment list ahead of time for all involved.

A basic list for group members includes:

- Warm hat
- Warm sweater
- Wind shell/winter coat
- Mitts, gloves second choice
- Warm winter boots (felt pack)
- Water bottle
- Snack(s) (granola bar, nuts, raisins, dried fruit)

Dehydration

Outdoor winter sports cause just as much dehydration as summer sports. Cold dry air, wind chill, sweating and shivering, along with not drinking enough, contribute to fluid loss. Manage fluid loss by ensuring that all participants carry a water bottle and that everyone drinks. Have frequent group "toasts" (before, during, and after activity) and rotate toastmasters.

If You Get Cold

Constantly watch your group for signs of getting cold, such as shivering and frost nip (a whitish area typically on nose, cheeks, earlobes). Re-warm through direct contact with a warm hand. Using the buddy system allows each pair to share the responsibility of watching one another for signs of getting cold or cold injuries and taking the appropriate action to warm up.

Get moving: run, walk, jump, windmill your arms. Play partner foot tag: faceoff, arms on each other's shoulders; gently but quickly try to tap the top of your buddy's boots with the bottom of yours while your partner tries to tap yours at the same time. Dance and enjoy the warmth! Eating a snack high in quick-energy carbohydrates, such as a granola bar, will also help you to keep warm.

Leader's Pack/Equipment Checklist

A well-stocked leader's pack, including a first aid kit, is a must. Use the checklist provided to ensure you have everything you may need to lead an outdoor program in any season.

Leader's Pack Essentials

- matches
- pocket knife
- cell phone
- small snacks
- small tarp
- spare socks
- extra sweater
- spool of string
- 8 metres of rope or webbing
- garbage bags (large orange, medium green, and several small white)
- paper, markers, and scissors
- insect repellent
- toilet paper
- water bottle
- a 30 cm x 30 cm piece of thinsolite or foam pad
- duct tape
- resealable plastic bags

First Aid Kit

First Aid kits can be purchased with all the basic necessary items needed to perform standard first aid. If you prefer to assemble your own first aid kit, ensure you have the following items:

- 1 pair of tweezers
- 1 pair of scissors
- 1 roll of transparent tape
- several safety pins
- 2 triangular bandages
- 8-10 4x4 gauze pads
- 2-4 2x2 gauze pads
- 1 anti-stick gauze for burns
- disinfecting wipes
- box of Band-Aids
- ice pack
- pad of paper and pen
- accident and incident report forms
- first aid manual
- hand sanitizer
- sunscreen
- drinking water
- biohazard bag
- compact emergency/space blanket

General Extras

- props
- nature guidebook(s)
- New Brunswick animal/plant fact cards
- theme-related artifacts
- game materials
- medication for individuals with medical issues (provided by participant or parent)
- extra clothing for participants: one set of rain gear, hats, mitts, etc.

Winter Extras

For winter activities, in addition to your first aid kit and leader's pack, leaders should carry:

- a bag of hats, mitts, scarves, a jacket, and pair of wind pants,
- a compact emergency blanket,
- a bum-size square of blue thinsolite for each participant to sit on during breaks (this can also be used for activities such as warming marshmallows, food web connections, or as Frisbees), and
- extra water and snacks.

Trip Tips

Tuck the foam pad in your backpack close to your back for easy access and packing. It can be used as a bum pad for comfort and warmth during

Mount Carleton Provincial Park
Little Nictau lake

breaks/meals. The pad, when tucked in a white garbage bag and taped tightly, can be used as a whiteboard for notes or diagrams. It also makes a handy first aid splint. Game uses include Frisbee and puzzle piece.

Keep a bandana in your pocket to serve as a cool hat, a compression bandage, a sling, for blowing noses/wiping tears, marking a trail, as a neckerchief; the possibilities seem almost endless.

Wrap a healthy length of duct tape around your water bottle and never leave home for an adventure without either one of these crucial items!

Keep your gear dry, especially toilet paper, by using resealable bags. (Wrap several lengths around your hand, place those in a bag, and leave the roll at home.)

Apart from its value as a shelter, the large empty surface of a tarp is a great canvas for art and text to remind you and your group of everything from the tenets of the Full Value Contract (see the Full-day Program Outline for an explanation of how to compile one) to animal tracks and principles of "leave no trace."

Have frequent group "toasts" (before, during, and after activity): Ladies and gentlemen raise your water bottles in a toast to Mother Earth! Frequent toasts allow you as a leader to see that everyone drinks at regular intervals and stays hydrated in any season. It also allows for creativity and a host of different toastmasters.

I hear and I forget.
I see and I remember.
I do and I understand.

— Chinese Proverb

New River Beach Provincial Park

Section III: Outdoor Education

Outdoor education is all about using the outdoors as a classroom for learning. Real understanding comes only through doing and experiencing. Those who experience nature first-hand usually learn more rapidly and better retain the knowledge.

Outdoor education is an experiential approach to learning, which uses all the senses and emphasizes relationships concerning people and the natural environment. Truly functional outdoor education incorporates aspects of both environmental education and adventure education, although they can be separated to some extent

Environmental education is concerned with two types of relationships. The first involves basic biological concepts, such as the web of life, the food chain, and the energy pyramid. The second concerns the interactions between human society and natural resources. Adventure education is also concerned with two types of relationships. The first is interpersonal relationships or how people get along in groups. The second is intrapersonal relationships or how an individual gets along with him- or herself. The philosophy is that positive change may take place in groups and in individuals from direct and purposeful exposure to challenge. The challenge could be as complex as scaling a Himalayan peak or as simple as crossing a brook.

For the purposes of the Get Outside! NB program and this guide, outdoor education is understood to include both environmental and adventure education to whatever degree is appropriate for the program purpose, the people involved, and the place. Outdoor education encourages more effective and efficient learning. Its purpose is to enrich the learning experience, to nurture curiosity, to awaken the senses, and to embrace fun and discovery about nature, self, and others.

Outdoor education is a response to five essential needs:

- realism in education,
- environmental literacy,

- re-creative experiences,
- environmental awareness,
- individual discovery.

Outdoor education is an umbrella approach that can be used in many different ways:

- as an extension of the school curriculum across many different areas ranging from science to art,
- for pure nature study for all ages,
- for conservation education and the promotion of environmental stewardship,
- for recreational learning through interpretive programs for visitors to parks and natural areas, and to enhance outdoor adventure recreation experiences.

Outdoor education does not just happen by being outdoors. It takes leadership, a base of knowledge, an understanding of some basic principles, planning, and a variety of delivery techniques.

Leadership

Leadership is a process of influence. An outdoor leader is someone who is designated to be in charge of an experience or a program. Being in charge means holding legal and moral responsibility for the organization, instruction, and supervision of the group. It also means being responsible for the safety, protection, and enjoyment of the participants. Moreover, it means caring for the environment.

The previous section of the guide on safety and risk is a good place to start. This section provides pointers on pre-program planning, the importance of knowing yourself, your group, and the area, as well as what to include in a leader's pack. The environmental ethics guidelines in the Outdoor Connections section of the guide are also important to review.

Once you have considered these aspects and you have met your group, it might be tempting to jump right in to your activities and program. However, it is important to get your group settled and in the right mood for the experience to come. This involves setting some guidelines for the group.

An effective way to begin facilitating a group is to arrange the group in a circle. A circle ensures everyone can see one another and nobody has their back turned to anyone else. The circle is also ideal for introductions and warm-up activities. There are no straight lines in nature and a circle reinforces the gentle connections we're trying to experience within ourselves, with each other, and as part of the natural whole.

In some cases, introductory games called "icebreakers" are a good way to start a program and to settle a group. (See the activities section for icebreaker suggestions.) In other cases, such as with short programs, brief introductions may be all that is required. Where possible, it is suggested that the icebreaker activities should relate to the theme of the program.

Before beginning any program, it is important to establish expectations and parameters for conduct. This may be as simple as sharing the guidelines with participants. A more experiential option is a Full Value Contract. Don't worry; it's not as complex as it sounds, especially if you turn it into a fun interactive way to begin your adventure. It is a social contract that will help everyone to agree on the appropriate individual and group behaviour required for a successful and fulfilling experience. There are a variety of ways to develop the terms of the contract.

Here is a fun activity that creates a group consensus as to how we would like to be treated by others, how we will treat others, and most importantly how we will treat Mother Earth. As

Play Safe Play Fair Play Hard Respect Have Fun

the facilitator, model each of the following actions and have the group repeat:

- Play safe. (Make the safe sign as in baseball.)
- Play fair. (Bow like a samurai.)
- Play hard. (Strike a macho muscle man pose.)
- Show respect. (Mimic the Three Musketeer "flourish" of respect.)
- Have fun. (Do a dance for joy.)

Be sure to include a "thumbs up" after each action. When group members return with a "thumbs up," this indicates group acceptance of the terms and the consequences of the contract, including agreeing that a "time out" will result as a consequence for unacceptable behaviour.

There are many other ways to create this social contract with your group. No matter which way you plan to create this agreement, try to include these components during the initial group dialogue:

- identification of acceptable and unacceptable behaviour,
- how the group will work together to achieve both individual and group goals,
- how to give and receive feedback,
- how individuals and the group will treat the environment,
- what safety procedures will be followed, and
- group agreement on consequences for breaking the contract.

If time allows, facilitate the group in developing their own guidelines for behaviour.

Knowledge Base

Whether your outdoor education program is an hour or a full day, whether it is connected to a school curriculum or it is a program for visitors to a park, there must be a purpose based on the transfer of knowledge.

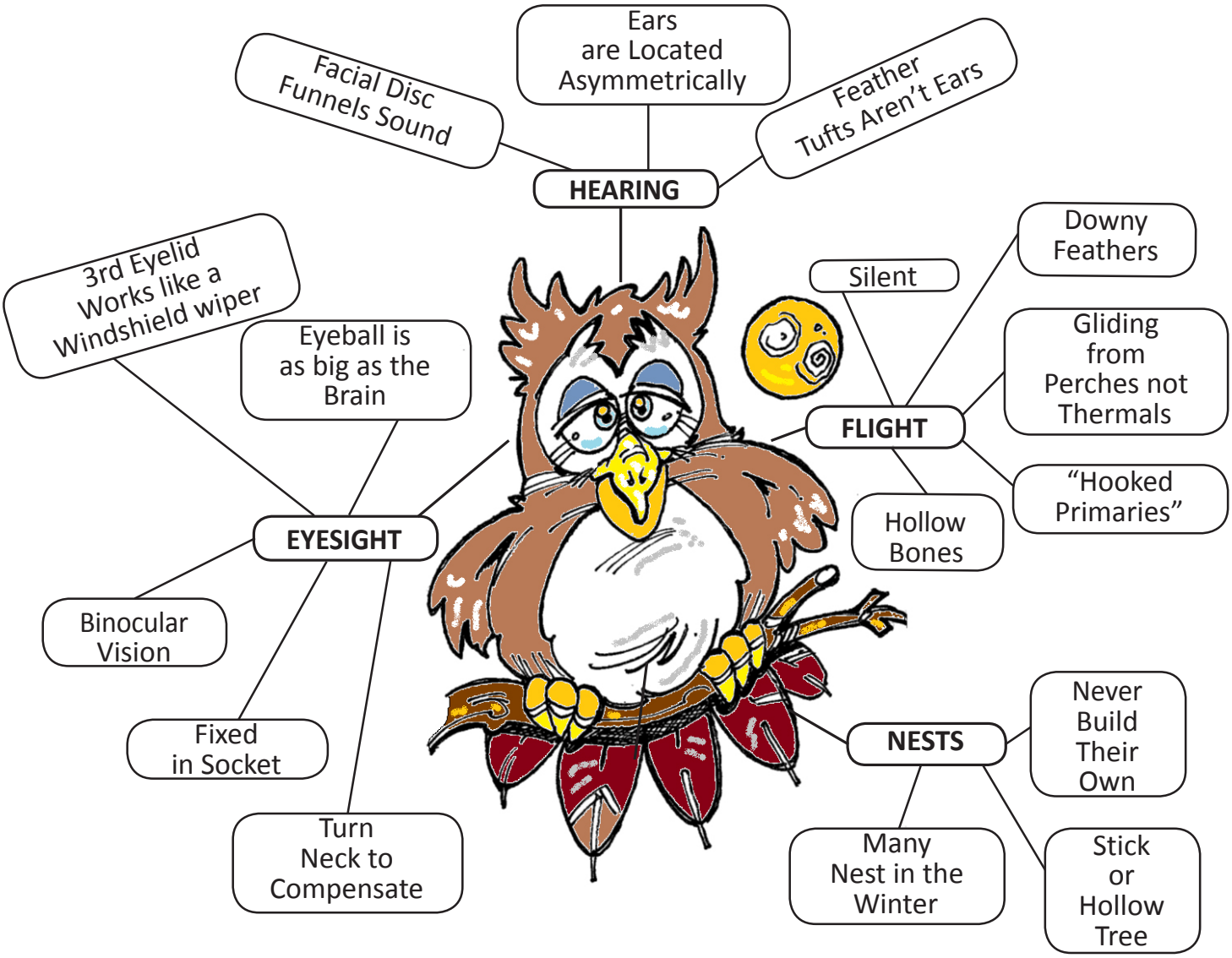
A program usually starts with a general topic and then develops from one or more themes. For example, the topic could be birds and from this the theme could be owls. You need to outline the specific theme statements or messages you want to convey. The messages might be about types of owls, a specific characteristic or habitat, conservation, biodiversity, their role in the food chain, etc. General ideas for overarching messages are presented in the section on Outdoor Connections. The wise owl on the next page illustrates how you may start thinking about your knowledge base and the messages you might want to share. The owl example uses what is called clustering.

Other ways to develop program ideas include:

- Use a school curriculum as a starting point. For example, if the curriculum is covering photosynthesis, then use that topic as the central theme.
- Use synergic comparison, which means comparing unlike objects. For example, how is a bird like an airplane? How is goldenrod like McDonald's? How is a tree like an apartment building?
- Use what is available. For example, walk along a trail and note all things of potential interest. Identify from your notes themes such as geology, habitat, or forest types.

Here are five questions to ask when choosing a theme:

- Is your theme stated in a complete sentence or two?



- Does your theme tell an important story about the location that will enrich the participants' experience?
- Is this a theme that your audience can relate to?
- Is this a theme that you personally care about?
- If a participant were asked what your program was about, would they be able to identify your theme?

Basic Principles

In addition to developing your program, there are a few basic principles to keep in mind. First, every outdoor education program should have three sets of objectives.

Learning Objectives: Clearly state what you want your audience to learn from the program.

Emotional Objectives: Know what you want the audience to feel or what emotions you want to evoke in your audience.

Behavioural Objectives: Know what you want your audience to do with the knowledge gained from the program.

Once the program has been established, the next step is to think about the delivery of your program. Remember, participants like sensory involvement,

fun, humour, new and accessible information, and an enthusiastic leader. Participants do not like dry lectures, a leader who talks too much, a program that is too technical, and an unenthusiastic leader.

There are three more important principles to remember when delivering programs, you will want to:

- Capture the audience's attention.
- Connect with the personalities or experiences of the audience.
- Give information and meaning to the audience.

Another perspective is based on Joseph Cornell's Flow Learning philosophy, which has four key concepts: awaken enthusiasm, focus attention, direct experience, and share inspiration. If we, as outdoor educators can create experiences that will be remembered, we have provided the first step of the learning cycle enroute to understanding, valuing and stewardship.

Planning

All outdoor education programs require planning, whether they are for one hour or a full day. To begin the planning process, leaders should have a basic outline of the messages they want to convey, taking into consideration the guiding principles previously mentioned. From this point, planning is a matter of adding clarity and specifics. Consider the following elements:

- What: the themes and messages to be conveyed.
- Why: the specific objectives of the program.
- Who: know a little bit about program participants so you know how best to relate to them.
- How? When? Where: the specifics about the location, time, and techniques to be used to ensure the safest and most effective program.
- Implementation: the details about such items as props and equipment required for the program.
- Evaluation: how will you know if your objectives have been met? What did you learn from the experience that would help you make the program better in the future?

Each time a new program is developed it is a good idea to create a program plan such as the one shown in the Appendix. These program plans will be a great resource to you or someone else in the future.

Delivery Techniques

There are a variety of ways to conduct outdoor education programs, but they all involve some amount of talking on the part of the leader. Dionysus the Elder offers a poignant note on the quality of any talk, "Let thy speech be better than silence or be silent." Talks can be delivered in a variety of ways, along a trail, as part of a demonstration, in visual programs, through characterizations, in storytelling, and through games. Any successful talk has two key elements: substance and structure.

Substance

The content of an outdoor education program is developed through research and guided by the principles and the plan as previously discussed. Research is easy to do online. Do not be afraid to ask questions of people you know or of others in the park.

Structure

There are many ways to structure a program, but most will have three parts.

- Introduction: Start with introductions of yourself and participants. Establish expectations and guidelines for the group. Arouse interest in the program and the subject. Clarify the purpose of the program and offer comforting information such as length of program, type of terrain, scheduled breaks, and location of water and comfort stations. The focus here is on relating and provoking.

Through the structure of the program you are following the Active Learning Cycle. You set the goals for group behaviour and learning at the start, facilitate the learning experience, and then help the participants reflect on the experience with the hope of a transfer of learning to other experiences and situations participants will have in the future.

- Body: This part is made up of the information you wish to convey about your themes and the activities you use to convey your information. The focus here is on relating and revealing.
- Conclusion: This is where you summarize your main points, leave an enduring message, and make a lasting impression. The focus here is on reflection.

Through the structure of the program you are following the Active Learning Cycle. You set the goals for group behaviour and learning at the start, facilitate the learning experience, and then help the participants reflect on the experience with the hope of a transfer of learning to other experiences and situations participants will have in the future.

Debrief

It may sound clinical but debriefing is simply sharing the learning of the day as a group at the conclusion. Again that most egalitarian of shapes, the circle, is the best place to start. This period of reflection, or debriefing, is best done in a circle so the program ends in much the same way as it began. This arrangement also reminds everyone of the concepts of connection and cycles in nature. Reflection can be guided by a series of questions concerning a number of topics, such as what was learned about the program themes, opinions and impressions of the themes and/or the program,

feelings about the outdoor experience, or thoughts about the transfer of information and experiences to life at home, school, or work. Reflections could also be done through quiet contemplations, art, creative writing, or journaling.

The First Nations Talking Circle is a wonderful model for facilitating the debriefing. A talking object (feather, rock, driftwood) is passed clockwise around the group, beginning with the person directly to the left of the leader and finishing with the leader. The leader sets the stage for the reflections: only the person with the talking object may speak, all others will show that person the respect of listening, until they have their turn to speak. The leader can prompt the discussion by suggesting a topic such as "the coolest thing you saw today" or "one word

"Allowing people to examine and understand what happened and to find value in the process, despite difficulties, is a delightful benefit of artful facilitation."

that describes today's adventure for you." Other debriefing techniques include the "thumb-o-meter" (thumbs up = terrific, thumbs down= lousy, and the spectrum of feelings = thumbs in between), or participants choose one from an assortment of pictures cut from magazines (everything from sublime to ridiculous) and you ask them to share their reasons for their choice.

For wintertime activities, especially, keep the debriefing short. Whether you are indoors (warm, sleepy participants post-outdoor adventure) or outdoors (rapidly cooling, tired participants), a simple talking circle round of one word to describe the day, "thumb-o-meter," or what did you like best about today's adventure will do. Try not to skip this part of the day; it's a nice closure that brings home the adventure's learnings and helps to ensure their potential "transfer."

Here are some last thoughts from Project Adventure on leading an effective debriefing:

- Be non-judgmental.
- Be sincere and honest.
- Show compassion and understanding.
- Be willing to listen.
- Be open to the feelings of others.
- Pay attention to both what is said and not said.
- Be observant; watch for clues from body language.
- Ask questions rather than make statements.

Experience has shown that time constraints often preclude a debriefing. Strive to ensure you have enough time at the end of your adventure to share the stories. After all, as Rohnke and Butler remark in *Quicksilver*: "Allowing people to examine and understand what happened and to find value in the process, despite difficulties, is a delightful benefit of artful facilitation."

To Be or Not to Be . . .

Structure involves not just the framework for a program but also the techniques used in delivering the program. Most of the techniques involve interpersonal contact and speaking. In *Interpretation for the 21st Century*, Beck and Cable succinctly capture the essence of a successfully delivered program: "At best interpreters promote enriched recreational experiences that turn to magic, where everything comes together, where there is unencumbered delight in knowledge and experience—a greater joy in living, a better understanding of one's place in the overall scheme, a positive hope for the future."

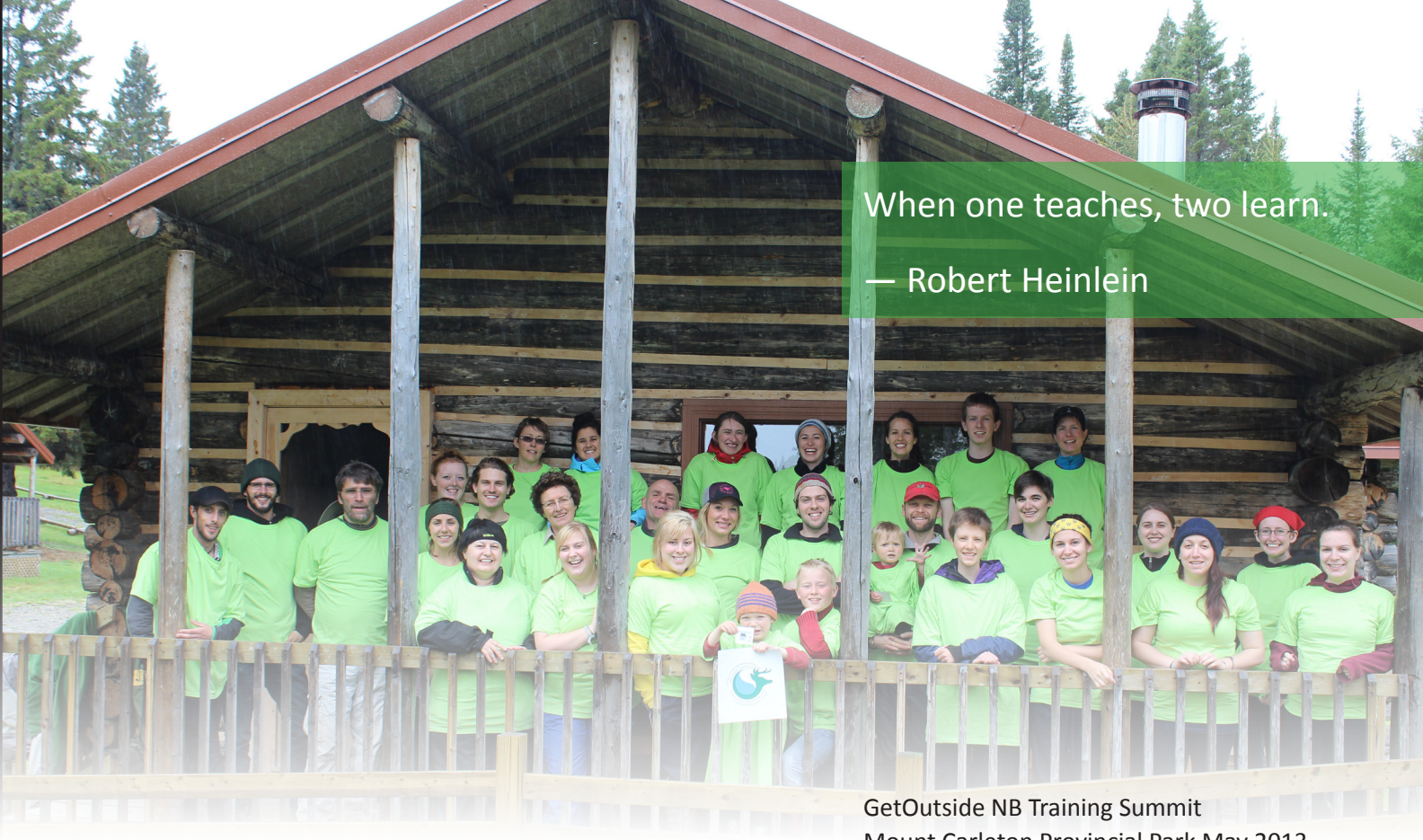
The following are some tips for leading a program:

- Be prepared: arrive early, start on time.
- Be appropriately dressed and groomed.
- Be you: honest, genuine, straight up.
- Be a good host.
- Be friendly: smile and make eye contact.
- Be professional: avoid sitting, chewing gum, and hands in pockets. No sunglasses unless a safety issue.
- Be natural: speak clearly, pause to highlight key points.
- Be open-minded and ask open-ended questions (those that require more than a yes or no reply).
- Be a leader: keep your group members together, and proceed at the speed of the slowest individual.

- Be clear: speak so all can hear.
- Be flexible: capture those teachable moments.
- Be gentle: handle all living things with care.
- Be sun smart: plan shady stops if possible, if not, face the sun.
- Be aware: take bathroom breaks. Go before you leave, and schedule realizing younger groups will go “en masse,” so factor your time accordingly.
- Take water/rest breaks: schedule regularly, monitor group, individual, and personal energy.
- Be attuned to weather’s changing nature
- Be engaging: try to interact with and value everyone in the group over the course of your outing.
- Be alert: watch for signs/symptoms of cold/heat injuries, and watch for items left behind by participants.

In a July 2001 article on WildWiki titled “Teaching in the Outdoors,” Jay Roberts nicely summarizes the list of tips with this remark, “Model the principle of life long learning by being willing to change, adapt, adjust, and be vulnerable to your group. That will go much farther than any esoteric piece of trivia you pull out of your . . . pocket.”

Mont Carleton Provincial Park



GetOutside NB Training Summit
Mount Carleton Provincial Park May 2013

Section IV: Sample Activities and Programs

The following activities can be used to customize your program. This section represents only a small collection of nature-based experiential games. At the end of the section there is also a sample four-hour program that incorporates several of the activities to illustrate how a program may be developed. Further suggestions of sources for activities and programs are provided in Section V, Resources.

Consider Howard Gardner's theory of multiple intelligences and how it can help you create an educational adventure that will reach everyone in the group. Gardner proposes that humans have different kinds of intelligences, in unique combinations of mathematical, spatial, linguistic, kinesthetic, musical, interpersonal, intrapersonal, and naturalistic. As a leader, if you consciously program your day to include the spectrum of intelligences you're bound to reach each person at a certain level for fun learning.

When choosing activities for your adventure, ensure they support your program's theme. Use the tools presented in earlier sections to meld all aspects of your program into a cohesive learning progression. Create an experience appropriate to the group with which you are working. Factors such as age, background, culture, previous experience and knowledge, and degree of interest all play a role. Knowing your audience is a key first step.

A nature walk is a wonderful vehicle to string together a beginning and debrief with themed, fun, experiential activities in between! The interpretive hike may invoke memories of a forced march with genus and species names quickly listed en route. This dry-as-toast physical and mental endurance test should be rightfully shelved. Use

the hike (which doesn't have to be a bad word) as the backbone of the adventure and dress it up accordingly.

Bear in mind that keeping the gang together is important for safety and group discussion. The tried-and-true buddy system is simple and effective. Have everyone choose a partner (a good opportunity to make new friends). The members of each duo then clasp hands and raise them together when the leader calls "Buddy up!" This way, you get a quick head count and missing buddies are quickly apparent. Ensure that the procedure is followed throughout the adventure whenever "Buddy up!" is called. (Have at least one practice round en route.)

Another formation that helps keep the group together is achieved by having a leader at the front of the crew and a sweep person at the rear. Participants are to stay behind the leader and in front of the sweep throughout the trek. The leader keeps a frequent eye out for the sweep person and the slower members of the group. Before starting out, encouragement the crew to stay on the established trail (remember leave no trace?) along with a reminder of the Full Value Contract to respect surroundings are well placed.

All the activity and program outlines included in this section give information on the type of location, level of intensity, number of participants, age suitability, objectives, equipment requirements, duration, and rules or method (if applicable). It might be necessary to divide a large group into smaller groups and rotate them through a series of activities at timed intervals. When using this approach it is necessary to have an adequate number of facilitators to accompany the groups through the rotations.

Remember, the facilitator's energy and enthusiasm set the tone for the group. A balance of leading and participating helps to ensure that the activities run properly and that everyone is involved. If an activity is not going well, be prepared to move onto another. Keep folks involved in accordance with their comfort level. One or more individuals may find enjoyment in helping with tasks, such as keeping track of time or equipment. The key is for participants to be involved, to learn, to experience the joy of being in nature, and to have *fun*.

The acronym **DDADA** is helpful. When explaining a game or activity, remember to:

- **Describe:** present how to play and the rules of the activity.
- **Demonstrate:** show them how to play. (A picture is worth a thousand words.)
- **Ask:** are there any questions before we begin? Clarify as required.
- **Do:** play the game!
- **Adapt:** ensure safe fun ensues; watch energy levels and change rules if necessary.

Sample Activities

Name Games

These name games make great icebreakers to begin your program.

1. You're in your group circle, shoulder to shoulder. Quick! This is a timed competitive event. (Leader, got your watch on?) The person to the left of the leader shouts her name, followed by the person on her left, and so on, clockwise in sequence until it returns to the leader, who finishes with his name and the time it took to complete the round.

   One more try to get the best time, then, a "new" group is introduced: faster, more organized and focused, they'll be hard to beat. Start on the leader's right and go counterclockwise with the "new" (i.e., same) group and see how you fare.

2. Back to that circle! Dick begins by demonstrating an action that starts with the first letter of his name, like digging or dancing. Yolanda follows with yo-yoing or yachting, Ralph with running or rugby, and so on around the group. As each person does their action, the rest of the gang joins in with the digging, yo-yoing, or running. Give everyone a chance then try some name/action remembering!

Standard Real World Computer | Widescreen | Digital Camera | Sticking a Hand Through the Screen

Circle Up!

Circle up! How? Ask the group to imagine that they have Velcro on their elbows. Now stick your elbows to those of your closest neighbours to your right and left. Next: de-velcro (bring your arms down) with a loud de-velcroing noise. Voila! A perfect group circle. Then, have everyone display their "Real World Computer" (see Figures 1 & 2). "Naturally" this device only works outdoors. It has many modes from classic view to digital camera, perfect for capturing your adventure (yes you're using your imagination outdoors!) but this computer also teaches us left and right. Make the classic view screen as shown. Your left hand makes the letter L, your right hand a backwards L. Now that we are all left/right aware try this:

Right thumb up, left hand flat, connect to your neighbours: thumbs under flat hands. On the count of three, try to *gently* snatch the thumb of the person on your left while doing your best to speedily spare your right thumb from the grasp of the person on your right.

Once the crew has mastered Level I connections, have them try Level II: the same action with left thumbs up, right hands flat. Then try level III: right thumbs up, left hands flat, take a step forward, cross your arms, link up; one, two, three go! While playing the connections game, explore larger connections: are there any? If so where and what? What's beneath our feet? Dirt? Nah, that's what you get behind your ears! Yes, earth! Look hard at that earth with your super "magnificanometer" goggles. Can you see those microbes and "yourcrobes" dancing over those roots? Follow the roots back to the tree, to the trunk, follow the nutrients and water up the sapwood to the branches, to the leaves to the connection with — now you're cooking — air!

Raise your arms; we're all now trees (a standing person to many First Nations). Wave your branches in the breeze. Breathe in, breathe out; when trees breathe out, who breathes in? Right, all the other critters on earth. When humans and animals breathe out, who breathes in? Right, trees! What does all this breathing in and out create? A circle! The biggest of all circles is the circle of life (remember the Lion King you Disney fans?).

Name some other circles in nature: sun, earth, moon, eyes, birds' nests, cycle of seasons.

Camouflage

- *Location: Outdoors, preferably with wooded area*
- *Energy Level: Medium*
- *Group Size: Any number*
- *Ages: 8+*

Objective(s):

- To demonstrate the importance of good camouflage
- Define adaptation

Materials and Resources:

- If wanted, pictures of different types of camouflage

Timeline:

- Preliminary talk/explanation: 5 minutes
- Game: 30 minutes
- Debrief: 10 minutes
- Total time: 45 minutes

Content and Methods:

- Preliminary talk and game explanation.

Q: Can anyone tell me what an adaptation is?
A: The way animals and plants can adjust or change to be able to live where and how they do. One example of an adaptation is camouflage.

Q: Does someone know what camouflage is?
A: Allows otherwise visible animals or other objects to remain unnoticed by blending with their environment.

Explain how the group members are going to play a game to demonstrate the importance of camouflage to see a predator but also remain hidden from that predator.

Game:
The predator (counsellor, volunteer, etc.) stands with eyes closed and surrounded by the students in a central location and then counts backwards from twenty. While the predator counts, the students must run to hiding spots where they can make eye contact with the predator but not be visible.

After counting, the predator looks for students while remaining in the same spot. As students are spotted, their name is called, and they must sit in a designated area.

Rounds continue with the predator counting backward from nineteen (next round eighteen, seventeen, etc.) and eyes closed while counting. While the predator is counting, the students must tag the predator and then find a new hiding spot. Those students found in the previous round do not rejoin.

Game continues until there is one student remaining. That student becomes the predator for the next round.

Debrief:
Q: Does someone remember what adaptation is?
A: The way animals and plants can adjust or change to be able to live where and how they do.

Q: Did you find that some hiding spots were better than others?
A: Yes (hopefully).

This shows that different adaptations lead to different camouflage, some better than others.

Mosquitoes, Bears, and Salmon

- *Location: Outdoors preferably or indoors with running space*
- *Energy Level: Medium to high*
- *Group Size: 10-30*
- *Age: 5 to adult*

Objective(s):

- To introduce food chains and food webs
- To understand how living things are interconnected
- To have fun, think on your feet, and work as a team

Materials and Resources:

- Pylons or other markers (shirts/bookbags)

Timeline:

- Preliminary talk/explanation: 10 minutes
- Game: 10-20 minutes
- Debrief: 5 minutes
- Total time: 25-35 minutes

Content and Methods:

- Preliminary talk and game explanation.
- Explain to the students that they will be participating in a game called Mosquitoes, Bears, and Salmon. Set up markers to indicate a long centre line separating the two teams. Add pylons to indicate a line about fifteen metres parallel to and on either side of centre to mark each team's "safe zone."

Q: Are these creatures connected? If so, how?
A: Encourage the different comments, but highlight those centred on one creature being food for the other.

Q: These three creatures are part of a food chain. Does anyone know what a food chain is?
A: A food chain: who eats who, from producers through consumers to decomposers.

Q: The mosquitoes feed on the bears. What do the bears eat?
A: Salmon.

Q: What do the salmon eat?
A: Mosquitoes.
Explain that this food chain is a smaller part of the larger food web where each creature relies on others to survive. Even though many people do not like mosquitoes, lots of creatures (such as salmon) need mosquitoes around.

Q: If there weren't any mosquitoes, what would happen to the salmon?
A: They might not be able to survive without mosquitoes to eat.

Q: And if there were fewer salmon, what would that mean for the bears?
A: The bears might have to move or look for other food.

Help the children understand how all these creatures rely on one another, even if indirectly.

Game:
The concept behind this game is similar to rock, paper, scissors. Imagine in this kingdom the mosquito rules over the bears. The bear rules over the salmon. The salmon rules over the mosquito. Teach the children three different actions to represent each of the creatures (bear, salmon, and mosquito). For example, roaring with their arms in the air for a bear, making a fish face and swimming motions for a salmon, making a stinger with their fingers and a buzzing sound for a mosquito.

Once the group has learned the actions, divide them into two teams. Each team should then gather behind the line marking their "safe zone." Teams need to decide together which creature they want to represent as a team; they need a first choice, and a backup action in case of a tie. Both teams then align shoulder to shoulder, along their respective sides of centre, facing each other with a metre between teams for the "faceoff." The leader counts to three. On three each team performs their action. If the teams tie during the faceoff, they faceoff again, using their second action. If the second choice is also a tie, the teams must go back to their safe zones and choose two new actions and begin again.

Once a different action is performed at the same time by each group, the game proceeds. The "ruling" creatures chase the ruled creatures towards the ruled creature's safe zone. For example: a team of bears would chase a team of salmon towards the salmon's goal line. If a bear tags a salmon (gently) before the salmon reaches her or his goal line, the salmon then joins the bear team for the next round. The two teams can see-saw back and forth in number until the leader decides it's time to move on.

Remember the DDADA acronym. Try it out!

Debrief:

Q: Please share one thing you learned from this game with the group.
A: What a food chain looks like.

Q: What is a food chain?
A: Who eats who, from producers — consumers — decomposers.

Q: What was the food chain we learned today?
A: Salmon, bears, mosquitoes.

Q: What other plants and animals might be part of this food chain?
A: Salmon, aquatic invertebrates, bears, berries, mosquitoes, and birds.

Mactaquac Provincial Park

Symbiotic Relationships

- *Location: Outdoors or indoors with large play area*
- *Energy Level: High*
- *Group Size: Large group (more than 15)*
- *Age: 8+*

Objectives:

- To learn about symbiotic relationships and their importance to biodiversity
- To recognize symbiotic relationships and their importance to biodiversity

Materials and Resources:

- Pictures of symbiotic relationships (including squirrel and tree)
- Objects to identify and differentiate students who are trees and squirrels (scarf, etc.)
- Placement object for each group of three (cones, etc.)
- Object to represent fire survival spot

Timeline:

- Preliminary talk/presentation: 5 minutes
- Game: 20 minutes
- Debrief: 5 minutes
- Total time: 30 minutes

Content and Methods:

- Preliminary talk
- Introduce yourself and the topic of the talk: symbiotic relationships, which are important for biodiversity.

Q: Does anyone know what symbiotic relationship means?
A: Interaction between different species and are usually long-term.

Q: Does anyone know some examples of symbiotic relationships?
A: Squirrel and tree; fungus, lichen, and algae.

Show pictures of different animals exhibiting symbiotic relationships and talk a bit about each. A symbiotic relationship that we are going to focus on today is the squirrel-tree relationship.

Q: Does anyone know what the tree does to help the squirrel?
A: Provides home, protection, and food.

Q: What do you think the squirrel does for the tree?
A: Spreads the tree's seeds.

Explain that the group members are going to play the squirrel game to show this relationship.

Game:
Have the students arrange themselves in a wide circle and number them (one, two, three, or tree, squirrel, tree). The ones and threes will be trees and the twos are squirrels. Then have each pair of students who are on either side of a squirrel (one and three) turn sideways and link hands/hold each other's wrists. Have the squirrels squat under the tree (for shelter).

Explain that life for squirrels and trees isn't always easy and they face many challenges. These challenges are actions called out by a leader, which the children must abide by in order to stay in the game, for example:

Hunter: The trees will stand still but the squirrels must leave their trees and run under the shelter of another tree.

Lumberjack: Squirrels stay still and the trees must run (while holding hands in their pairs) to the location of another squirrel to shelter.

Try the above commands a few times before adding the following:

Flood: The trees lower their branches (arms) and the squirrel sits within the tree branches. Then they raise the branch so the squirrel can survive the flood. If the children are not able to perform this command with ease, then change it so the squirrel

stands in between the branches (pairs of arms) and the trees squat down so their branches are lower.

Earthquake: Everyone scrambles (trees separate) to find a new position within the circle. Trees must pair with a new tree and the squirrels must find a new tree to stand with.

Fire: Everyone runs to a designated target to survive the fire (hula hoop, special tree, or line on the ground). No fire if the activity is held inside.

You can decide that the slowest or last person/pair to complete these actions is out of the game until there is one symbiotic relationship (two trees and one squirrel) left.

Debrief:

Q: So what are symbiotic relationships?
A: Interaction between different species, which are usually long-term.

Q: Why are symbiotic relationships important?
A: Allows more animals to survive.

Q: With more species surviving, what do you think will happen to biodiversity?
A: It is going to increase.

Symbiotic relationships are really important for biodiversity, and sometimes if we are destroying something, that action could be destroying something vital for another species.

Murray Beach Provincial Park

The Animal Game

- *Location: Outdoors, preferably with wooded area*
- *Energy Level: High*
- *Group Size: Minimum 10*
- *Age: 8+*

Objective(s):

- To engage in an activity that simulates the food chain
- To learn how the different levels of the food chain interact with each other

Materials and Resources:

- Life cards
- 4 different coloured markers (hide before game starts)
- 1 die
- Food chain picture

Timeline:

- Preliminary talk/explanation: 10 minutes
- Game: 40 minutes
- Debrief: 10 minutes
- Total time: 60 minutes

Content and Methods:

- Preliminary talk and game explanation.
- Gather students on the playing field and explain that they are going to play a game to learn about the food chain.

Q: Does anyone know what a food chain is?
A: It shows what eats what in an ecological community.

Q: Can someone tell me the different levels in a food chain?
A: Producers, consumers (herbivores, carnivores, omnivores), and decomposers. Show picture.

Explain that producers, such as plants, don't eat anything; instead they get their energy from the sun. Herbivores eat plants. Carnivores eat animals. Decomposers such as fungi eat organic matter (from dead animals and plants).

Explain that with every extra level between eating and getting energy from the sun, there is a 10 per cent decrease in the amount of energy. For example, if the grass makes one hundred energy units, the hare only gets ten energy units and the fox just gets one energy unit. This means in order for the fox to get the same amount of energy as the hare, it will have to eat ten times more than the hare.

Q: From this, do you think there should be more producers, herbivores, or carnivores? Or should they all be equal?
A: There should be more producers and fewer carnivores because the carnivores need a lot more food.

Q: The producers get their energy from the sun. Can you think of anything else producers need to survive?
A: Water, nutrients, and air.

Q: Does anyone know where the food chain ends?
A: It doesn't end! It is a continuous cycle. Most people think that it ends with the top predator, when the predator dies the decomposers bring the nutrients back to the soil, and producers can use them.

Game:
Before gathering the group to play, hide the 4 different coloured markers for the producers to find. (Tying the markers with a long string to a tree branch works well). Then begin by explaining that students are going to be different parts of the food chain. Next, assign roles to each child by giving them a colour-coded card with a clip attached.

Explain roles:
Hand out three life cards to each player. In order to survive, one must gather life cards of other colours by chasing and tagging what they are supposed to eat. If tagged, you must give life cards of your own (and the correct colour). You must not give away the life cards of other colours that you collected. For example, if a carnivore tags a herbivore, the herbivore gives the carnivore his blue life card and does not collect a green producer life card.

Student	Role	Life Card Colour	%	20 Kids	30 Kids
Producers	Find coloured markers represent water, nutrients, sunlight, and air, and mark on their arm with one colour	Green	70	14	21
Herbivores	Chase producers	Blue	20	4	6
Carnivores	Chase herbivores	Red	5	1	2
Decomposers	Chase everyone	White	5	1	1

If you run out of your own life cards, you must visit the leader, who is the sun—the giver of all life—to receive three new cards. In order to receive life cards, one must roll the dice and perform the task associated with the number rolled.* After receiving new life cards, one has twenty seconds before someone can start chasing.

For every mark on a producer's arm they get an extra life card.

To start the game the producers are released to find the hidden markers. For every mark on a producer's arm they get an extra life card (see table above). Then release the groups of herbivores, carnivores and decomposers in ten-second intervals.This game can last up to forty-five minutes and you can experiment with the ecosystem by changing the numbers of each trophic level.

* Note: Here are some examples for dice tasks:

- Hop on one foot and spin around three times.
- Sing a child's song ("I'm a Little Teapot," "Twinkle, Twinkle, Little Star," etc.)
- Spell first and last name backwards.
- Take a drink of water.
- Say something unique about yourself.
- Show off your best dance move.

Debrief:

Q: What is a food chain?

A: It shows what eats what in an ecological community.

Q: What are the different levels in a food chain?

A: Producers, consumers (herbivores, carnivores, omnivores), and decomposers.

Q: Do you think it would have been easier or harder if all the different levels had equal numbers?

A: Harder because there would be more people tagging you and you would have a harder time finding people to tag.

This shows there are different levels in a food chain with unequal numbers and how they all interact.

Bird Calls

- *Location: Outdoors*
- *Energy Level: Medium*
- *Group size: 10+*
- *Age: 6+*

Objective(s):

- To learn some of the more common birds and their calls
- To learn about animal communication

Materials and Resources

- Blindfolds
- Bird call cards (see Appendices)

Timeline:

- Preliminary talk/explanation: 10 minutes
- Game: 15 minutes
- Debrief: 10 minutes
- Total time: 35 minutes

Content and Methods:

- Preliminary talk and game explanation.

Q: Has anyone heard birdsongs before? Why do birds call?
A: Birds call to communicate with each other.

Q: What kinds of things do birds need to communicate?
A: Finding a mate, warning calls (when predators are near).

Some birds have pretty complex songs so that they can identify each other as the same type of bird. Explain that students are going to play a game to demonstrate how birds communicate. This game is played blindfolded because, most times, birds cannot see one another.

Game:
Go through the bird call cards and sing each of the songs with the children so that they know what the calls are. Have them repeat the song after you.

Give each student a bird call card hanging from string and stress that they are not to show the card to anyone else. They should put the card around their neck with the picture facing in. Once blindfolded, the students will sing the bird call from their card and listen for an answer.

Once they hear other birds making the same call, they have to try to find their flock. Because they are blindfolded, they will have to move carefully; the best way is to step, stop, call, and listen.

Position facilitators around the outside of the group so that students cannot stray outside the play area.

Once students find a member of their flock, they join hands and keep listening and searching for other members. When everyone has found their entire flock, the game is over. The students can then remove their blindfolds to see if they are with the right flock and if they have missed anyone. You can switch the cards around and play the game again.

Debrief:
Q: Did anyone have trouble finding their flock? What made it difficult?

Discuss how birds need to learn their songs and calls so that they can communicate with members of their flock. Young birds need to practice before they get it right! There may have been difficulty in hearing each other through all the other noise, and this is something that wild birds need to contend with as well.

Q: What would have made it easier to find your flock?
A: Being able to see each other would have made it easier, and birds also use visual communication.

Q: Was it easier after the first time the game was played? Why or why not?
A: Some of the vocalizations may be easier to hear through a crowd; some students may have louder voices, representing birds that are experienced singers.

Pounce on the Prey

- *Location: Outdoors, preferably with wooded area*
- *Energy Level: High*
- *Group Size: 10+*
- *Age: 8+*

Objective(s):

- To learn about predators and prey
- To learn about predator-prey relationships through physical activity
- To learn the key characteristic of predators

Materials and Resources:

- 2 flags
- 1 scarf per person
- Rope (to divide teams/mark line)
- 2 hula hoops (to mark designated areas)

Timeline:

- Preliminary talk / explanation: 10 minutes
- Game: 40 minutes
- Debrief: 10 minutes
- Total time: 60 minutes

Content and Methods:

- Preliminary talk and game explanation.
- Gather students on the playing field and explain that they are going to play a game to learn about predators and prey in New Brunswick.
- Before we get started with a game we should talk a little about predators and prey. A predator is an organism that hunts and feeds on its prey with a direct impact on the prey population.

Q: There are two main types of predators. Can anyone tell me what they could be?
A: Carnivore and omnivore.

Q: In New Brunswick we have two types of carnivores: cats and dogs. In the game that we are going to be playing we are going to have a dog carnivore. Does anyone know a dog carnivore found in New Brunswick?
A: Coyote. Fox.

Q: We are also going to have an omnivore in our game. This one is the biggest omnivore that we have in New Brunswick. Any guesses?
A: Black bear.

Now, both the coyote and the black bear like to feed on the same species, deer.

Q: If the coyote and the black bear are both predators and they feed on the deer, what would the deer be?
A: A prey.

Game:
Students are going to be on two teams, either the coyote or the black bear, and they are going to be trying to get the deer (the flag). Divide territories for the teams and set boundaries. Each team's goal is to sneak across the border, find and capture the enemy flag, and then race back without being caught. Win by capturing the enemy flag and carrying it back to your side of the border.

If students are tagged on the opposite territory, they must go to a designated area and stay there until a teammate comes to the rescue. Once rescued, both members must walk directly back to their own side.

Give them a set amount of time to hide their flag (prey). The flag must be hung at head height and be visible from eighteen metres away on at least one side. Other rules to consider:

Once hidden, the flag cannot be moved. If the opposite team captures the flag and is tagged, the flag is dropped and moving it is not permitted.

Once you capture the flag, you have to carry it across the border. You cannot throw the flag across the border.

No guarding within three metres of the flags.

Debrief:
Q: Does someone remember what the flag represented?
A: Prey / deer.

Q: And who were you?
A: Predators (coyote and black bear).

Q: Does anyone remember the key characteristic of a predator?
A: Having a direct impact on the prey population.

Monarchs Gotta Go, Gotta Go to Mexico

- *Location: Outdoors or large indoor space*
- *Energy Level: High*
- *Group Size: 15+*
- *Age: 6+*

Objective(s):

- To engage in an activity that simulates a monarch migration to Mexico
- To learn that monarchs have certain needs (sun, food, shelter) along the way and face various hazards (rain, cars, birds)
- To use various motor skills to express the role that these needs and hazards play (sun, rain, etc.)

Materials and Resources:

- Picture cards to use for hanging name badges

	Number of students	
Roles for Students	20	30
Sun	1	1
Rain	3	4
Birds	3	4
Cars	3	4
Flowers	3	5
Trees	3	5
Monarchs	4	7

- Multiple sets of Popsicle sticks (or strips of paper) of different colours (# of colours/sets = # of Flowers, # of sticks per set = number of monarchs) e.g. for 20 students: 3 sets of 4 popsicle sticks/strips of paper (each set a different colour) and for 30 students: 5 sets of 7 popsicle sticks/strips of paper (each set a different colour)
- Something to mark the end of the field (e.g., sign of Mexico)
- Something to mark the start of the field (e.g., sign of city/New Brunswick)

Content and Methods:

- Preliminary talk and game explanation.
- Gather students on the playing field and explain that they are going to play a game to learn about monarchs' migration.

Q: Monarchs have the longest repeat migration in the insect world. Does anyone know what migration is?
A: The seasonal movement over long distances in search of a new habitat.

Q: Can anyone tell me where monarchs migrate?
A: Canada and Mexico. Monarchs have to do this twice a year for close to five thousand kilometres.

Q: Reaching their destination is not the only concern of the monarchs. They have many hardships to overcome. What hardships would monarch butterflies experience during their migration?
A: Avoiding hazards (e.g., cars and birds); they cannot fly in the rain; they must stop during their journey to feed on flowers.

Explain how students are going to be either migrating monarchs, monarch hardships, or monarch helpers. The monarchs will be trying to get from city/New Brunswick to Mexico with the help of sun, flowers, and trees while rain, birds, and cars try to stop them.

Student	Role	Acting
Rain	Try to tag a monarch. If tagged, a monarch must go over to a tree.	
Sun	Warm up [free] monarchs who were tagged by rain and are waiting at a tree with a "high five."	Can form a circle with their arms and symbolically release the butterflies by holding the circle over the head of a trapped butterfly.
Birds	Try to tag a monarch. If tagged, a monarch must sit down and count to ten.	Can chirp, preen, and flap their arms as if wings.
Cars	Try to tag a monarch. If tagged, a monarch must sit down and count to ten.	Can speed up or slow down, honk, beep, and make other car noises.
Flowers	Hand out paper strips/Popsicle sticks to monarchs that feed [visit]. Cannot move.	
Trees	Protect monarch. If not tagged by rain, the monarch cannot stay close for long. Trees cannot move.	Trees are not allowed to move from the spot they are rooted in, but they can wave their long branches (arms) and sway in the wind.
Monarchs	Reach Mexico after feeding [visiting] all flowers.	

Game:
Assign roles by giving each child a card that identifies their part. Each flower also receives (the same number of monarchs) strips of paper/ Popsicles sticks (nectar) of the same colour.

Explain roles:
Have all students, except those playing monarchs, scatter around the field. Monarchs begin at city/ New Brunswick end point. Begin the game. If you want to slow the game action down, have students run so that their knees always touch. Model this behaviour. This "waddling" run adds to the comic antics of this activity, along with other actions noted above.

Debrief:
Q: Do the monarchs simply fly straight to Mexico?
A: No, they encounter many obstacles.

Q: What kind of obstacles?
A: Cars, rain, and birds.

Q: Does anything help the monarchs migrate?
If so, what?
A: Yes, sun and flowers.
This shows that there are many contributors to the survival of the monarchs during their migration; some help, and some do not help.

Q: Is there anything that you could do to help the monarchs?
A: Plant monarch-friendly plants.

Owl's Gonna Getcha!

- *Location: Outdoors, preferably with wooded and cleared area*
- *Energy Level: High*
- *Group Size: 5+*
- *Age: 5+*

Objective(s):

- To teach students about the wonderful world of owls

Materials and Resources:

- 1 milk or water jug filled with rocks and sealed at the top to represent the can
- Pictures of New Brunswick owls and close-up feather
- 2 feathers (one owl, one non-owl)

Timeline:

- Preliminary talk/explanation: 25 minutes
- Game: 35 minutes
- Debrief: 5 minutes
- Total time: 65 minutes

Content and Methods:

- Preliminary talk and game explanation.
- PowerPoint presentation or the following:

Q: By show of hands, tell me what you know about owls.

Start with owl myths:

- Owls can turn their heads completely around (360 degrees). In fact, they turn their heads 270 degrees, which is almost a three-quarter turn. They do this because their eyes are fixed; they cannot move their eyes like humans can.
- Owls are blind during the day.
- Tufts of feathers on a horned owl are its ears (show picture).
- Hearing an owl is a sign of bad luck.

Q: How many owls do you think are found in New Brunswick?
A: Eight — Barred owl, boreal owl, great horned owl, long-eared owl, northern hawk owl, northern saw-whet owl, short-eared owl, and snowy owl." (The "accidental" owls are barn, burrowing, eastern screech, and great gray owls).

Owls have silent flight, which enables them to sneak up on their prey and also increases their hearing compared to other birds. They don't have the sound of flapping wings because they have special feathers with a combed edge that acts like a zipper. Show picture of close-up feather. Pass around two feathers — one owl and one of another bird — and invite group members to feel the difference between the two.

Q: Most owls are nocturnal. Does anyone know what that means?
A: They hunt at night.

Q: Owls also produce pellets. Does someone know what an owl pellet is?
A: Regurgitated bones, fur, and feathers. Owls swallow their prey whole but they can't digest everything. So whatever they cannot digest forms into a ball and is regurgitated later.

Q: What do you think owls eat?
A: Mice, snakes, frogs, weasels, bats, shrews, small birds, etc. These are called prey.

We are going to play a game about owls and their prey called kick-the-can owl style. The owl's goal is to tag as many prey as he or she can. If tagged, they go to the "owl's stomach" right beside the can.

Game:
Determine boundaries and the owl's stomach. The person who is *it* will be the owl (the predator), and the rest of the players will be the prey. The owl stands by the can and counts to fifty while the prey disperse and hide.

The owl has to protect the can because if a prey kicks it, all the stomach contents are freed. If a prey kicks the can, they all shout "kick-the-can" and the game starts over. The owl can be switched for the first person who was tagged last round. The game is over when all the prey are tagged by the owl.

Debrief:
Q: What did everyone learn about owls today? (If they miss a few points from earlier, mention them again.)

Right Whale: Relay Race

- *Location: Outdoors or large indoor space*
- *Energy Level: High*
- *Group Size: 15+*
- *Age: 6+*

Objectives:

- To teach students about the wonderful world of whales

Materials and Resources:

- Bandanas or objects that can represent krill (one krill per student)
- Krill picture

Timeline:

- Preliminary talk / explanation: 15 minutes
- Game: 35 minutes
- Debrief: 10 minutes
- Total time: 60 minutes

Content and Methods:

- Preliminary talk and game explanation.
- Gather students and explain that they are going to play a game to learn about whales.

Q: What do birds and right whales have in common?
A: They both migrate.
Whales migrate from their breeding grounds to their feeding grounds.

Q: Can anyone tell me what whales eat?
A: Krill (i.e., any small, open water, shrimp-like crustacean). Show picture.
Explain how the students are going to be migrating whales and their object is to get krill (show objects that represent krill). But there is a catch.

Q: Does anyone know what the catch of the game could be?
A: Whales live in groups, i.e., pods.

If no one can think of the answer, you might ask:
Q: Do whales live by themselves or with other whales?
A: Other whales, i.e., pods.

Game:
Round 1
Divide the group into small teams of four or five. They are now pods of North Atlantic right whales.

The pods start at a designated location (breeding grounds). One member of the pod will have to run to a designated spot where there will be objects representing swarms of krill (i.e., feeding grounds). They will have to grab a swarm of krill (as if to eat it) and return to their breeding grounds (the start zone). At that point they expand their pod by one.

The new whale in the pod then has to make the same migration trip in order to spawn more whales in their pod.

The first pod to complete the migrations to the feeding grounds wins.

Round 2 (Variation)
All pods start at full strength and they must run to collect krill in turns (relay race style). But there are fewer swarms of krill than there are whales. At the end of a round, any pod of whales that didn't collect enough krill to feed the pod loses a whale from their team. (Krill could be disappearing due to climate change or pollution.) The game ends with the last pod standing.

Round 3 (Variation)
Introduce a fishing boat (continuing rules from Round 2), which would be a counsellor, an eliminated whale, or a volunteer. The fishing boat has to try to tag whales that are heading up to the feeding grounds to collect krill. Whales tagged by the person playing the boat must return to the breeding grounds and try again. In order to prevent the fishing boat player from just camping in the migration route tagging whales, the boat

must return to the “dock” (a designated spot off to the side) before returning to sea to tag another whale. The game ends with the last pod standing.

Summary key:

- Start zone = Breeding Grounds
- Zone with all the krill = Feeding Grounds
- Space in between both of these zones = Migration route
- Place where the fishing boat must go after each tag made = Dock

Debrief:

Q: Which round was the hardest?

A: Third (with the lack of krill and the addition of the fishing boat) most likely.

This shows that it is getting harder and harder for whales to survive because of pollution and climate change decreasing the amount of food and the boat injuries to whales.

The Great Egg Journey

- *Location: Outdoors, preferably with wooded area*
- *Energy Level: High*
- *Group Size: 10+*
- *Age: 6+*

Objective(s):

- To demonstrate the key characteristic of predators

Materials and Resources:

- 40 balloons of one colour
- 40 balloons of a different colour
- 2 rolls of flagging tape (need to match the balloon colours)
- 2 large plastic containers
- 2 blankets to make nests (or something to make the nest locations on the finish line)
- Picture of an egg

Timeline:

Preliminary talk / explanation: 5 minutes
Game: 35 minutes
Debrief: 10 minutes
Total time: 60 minutes

Content and Methods:

- Preliminary talk and game explanation.
- Prepare in advance balloons filled with water (put just enough water that they can be broken but will take a bit of work), placed in two separate containers (one for each team). Place the bins on opposite ends of the start line. Place two nests (one for each team) on opposite ends of the finish line. (The start bin and nest for each team need to be the same distance apart so that the game is fair.)
- Gather students on the playing field and explain that they are going to play a game to learn about predator-prey relations by understanding what a bird egg goes through. The goal is for the birds to get as many eggs to their nest as possible without getting caught by a squirrel.
- Show picture of bird egg. Ask them what it is. Explain that the main goal of the egg is to hatch and become a chick (baby bird), but they have many challenges ahead. The parents have to be able to take care of the egg by providing it warmth. The egg also has to survive potential predator attacks. There are many things that like to eat eggs, making bird eggs prey.

Game:

Divide the students in two groups. Each team needs to pick two people to be squirrels for their team. (Depending on the age group you are playing with, you might need to help the teams pick their squirrels so that there is no fighting.) Once the squirrels are picked they get markers wrapped around their arm. Make the markers the same colour as the balloon so you can tell which team is which. Everyone who is not a squirrel is a small forest non-meat-eater bird.

Birds can carry only one egg at a time and have to place the egg in the nest before they can return for another egg. Squirrels capture an egg by tagging the opposing team's birds. Once a bird is tagged they must give up the egg immediately and they can return to the bin for a new egg. Squirrels can carry only one egg at a time, so when they capture an egg they must take it to their own team's nest before they can try to capture another egg. Squirrels cannot take eggs out of the nest; once an egg is placed in the nest it is safe.

Once all the eggs have been placed in the nests the game is over. You count to see which team has the most eggs and that is your winner. This can be played twice.

To prevent the eggs from getting broken on purpose, you have to explain to the students that any eggs that get broken intentionally will result in that student having to sit out for the rest of the game. The eggs will sometimes break accidentally, so you really have to tell the students to be gentle and use your own judgment as to whether or not an egg was broken intentionally.

Debrief:

Q: Did all the eggs make it to their proper nest?

A: No.

And not all eggs make it to hatching time. This shows the key characteristic of a predator.

Q: Does anyone know what a predator is?

A: Having a direct impact on the prey population.

Wetland Values

- *Location: Outdoors preferably or indoors with running space*
- *Energy Level: Medium*
- *Group Size: 12-24*
- *Age: 6-12*

Objective(s):

- To define a wetland
- To learn the different types of wetlands located in New Brunswick
- To learn the different functions of wetlands
- To learn how wildlife lives in and depends on wetlands
- To understand and appreciate the value of our wetland areas

Materials and Resources:

- Three or four medium to large containers (e.g., milk crates, laundry baskets), depending on number of teams. Each crate will contain:
- Sponge
- Water bottle or cup
- Bar of soap
- Coffee filter
- Strainer
- Whisk
- Non-perishable food item (granola bar, can of soup)
- Baby bottle or pacifier
- Small pillow
- 3 or 4 pylons (depending on number of teams)
- Pictures of different wetland types (optional)

Timeline:

- Preliminary talk / explanation 5-10 minutes
- Game: 20 minutes
- Debrief: 5 minutes
- Total time: 35-45 minutes

Content and Methods:

- Preliminary talk and game explanation.
- Have children sit in a group in front of you.

Q: Can anybody tell me what a wetland is?
A: It is an area where water and land meet and where the ground is wet for at least part of the year.

Q: Can anybody name a type of wetland?
A: Marshes, swamps, bogs, ponds, and fens.
Explain that in New Brunswick, we have fresh-water marshes, saltwater marshes, swamps, bogs, and ponds. You can also discuss some of the differences between different types of wetlands (use pictures if available):

1) Marshes are usually next to other bodies of water like lakes or streams. Grasses, reeds, and rushes grow in marshes. Saltwater marshes are coastal (next to the ocean) and have salt water. Freshwater marshes are not next to the ocean and their water is not salty.
2) Swamps are forested wetlands.
3) Bogs are a type of wetland where there are layers of plants (usually sphagnum or peat moss).
4) Ponds have standing water (they have water year-round). They are like lakes, but much smaller and shallower.
5) Fens are wetlands predominated by grass-like plants called sedges.

Q: Do you think that wetlands are valuable?
A: Yes!
Explain that some do believe they are valuable, and we are going to play a running game that will teach us the different reasons why they are valuable.

Game:
Have one of each of the listed items in front of the students. Each item corresponds to a wetland value. Read the wetland values (listed at the end of this activity) one by one and ask the students to match them to an item.

Once you have gone over all the wetland values, divide the group into teams (three or four teams work best; each team cannot have more participants than there are items in the container). Line up the teams behind the pylons, with the crates (containing the items) about fifteen metres away.

Explain that you will read a wetland value, and the first person in line will run to their team's container, find the corresponding item, bring it back to their team, and move to the back of the line. Do a test run to make sure everyone

understands how to play. For added fun, make the *go* signal a quack or honk, have the runners do an animal action en route, and change the action for each group of runners.

Once the first round is complete (the teams have recovered all the items), run a second round in which you read the wetland values and the teams have to run the items back and *gently* place them into their containers. This helps to solidify the concepts and eases clean-up.

Debrief:

Q: Did everyone enjoy the game? What did you like?

Go over the items and explain that they were used to help the children remember all the wetland values. If the children forget what those values are, all they need to do is think about the items in the game.

Choose a couple of items and explain their significance in detail (e.g., sponge soaks water; wetlands help store water and prevent flooding), and explain how destructive it would be if we lost our wetlands.

Wetland Values:

- Wetlands absorb excess water (sponge).
- Wetlands provide drinking water for plants and animals (water bottle or cup).
- Wetlands help to clean the environment (soap).
- Wetlands help to filter our water (coffee filter).
- Wetlands help to strain silt and debris from the water (strainer).
- Wetlands mix nutrients into the water (whisk).
- Wetlands provide food and nutrients for plants and animals (granola bar).
- Wetlands provide nurseries and homes for young wildlife (baby bottle or pacifier).
- Wetlands provide resting places for wildlife (pillow).

Additional Games for Programs:

Webbing Activities

There is no better way to reinforce circles and connections than to circle your group and connect them. One method is to have in your "tool box" a length of tubular climbing webbing (about forty-five centimetres per participant). (See *Racoon Circles* by Tom Smith and Jim Cain.)

Natural Connections

After tying the requisite water knot (see Appendices) to connect everyone (and the loose ends), have everyone lean back gently as a group while holding onto their webbing. Then talk circles. Let the conversation run from birds' nests to eyeballs, nudge gently to talk about seasons, decomposition cycles, water cycles, and how we're all connected in this great circle of life. Yet another opportunity for metaphoric learning!

Invite the group to imagine they are a community of native New Brunswick plants and animals. Have them keep who they are to themselves for the moment. Remind the group that foreign critters such as hippos and giraffes are a no go, but "sidehill gougers" and "reach me downs" are okay. Then imagine that a serious drought hits New Brunswick. The first to go are the plants. On a count of three, have all plants let go of the webbing. *Snap!* All the animals feel the web vibrate as the floras exit. Now ask the animals how they felt when the plants left, and steer the talk towards connectedness. For example, when the grandmother pine left what did you squirrels do for a home? What did you eat with no cones and seeds?

You can also use the webbing for warm-ups. Have the gang point their right shoulders towards the centre. In theory this should have your entire group facing clockwise, left shoulders, counterclockwise. Then have them shuffle around in a circle at half speed (while holding the webbing). Bark instructions like: arm above your head! To your waist! To your knees! To your ankles! Stop them, rotate them clockwise while they stand in place, then counterclockwise. Repeat until warm.

The Wave

Everyone has both hands on the webbing. Have the student to your right extend arms full reach above the head, then bring them down again. The person to the right of the first one repeats the action, and so it continues, counterclockwise around the circle. Repeat, starting with the person to your left, and continue counterclockwise. Then start the waves simultaneously left and right and see what happens.

Pass the Knot

Remember that beautiful water knot in the circle of web-bing? Once again clockwise/counterclockwise (teach those kids the old school stuff), everyone's hand on the webbing and by hand-to-hand shuffling move the knot as fast as you can completely around the circle. Time the event. Then switch directions and repeat. (Passing the knot around the circle clockwise and allowing the person with the knot to speak while all others listen is an option for a talking circle.)

Pizza Toss

Sounds easy, but. . . . have the whole gang toss the webbing up in the air as high as possible and then catch it—if they can. Then, to make it still more interesting, have them clap their hands once in between throwing and catching. Then have them turn around once in between throwing and catching. Then be creative with the challenges!

Web Art

Ask the group to put on their artistic hats and with their hands on the webbing use the tied webbing to create things such as a softwood tree, a hardwood tree, a map of Canada, a square, a triangle, and a polylateral "texahedron."

Tug of Peace

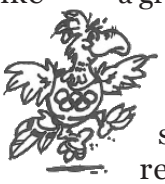
The ultimate team-building, co-operative activity! Have the gang distribute themselves equally around the web circle. Everyone grasps the web with hands shoulder-width apart and at waist height. Legs are also shoulder-width apart,

body in a slight crouch. Now the fun part: as a group (no room for individuality here) everyone slowly leans back and increases the tension on the web equally until it is taut. As a collective, orchestrated by the leader, the crew then slowly descends through from standing, squatting, to a group sit on terra firma. Now, get back up together. Let one of the group members guide this initiative. On a count of three, the gang (with heels of shoes tucked tight to their posteriors and arms straight out pulling together) all rise to standing position once again. Now that everyone is energized let some new leaders try subsequent sit/stands, including at least one attempt with eyes closed.

Simple Sample Winter Supplements

Ruffed Grouse Winter Olympics

An award-winning winter warm-up: tuck your thumbs under your armpits, squawk and scurry like a grouse. Great! Now everybody cross-country ski like grouse, ski jump like grouse, bobsled like grouse. Go through the roster of winter sports and laugh until warm – a real crowd pleaser! These bird shenanigans are a good link to discussing the grouse's winter adaptations like snowshoe feet, insulating feathers and roosting under the insulating layer of snow for warmth. Try Summer Olympics for just as much fun!

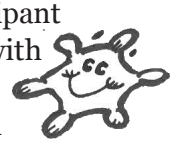


Tracks

No better time than after a fresh snowfall to strap on those snowshoes (schools and parks typically have some to borrow) and make tracks to find tracks. A basic field guide will help identify those "stories in the snow." Listen up: prompt stories from the troops; everyone has a favourite animal tale.

Winter Survival

Did you know that a blanket of snow actually keeps creatures warm during cold winter nights? Anyone who has been startled by a ruffed grouse exploding from a snow shelter has, like the grouse, figured out that a cozy cover of snow helps insulate from the cold. Give each participant a plastic film canister half-filled with water. Have them hide their can (some in snow, some exposed on top) at the beginning of your adventure, and then return a few hours later to examine the contents and discuss the differences.



Reflection Activities

Minute of Silence

Choose a special spot on your journey where the gang can sit, relax, and enjoy the sounds of nature. Challenge them to imagine (there's no better place to imagine than in nature) they are an eagle perched on one of our beautiful giant white pines. The eagle is hunting and all that moves are her eyes as she scans for prey. When all is quiet, time a one-minute interval. When time's up, ask what they heard and compare experiences.

Nature Journals

Create your own journal (see Appendices) complete with artwork, log, and quotes if desired. Give each group member a sheet (or two or three, stapled at the spine, to create a small book) then they're ready to imagine and create en route.

Acrostic Poems

To create an acrostic, follow these five easy steps:

- Decide what to write about (for example, nature, earth, frogs).
- Write your word *vertically* on a sheet of paper.
- Brainstorm words or phrases that describe your idea.
- Write your brainstormed words or phrases on the lines that begin with the same letters as those in your original vertical word.
- Fill in the rest of the lines to create a poem.

Haikus

A haiku is an unrhymed three-line poem. It is based on a traditional Japanese poetic form. Though there are different ways to write haiku, the traditional pattern in English is to write the

first and last lines with five syllables each, and the middle line with seven syllables, thus:

Line 1: five syllables
Line 2: seven syllables
Line 3: five syllables

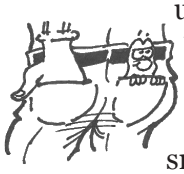
Most often, haiku poems are about seasons or nature, though you can write your own haiku about anything you like. One more thing to keep in mind is that the last line of a haiku usually makes an observation. That is, the third line points out something about the subject of the haiku.

Sound Map

Another great "special spot" activity. Give each participant one of your newly created nature journal pages (see Appendices). Have them mark an X in the middle of the page to indicate their location. Then have them move to a safe quiet place (which you have scoped out earlier on), away from their chums but where you can see them. Once there, for a predetermined time (five minutes seems to work well), have them listen with their deer ears (there's that imagination again) and mark the sounds they hear on the paper using the X as a reference point. For instance, a bullfrog on the right? Draw a frog icon to the right of the X. Whispering wind behind? Doodle some wind gusts behind the X. After your time is up, or the gang starts to get fidgety, gather up the maps to share listening, discoveries, and creations.

Stunts and Back Pocket Activities

Interpretive and outdoor education programs are universally underfunded. Fear not! Your talents as a magician, quiz master, and jack of all trades are invaluable assets. Here is just a smattering of stunts you can share with the group, especially during those down times or program gaps. An ability to "think outside the box" is common to all these "tricks."

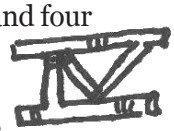


Magic Rocks

Grab a handful of rocks (or have a custom set in your bag of tricks). Carefully place them in front of you in a formation of your choice while sharing the mantra, "these rocks are going to help me represent a number from one to ten." Your audience will focus on the rocks while you surreptitiously arrange your fingers on your thighs to show your choice of one to ten as you kneel above the rocks. Instruct the gang that if someone feels he or she is a magic rock keeper, you'll give them a try to see if they do indeed have the magic touch. Advise all concerned that "a good magician never reveals his secrets."

Cosmic Number

Another mantra to commit to memory: four is the cosmic number. Why you ask? Give me any number between zero and twenty. Eleven. Eleven is six, six is three, three is five, five is four, and four is the magic number. Lost? Try thirteen. Thirteen is eight, eight is five, five is four, and four is the cosmic number. The number of letters in each spelled-out number is the key: one is comprised of three letters, two has three letters, three has six, and so on. Start with any number and count the letters in each number descending until you always finish with four, the cosmic number. Cool, right?



I'm Going on a Picnic and I'm Going to Bring . . .

This family road trip standby is still a winner. Begin by saying that you're going on a picnic and you're going to bring, if your name is Zelda, a zebra. Abe, who is next, is going to bring an apple and a zebra. Yes, you're right: each person attending brings an object that begins with the same letter as the first letter of their name, but they must also recount all those objects that have gone before. Variations: use the last letter of first names or go alphabetically, i.e., first person brings an aardvark, second a banana, third a carrot, etc.

The Rainbow Orb

Arrange the gang in that wonderful circle again. Use your imagination to see this beautiful sparkling rainbow orb I'm holding up to the light. This orb moves on voice command only. To pass it right or left (I'll begin) you must say "whiz." If

the intended recipient accepts it, she, too, can "whiz" it left or right. The voice command "bang" reverses direction and returns the orb to the previous holder. The last and most exciting command is "whoosh." The orb holder makes eye contact with someone across the circle. The holder then makes her best arcing three-point basketball shot while the intended recipient, now alerted to the incoming orb says "ahhhh" upon catching it. He or she can then whiz it right or left or whoosh it to another person. One can never "bang" a whoosh. Start with one orb but add several more and watch the fun. To finish, have everyone flatten their orbs and place them in their back pockets for future use.

Set the stage throughout by relating appropriate cool yarns. Strive to create a safe, welcoming atmosphere for members of the group to relate their own tales as well.

Murray Beach Provincial Park

Sample Program Outline:

Nature Connections

Program Outline:
Here is an example of what a typical four-hour school day program might look like at one of our provincial parks. Please use this as a guide to be adapted to suit your schedule needs. Frame your day using the Active Learning Cycle (pg. 20) of goal setting, facilitating, and debriefing, then use the tricks, tips, and tools we've provided to create your own customized adventure!

Introduction	45 minutes Introduce yourself and your team along with the area/site for your adventure, safety protocol, housekeeping (i.e.location of washrooms, garbage cans, etc.) and program details such as break/lunch times, basic schedule, and departure/ pickup time.) Circle Up, page 25 Full Value Contract page.16
Break	15 minutes
Activities	45 minutes Webbing Activities, Natural Connections, page 44 Pizza Toss, page 44 Symbiotic Relationships, page 29 Mosquitoes, Bears, and Salmon, page 27
Lunch Break	30 minutes
Nature Exploration	90 minutes (incorporate your break time below for a reflective activity), page 45
Break	15 minutes
Debrief:	15 minutes Talking Circle, page 20

Some thoughts:
Manage/plan pee breaks, especially with young children as an enmasse visit to limited washroom facilities (read pit toilet) can be a real time consumer.

Full Value Contract: Expand the conversation with questions such as Who will we respect? (Ourselves, each other, and Mother Earth) What does respect look like? Share examples or people who model respect. How do we show respect to Nature? Leave no trace page 9.

While on the Nature Walk (page 23,24):

Illustrate and reinforce connections to the larger circles (life, water, decomposition, etc.)through frequent fun group circles and your choice of games both prior to and during the walk. While on your adventure make frequent stops for "teachable moments": the beaver-gnawed stump, pileated woodpecker hammering, garter snake sunning herself on the trail, which will prompt stories and harken back to the "big circles" with some prompting. Sprinkle the walk with a smattering of reflective activities. Keep your back pocket games and stunts ready for changes in both weather and group behaviour.

Mount Carleton Provincial Park

Section V: Resources

Quotes
Here's a link to a great activity from CPAWS and a source for "natural" words of wisdom that are thought provokers for folks of all ages.
(cpawsnb.org)

Biodiversity Cards
(http://speciesinfonb.ca)

Like-minded Outdoor Recreation/Education Organizations
Have a look at the websites for these organizations, which offer a wealth of information and ideas.

CPAWS New Brunswick (Canadian Parks and Wilderness Society — New Brunswick Chapter)
(cpawsnb.org)

- Focus on protection of Canadian wilderness and nature
- Works with governments, communities, First Nations, and individuals to tackle nature conservation challenges, such as parks, oceans, rivers, forests, wildlife and natural areas, and climate change
- Offers volunteer opportunities, notices of events, information on parks and wilderness in New Brunswick, active conservation campaigns and ways you can help, and a section for kids and teachers called Watch Your Paws

Nature NB (naturenb.ca)

- Collaborates with other organizations to conserve and protect New Brunswick's natural heritage
- Offers lists of species at risk within NB
- Gives detailed information on Youth Summer Camps and Young Naturalists' Club
- Great source of outdoor recreation activities and ideas

Parks NB (tourismnewbrunswick.ca/See/Parks.aspx)

- Provides detailed information on New Brunswick's provincial parks
- Provides links to resources and professionals that can help answer any park-related question a person might have
- Good to check prior to visiting any of the provincial parks

Active Healthy Kids Canada (activehealthykids.ca)

- Emphasizes getting kids active
- Explores a multitude of avenues for physical activity among youth
- Helps to create better campaigns and policies that encourage kids to be physically active

Child and Nature Alliance of Canada (childnature.ca)

- Explores ways to get children and families outdoors, enjoying and experiencing nature; the co-founder of the GetOutside! program in Canada, along with BC Parks and CPAWS
- Involves a collaboration of organizations and supports to reconnect children to nature
- Uses evidence-based resources and tools to achieve their goals
- Focuses on grassroots leadership
- Partners with the international Children and Nature Network (childrenandnature.org)

Sentier NB Trails (sentiernbtrail.com)

- Offers an extensive guide to trails in New Brunswick
- Includes maps to various trails in various regions of the province
- Includes pictures and relevant news regarding events involving trails
- Offers extensive information on the New Brunswick Trails Council and their work

Recreation New Brunswick (recreationnb.ca)

- Not-for-profit organization
- Advances knowledge of Parks and Recreation
- Advocates for value and benefit of leisure and recreation for all
- Offers educational opportunities, resource materials
- Serves as a voice for recreation and parks movement in NB

The Nature Trust of New Brunswick (naturetrust.nb.ca)

- Non-profit, non-governmental organization
- Preserves New Brunswick's ecological landscapes
- Offers outreach and education opportunities
- Promotes sustainable stewardship practices and community involvement

Green Hearts: A Parent's Guide to Nature Play (greenheartsinc.org)

- Provides a link to a Nature Play Guide
- Gives a brief background for outdoor play, its decline in recent years, and reasons for this decline
- Suggests landscape, activities, and family play ideas
- Suggests tools and safety equipment needed to naturalize your backyard with different natural resources
- Offers helpful tips on how to spread the word

Sharing Nature Worldwide (sharingnature.com/index.php)

- Emphasizes Flow Learning, element of experiential learning
- Offers a wide variety of books, articles, and other writing to support wilderness education
- Offers programs, workshops, and activities for nature
- Schedules worldwide nature events

National Wildlife Federation, "Be Out There" (nwf.org)

- Emphasizes being in nature
- Offers activity section in which a key work can be entered to return a list of relevant activities and the organizations that hold them
- Offers locations and times for activities
- Offers a more specified search option

Outward Bound Canada (outwardbound.ca)

- Promotes physical activity and adventure recreation for all ages (mostly youth)

- Offers a list of adventure courses around the country (place age and type of course into a search engine for lists)
- Offers lists of programs and expeditions

Cache Up NB - Geocaching in New Brunswick (cacheupnb.com)

- Uses GPS systems to send individuals or groups searching for various places and items like a kind of treasure hunt
- Helps you get started, find locations, and be prepared for geocaching adventures
- Promotes wilderness and outdoor recreation
- Offers synthesis between technology and nature

Mactaquac Provincial Park

Appendices

Program Checklist

Program: _____

Why? Objectives of the Program:

_____

_____

_____

Who? Who is your intended audience?

Age Group: _____

Reason they would attend the program: _____

How/When/Where you will conduct the program:

How	Games:	_____	Talk:	_____
	Hike/Walk:	_____	Other:	_____
Date	Time:	_____	Program Location:	_____

Implementation: What do you need to present the program?

_____

_____

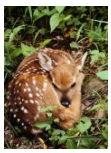
_____

So What? How will you know if your program objectives are met?

_____

_____

_____



Mactaquac Provincial Park
"Learning in Nature Adventures"
Needs Assessment Form

School/ Organization:		
Group description:	Group size:	
Contact person:	Phone:	E-Mail:
Date of outing:	Arrival:	Departure:
Special Needs: *please identify any medical or behavioural concerns:* Participant: Group:		

Adventure:	**Group Objectives:** *Please choose two*
O Waterfall Walk O Beaver Pond Voyage O Journey Up The Creek O Porcupine Promenade O Sugar Maple Trek O First Nation Nature	O Fun O Trust O Cooperation O Communication O Team building O Respect

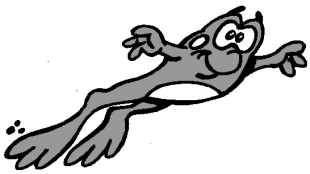
Academic Focus:

Additional Information:

Contact Info

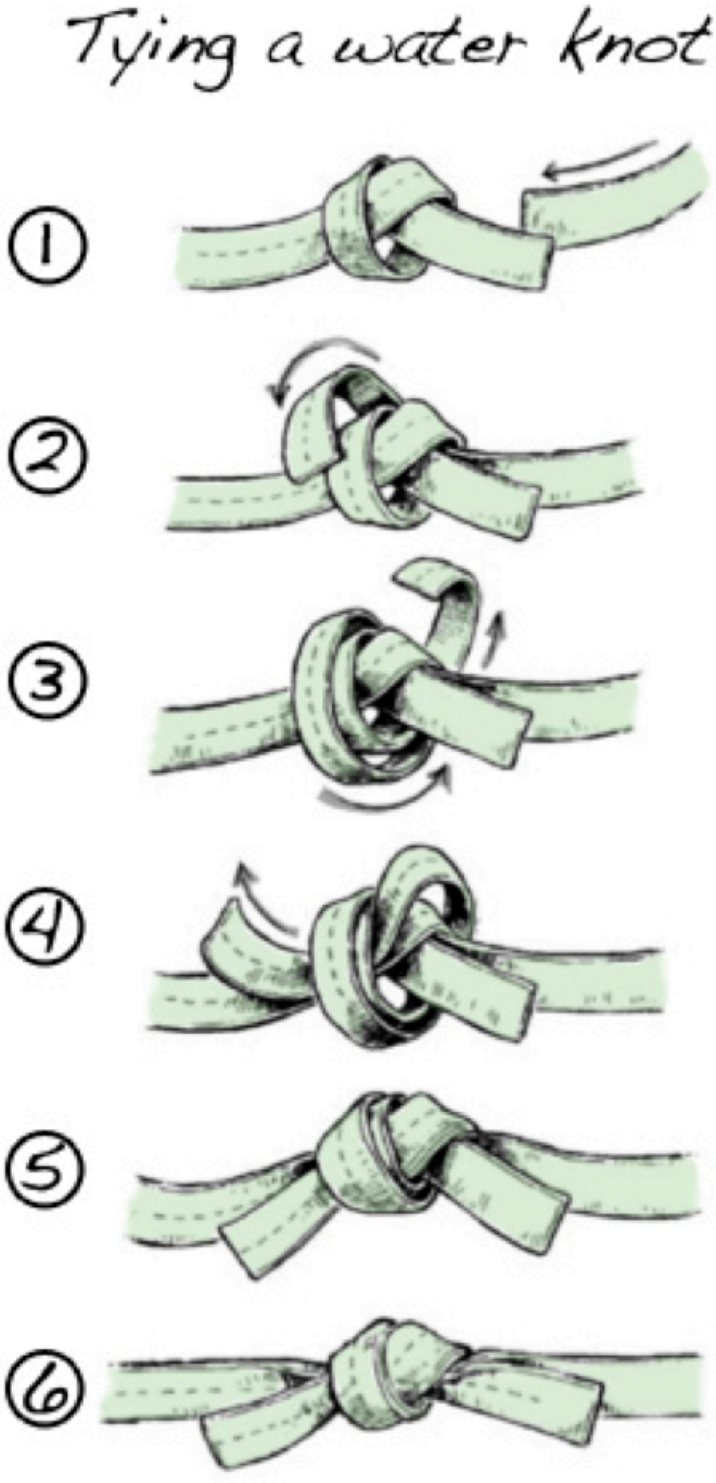
"We might find something that we weren't looking for, which might be just what we were looking for, really."
Winnie the Pooh

Mactaquac Provincial Park Journal



" On pourrait trouver quelque chose qu'on ne cherchait pas, mais qui pourrait bien être ce qu'on cherchait, en fait"
Winnie l'ourson

Journal du parc provincial Mactaquac



Tie a loose overhand knot in one end of the webbing (1 above). Thread the other end of the webbing in the revese direction (2-5 above) following the exact path of the first overhand knot. Pull the knot tight leaving two ten-centimetre tails and your croissant shaped water knot (6)

Bird Calls

Ruby-Throated Hummingbird

Ruby-Throated Hummingbird

Ruby-Throated Hummingbird

Ruby-Throated Hummingbird

Black-Capped Chickadee

Black-Capped Chickadee

Black-Capped Chickadee

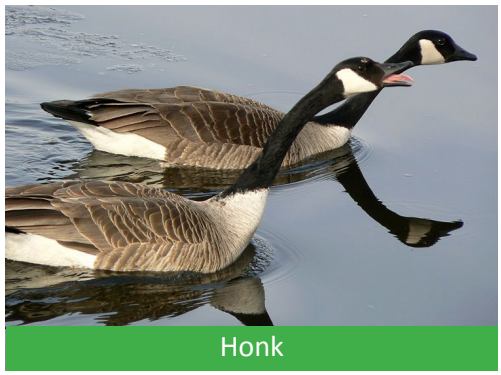
Black-Capped Chickadee

Northern Parula

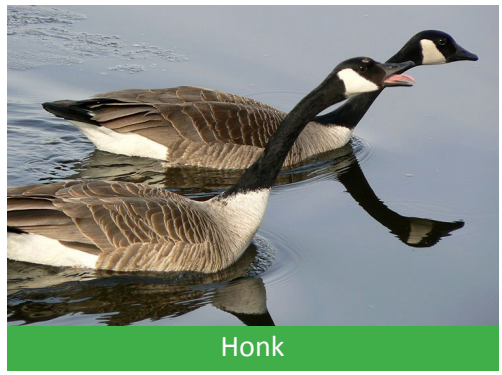
Northern Parula

Northern Parula

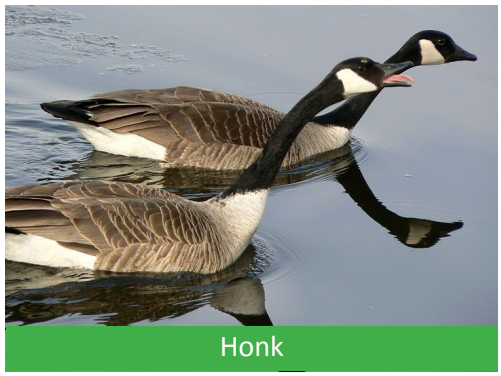
Northern Parula



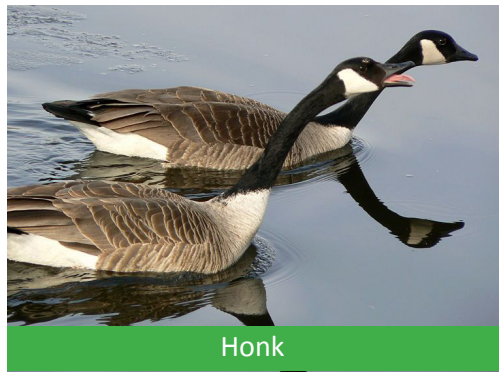
Canada Goose



Canada Goose



Canada Goose



Canada Goose

Caw

American Crow

Caw

American Crow

Caw

American Crow

Caw

American Crow

Witchy-Witchy-Witchy-Witch

Common Yellowthroat

Witchy-Witchy-Witchy-Witch

Common Yellowthroat

Witchy-Witchy-Witchy-Witch

Common Yellowthroat

Witchy-Witchy-Witchy-Witch

Common Yellowthroat

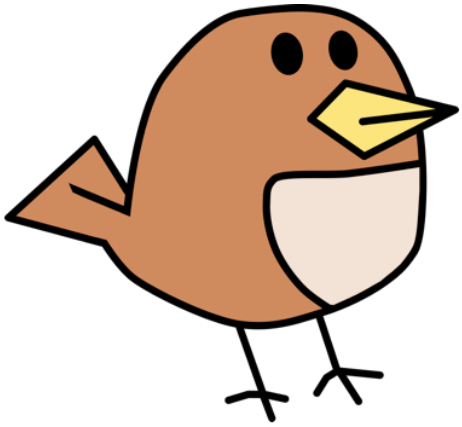
Black-Throated Green Warbler

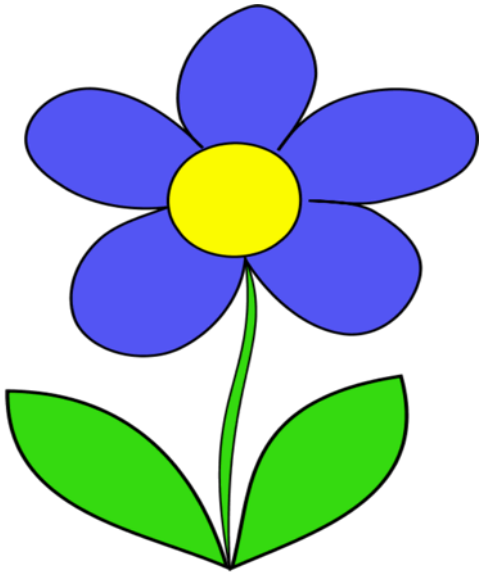
Black-Throated Green Warbler

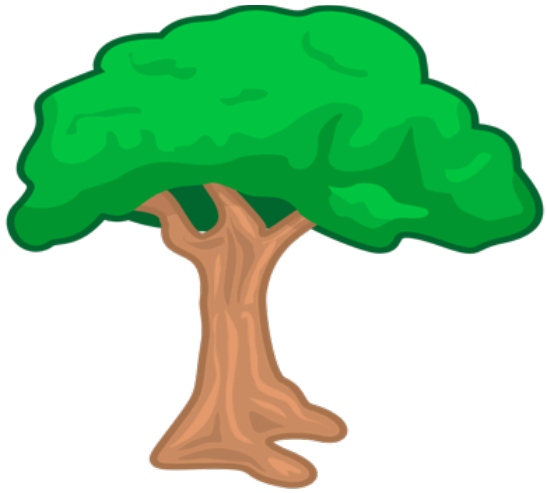
Black-Throated Green Warbler

Black-Throated Green Warbler

Monarchs Gotta Go Cards







Biodiversity Cards

New Brunswick biodiversity cards are free to download to your smart device.

There are over 80 species to be found on the website in French and English. This new technology brings New Brunswick's nature on to your portable device. These cards provide a new way to reach out and to educate people about our natural biodiversity.

How to download cards:

- Go to http://speciesinfonb.ca.
- Quickly create your own username and password.
- You must login to be able to download cards.
- Find your species by searching habitats or species groups or by the species's name.
- Click on the species image you want to view.
- Click on "Download PDF" for a single cards or click on "Download custom PDF" to download several at a time.
- Follow the instructions "Download PDF" on the web page.

We encourage you to download them to your favourite PDF program on your mobile instead of printing.

We encourage you to donate images for cards and to write texts for new species. We will then provide you with a username and password that allow you to edit existing cards and to create new ones.

Please contact Roland Chiasson to become a biodiversity card creator.

Bibliography

Beck, Larry, and Ted T. Cable. *Interpretation for the 21st Century*. Champaign, IL: Sagamore Publishing, 1998.

Cain, Dr. Jim, and Dr. Tom Smith. *The Book on Raccoon Circles*. 2nd edition. Tulsa, OK: Learning Unlimited Corporation, 2002.

Parks Act, SNB 2011, c P-202, s. 3, (2011), http://laws.gnb.ca/en/ShowPdf/cs/2011-c.202.pdf.

Roberts, Jay. "Teaching in the Outdoors: A Primer" May, 2007. https://www.outdoored.com/articles/teaching-outdoors-primer .

Rohnke, Karl, and Steve Butler. *QuickSilver: Adventure Games, Initiative Problems, Trust Activities and a Guide to Effective Leadership*. Dubuque, IA: Kendall Hunt Publishing Company, 1995.