CONSERVATION

Watching Out For Wildlife

A Guide for Leaders and Youth Leaders

4-H Ontario

Ontario 4-H Council

Ontario Ministry of Agriculture, Food and Rural Affairs

4-H 400 99 LE

The Ontario 4-H Program provides opportunities for the personal development of youth.

THE 4-H PLEDGE

"I pledge:
My Head to clearer thinking
My Heart to greater loyalty
My Hands to larger service
My Health to better living
For my club, my community and my country."

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This project was originally prepared by
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Special thanks to the original advisory committee which included Mark Burgham, Rod Deacon, Nancy Hunter, Karen Jones, Lise Ledoux, Angus Norman, and OMAFRA staff.

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WILD99L

KIDS HELP PHONE
JEUNESSE, J'ECOUTE
1-800-668-6868

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BE A "GREEN" 4-H CLUB

The 4-H program uses a lot of paper. Please help us to reduce our costs, and save a few trees, by remembering these tips.

- Only 4-H members (10-21) and screened volunteers should receive 4-H resources.
- If your club plans to do this project again, keep the resource materials so you don't need to reorder.
- If your club has extra resources, please return them promptly to the Ontario Ministry of Agriculture, Food and Rural Affairs office so they can be used by someone else.

WELCOME TO 4-H

It has often been said that, "Volunteer 4-H leaders are a blend of friend, teacher and parent." What a big order to fill! But you will discover that you have many talents as a 4-H leader. Having an interest in young people and their development and being willing to take up the challenge of 4-H leadership is the first step to success.

This project focuses on the conservation of wildlife and its habitat. However, the development of members as individuals is your real goal. You will get to know the club members and where their interests lie very well. Use this knowledge, your own expertise and imagination to help members plan a fun, interesting and challenging club program. And enjoy being a 4-H leader!

RESPONSIBILITIES

Before your project begins:

1. Familiarize yourself with current provincial and local 4-H policies;
2. Attend a leader training session (if scheduled);
3. Advertise the project and organize a club with a minimum of six eligible members and one volunteer leader per club except in cases deemed to be unique and approved by the local 4-H Association; and
4. Review available resources and begin planning the club program.

During the project:

1. Attend each meeting and the Achievement Program;
2. Assist members in planning and presenting the club program;
3. Provide a FUN, learning atmosphere;
4. Ensure the club membership list is completed and registration fees are collected and forwarded to the designated person in your area before the second meeting;
5. Order awards and project and name plates once membership list is completed;

6. Help each member to set and achieve goals for personal development;
7. Encourage members to work together as a group;
8. Provide guidance in choosing and completing an Achievement Program; and
9. Evaluate the club program, sharing the results with the 4-H Association and the Ontario 4-H Council.

4-H CLUB PROGRAM PLANNING

A successful 4-H club doesn't just happen! Careful planning is necessary and very important. As a 4-H leader, you have a responsibility to do the best job you can in providing a fun, learning experience for the 4-H members. Planning will make this a reality.

The 4-H Volunteers' Handbook has lots of valuable information to help you and your members plan a successful club program. Refer to "The 4-H Meeting" section of your handbook for tips on planning successful meetings, effective communication, games, judging and special events.

WHAT IS AN ACHIEVEMENT PROGRAM?

- An opportunity for members to share with others the knowledge and skills they have gained during this 4-H project.
- An activity that involves each member in some way.
- A chance to inform the public about the purpose and goals of the 4-H program.

Here are some Achievement Program suggestions specific to this project. Your club may wish to choose one idea or combine a few. Involve club members in selecting a suitable idea and making the necessary preparations.

Contact the local newspaper or radio to tell them about your activity, the date, the time and where it will be held.

Send out a personal invitation to the people you plan to invite to the Program, or send a personal request from your club to visit an organization and present your Achievement Program. Don't forget to include parents/guardians and/or family members.

1. Organize a nature hike or a program of nature activities for club members, parents and friends.

2. Invite parents and friends to take part in the Rooster Island Game, or make up a new set of circumstances for another wildlife species or location. Again, divide everyone up into the different interest groups and appoint a reeve. You may want to set a time limit, say an hour, and actually appoint a decision-making committee who will have to decide the fate of Rooster Island at the end of the meeting.

3. Arrange for a speaker from the Ministry of Natural Resources, conservation authority, the local field naturalist club, etc., to talk about an area of wildlife and habitat that your club is interested in, and invite the public. Members should be involved by welcoming guests, chairing the program, introducing and thanking the speaker, preparing questions to ask speaker, etc.

4. Invite parents, friends to tour the site of your club's wildlife improvement project, or that of one of the members. Members should explain the purpose of the project, how it was carried out, how it will affect the wildlife, results, etc. 4-H clubs are eligible for the Community Wildlife Involvement Program. Check with your district office of the Ministry of Natural Resources

5. Have a "Build a Better Birds' Nest" contest. Participants learn about birds' nests by picking out construction materials and actually trying to build a nest. Parents and friends should be invited.

   For materials you will need:
   - i) a field guide to birds' nests, with illustrations of a variety of birds nests that can be photocopied
   - ii) lots of potential bird nest materials: sticks, mud, straw, grasses, horse hair, bits of yarn or string, leaves
   - iii) a spring loaded clothespin for each person.

   If the season is cooperative-operative, you could begin by taking the group to look at a few birds' nests that are nearby. Be sure not to get too close to the nest if it is hatching season. The member who is leading the group should point out the nests, and identify, if possible, what sort of bird made them.

   Then return to an area with tables, and ask the group to divide into pairs. Each pair is to choose a species of bird they would like to be, and to construct the nest of that bird. They can use the reference book to determine the size and materials for that nest. (At this stage, copies of some of the pages would be helpful, rather than have everyone work out of the same book.) But they are only allowed to use the clothespins (as their beaks) and their feet to put the nest together.

   Give the groups 20 to 40 minutes to complete the nests, and then conduct a model homes tour each pair can explain what bird they were, and why their nest is that size, shape and made of those particular materials. You could also set up a score card and actually use the nests as a class to be judged.

6. Organize a night nature hike for club members and friends. In the dark, we can better understand the animals that are most active at that time. We can better use our other senses of touch and hearing when we can't rely as much on our sense of sight.

The member who is leading the night hike should walk through the area in the daylight, and be very familiar with it. Groups of 8 to 10 are considered to be an ideal number for a night hike, so you may have to split the group up into two or three parts.

When you're starting the hike, it's important to set the proper mood from the beginning by talking very quietly. You want to hear everything that is happening around you, and you don't want to advertise your presence to wildlife. Lead the group at a very slow pace; it's safer and quieter. Try to have only one flashlight per group, and to use it only in emergencies. Human eyes adjust slowly to the dark, but will adjust eventually to be as good as a deer's. But if we look at any lights, our night vision is quickly spoiled.

Things to notice:

- sounds of nocturnal animals: bats, insects, owls, deer, mice, raccoons, flying squirrels, night migration of flocks of geese and birds in the fall and spring, wind, water, creaking trees

- changes in temperature from one area to another

- smells, which are stronger at night than during the day, but confined to a smaller area

- changes in the feel of the ground - spongy feeling underfoot if you wander from the trail

You should try to find an area somewhere along the trail where the hikers can sit by themselves, about 10 feet apart. Explain that as you walk, you'll leave each person at a spot by themselves. For 10 minutes or so, they will sit or stand absolutely quiet, listening for sounds and watching for movement of animals. Also explain that you will pick each one up again at the end of that time. When the group is gathered again, quietly talk about what each heard or saw.

7. Who is there in your community with ideas, experience or opinions on topics in nature? Is someone working on a habitat improvement project? Is the township council making some decisions about land that would affect wildlife habitat? Would they be willing to share their knowledge with club members and guests?

   Make sure that club members are actively involved in the program by chairing, welcoming guests, introducing and thanking, making presentations on what they learned in the club, debating an issue, etc.

8. Have each club attending organize a nature activity suitable for the Achievement Program site. You may want to have some activities set up for smaller groups, and some for the whole group to do together. Your school or public library should have some books or magazines with ideas for nature activities. Depending on the size of the group, you might want to use this Thinker's Scavenger Hunt as an activity for everyone to work on.

THINKERS' SCAVENGER HUNT

Materials Needed:

- copy of the hunt requirements for every team (teams made up of 3-5 people; members, parents and friends)
- open or pencil, clipboard for each team
- box, glass or other holding tank for the scavenged items: 1 per team

There is a list of suggestions for things that might be included on the hunt. You will want to add and subtract things depending on the season and the location of your Achievement Program. You must respect the property you're using for the program. **Don't ask teams to collect things that require digging up or taking pieces from living things.** Also make sure that teams don't wander into fragile areas or those that are off-limits to the public. Try to select items so they relate to the senses - seeing, hearing, describing the touch of things, and applying the nature knowledge that you've gained through the project.

To begin, divide the group into teams of 3 to 5. Explain that they are going on an unusual nature scavenger hunt. Explain the boundaries and the time limit (usually 1/2 hour to 45 minutes). Hand out the list of clues and ask if there are any questions about the clues. If you have included any insects on the collection list, make sure to emphasize that they should be captured live, and will be released after the hunt. You may or may not want to recognize a winning team.

When everyone returns to the meeting point, go through the lists and look at what each team has collected for each clue.

Summer Suggestions

- one mouthful of substance, one part oxygen and two parts hydrogen
- dead leaf from a hardwood tree
- name and location of a living thing that makes sunlight
- empty chewing gum wrapper
- pocketful of leaves dead for at least 3 years
- something that centipedes would use for a home
- dead leaf at least 30 times as long as it is wide
- drawing of something that recycles nature' wastes
- empty soda or beer can
- handful of rocks, each of them no larger than 2 mm in diameter
- plant seed which could be easily blown by the wind

Winter Suggestions

- track from a predator
- wild seed that will attract winter birds
- 5 word description of a winter bird you see, with its name as one of the words
- dead leaf from a deciduous tree that still has some of its leaves
- name of a deciduous tree with leaves still on
- pocketful of cold crystals
- track from a herbivore that hops or walks
- description of a place where snakes may be hibernating
- something that doesn't belong in this area and why
- dead flower from last summer
- hitch-hiking plant
- track from an animal that an owl eats

Summer Suggestions Cont'd

- wild seed that will attract birds
- animal that crawls, but that will change into one who flies
- scat from a herbivore that walks or hops
- fruit of an oak tree that deer eat
- description of two different kinds of moss by feel and colour

Winter Suggestions Cont'd

- description of 3 different kinds of bark by feel and colour

SPECIAL NOTES FOR THIS PROJECT

1. Any page number in this guide refers to the Members' Manual unless otherwise noted.

2. The Members' Manual has been designed as a reference source. Encourage members to leave their manuals closed for most of the meeting, allowing them to observe, learn and take part in the discussion and other activities. It is **not necessary to read** all the information given in the Members' Manual during the meeting. The page numbers in this Guide refer to the Members' Manual unless otherwise indicated.

3. You are free to change the order of meetings and information if you like. **Also, remember if you do rearrange the order of meetings, you might need to reorder the "Before the Next Meeting" activities so that they fit with the Roll Calls.** The schedule of meeting dates can be recorded on page 8.

4. **Remember to Refer to Your 4-H Volunteers' Handbook** - You will find many useful tips and ideas covering topics such as program planning, successful meetings, parliamentary procedure, effective communicating and presentation methods. Refer to your Volunteers' Handbook as you plan meetings. If you do not have a Handbook, please order one through your OMAFRA contact.

5. **Judging** - Judging tips is an optional activity in meetings in this project. These tips have not been included in the normal one hour meeting time. Each member should have a 4-H Judging Handbook (4-H-1550-91) and be encouraged to use it. These can be obtained from your OMAFRA contact.

6. **Optional Activities** - There are meeting activities, meeting mixers and extra topics for discussion that have been listed in this Guide. They provide greater detail and information and should be used as a resource for meeting presentations.

At the bottom of the table of contents page in the Members' Manual you will see the Kids Help Phone logo and number. Kids Help Phone is available to over 7 million children and teenagers throughout Canada.

It is a national, bilingual, confidential, toll free help line staffed by paid, trained professionals. In response to the problems and concerns of our youth, Kids Help Phone provides a listening ear, emotional support, counseling, information and referrals. Children and teens from anywhere in Canada can call anonymously 24 hours a day, 365 days a year.

Children and teens can call about anything that is bothering them including: abuse; drugs; alcohol; conflicts with parents, friends or teachers; pregnancy; sexuality; suicide; or parental separation and divorce.

Please mention this number to your members and explain what it is for. Make sure they know that it is free and they don't have to give a name or address.

☎☎☎☎☎☎☎☎☎☎☎☎☎

The Kids Help Phone gets 1000 calls a day... 2000 more get a busy signal. If you or your club or someone you know would like to make a donation to the Kids Help Phone, call 1-800-268-3062.

FEEDBACK

The 4-H Resource Development Committee of the Ontario 4-H Council reviews and evaluates 4-H resources. Comments and suggestions about 4-H manuals and guides are always welcome. They may be sent to the following address.

4-H Resource Development Committee
Ontario 4-H Council
R.R. #1 Thornloe, Ontario P0J 1S0
Phone/Fax: 1-800-937-5161
E-mail: lduke@ntl.sympatico.ca

4-H CLUB PROGRAM PLANNING CHART

MEETING OR EVENT	DATE	TOPIC ACTIVITY OR TASK	PEOPLE WHO COULD HELP	PRESENTATION IDEAS TO CONSIDER

MEETING ONE WHAT'S IN A HABITAT?

OBJECTIVES

1. To have members and leaders get to know each other.
2. To have all 4-H members understand the structure and format of the 4-H club meeting.
3. To elect a club executive who will be responsible for the business portion of the meetings.
4. To have members understand what is expected of them for completion requirements.
5. To have members understand that a species' habitat must supply its needs for food, water, cover and space.
6. To have members realize that an understanding of habitat leads to an understanding of the wildlife you're looking at, and vice versa.

PREPARATION AND EQUIPMENT

For this meeting you will need:

- name tags
- enrollment cards and membership lists
- Club Project" signs (if available)
- Members' Manuals
- for "In the Right Habitat at the Right Time," you'll need about 30 caramels; 10 chocolate, 20 butterscotch candies and a place to hide them.

TIME GUIDELINES

A time guideline has been provided for each section of the meeting. Please remember that this is only a guideline. The number of members, their maturity, specific interests and the way the meeting is structured will all influence the duration of specific activities.

IN A NUTSHELL

Getting Started	15 min.
Roll Call	5 min.
A Road Map to Good Meetings	20 min.
Looking for Just the Right Habitat	20 min.
In the Right Habitat at the Right Time	20min.
Before the Next Meeting	5 min.
	85 min.

Optional: Review Questions
Digging Deeper (seniors)

GETTING STARTED (15 minutes)

1. Begin with the 4-H pledge. (Make sure new members have a copy to look at.)
2. Welcome the members. Introduce leaders. Have members introduce themselves. Introduce the youth leader (if this has been decided). Ensure that everyone has a name tag (optional).
3. Complete membership list.
4. Outline the opportunities members have such as taking part in the local fairs, 4-H Go For The Gold, 4-H Members' Conference etc...
5. Distribute "4-H Project" signs if available.
6. Distribute the Members' Manuals.
7. Give a brief summary of what club is about and topics covered.
8. Discuss the members' requirements for the project (page 1). Outline any expectations you have of the members.
9. Briefly discuss the Achievement Program possibilities.
10. Refer to Group Games and Social Recreation (4-H-021-91) for some get acquainted activities.

ROLL CALL (5 minutes) page 7

At the beginning of each meeting there is an easy question that all members can answer. Show an interest in the members and their responses. This encourages them to participate throughout the meeting.

ROAD MAP TO GOOD MEETINGS (20 minutes)

It is important for everyone to become familiar with the basics of running a good meeting. Review with members the purpose of an agenda and the executive's responsibilities. Have the club members elect an executive. You may find the 4-H Volunteers' Handbook and the OMAFRA Factsheet, Procedures for Meetings (96-009) helpful.

The club president will chair the short business section at the beginning of each meeting. Helping members to understand and use the basics of running a meeting will help them to become familiar with the process.

LOOKING FOR JUST THE RIGHT HABITAT (20 minutes) page 7

Early in the discussion about habitat, you could ask the members to think about their roll call answers. (There is some additional information, on pages 14-16 of this Guide, about each of the parks.) How did their general knowledge of the area lead to guesses about the animals?

Example:

Nahanni - northern climate -------> arctic hare
- sparse vegetation ------> arctic fox
tundra, few arctic plants

Point Pelee - warmer, more vegetation -------> more plant and animal life
- longer growing season -------> more variety in vegetation

Discuss the text with the members at a speed you're comfortable with. Junior members may need more examples, or may have to go over some of the concepts more than once.

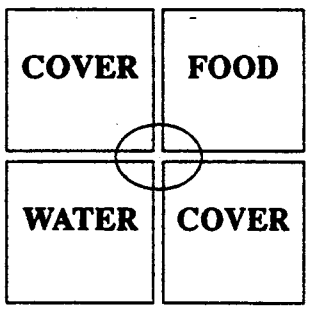
What are some wildlife habitats in your area? Members might suggest some of the following:

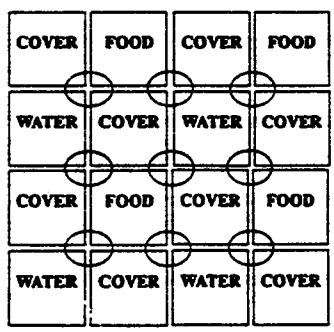
stream	pasture	fence row	roadside ditch
marsh	forest	river	
edge of a field	pond	your backyard	

Discuss the four basic things needed to survive. To illustrate the need for all four to be present, take four blocks and label one as food, one as cover, one as water and one as space. Have a member stack them up and hold them horizontally between a finger on each hand. Remove one of the basic requirements and the "habitat" crashes.

How many birds could be supported by this arrangement of food, water and shelter as shown on the left? **Answer: 9**

To illustrate the point about edge zones, have a member take four pieces of coloured paper and place them as in the left diagram. Then cut up the paper into smaller pieces and re-arrange them as in the right diagram.





IN THE RIGHT HABITAT AT THE RIGHT TIME (20 minutes) page 10

This activity illustrates the relationship between a wildlife species and its habitat, given some information about the species and its behaviour. How you organize the activity will depend on the location of the meeting, and the season you're working in.

Ideally, you'll need an outdoor area: the edge of your lawn, or near flower beds, and 30 caramel candies, 10 of the chocolate (males) and 20 of the butterscotch (females). Hide them in this "edge" habitat before the meeting. During the meeting, the members will read the description in their books about the species, and try to figure out what it looks like. Ask them "Where on this property might you look for Carmelatus", given what they've been told about its preferred habitat.
Next, tell the members that you've actually seen some of these Carmelatus on this property, and invite the members to go out with you to see some for themselves. Provide baskets, jars, cups, etc. to hold the specimens they find.

When you're on the site, tell the members that they are, for a while, going to become part of this habitat, searching for Carmelatus as a source of food.

Explain that you will give a signal at the end of every minute of the search. To stay alive (and in the game), the predators must find a Carmelatus by the end of each minute, or drop out of the game. Then let the members begin their search.

Don't be tricked into giving away the real identity of Carmelatus. Part of the game is getting the members to overcome some of their assumptions of how things should look, and to expand their expectations of what they will find.

After the last predator has died, (usually in 4 to 5 minutes), you can ask them what they found out about searching, and about being a predator. Some of their answers might be:

- competition with other predators for food
- scarcity of food in the area they chose for their search
- wildlife's constant search for food as a matter of survival

Find out how many of the males and how many of the females were found - are there enough left to regenerate the population again?

If the meeting isn't in a cooperative season for an outdoor search, you could also hide the caramels in an area within the house, or a barn or shed. Again use the time limits to eliminate predators from the game.

BEFORE THE NEXT MEETING (5 minutes) page 11

The Before the Next Meeting activities for this project are supposed to be fun and simple - if there are blanks or lines provided in the members' manual, the members can answer the questions with point form or 1 word answers. If there are no blank lines, they should just try the activity; nothing else is required.

Before Meeting Two, the members are to start looking at wildlife and habitats in their own communities, and to record their comments in the blanks provided.

AFTER MEETING ONE

To prevent dropping out, take time with new members to make sure they know what's expected of them. Make them feel welcome and offer to help them in any way you can.

OPTIONAL REVIEW QUESTIONS

Meetings one, two, four and five include optional review questions in the Leaders' Guide. These questions may be used as a capsule review of each meeting if time permits. They can be read aloud for all to answer or the group may be divided into teams. These same questions may be used for "4-H Go For The Gold" competitions as well.

1. What are the four basic needs of wildlife?
   ***food, water, space and cover**

2. T or F: For an animal, cover means an area of protection from the weather, and from its enemies.
   *** True**

3. Which of these are edge zones?
   a) space between two furrows in a plowed field
   b) strip of unplowed grassy land between two fields
   c) a soft marshy area between a field and a farm pond
   ***Answer: b & c**

4. The largest number of animals (from one species) that a habitat can support is known as what?
   ***the carrying capacity**

5. Why are edge zones important to wildlife?
   ***they offer a variety of cover and food sources**
   ***they can also be important travel zones for wildlife**

6. When you make a motion at a meeting, you are:
   a)waving your hand to get the chairperson's attention
   b)making a suggestion or putting forward an idea for consideration
   ***Answer: b**

7. If a two acre field of clover can support 10 rabbits, and 1 acre is plowed up, what would happen to the rabbit population?
   ***It would decrease, because the food supply has decreased. Fewer rabbits can obtain their food supply from this habitat.**

ADDITIONAL INFORMATION

The following notes about each park are **for your reference only.** You can refer to them if you or the members want to learn a little more about each park, or if the members have some specific questions about the parks.

TERRA NOVA NATIONAL PARK, NEWFOUNDLAND:

Terra Nova, Canada's most eastern park, is almost 400 square km (155 sq. miles) in size. Thirty percent of the park is ocean! Much of the park is bog, or covered with very thin soil.

Plants: pitcher plants, 8 species of aster, 10 species of goldenrod, 7 species of orchid, tamarack and spruce trees

Birds: bald eagles, ospreys, boreal chickadee (a soft-brown coloured cousin of the black-capped chickadee)

Animals: lynx, fox and black bear, river otter are native to the park; snowshoe hare, mink, red squirrel and moose have been introduced.

In the "water" part of the park, you can see pilot whales, who swim through the park in groups (or "pods") of up to 50.

For more information, contact: Terra Nova Provincial Park,
Glovertown, Newfoundland
A0G 2L0
Telephone: (709) 533-2801
Fax: (709) 533-2706
OR

Internet:
http://parkscanada.pch.gc.ca/parks/newfoundland/terra_nova/terra_novae.htm

POINT PELEE NATIONAL PARK, ONTARIO:

Point Pelee is on a thin strip of land at the southernmost point of Canada, and it has the warmest climate in Canada. The park land stretches as far south as the border of northern California. It is one of Canada's most visited parks, but not one of the largest; only 10 km long by 4 km wide.

Plants: Many of the plants and flowers at Point Pelee are only found here and nowhere else in Canada. Most of the park is marshy, and supports exotic plants like the prickly pear cactus, red cedar, dogwood, and hackberry trees, as well as a large stand of Carolinian forest.

Birds: Birds are really Point Pelee's claim to fame. Birds migrate along fairly long and wide routes, and for many species, a pit stop at Point Pelee is a must on their trip. About 334 species of birds have been seen at Point Pelee since the turn of the century; almost 100 species nest there and about 50 stay over the winter. The high points of bird watching season are mid-May and in the autumn. The park is also a favourite of monarch butterflies.

Animals: squirrels, deer, raccoon, mink, skunk, coyote, bats, reptiles and amphibians.

For more information: Point Pelee National Park
R.R. # 1, Leamington, Ontario
N8H 3V4
Telephone: (519) 322-2365
OR
Internet: http://parkscanada.pch.gc.ca/parks/ontario/point_pelee/point_peleee.htm

NAHANNI NATIONAL PARK, NORTHWEST TERRITORIES:

Nahanni is one of Canada's wilderness parks, accessible only by boat or float plane. Visitors to the park backpack or fly in to Virginia Falls, which at a height of 294 feet, is more than 12 times as high as Niagara Falls. The shape of the park follows the South Nahanni River, where you can canoe over rapids and through canyons carved out by glaciers, and through the famous Deadmen Valley, named for 3 gold prospectors whose bodies were found there in 1908. Legends say that the bodies were found without the skulls. Canoeists riding the Nahanni current past Prairie Creek can look north into the Headless Range mountains, named in memory of the murdered McLeod brothers.

Plants: aspen, birch, reindeer moss, blueberries

Animals: black bear, wolverine, Dall sheep, wolves, caribou

For more information: Nahanni National Park,
Reserve Postal Bag,
300 Fort Simpson,
Northwest Territories,
X0E 0N0

OR

http://parkscanada.pch.gc.ca/parks/nwtw/nahanni/nahannie.htm

SOUTH MORESBY NATIONAL PARK, BRITISH COLUMBIA:

South Moresby is one of the newest national parks, opened to the public in 1989. It is part of the Queen Charlotte Islands, which have the climate and vegetation of a coastal rain forest. The average daily temperature is 8EC, much warmer than most of the rest of Canada.

Plants: giant cedar, that were used by the Haidi Indians in making totem poles, Douglas fir, sitka spruce

Animals: sea lions, pink and coho salmon, trout, black bear, gray whales, dolphins, harbour porpoises, hair seals. California gray whales migrate north past the park in May and June.

For more information: South Moresby National Park Reserve
PO Box 37
Queen Charolotte, B.C.
V0T 1S0
Telephone: (250) 559-8818

DIGGING DEEPER - OPTIONAL INFORMATION FOR SENIORS, **Separate Handout**

If the senior members are already familiar with the basics of habitat requirements they might like to discuss population dynamics.

MEETING TWO BECOMING "THE GREAT NATURE DETECTIVE"

OBJECTIVES

In Meeting Two, members discuss a variety of wildlife watching techniques, to help them prepare for their field trip in Meeting Three. They will also learn about outdoor etiquette and trail safety.

PREPARATION AND EQUIPMENT

The information that's given in the Members' Manual is just a general outline of some things to look for in outdoor environments. **Don't feel that you have to cover all of this during the meeting. Focus on what your members will be most interested in.** An expert wildlife observer, such as a staff person from the Ministry of Natural Resources, a local conservation authority, outdoor education centre, naturalist or hunter or trapper would be a great guest speaker for this meeting. They could comment on where, what and how you are likely to see wildlife in your particular area.

A recording of nature or bird calls would be an excellent addition to the outdoor sounds information. Your local library may have one for borrowing.

There are two possible activities offered for the Stalking section:

- for Key Keeper, you'll need a set of car keys, blindfold
- for Stalking Obstacle Course, you'll need an area for the course, a 3 m or so stretch of gravel, smooth lawn, and some noisy clothing, such as a plastic jacket or rubber boots.

Members also discuss making written observations about wildlife, or journal notes in this meeting. If you have the time and opportunity, you might make some notes yourself to show as an example, either of casual observances around your home or during a walk, etc. As another alternative, you or a senior member could be secretly taking notes on a member during the meeting. When you begin to talk about journal notes, have the observer read their notes, and see if the members can decide who was the subject of the observation.

IN A NUTSHELL	
Roll Call	5 min.
Who's Watching	20 min.
Tricks of the Wildlife Watcher's Trade	20 min.
Journal Notes	10 min.
Being a Welcome Guest in Someone Else's Habitat	10 min.
Before the Next Meeting	5 min.
	70 min.
Optional: Review Questions	
Digging Deeper (Seniors)	

ROLL CALL (5 minutes) page 13

This roll call should start the members thinking about what it's like both to watch and to be watched by something or someone else. Their answers will probably be fairly straightforward: "getting on the school bus", "talking to my best friend", etc.

WHO'S WATCHING? (20 minutes) page 13

What might be some signs of wildlife? Members could form small groups and brainstorm for a minute to come up with a list. Possible answers that members may give include:

- half eaten leaves, branches, nuts
- scat (animal manure)
- tracks, fur (sometimes stuck to branches)
- birds' nests, calls
- owl pellets - indigestible balls of hair and bone that owls regurgitate
- browse - shrubbery like dogwood and willow bitten off sharply (sure signs of deer, rabbits, mice)
- clearings scratched out from underneath leaves, beside fallen logs, etc. where animals have been hunting for food
- scrapes - marks on ground where it has been pawed by deer
- rubs - marks on trees made by deer and moose rubbing their antlers
- indigestible seeds of fruits

TRACKS

Have a junior and senior member work together to match the track with the maker.

Answers:

1. Raccoon	2.Long-Tail Weasel	3. white-tailed Deer	
4. Moose	5. Snowshoe Hare	6. Red Squirrel	7. Deer Mouse

Optional Activity:

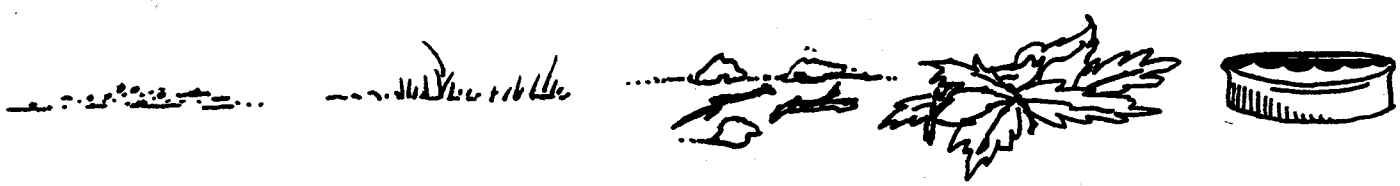
Try to find an animal track near the site of the meeting, or use your pet's as an example. Also have members make their own footprints in a muddy or snowy surface. Have them measure the distance between the animal's tracks and calculate how many steps or paces it would take the animal to cover a meter or kilometer. How many paces would it take the members to travel that same distance?

TRICKS OF THE WILDLIFE WATCHER'S TRADE (20 minutes) page 15

After you've discussed the information in Hiding and Stalking, you can illustrate the text with either one of these activities (or both if you have time).

Keeper of the Keys:
Ask the members to form a fairly spread out circle, with one member in the middle. Ideally, members would be sitting on a lawn, standing in snow or wet ground, or if necessary, in a room indoors. You then place a set of keys in front of the member in the centre, who is blindfolded. Silently, select one of the other members to stalk into the centre and take the keys before he/she is heard by the blindfolded person, the keeper of the keys. To keep the keys, the keeper must touch the stalker before he/she can reach the keys. The keeper cannot move from his place in the centre of the circle. After a few rounds, move the game to a field or woodlot area if one is close by and play again. Ask the members if the new location makes it harder or easier, and why.

Stalking Obstacle Course:
For this activity, you'll have to make up a trail of sorts, over as many surfaces as you can find, basically anything that makes noise when you walk on it. Examples: gravel, leaves, sticks.



For the game, line members up on each side of this course, facing away from the course, with their eyes closed. Then select a member to actually walk through the course, trying to make as little noise as possible. Every time one of the sideline members hears a noise, he/she will take a step away from the course. The aim of the stalker is to make as little noise as possible, while those on the sidelines will concentrate only on their listening skills. You can vary the game by asking different stalkers to walk, run or walk backwards through the course. You could handicap them with a rustling nylon jacket, rubber boots, bulky overalls, etc. The stalker can check his effectiveness by noting how far the other members have moved away from him/her, just as wildlife would move away from a disturbing noise. If you wanted to make it a competitive game, ask those on the sidelines to count their steps, and make a grand total for each stalker. The stalker with the least points (total steps away) would win.

Either of these activities will point out how difficult it is to "sneak up" on the wildlife we are trying to observe, and also the skills that predators must develop to successfully capture prey.

JOURNAL NOTES (10 minutes) page 17

Stress to members that field notes are very informal; the emphasis is on capturing information, not style, spelling, or grammar.

Have the senior member who has been secretly taking notes share them now with the club.

BEING A WELCOME GUEST IN SOMEONE ELSE'S HABITAT (10 minutes) page 18

To talk about some basic outdoor etiquette and safety suggestions, you can use this variation of the game Pictionary, which most of the members will probably be familiar with. The game is played in two teams; an "artist" on both teams is given a secret word, and it is their job to sketch clues that will lead their team members to say the secret word. The artist cannot talk. At your signal, the teams have one minute to guess the word as it is being drawn, and the first team to say the word gets a point. (Tell them the word if they don't get it in the minute.) The teams can then get another point by coming up with a suggestion or idea about that word in relation to outdoor etiquette and safety.

In the chart on the next page, the words on the left are the clues for the artists. Examples of safety and etiquette points are on the right. You can award points for any suggestions that seem reasonable. Once again, don't feel that you have to use all of these suggestions in a game. Add any other words that you think would be suitable.

garbage	-don't litter; take your garbage with you; pick up other people's litter that you find
campfire	-only build a fire where there's a fire pit -never leave a fire unattended -be sure the fire is completely out when you leave
ashes	-scatter your campfire ashes
bird's nest	-never disturb an occupied bird's nest
trail	-follow a trail and don't damage any other vegetation in that area
first aid	-take a first aid kit with you
ask, property	-ask permission to walk on someone else's property

food	-never eat anything wild unless you are positive it's safe as food -be very careful about collecting or destroying anything that wildlife uses for food -take a small amount of food with you on a hike to restore your energy, or in case you get lost
home	-tell someone when you expect to be home -treat wildlife's home as you would your own
clothes	-wear clothing that will keep you comfortable, and protect you from insects
insects	-wear insect repellent, or protective clothing
photograph or footprints	-take nothing but photographs; leave nothing but footprints

BEFORE THE NEXT MEETING (5 minutes) page 18

Make members aware of the details for the field trip: when, where to meet, what to take, what to wear, etc.

DIGGING DEEPER - OPTIONAL INFORMATION FOR SENIORS, **Separate Handout**

Here are some other possibilities for seniors if they don't take part in "Keeper of the Keys" or "Stalking Obstacle Course".

OPTIONAL REVIEW QUESTIONS

1. Name three things you might see in nature that would be signs of wildlife activity.
   ***half eaten leaves, branches, nuts, scat, tracks, fur, birds' nests, owl pellets, browse, scratched out clearings, scrapes, rubs**

2. True or False Like humans, birds and animals are most active during the day, so that's the best time to watch for them.
   ***F. Many animals are nocturnal, or active at night; many are most active at dusk or sunrise.**

3. What are owl pellets?
   ***indigestible balls of hair and bone that owls regurgitate**

4. What are three clues you might see in an animal track about the animal and its activity?
   ***weight and size of the animal by the size, depth of the track**
   ***whether it was walking slowly, or running, hopping, etc.**
   ***if it was being chased by another animal or met another animal (if you see other tracks nearby)**

MEETING THREE

A WALK ON THE WILD SIDE

OBJECTIVES

Members who were in previous wildlife 4-H projects asked for more outdoor work and field trips. Meeting Three has been set up to give members a chance to actually look for and use some of the things they've been talking about in the project so far, and also to have fun.

IN A NUTSHELL

Roll Call	5 min.
Initial Exploring	10-15 min.
Meet a Tree	15-20 min.
Food Chains	10-15 min.
Journal Notes	10-15 min.
Candid Camera	10-15 min.
Before the Next Meeting	5 min.
	65-90 min.

Optional: Review Questions
Digging Deeper (Seniors)

ROLL CALL (5 minutes) page 19

You might start off by actually showing the members an example: drawings of wildlife on Canadian stamps or coins, or wildlife photographs used in a newspaper or magazine advertisement.

Other examples: cougar, lynx, bob cat as names of cars
"Nothing runs like a Deere" in ads for farm machinery

MEETING ACTIVITY (at your discretion - about an hour)

How you organize this meeting will again depend on the season and location you're working with. All of the activities listed here should be adaptable to almost any habitat, but they are only suggestions. If you, or the member organizing this meeting, want to try different activities, go right ahead. As an alternative, the club could take part in an activity run by a conservation authority, park, etc., or arrange for a nature tour by one of their staff.

Professional nature interpreters suggest that if you are going to lead a tour, you should walk through the planned route beforehand, noting both places of interest and areas of possible danger for the group. They also suggest that you plan more activities than you really hope to use, in case one just isn't interesting for the group, or the group works faster than you expected.

Think about the number and age range that exists in your club. It may be easier on you (and on the habitat) to divide them into two smaller groups, and use two or more smaller centres of activity, rather than one large one.

Members should not collect or disturb anything in the natural environment. Everything has a purpose in its original place.

SUGGESTIONS FOR MEETING ACTIVITIES

Have club members gather a short distance from the actual site of the habitat, and after the roll call, start walking toward your destination. Ask the members to look at the habitats they are passing through, and talk about what the components of these are.

If you see a suitable area, you could try a demonstration of the damage we can do just by walking through an area. Find a section of long grass, or moderately deep snow, and select a member to walk about 10 paces or so through it. Send two members after him/her, telling them to follow as closely as possible in the same footsteps. Look at trampled grass or snow, broken limbs, crushed insects, etc. as a result. Then send the member back over his footsteps again, but with a member flanking him/her on either side. Now look at the damage that the group has caused as compared to the three that followed each other. Do they think that park managers have reason to ask park visitors to stay on the trails?

You can use the following outline to organize the rest of the meeting's activities. Pick and choose to get the activities best suited to your members and the area you'll be using. The journal notes and the food chain activity should be incorporated into the meeting at some point.

INITIAL EXPLORING (10-15 minutes)

When you reach the site, give the members an overview of the area, what type of habitat it is, and any areas that are especially fragile, dangerous or off-limits. Establish a central area (preferably in a clearing or bare area) where they will return for discussions or if they get separated from the rest of the group. Then ask the members to form pairs, and send them off into the habitat, in different directions. Stress the need to watch their footsteps, to try to be as quiet as possible, and to stay within sight of you in the central meeting spot. On this first adventure, ask them to look for as many signs of wildlife as they can find, and to make a list. You could also ask them to find a plant that they don't know, and to sketch it. Signal them when you want them to return, and compare the findings. You can have members try to identify the unknown plants. You should also have a field guide there for a positive identification.

"MEET A TREE" (15-20 minutes)

One member of a pair leads the other one, who is blindfolded or wearing a hat over his eyes, carefully back into their previous search area, and places him in front of a tree. The blindfolded member tries to find out as much as he can about the tree with his other senses. How big is it around, what is the texture of the bark, leaves? Are there any branches close to the ground? What do the bark and leaves smell like? What does the ground feel like around the tree? When the blindfolded member thinks that he knows all about the tree, the partner will bring him back to

the central area, weaving and turning the other member around to confuse him. Back in the central location, the blindfolds are removed, and it is the member's job to find his tree again. Could he find this tree a day from now, a week from now, or in 6 months or in a year? What would make it harder or easier? (Members might suggest: seasons of the year (leaves on in spring, summer, fall, but not in winter), tree might die, be cut for lumber, grow much larger, other trees around it might change.)

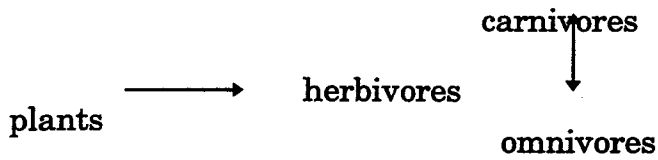
FOOD CHAINS (10 - 15 minutes)

Most of the members will probably already be comfortable with the idea that energy, coming from the sun, is trapped by grass that provides food for cattle who in turn provide food for us. The members may need some encouragement to see that that same pattern exists in the habitat they're visiting. Before the meeting, or while the members are busy with some of the earlier activities, try to look for some food chains that you see in this area, to use as examples.

The initial energy for all food chains comes from a combination of:

- sun
- soil
- air
- water

and from these elements, the rest of the chain develops into:



Plants: plants are the producers in the food chain. They are the only organisms which can trap and convert the sun's energy into food for other animals.

All animals are consumers in the food chain, and they are classed according to the food that they require.

Herbivores: animals that eat plants

Carnivores: animals which catch and eat other animals

Omnivores: animals which can eat both plants and animals

Possible examples of food chains:

grass → grasshopper → shrew → hawk
insects → sparrow → hawk or owl
insects → mole → owl

apple tree twigs → rabbits → red fox
grasses → field mouse → red tail hawk
dead flesh → crayfish → great blue heron
fly → frog → water snake
clover → rabbits → coyotes
insects → small birds, eggs → skunks

Food chains can vary in length, depending on the species involved. For example, the food chain involving

trees → porcupines

often has only these two components, because porcupines present a prickly problem to carnivores.

When you are looking for examples, it's easier to begin with a carnivore, and work down to the other animals and plants that support it.

JOURNAL NOTES (10-15 minutes)

Members should be involved in a journal note activity at some point during this meeting. Start by sending them out from a central position, (like spokes in a wheel) or dropping them off along a trail, about 4 or 5 metres apart. After 15 min or so, walk back along the route and pick them up, or signal them to return to the central area. This will give members 10 - 15 min for silent individual observation, trying to pick up sensory clues from this area, and recording what they sense. Use small notepads for recording notes. A good activity prior to the individual study would be a silent hike. Lead the group into a different part of the area than you've been working in - make sure to stress that they are not to talk or whisper at all, and to try and make as little noise as possible in walking. Before you begin the walk, you might want to establish a few simple hand signals, for stop, or come closer, so you can communicate with the group without speaking.

CANDID CAMERA (10-15 minutes)

This activity offers members a chance to look at the elements of the natural setting from another angle. The activity requires the use of a camera (one with an adjustable lens is best, but an instamatic will be fine too) and a roll of black and white film, enough for at least one frame per member. Ask the members about some of the most interesting things that they've seen in this habitat so far. It might be a tree, a flower, a rock, a post, or a person. As a group, select one of these objects.

Every member will then have a chance to photograph the object, but no two photographs can be the same. The purpose is just to capture part of the "personality" of the object; close-up, from a distance, from the top down, from the bottom up, etc. You can then bring the pictures to a future meeting, to see if the members can identify their own shots, and also to see the variety of perspectives there can be in a single object.

ADDITIONAL ACTIVITIES

Ten Yard Hike (20 minutes)

Requires: - a forest edge area, in spring, summer or fall
- magnifying glasses

Establish an area of about 10 metres as the site of the hike. The members will crawl through the "trail" on their hands and knees, looking for all plants, insects, and wildlife signs that they can find. Spread the group out, an arm's length apart, with you in the middle. Have everyone (including yourself) get down on their hands and knees and begin the hike. Magnifying glasses and fingers are their only tools. Gather at the end of the hike and find out what was discovered.

Caution should be noted in crawling on hands and knees, especially in the spring. Poison Ivy and Oak are not visible but very toxic in the spring before the leaves are evident.

Blindfold Hike (15-20 minutes)

Requires: - sound knowledge of the area of the hike by the leader
- blindfolds and a rope for everyone to hold

Members are blindfolded, and hold the rope. The leader, at the head of the rope, directs the group along the trail, warning the members of obstacles, slopes, steep climbs, etc. along the way. Stop at several points and ask them to describe the texture and odour of different things they are passing. At the end of the trail, talk about what they saw, heard and felt, and then go back along the trail, showing them the things that they had described.

BEFORE THE NEXT MEETING (5 minutes) page 19

1. This activity asks the members to think about the interactions between the different components in a habitat. When you are explaining the activity, ask members to first think about a marsh they've seen, and to list some of the plants and animals that they've seen there. Pick one of the animals they suggest, and work backward from there. What does it eat? What are its sources of cover? Therefore those things must be in the habitat as well. This is the same sort of logic that they'll use in the activity. Encourage them to ask their brothers, sisters, parents or friends for suggestions if they are having trouble getting started. Again, the accuracy of their final answers is not as important as their efforts in trying to make the connections between the elements of the food chain in this habitat. Remind them that you'll be discussing this activity at the next meeting, so they'll get more help there if they need it.

Note: Two junior members, who tested this activity during the development of the project, selected a willow tree as their first choice, because they both had seen willow trees around a pond. They next chose a kingfisher to live in the tree, and then fish to feed the kingfisher. They wanted ducks, and chose duckweed as food, and grasses as cover and food. Their final choices were frogs, insects,

water lilies and crayfish. For them, starting with one plant and one wildlife species offered the two biggest pieces of the puzzle, and they were able to build the habitat fairly easily from that point. You might suggest this same strategy to junior members.

DIGGING DEEPER - OPTIONAL INFORMATION FOR SENIORS, **Separate Handout**

Some senior members may be interested in learning how to use a compass. They could investigate some of the basics while the juniors do another activity. If they have never used a compass before, keep this activity very simple.

MEETING FOUR A HELPING HAND

OBJECTIVES

Most of the discussion in this meeting centres on the changes that occur to wildlife habitats, both from natural and man-made causes. No wildlife species can exist independent of its habitat, and anything that affects the habitat, affects the species that live there.

There is also a judging activity at the end of the meeting, which you can adapt for senior or junior members.

By the end of this meeting, members should:

1. know that an understanding of a wildlife species' needs, within its habitat, is essential for planning any wildlife improvement project
2. understand more about how to set up a habitat improvement project, and where they could get advice/assistance if they wanted to set up a project now or in the future
3. feel comfortable with comparing the positive or negative aspects of different items
4. understand that both we and natural forces cause changes to wildlife habitat

PREPARATION AND EQUIPMENT

1. Pokeweed, ragweed, crabgrass, pigweed and poison ivy are given as examples of food sources for wildlife in this meeting's discussion. You might want to show members either pictures or samples of these plants.

2. Part of the discussion in this meeting will be the planning of a group activity for Meeting Six, when club members will either:
   i) work on their own habitat improvement project OR
   ii) assist with a project initiated by another group or organization OR
   iii) visit a habitat improvement project already underway

The project can be as complicated or as simple as your club decides. Some basic suggestions might be:

- collecting garbage at a park, conservation area, roadside ditches
- cleaning garbage out of a stream or pond
- building simple bird feeders (from the directions given in Meeting Six) for members to maintain at home
- planting shrubs or plants for wildlife food/cover, either in the appropriate habitat, or to be transplanted later.

Other habitat improvement projects, such as a brushpile or nesting box, require a commitment both in terms of a permanent location, and long-term maintenance of the project. These are considerations you'll have to discuss with the other leader(s) and the members. You'll have to think about the possibilities for wildlife improvement projects in your area, and the age and skills of your members. Be prepared to give the members some direction for their plans for Meeting Six.

If you are planning to set up a permanent habitat improvement project, please use the resources offered by the Ministry of Natural Resources (M.N.R.). They are familiar with the needs of wildlife in your area, and can suggest projects suitable for your area and your group. If you are considering a project that would require financial support for materials, etc., you should ask them about the Community Wildlife Improvement Program (C.W.I.P.), which provides funding for approved habitat improvement projects. The club could also assist with a project already underway, and again, the M.N.R. would be able to tell you about the projects in your area. Look in the blue pages of your phone book for the closest district M.N.R. office.

Some specific projects of C.W.I.P. are outlined in the Digging Deeper section. You may want to ask an M.N.R. staff person to talk to members during Meeting Four about specific ideas and locations in your area.

IN A NUTSHELL

Roll Call	15 min.
How Habitats Change	10 min.
How Can We Improve Habitat?	20 min.
Judging Activity	15 min. (Jrs.) 20 min. (Srs.)
Before Next Meeting	5 min.
	65-70 min.

Optional: Review Questions
Digging Deeper (Seniors)

- Depending on how involved your improvement project is you may require more planning time.

ROLL CALL (15 minutes) page 23

Everyone's answers for this will be different; ask them first of all what they had to think about when they were making their choices, and try to draw out answers that show the interactions, such as:

- hard to pick things that would benefit the most others
- making sure there was food for all elements in a food chain

You could ask them to compare the number of cover, food and birds/animal choices that they made. If you have an older group, you could talk about the numbers required of each of their choices, perhaps not in actual figures, but in terms of several, a few, etc.

Or you could start from scratch and do the activity together as a group; pick 2 things at random from the list, and see if the members can build another community around them.

HOW HABITATS CHANGE (10 minutes) page 23

Natural events that affect habitats:

- drought
- forest fires
- disease in prey or predators, or in plants that feed them
- severe or mild winter, which also affects predator, prey numbers
- seed dispersal
- increase in number of some plants which choke out others
- and succession (if you want to use the following additional information)
- flooding, heavy rains
- lightning striking trees

HOW CAN WE IMPROVE HABITAT? (20 minutes) page 24

In the Member's Manual, you'll see a list of possible habitat improvement ideas, not as specific as the list in this Leaders' Guide. You can cover the text in the Member's Manual very quickly, perhaps using any local areas as example locations, and talking about any projects that are going on in your area.

Then you (or a guest expert) should talk to the members about planning for Meeting Six, and what options you feel would be the most suitable. Try to involve the members as much as possible in the planning and preparation responsibilities. The chart in Meeting Six, page 43 of this Guide can be used to record the details.

JUDGING ACTIVITY (15 minutes) for juniors (25 minutes) for seniors

A Comparison Class, for juniors:

Rather than a formal judging class, this activity is more of a comparison study, involving three sets of journal notes. These notes have been included at the end of this guide (pages 47-51). The comparisons shouldn't be difficult for the members to make. The emphasis for this activity is on the process of comparison; looking at the positive and negative points of a group of items, and looking for the most useful combination in a given situation. The rationale behind judging is also discussed in the 4-H Judging Handbook.

Ask members to read over these 3 sets of field notes. They were each recorded on the same walk in a southwestern Ontario field and woodlot. (You will probably want to tape them to a wall, etc. for everyone to see at once.) The writer went on the walk to observe wildlife and wildlife signs, and to find some raspberry bushes that might produce fruit for jam in the summer. She had also promised her nephew, a 4-H member, that she would look for possible sites for his wildlife habitat improvement project.

Compare the notes for content, completeness, and future usefulness to the writer and others. Members should also keep in mind the brief suggestions made about journal notes in Meeting Two.

After everyone has had a chance to look at the notes and think about them individually, discuss as a group.

A more formal judging activity, for seniors:

Make up a class of nature books, taken from a school or public library. Before showing members the items in the class, have them set up a judging score card for the class, using perhaps:

- text easily understood
- attractive diagrams and pictures
- sturdy and durable cover and binding
- variety of activities, both indoor, outdoor

Depending on the type of books you are using, you may want to suggest an age range for the intended reader: for example, a class of books for junior elementary, or Grades 5 to 8, or for adults, so that members will be better able to judge the suitability of the text and presentation for the reader. Members would then judge the class according to the score card and give oral reasons.

OR

Have the members themselves set up a score card for the journal notes, judging the class according to this score card and giving oral reasons.

Both of these options give senior members a chance not only to practice their judging skills, but to make some further decisions about what is important and necessary in these classes in order to make up the score card.

Comments on Journal Notes:

Set Two can be considered the best because:

- good references in terms of date, weather, and location. Writer or others could find this again easily, and compare easily with other seasons, years.
- writer should be able to find the raspberry bushes again
- good notes about apple tree for release project

Set One would be second, because:

- references are not quite as clear. Could you find it again from these notes? What township?
- no year or weather given - makes comparisons in other seasons, other years very difficult
- directions to raspberry bushes very clear
- some good comments about wildlife activities
- no comments about possible habitat improvement sites at all

Set Three is the poorest because:

- very hard to find location again for anyone but the writer
- no directions to raspberry bushes for future reference
- good comments about snow, ground conditions and the use of the deer trail

BEFORE THE NEXT MEETING (5 minutes) page 26

This activity asks members to look for two man-made changes to wildlife habitats. In Meeting Five, they will be concentrating on our power to improve, preserve or destroy wildlife habitats, and the changes they find now will provide both them and you with some examples for further discussion at the next meeting.

You may want to mention the Rooster Island game to the members at the end of this meeting so they can give it some thought and perhaps bring props and costumes. This activity should be **FUN** so don't ask them to do a lot of preparation before the meeting.

DIGGING DEEPER - OPTIONAL INFORMATION FOR SENIORS, **Separate Handout**

Some further details about the Community Wildlife Improvement Program are included here. Be sure that seniors are aware of the commitment required for these projects but if they are interested do give them encouragement.

OPTIONAL REVIEW QUESTIONS

1. Name three natural events that would affect wildlife habitat.
   ***drought, flooding, forest fires, disease, lightning striking trees, hot dry summer or severe winter (weather patterns in general)**

2. What are mast trees?
   ***Any trees that provide fruit or nuts as a food supply for wildlife. Examples: apples, oak, beech**

3. What is a brushpile's main purpose in a habitat?
   ***Brushpiles provide cover and travel lanes for wildlife.**

4. What would a squirrel or bird use a snag tree for?
   ***For a nesting site. Snag trees are dead or dying trees that have nesting spots hollowed out of the inside.**

MEETING FIVE WILDLIFE AND THE WORLD AROUND IT

OBJECTIVES

This meeting gives members further opportunities to look at the interaction between different members within a habitat. The second part of the meeting gets the members involved in a discussion and decision-making process, balancing the needs of wildlife and the environment against our own.

PREPARATION AND EQUIPMENT

Are there still some details of Meeting Six to be finalized? You may want to take some time during the business section of the meeting, or after the roll call to continue this discussion and planning for Meeting Six.

You will need a large ball of yarn or string for the Food Web activity.

Consider the options for conducting the Rooster Island Game, and select reeve(s). It's up to the reeve to control the discussion, making sure that everyone gets a chance to speak, and that no one monopolizes the discussion. You should also think about some questions you could possibly ask various groups during the discussion, in case things slow down. There is a large map of the island (printed on the last four pages of this Guide) for you to tape together and use during the discussion.

IN A NUTSHELL

Roll Call	10 min.
Living With Wildlife	5 min.
The Food Web Activity	10-15 min.
Rooster Island Land Use Game	30 min.
Before the Next Meeting	5 min.
	60-65 min.

Optional: Review Questions
Digging Deeper (Seniors)

ROLL CALL (10 minutes) page 27

As the members discuss the changes they found, leaders should write down their answers on a large piece of paper or chalkboard, under headings for the positive and for the negative changes.

Were the changes mostly negative or positive?

LIVING WITH WILDLIFE (5 minutes) page 27

Needs of wildlife vs. our needs and interests
tourist area vs. Canada Geese dirtying the beach
farmer vs. racoons causing damage to corn crop
rancher vs. calf losses from wolves, other predators
weeds competing with crops that are also food for wildlife
camper's supplies vs. bears looking for food
site of bird's nest that is in the chimney of your fireplace

THE FOOD WEB ACTIVITY (10-15 minutes)

In Meeting Three, you and the club members talked about food chains: that certain plants provide food for herbivores, who, along with some plants, provide food for omnivores and carnivores group, etc. This food web activity builds on this idea, and also looks at some changes to a habitat and the effects on the plants and animals in it.

A food web is a combination of two or more food chains that have at least one kind of animal or plant in common.

The food web for this activity is found in the corner of an unused field, which is separated from a schoolyard by a fence. Assign one or more members to each role in the following "cast of characters" in this habitat. (If you don't have ten members, assign the roles to objects. For example, you could use an umbrella as the earthworms, and close it up when it is affected by the events.)

caterpillars
ground beetles
earthworms
robins
grasses
mice
sumac bush
cottontail rabbits
barn owl
maple tree

Ask the members to stand in a loose circle, with some members on the inside, as in the diagram on page 38.

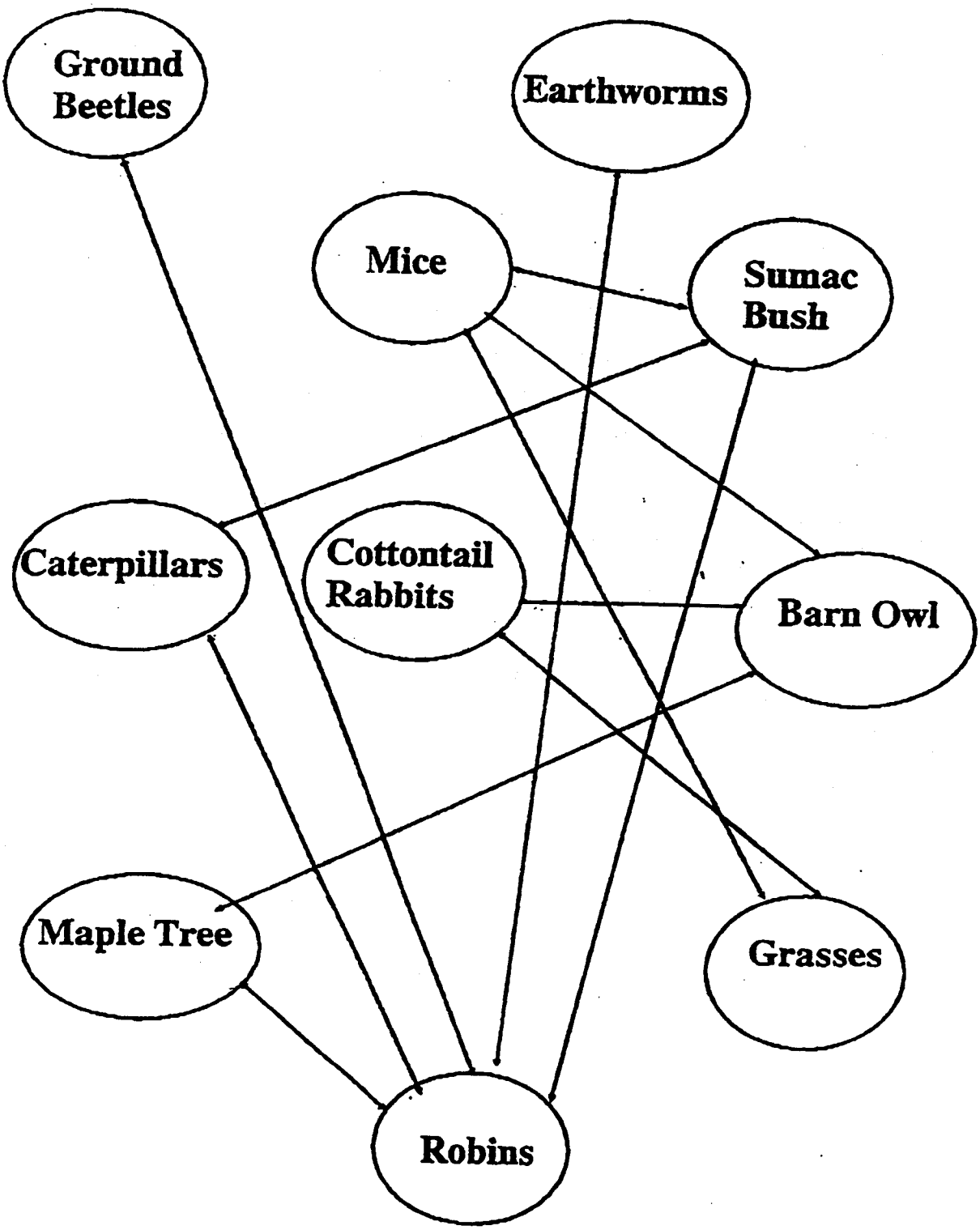
Give them the ball of yarn or string, and ask them to make the connections (shown as lines in the following diagram) between the different elements in this habitat. Remind them that the different things are connected by their need for food, and also their need for cover. Refer to the lines on the diagram and make suggestions or corrections as they work. They will have to break the string at some point (ex. robins to earthworms).

Once all the connections are made, you can begin to present the events that will affect this habitat. After an event is explained, let the members decide who is affected. Anyone who feels they will be directly affected by this event will explain how, and then sit down (continuing to hold the string). Other members connected to this member by the string will have to decide if they are also affected, and if so, to explain that and sit down as well. This will show the ripple effect of one event on a few, some or many of the members of that habitat. Again, it's not essential that the members see all of the effects of any one event; it's more important that they see the process. Then ask them to stand again, and read through the next event.

Use the events that you think will interest the members the most. You could also make up your own, or have the members make some up.

Encourage the members to think of positive and negative aspects of any changes to this habitat. A decrease in the number of owls is bad news for owls, but probably good news for mice or rabbits.

EVENTS	POSSIBLE CHAIN OF EVENTS
maple tree is cut down	robins and owl loose their nesting/resting site and may leave the site; species they prey on would increase
more maple trees are planted	opposite effect from above - more robins and owls may be attracted to the site - more maple keys as food - possible shading of sun-loving plants
cattle are put into the field to graze	cattle will eat the grass, compact the soil, destroy the nesting cover for mice
the sumac bush is attacked by disease	anything that relies on the sumac bush is affected and dies
the school grounds are sprayed with a pesticide, which drifts into the field	ground beetles and caterpillars are immediately affected - robins may ingest enough of poisoned insects to die as well
winter arrives	who/what is left? (after species leave, hibernate or die?)
the school buys the field, cuts the grass and turns it into part of the schoolyard	footprints all over the habitat! - will wildlife be frightened away? who might stay?


Ground Beetles
Earthworms
Mice
Sumac Bush
Caterpillars
Cottontail Rabbits
Barn Owl
Maple Tree
Grasses
Robins

ROOSTER ISLAND LAND USE GAME (30 minutes) page 27

- You may want to take more time for this activity if members are really enjoying it.

In the Rooster Island Game, members get a chance to take a side on an issue, present their arguments, and be part of the decision-making process for an imaginary island.

You can set up the game in one or two sections, depending upon the skills and interests of your members.

If you feel that the junior members would be overwhelmed or drowned out by the senior members during the discussion, you could set up a second game with just the junior members. Reduce the number of concerned groups to three: the scientists, the historical society, and the hotel company. You might also add in other individuals that will be affected: a student who is looking for a summer job, and thinks that the hotel would be a good place to work; a young nephew of Angus who wants to see his family's home and history preserved. Junior members may be more comfortable with the role-playing aspect if you can provide costumes for their parts. You can act as the reeve, and make a decision, or you could be a newspaper reporter, trying to write an article about the situation -any role that would let you ask questions and keep the discussion going.

Another option would be to make the junior members into the decision makers. The reeve would still have to control the meeting. This would let all members participate together as a group, and make the seniors more conscious of making presentations that are basic and can be clearly understood. Junior members might enjoy having the last word!

The third option is to distribute all the members among the five interest groups, and encourage them all to participate in the group's discussion. In their project manuals, the members have a list of the different interest groups that are coming to the meeting, and a brief description of what their interests are. You can either divide them into the groups, or have members choose which group they'd like to argue for. Depending on the size of your club, you may have unequal representation in some of the areas. Either a leader, or a senior member should act as the reeve; his/her job is to keep the meeting running in an orderly fashion, allowing everyone an equal opportunity to speak, challenging the speakers about any statements that are unclear, and asking questions to make them defend their position. The members should first have 5 to 10 minutes to plan their comments. Then the reeve should call the meeting to order, and let discussion progress. The reeve will also decide when to adjourn the meeting.

BEFORE THE NEXT MEETING (5 minutes) page 29

Members are asked to consider a habitat improvement project and its value to wildlife. Members could then work on a project on their own if they wish.

PROJECT COMPLETION

Read the note on page 41, this Guide. If you want members and parents/guardians to complete the Project Summary sheet, copies should be given out at this meeting.

DIGGING DEEPER - OPTIONAL INFORMATION FOR SENIORS, Separate Handout

Senior members may have discussed food webs at school. If so they might like to discuss succession while the juniors do the "Food Web Activity".

OPTIONAL REVIEW QUESTIONS

1. How could your actions change an animal's habitat?
   ***Your actions could affect the supply of food, cover or water. They could also affect the number of animals in the habitat.**

2. By putting a bird feeder in your back yard, what do you change about the birds' habitat?
   ***Increase the birds' food supply.**

Seniors

3. What natural process is one of the biggest influences on any natural habitat?
   ***Succession**

4. Does succession occur slowly or quickly?
   ***Slowly; so slowly we don't notice the changes without really thinking about them.**

5. How do the seeds for bushes, shrubs, and tree saplings arrive to a new area?
   ***They are carried by birds or small rodents, or are blown there by the wind.**

MEETING SIX

A HELPING HAND IN ACTION

OBJECTIVES

This meeting offers members a chance to actively participate in a habitat improvement project, and to work together as a group.

IN A NUTSHELL

Roll Call	5 min.
Getting Into the Habitat Improvement Act	60 min
Before the Achievement Program	*
	65+ min.

* as much time as you require

ROLE CALL (5 minutes) page 31

GETTING INTO THE HABITAT IMPROVEMENT ACT (60 minutes)

The very simple bird feeder ideas given on page 44 could be the basis of your habitat improvement project, or could be an additional demonstration/ participation activity if you have extra time at this meeting.

Only brief and point form comments are necessary for the report members are asked to make about their work in this meeting.

BEFORE THE ACHIEVEMENT PROGRAM

Review the members' responsibilities for organizing or participating in the Achievement Day program.

WRAPPING IT UP!

Project Completion

A Certificate of Completion and a Project Summary have been included in this Guide, pages 61-63. Your signature on either of these indicates you feel the member has completed the project to the best of his/her ability. Space is provided for you to add some individual comments to offer encouragement to the member.

The Project Summary sheet also asks for written feedback from the member and his/her parents/guardians. (The questions on this sheet have been selected from the informal evaluation sentences, listed below.) Select whichever sheet best meets your needs and make copies for the members.

It is recommended that the certificates not be awarded until the Achievement Program. If you give them out before this time, some members mistakenly assume that they don't need to participate in the Achievement Program.

It Worked For Us!

Your experience in leading this club would be helpful to another leader in your area. You are encouraged to make some comments about the project, what resources you discovered locally and the members' feelings about the project and pass this information on to your 4-H Association. The Resource Development Committee of the Ontario 4-H Council is interested in your comments too. Their address is in this Guide, page 7.

Informal Evaluation

Take a few minutes at the last meeting to do an informal evaluation with members. One way to do this is to ask them to complete one/all of the following sentences.

- I joined this club because ...
- I really enjoyed ...
- I didn't enjoy ...
- I had a hard time ...
- My favourite meeting activity was ...
- My least favourite meeting activity was ...
- If I was to take this project again, I would change ...
- I learned ...
- I've changed ...
- I'm glad ...

Thank You For Being A Volunteer 4-H Leader!

HABITAT IMPROVEMENT PROJECT:

Project selected: _____

_____

Equipment required: _____

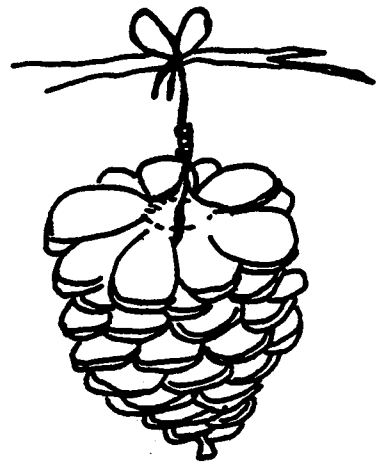
_____

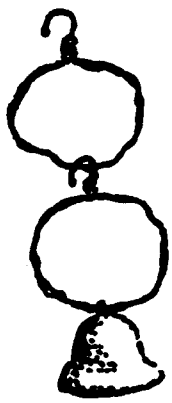
_____

Duties	Person Responsible

QUICK BIRD FEEDERS - OPTIONAL INFORMATION

Pine Cone:
Fill the hollows of a pine cone with peanut butter, and roll in bird seed. Hang from trees or bushes with string or yarn. This helps birds as well as ground feeders such as squirrels, rabbits.



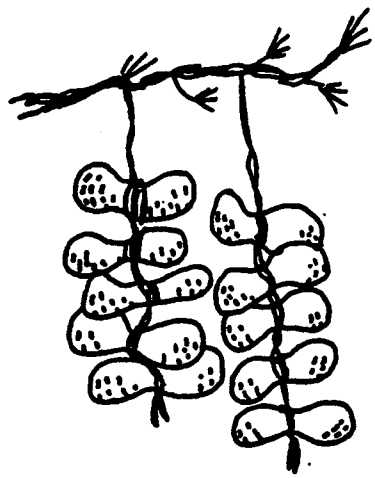


Suet Balls:

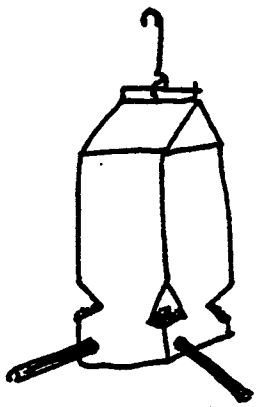
1. Make suet by melting beef fat and then cooling it.
2. Shape the suet into a ball (the same size as a tennis ball) and roll in birdseed.
3. Place the ball in a net bag and hang from a branch. The net bag that onions come in will do.

OR

You can buy a suet ball at feed/pet food stores, and hang it on a branch using two bent clothes hangers.



Peanuts:
Tie raw peanuts in the shell in a row with string or yarn. Hang the string from a branch.



Milk Carton:
Cut triangles out of the bottom edges of a milk carton. To make a perch, stick drinking straws through the carton just underneath the hole. Put the bird seed or suet in through the top.

OTHER RESOURCES

Encourage the members to look in their school and local libraries if they want more information about wildlife and habitat. They should find a variety of straightforward and often very beautifully illustrated materials on wildlife related topics. Some you might recommend:

Nature Canada magazine, published monthly by the Canadian Nature Federation, 1 Nicholas Street, Suite 606, Ottawa, Ontario, K1N 7B7, and Outdoor Canada magazine, published by Outdoor Canada, 801 York Mills Road, Don Mills M3B 1X7: both usually available in public libraries.

The Natural History of Canada, by R.D. Lawrence.

Wildlife of Canada, by Bill Brooks

The Canadian Museum of Nature has an Enquiries and Resource Centre, to answer questions from the public about dinosaurs, animal life, plants and minerals and other aspects of natural history. Send questions to:

Enquiries and Resource Centre
Canadian Museum of Nature
PO Box 3443, Station D
Ottawa, Ontario
K1P 6P4
Telephone: 613-566-4700 Fax: 613-364-4020

OR

Internet: http://www.nature.ca

Films, Videos:

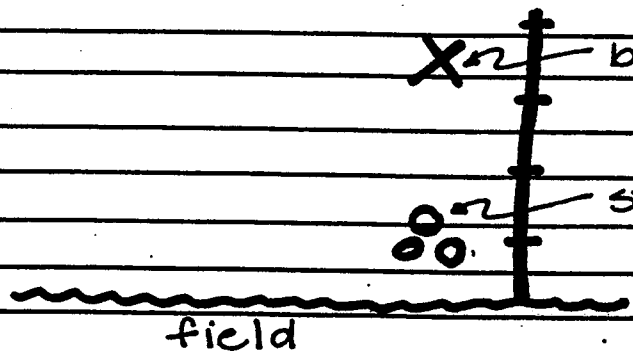
The following are available through the National Film Board. Look for the address and phone number of your closest office in the blue pages of your phone book.

Films		**Order Number**
Nature's Food Chain	13 min	106C-0177-148
From Ashes to Forest (also available on video)	52 min	106C-0184-648
The Treasure of Grotaceans (animated film for juniors)		106C-0080-061
Video		
The Great Blue Heron	40 min	106C-0179-018

SET ONE

December 24 Afternoon
Woodlot L29 Conc. 10

- walked through bush looking for raspberries - found some near east fence line about 35 m from field edge



- saw plenty of deer tracks - path worn E → W, probably from river

- heard grouse

- mild day

- saw quite a few birds' nests, 3 deer

- startled a rabbit - he's using those round hay bales near West fence as cover

SET TWO

December 24/90 2 pm
Woodlot of Smith Farm, Elderberry Twp.

- walked on tractor trail, weather very mild, no snow on fields

- pond ½ way back was barely frozen, maybe 10 cm of snow in bush

- saw 3 deer grazing at edge of bush - disappeared when they saw me

- saw deer scat

- found trail of several tracks (mostly deer) - highway through bush? running East-West, tracks going both ways - followed one set to the river

- startled a grouse, didn't see him, but heard rustling as he moved

- saw possible raspberry bush near fence on east side

- as I was leaving, saw an old apple tree on north-west edge - could it be used for habitat improvement project?

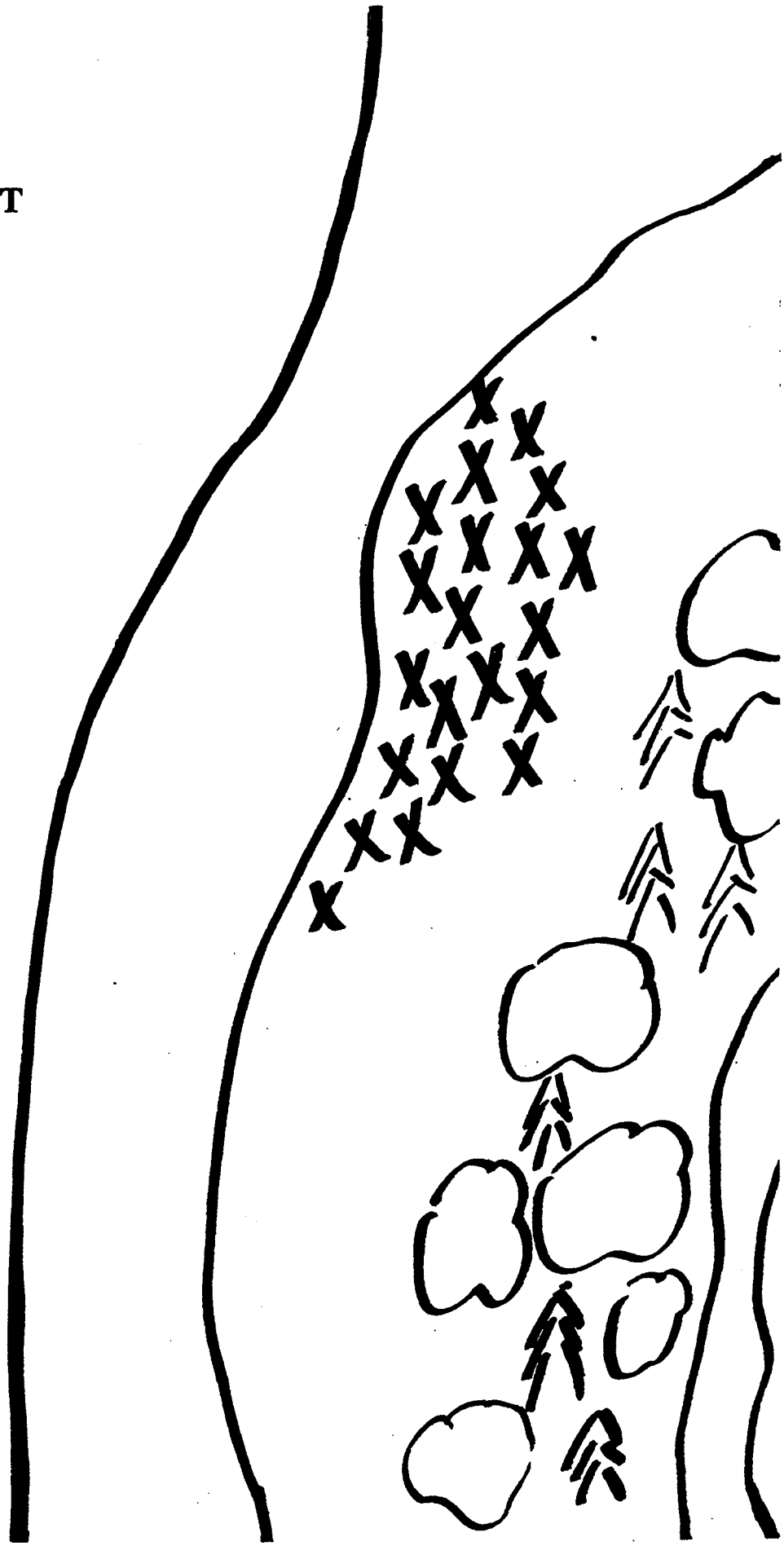
- startled a rabbit on the way back - he went for cover in west fencerow

SET THREE

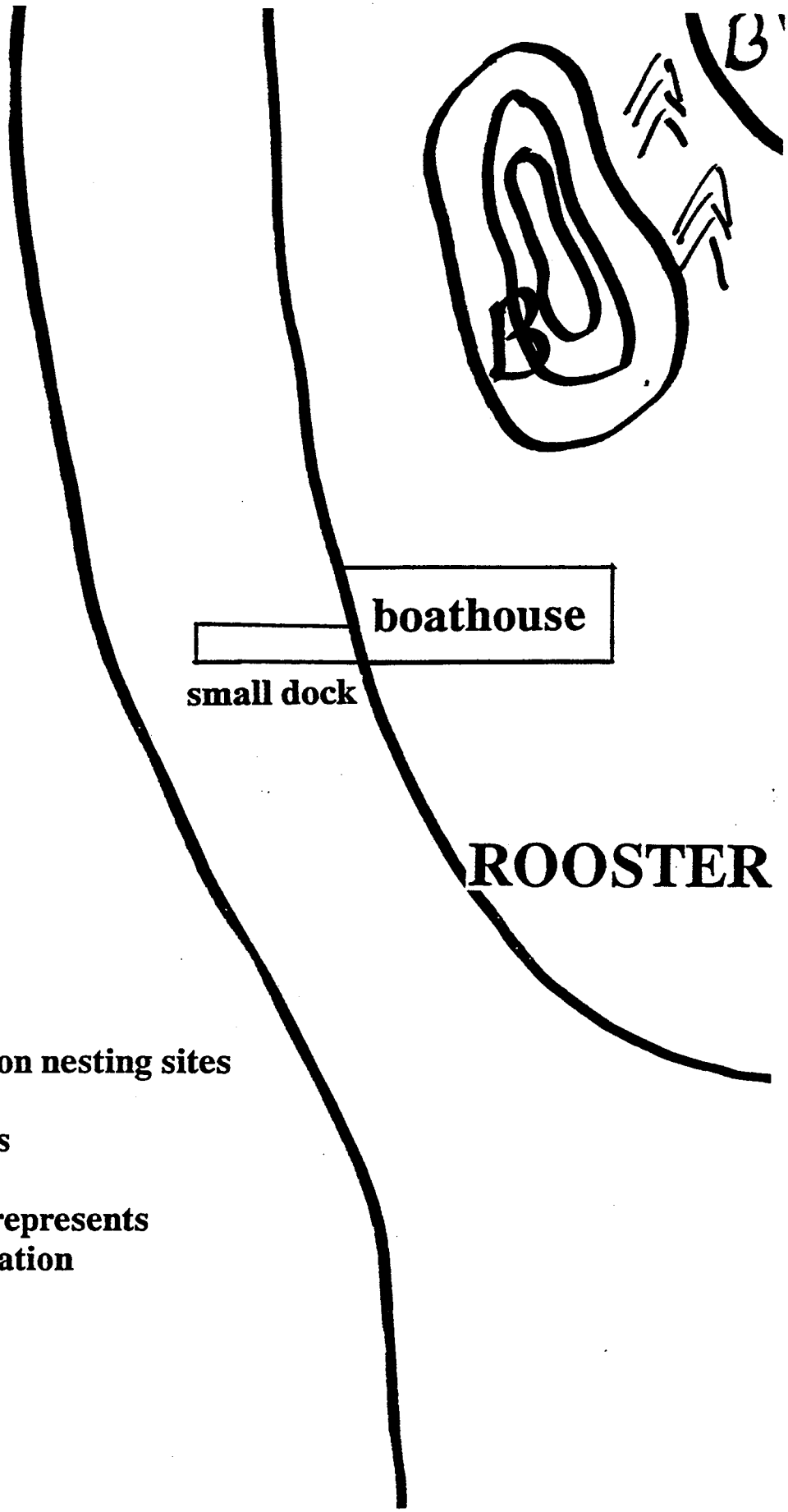
Christmas Eve - afternoon

- went for a walk in Smith's bush
- lots of deer sign - especially tracks, path worn E → W from river to clearing in north field
- saw 3 deer
- found some shrubs that could be raspberry
- not much snow in fields, bush - ground quite soft
- lots of apples in old apple tree

TOP LEFT




TOP RIGHT
forest
B
B
B



X Great Blue Heron nesting sites

B Bauxite Deposits

Hills: each line represents a 5m elevation

BOTTOM LEFT

Rooster Mansion

ISLAND

PURPLE RIVER

BOTTOM RIGHT

PROJECT SUMMARY - Conservation: Watching Out for Wildlife

(complete at the end of the project)

A. Member Comments:

1. I joined this club because ... _____

_____

_____

2. I really enjoyed ... _____

_____

I didn't enjoy ... _____

_____

3. If I was to take this project again, I would change ... _____

_____

_____

4. I learned ... _____

_____

5. I'm glad ... _____

_____

B. Parent/Guardian Comments: _____

_____

_____

_____

_____

C. Leader Comments: _____

_____

_____

_____

_____

This project has been completed satisfactorily.

Member _____ Leader_____

Date _____ Leader_____

4-H Ontario

CONSERVATION
Watching Out for Wildlife

Congratulations on successfully completing this 4-H project.

_____

_____

_____

_____

_____

_____

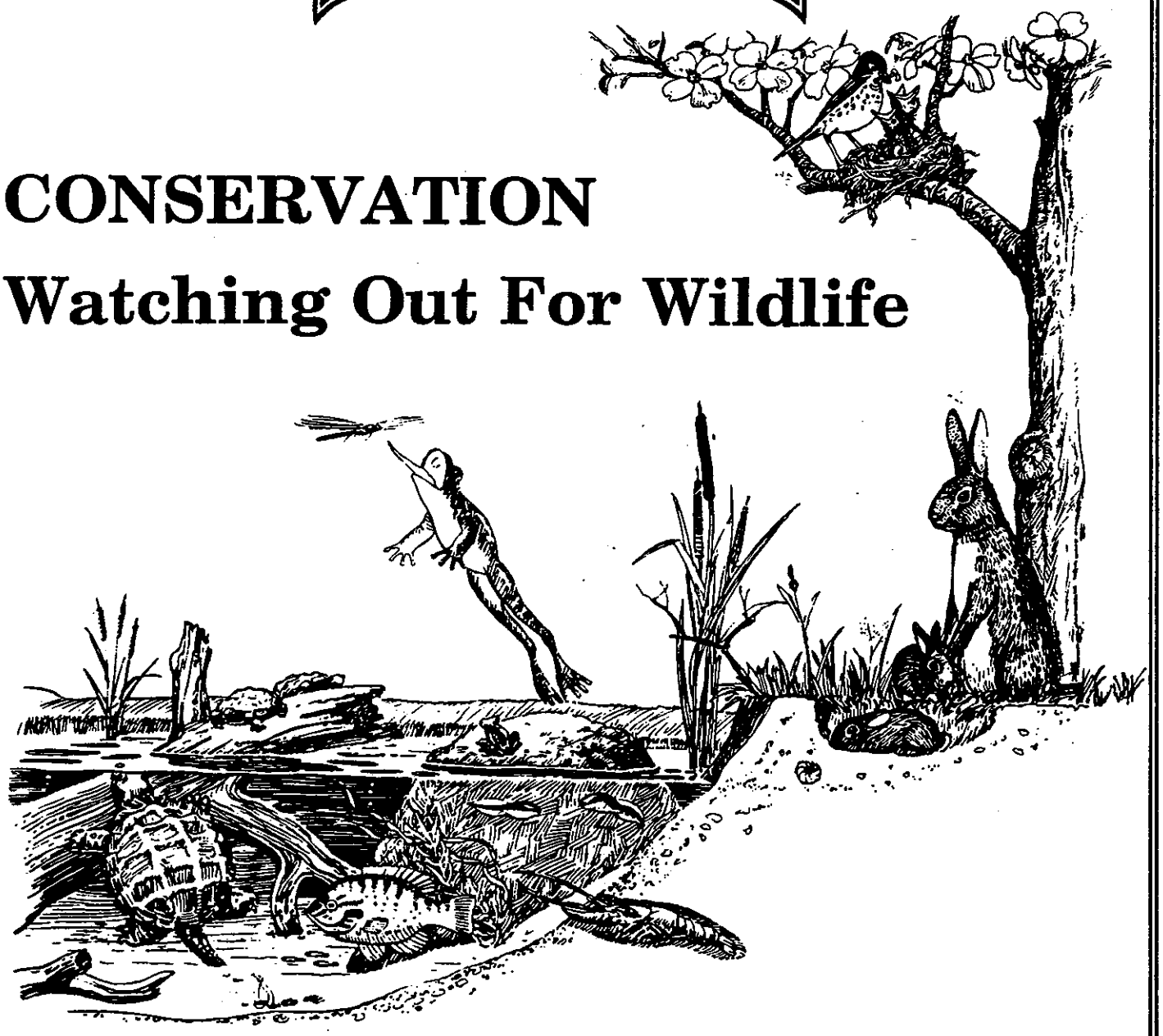
_____ _____

Date **Club Leader's Signature**

LEARN TO DO BY DOING

CONSERVATION

Watching Out For Wildlife



NAME _____ AGE _____

CLUB _____ NUMBER OF CLUBS _____

Ontario 4-H Council

Ontario
Ministry of Agriculture, Food and Rural Affairs

4-H 400 99ME

The Ontario 4-H Program provides opportunities for the personal development of youth.

THE 4-H PLEDGE

"I pledge:
My Head to clearer thinking
My Heart to greater loyalty
My Hands to larger service
My Health to better living
For my club, my community and my country."

TABLE OF CONTENTS

This project was originally prepared by
Lori Jamieson, Lucknow, for the Ontario 4-H Council
and updated in 1998 by Katherine McPherson, M.N.R.
Special thanks to the original advisory committee which included
Mark Burgham, Rod Deacon, Nancy Hunter, Karen Jones, Lise Ledoux,
Angus Norman, and OMAFRA staff.

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WILD99M

KIDS HELP PHONE
JEUNESSE, J'ECOUTE
1-800-668-6868

ISBN 0-7778-7619-1

INTRODUCTION

Where do you see wildlife? On a nature hike, in a park? Or do you look for wild birds and animals every day; in fields, ponds, or even in your backyard?

Welcome to "Watching Out for Wildlife". In this 4-H project you will find out more about the wildlife in your area: where and how they live, and what you can do to help them survive. You'll go out on field trips to look for signs of wildlife; and help plan a project that will make your community a better place for wildlife to live.

OBJECTIVES

As a member of this club you will:

1. observe wildlife and wildlife habitats.
2. help plan a project that will make your community a better place for wildlife to live.
3. gain some understanding of land use planning.
4. learn how to work with a group by participating in your club's activities.

GENERAL REQUIREMENTS

A member will complete a project satisfactorily by:

1. participating in at least 2/3 of his/her own club meeting time;
2. completing the project requirements to the satisfaction of the club leader(s);
3. taking part in an Achievement Program.

SPECIAL ACTIVITIES

Individual clubs will decide if junior and/or senior members will be required to complete a special activity. If you will be doing a special activity here are some suggestions to get you thinking. If you have another idea that's great C just get it approved by your leader(s). Whatever the choice; display, present or share in some way the results of your activity. This could be done at a club meeting, the Achievement Program or another 4-H event.

OBSERVING WILDLIFE:

1. Find an area of bare ground; near a stream or pond, beside the edge of a woodlot or any other place you've seen wildlife. Remove any loose twigs, leaves, etc. from an area about 2 m square. At dusk, sprinkle a thin covering of flour over the ground, and in the centre, place a jar lid filled with peanut butter. (Use peanut butter because it's safe for animals to eat and the strong smell should draw their attention.) Return in the early morning to observe the tracks in the flour, and make notes on what you see. Try this experiment again in a different location. You can write up your observations as a report, or as field notes, or as sketches if you're the artistic type! Make sure you include the location, date and time of your observations. If you and another senior member want to do this special

project as a team, you should set up the bait in 3 locations. You only have to take one set of notes for the team.

2. You could also set up an observation zone for birds at a bird feeder. Make notes throughout the time of the project about what sort of visitors you get, and what their food preferences seem to be.

3. Observe a marsh or pond from 2 hours before sunrise until 2 hours after sunrise. Make field notes about wildlife signs and activity, and what kinds of plants you see. Later, add any additional notes identifying any plants or wildlife that you weren't familiar with before your trip.

4. Make a wildlife inventory of your family's property, or the property of a friend or neighbour. Find an area of between 2 and 4 hectares. The study should include as much variety in habitat as possible, with perhaps a woodlot, unplowed field, stream or pond bank, swamp or marsh, etc.

   The first step is to draw a map (roughly to scale) of the area. Mark on any buildings, fences, forested areas, etc. Then take your map out to the study area, and look for wildlife or wildlife signs. Record what you see, along with the date and time, right on the map. You should try to make 3 or 4 trips to look at the area. Try to go at a different time of day on each trip.

   Show your club members your inventory when it's completed, and talk about how you prepared it and what you found.

PLANNING AN EVENT:

5. In Meeting Three, the club will be going on a field trip to visit some wildlife habitats. You can, as your senior project, take on the responsibility of planning and leading this trip. Your leader has the information you'll need about the purpose and activities for the trip; you'll have to supply the organization and enthusiasm!

6. If you look ahead to Meeting Five, you'll see a description of the Rooster Island Land Use Game. As your senior project, you could act as the chairperson for this activity, taking the role of reeve for the imaginary Purple Valley township. You should also interview the reeve or mayor of your community. Ask him/her about land use planning in your area, and what consideration is given to wildlife habitat when planning decisions are made.

RECORD THAT THOUGHT:

7. On your own, or with a partner, put together your own newspaper or small magazine on any combination of wildlife topics. Write articles about your club's activities, wildlife you've seen, or base them on articles or books you've read about wildlife. Use pictures from magazines, or draw or photograph your own. You can look at your other favourite magazines for ideas on arranging the pictures and articles.

8. "That wildlife is merely something to shoot at or look at is the grossest of fallacies. It often represents the difference between rich country and mere land."

   Aldo Leopold (1887-1948)

   Leopold was a respected American naturalist, who was one of the first professors of wildlife management. He was also one of the first scientists to think about conservation as a philosophy, as a method of dealing with the natural world around us. Can you put what you feel about the value of wildlife into words? If you are a creative or expressive person, put your thoughts into a poem, story, song, play or even make your own video. Share it with your club members, or at Achievement Day.

9. Make a crest or a coat of arms for a wildlife species. Include some elements from its habitat (sources of food, shelter, etc.) and try to add a motto. Example: Everyone otter be nice to the otter!

COMMUNITY INVOLVEMENT:

10. Attend a meeting of a conservation group in your area. (Ontario Federation of Anglers and Hunters, Ontario Field Naturalists, local conservation authority). Report back to your club about what this group was planning and what kinds of things they were interested in.

11. Volunteer to help at a nature interpretation or outdoor education centre for a day. Write or give a verbal report about your activities. You may want to report about what the centre does, what visitors were there during the day, what sort of work you and the other interpreters did, etc.

MEETING SCHEDULE

	DATE	TIME	PLACE
MEETING ONE			
MEETING TWO			
MEETING THREE			
MEETING FOUR			
MEETING FIVE			
MEETING SIX			
ACHIEVEMENT PROGRAM			

FEEDBACK

The 4-H Resource Development Committee of the Ontario 4-H Council reviews and evaluates 4-H resources. Comments and suggestions about 4-H manuals and guides are always welcome. They may be sent to the following address.

4-H Resource Development Committee
Ontario 4-H Council
R.R. #1 Thornloe, Ontario P0J 1S0
Phone/Fax: 1-800-937-5161
E-mail: lduke@ntl.sympatico.ca

GET INVOLVED

Be willing to let your name stand for an executive position. It is a rewarding and fun experience. Following your club's elections, complete this club executive chart.

CLUB EXECUTIVE:

	Name	**Phone**
PRESIDENT	_____	_____
VICE-PRESIDENT	_____	_____
SECRETARY	_____	_____
TREASURER	_____	_____
PRESS REPORTER	_____	_____
OTHER	_____	_____

CLUB MEMBERSHIP:

Members, Phone	**Members, Phone**
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

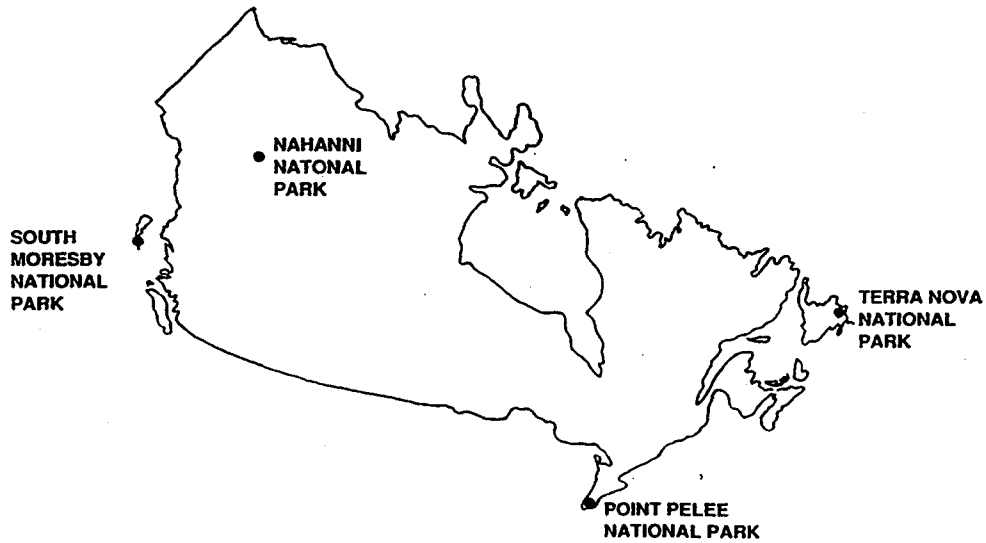
Leaders, Phone	**Leaders, Phone**
_____	_____
_____	_____

4-H Association Contact, Phone	**OMAFRA Contact, Phone**
_____	_____
_____	_____

What's In A Habitat?

ROLL CALL

If you could take a trip to any one of these four National Parks, which one would you visit?

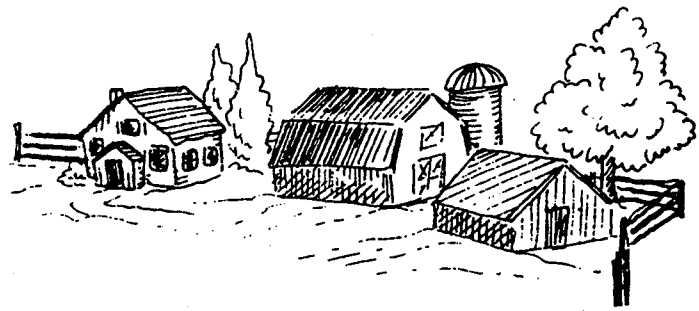


Why is this one the most interesting for you? What kinds of plants or animals would you hope to see on your visit?

****

LOOKING FOR JUST THE RIGHT HABITAT

"Come over to my place", "I'm going home", "My best friend is moving to a new house". We use these phrases when we talk about the place we live; where we eat, sleep, entertain and store our food, clothing and other things. And around our homes are other people and services that we need; banks, grocery stores, hospitals, the things that make up our communities.



For wildlife, a community or area that offers everything they need to survive is their habitat. What are some of the habitats for wildlife in your area?

All species of wildlife, from the smallest frog to the polar bear, need four basic things to survive. These things must be supplied by their habitat. What are these basics?

The type and amount needed varies from one species to another. Shrews and mice, for example, must eat their own weight in insects or vegetable matter each day.

The need for water is also very different. Some species get enough water from the plants and other things they eat. Others must travel great distances, especially in winter, to find open water. In winter, some animals will melt snow in their mouths to get enough water.

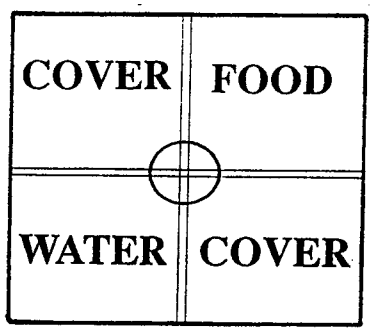
Cover or shelter is protection from the weather and from enemies. Cover is necessary for all of wildlife's basic needs of living: a place to feed and play, a place to raise and care for young, a place to sleep or rest, and a safe area for travel. We usually think of shelter as bushes, trees or long grass. It could also be a hole in the ground, cliff or hill, a rock pile, or a fallen tree.

Every animal needs its own personal living area, where none or a very few of its own species live. The size of its personal living area is different for different animals. For a field mouse, it may be just a square meter; for a bear, it may be a few thousand hectares. A rabbit may live its entire life within a 1/2 hectare, and a wolf may travel over an area of 60 or more square kilometers.

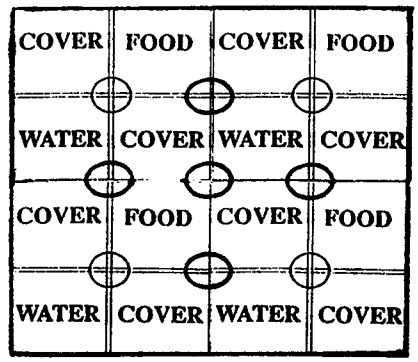
Edge Zones

When you are arranging things in your house, you do it so that things that are used at the same time are placed near each other. The fridge is close to the kitchen, the TV close to comfortable chairs. This same kind of convenience is needed for a wildlife habitat. An animal's **space** must have **food**, **water** and **cover** must be within close traveling distance to each other.

Wildlife scientists often talk about the "edges" when they are talking about wildlife habitat. An edge is a border or "middle " zone between two different areas. For example, there's an edge between a field and a forest, and between a marsh and a meadow. Edge zones offer great variety in food and cover. They have a combination of plants and wildlife that live in the habitats on either side. Water must also be available within the space but not necessarily at the edge.



Only one bird could live in this space and reach food, water and cover easily.

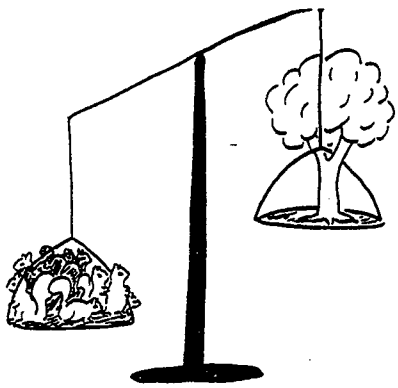


If we use the same amount of space, but break up the sources of food, water and cover, and rearrange them, we create more edge zones. Where there are many edge zones, there are many more places where food, water and cover are closer together. How many birds could be supported by this arrangement?

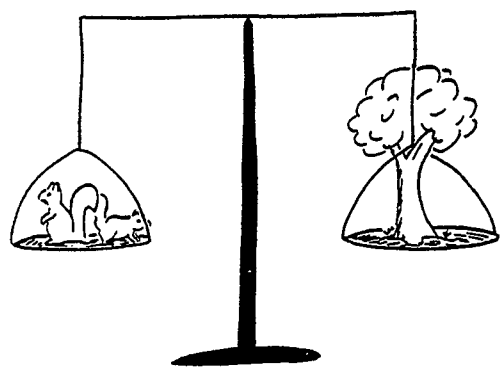
Carrying Capacity

A pasture field will only provide feed for so many cows. An aquarium will only hold so many fish. Likewise, a habitat can only provide the needs of limited kinds and numbers of animals.

The largest number of animals from one species that a habitat can support is called the **carrying capacity**.



Wildlife numbers above the carrying capacity - a dangerous imbalance.



Wildlife numbers below the carrying capacity - a good balance.

The basic need (food, water, cover, space) in the habitat that is in shortest supply is called the limiting factor.

Think about a large farm which has grain crops (food), ponds (water), and plenty of space for the wild pheasants who live there. But there are no strips of uncultivated lands near a fence or a forest on this farm. What is the limiting factor for these pheasants? Cover - there are few hiding places. In this case, the population will be kept at a low level.

1. there are very few sheltered places for pheasant to nest, so few young will hatch
2. more pheasants will be a victim of predators (such as hawks, mink and foxes) and bad weather

An understanding of limiting factors is very important for anyone trying to manage or help wildlife. If you want to increase the pheasant population on this farm, you have to know what is holding the population down. For this farm, the limiting factor is cover, and so providing more food, water or space won't help. You need to provide more cover.

IN THE RIGHT HABITAT AT THE RIGHT TIME

If you were trying to track down a certain species of wildlife, what clues would you need to be able to find it? How would you recognize it if you'd never seen it before?

Here is a description of an unusual wildlife species.

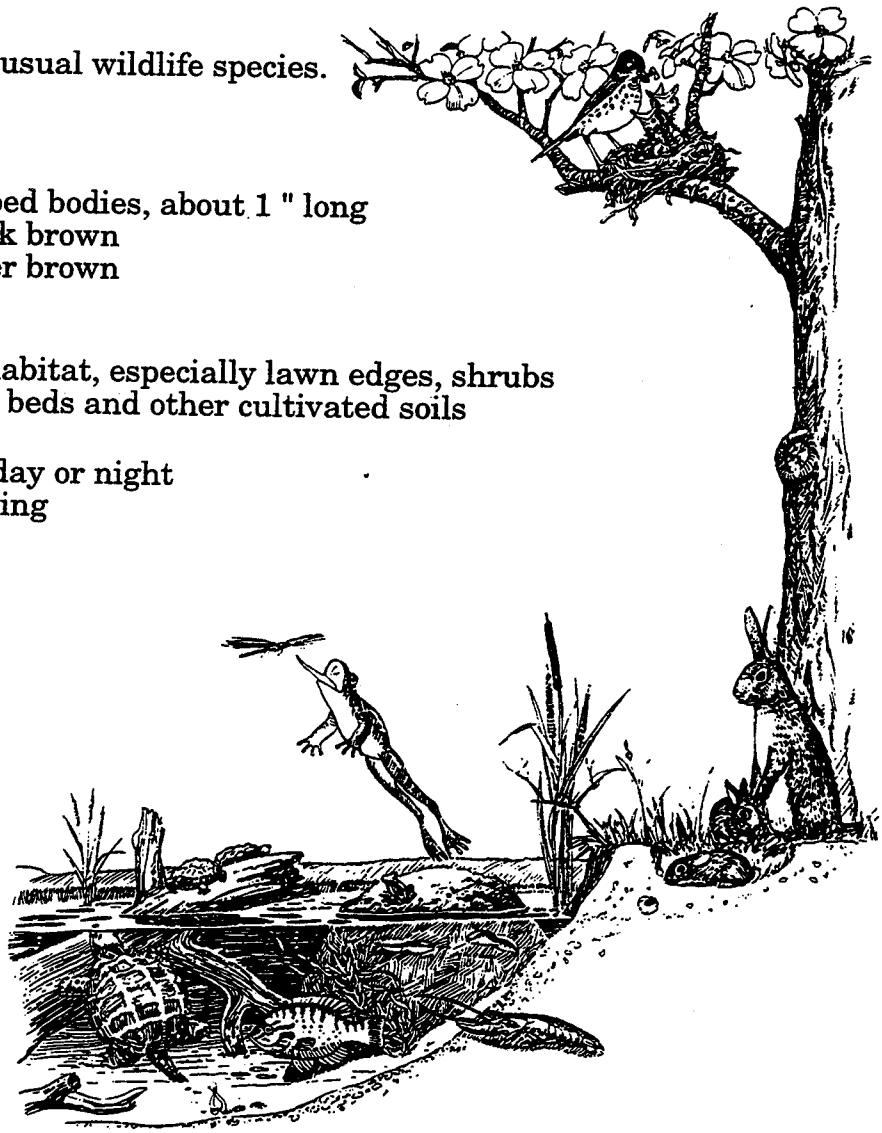
Species: Carmelatus

Adult Size: squarish shaped bodies, about 1 " long
males are dark brown
females lighter brown
thin skinned

Habitat: prefers edge habitat, especially lawn edges, shrubs around flower beds and other cultivated soils

Behaviour: can be active day or night
very slow moving

Predators: Humans



BEFORE THE NEXT MEETING

1. Look around your home or community for 3 different wildlife habitats. List them below. Then pick one of these and take a closer look. Name one plant or animal that lives there, and look at the habitat from its point of view.

   i) _____

   ii) _____

   iii) _____

   I chose the _____ habitat for a closer look.

   What are the sources of food, water, shelter for this plant or animal?

   _____

If you chose a plant:

Is the plant plentiful or rare in this habitat? _____

Is it a food source for something else in this habitat?

_____

If you chose an animal:

What are the signs of this species in this habitat?

_____

_____

Is this animal a food source for another resident of this habitat, or of one close by?

_____

_____

Nature Ned says:

In Canada, there are 171 species of trees, and another 286 subspecies; 163 different kinds of mammals, 518 species of birds, 42 species of reptiles, and 41 species of amphibians.

Becoming "The Great Nature Detective"

ROLL CALL

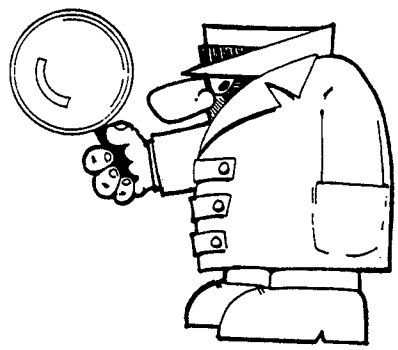
Pretend that a detective had been sneaking around behind you yesterday, taking notes about where you were, who you talked with and what you were doing. What's one thing that the detective might have jotted down about you?

****

WHO'S WATCHING?

We can find out about the birds, plants and animals around us by reading books and magazines, by watching TV or movies or by actually going out and exploring! Being a successful wildlife watcher is much like being a successful detective who knows:

1. where and how to track down his suspects
2. how to see without being seen
3. how to blend into the background, maybe even wearing a disguise
4. how to take notes for tracing patterns of behaviour or keeping track of information that might be useful later.



To be successful at noticing things, we have to reverse some of our "tuning out" instincts. We see and hear so much in an ordinary day that we become very skillful at deciding what to pay attention to and what to ignore, almost without thinking about it. And if we are going to be successful nature detectives, we can't ignore any signs, big or small. Anything may point the way to the wildlife we are looking for. As you already know, wildlife are very wary of strangers. On your first few trips to an area, you may have to settle just for signs of wildlife activity. Many mammals

are only active at night, and you may have to plan your visit for late evening or early morning to see them.

What might some signs of wildlife be?

TRACKS

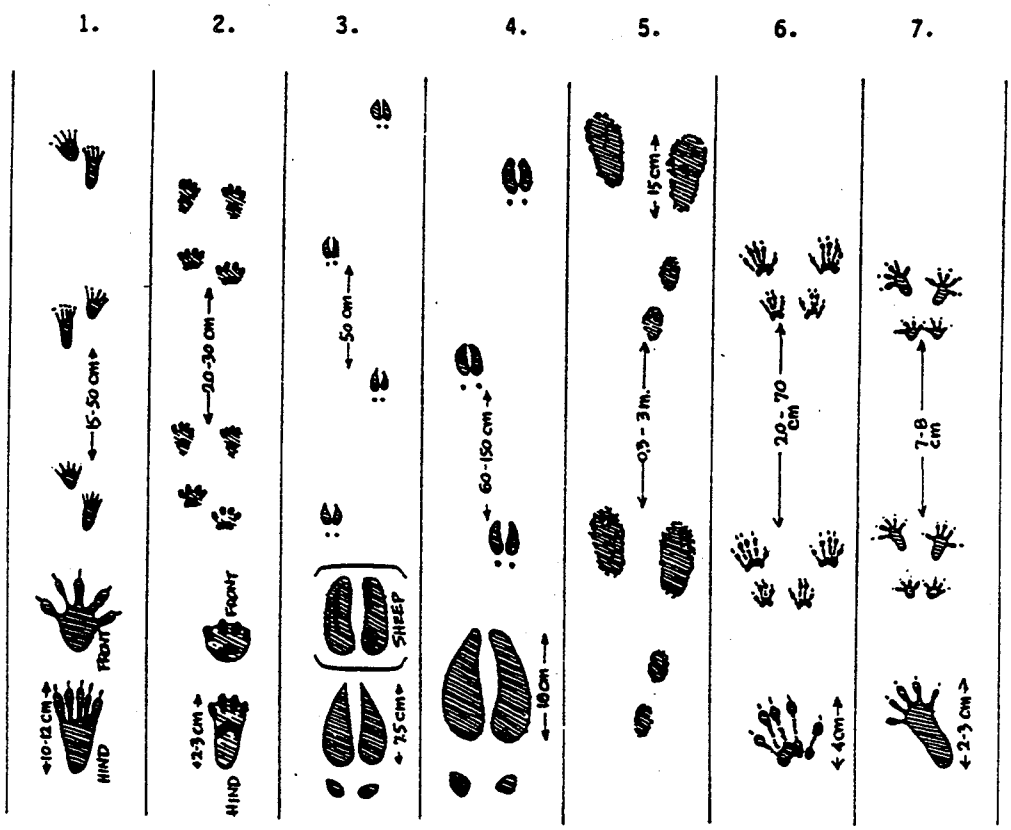
Learning to read tracks is just like learning to read a new alphabet. Just like us, land animals have different ways of moving - walking, trotting, galloping, running, bounding, pacing, and crawling. Each of these actions leave different tracks for us to read.

For animals with a tail, the tail mark in a track is a very important clue. When an animal is moving at a slow pace, the tail drags behind and leaves a mark. At higher speeds, the tail is carried further off the ground and the mark it leaves will be smaller, or will totally disappear. An animal like the cottontail rabbit, for example, leaves a tail mark only when sitting.

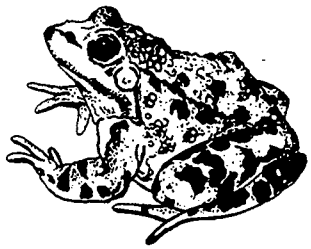
Prints in snow are the easiest to find. Look in wooded areas just after a snowfall, before prints have thawed or drifted in. In summer, look along creeks, roadsides, shores of lakes and marshes and around wet spots in fields or walking trails. Overnight dew can moisten bare soil enough to capture the tracks of animals active in the evening or early morning.

Can you match the tracks with the track maker?

a. white-tailed deer
b. snow shoe hare
c. moose
d. red squirrel
e. long tail weasel
f. deer mouse
g. raccoon



SOUNDS



In almost every habitat, there is a guard species. Blue jays, squirrels, chickadees and kingbirds are examples. They cry out an alarm when they see a predator. If you hear the warning, then the guards are probably alarmed about you. Also listen for sudden silence: a frog chorus that suddenly becomes quiet, or a group of chattering birds that go silent when a shadow (perhaps of a hawk) passes overhead.

TRICKS OF THE WILDLIFE WATCHER'S TRADE

SPOTTING THE SPOTTERS

Since most mammals are colour blind, even your wildest Hawaiian tourist shirt won't scare them away. (You may get a few rude whistles from birds, because they do see colours like we do.) So what do animals notice? How many times have you noticed something only after it moved? If you can imitate animals, and freeze whenever you think you are near one, you have a better chance of not being seen.

For most animals, human scent is the smell of danger. Some very serious (and very smelly) scientists used to bury their field clothes in the ground or rotting manure piles to "kill" their human scent. You could store your exploring clothes in a bag with cedar or pine cones, or wear them around a smoky fire to get the same effect.

WHERE ARE THE WILDLIFE?

Two methods for observing wildlife are hiding and stalking. Wildlife are most active at dawn and at dusk. Daylight hours, especially in the spring, are best for bird-sighting.

Hiding:

You'll have to know the area fairly well so you can guess where wildlife will show up. Good places to start are springs, trail crossings, or sites with a view of a wetland or clearing. In winter, anywhere there is open water would be a good place to start, as animals will often travel great distances for water to drink. Find a hiding spot, such as behind an uprooted tree root, a fallen log or a boulder.

Sitting on a tree branch can also work well; the animals may walk right underneath you. Be prepared to sit completely still for 20 minutes to a half hour, until you fit into the surroundings. You might also try to tempt the animals' curiosity a bit by first making some noise, and then hiding and being still. Squirrels, mice and other small mammals will first be frightened by the noise. Later, they may peek out to see what the fuss was about when they feel the danger is passed.

Stalking:

Think about which way the wind is blowing. You don't want to send your scent toward the animals. If you do spot something, try to keep some objects between you and the animal. Watch for signs that you've been noticed - a flick of the ear or tail, shift of body weight. If you see one of these signs, freeze. Don't move again until the animal is busy again and appears relaxed. Stalking is easier in bad weather - the wind and the rain cover up your sound and smell.

OTHER DISGUISES:
You could try the "large hay bale" trick, and use a round bale to hide behind. If you've used the bale for a while, you could carefully and gradually move it closer and closer to the site you're watching.

How can you sneak into an area? Most animals can't count. If two people approach an area, and one drops into hiding while the other one continues on and out of sight, the animal usually decides that the human danger has come and gone, and will relax again.

Photographer Jack Swedberg designed a floating blind, so he could disguise himself to photograph the activities of a muskrat pond. He made a frame of Styrofoam slabs, and covered it with chicken wire, canvas, and twigs and leaves.

JOURNAL NOTES

Most serious wildlife watchers keep a record of what they see when exploring. These are very short comments and simple sketches. They remind the writer of what was happening, and maybe a bit about the location and time the observations were made.

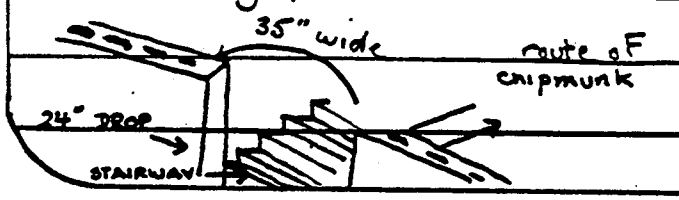
The notes can be used to compare the activity or habitat in two different areas, different seasons or in different years.
A small book that will fit in the palm of your hand is best for taking journal notes.

Chipmunk

July 30/89 - 29 Avenue Rd.
Smithvale. Ontario

Weather: sunny 85° F
Time: mid-afternoon

Saw a chipmunk running along the stone wall in backyard. It came to a gap (for a stairway), paused then leaped across. It did the same when it returned a few minutes later. The gap is 35" wide.

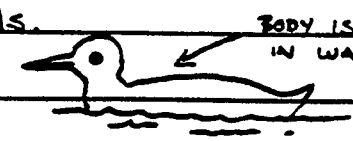


Loon

Aug 14/89 Arrowhead Lake
Huntsville. Ontario

Weather: clear about 80° F
Time: early evening

Saw a loon diving for fish. I used the second hand of my watch to see how long it stayed underwater. The shortest time (of 5 dives) was 1 minute. The longest was 1 minute and 20 seconds.



What sort of observations are useful?

References: Date, Time, Place

The date and time of day are helpful when comparing notes with those from other outings. The weather affects your activities in a day; it's the same for plants and animals. You can keep notes on temperature, clouds, rain, snow, wind conditions, etc.

Location: Be as exact as possible so you or someone else could find the site again if you wanted to.

Descriptions: Write about what you saw, either described or sketched. Sometimes you will actually notice more by concentrating on one duck, for example, while watching a flock. How does it interact or behave with the others?

BEING A WELCOME GUEST IN SOMEONE ELSE'S HABITAT

Whenever we leave our own homes, and wander through a field, marsh or woodlot, we are interrupting and perhaps damaging the habitat. What can we do to make a positive and not a lasting impression? What are some of the things we should do for our own safety and comfort?

Nature Ned says:

Make only as much impact on the land as a shadow would.

BEFORE THE NEXT MEETING

1. Take a dog, cat, your 4-H livestock project or yourself for a walk and a jog over a variety of surfaces: mud, sand, snow, etc., whatever you can find. Look first at the fresh tracks. How crisp are the edges? How much material falls inside the track? How moist does the surface of the track appear? Go back to the tracks for another look 5 minutes later, 15 minutes later, an hour later, 3 hours later and a day later. What do you notice? If you didn't know already, could you tell from the track how big the track maker was and how fast it was traveling?

2. You will be taking a field trip in Meeting Three. You will have a chance to take some journal notes. Bring a small book that can fit in the palm of your hand to record your notes. If you can't find a book, bring some sheets of paper and fold them into a smaller size.

   Check with your leader what kind of clothing you should wear.

Wingspan 1.8 m. Often stands at the edge of a pond, watching for fish and frogs which are its main food source.

Kingfisher: Have a sharp crest of feathers at the back of the head, a heavy black bill and a harsh rattling call. Length: 27-35 cm, about the size of a pigeon. They dive into the water and grasp fish with their beak.

Mink: 49 - 72 cm long. Have sleek, thick chocolate brown fur, and a long slightly bushy tail. Have 5 webbed toes on each foot. They swim well, and can climb trees, but rarely do. Some live in abandoned muskrat dens.

Muskrat: Large rodent with thick, dark, shiny fur; scaly, hairless, flattened tail. Hind feet are partially webbed. Length: 40-62.5 cm. Build large floating dens with underwater entrances.

Osprey: Ospreys look like eagles, but are smaller and slimmer (about 50 - 60 cm high). Build huge nests. Ospreys have sharp shiny claws on their feet, called talons. They fly close to water, watching for fish near the surface and grab the fish out with their talons.

Yellow Warbler: small songbird, with straight slender bill. Prefers shrubs or low trees for habitat. Length: 11-13 cm.

A Walk On The Wild Side

ROLL CALL

Have you seen the name or a picture of a wildlife species used as a symbol, decoration or in the name of something since the last meeting? Where?

****

Remember, this meeting is your field trip. Are you ready?

BEFORE THE NEXT MEETING

Imagine that you are a scientist, and you have been asked to set up a display for a new nature museum. You want the display to show people what would be in a pond habitat. There is already a pond, filled with typical pond water, in the display area.

Your job is to decide what plants, birds and animals will fit into this habitat. You want to set up the display so that it supplies the needs of the plants and animals that live there. As in the outdoors, the birds and animals in this display can obtain their food, water, cover and space from their habitat.

You have a list (on the next page) of all the things you might use in setting up this pond community; but you can only use a total of **10** things. Anything marked with an * counts as one choice. The list has been divided into things that offer shelter or cover, things that offer food, and wildlife and their food requirements.

A POND HABITAT

Things that can be used for cover	Things that can be used for food	Wildlife
* Grasses Herbs: * cattails * marsh marigolds * water lilies * duckweed Shrubs: * buttonbush * climbing bittersweet * dogwood Trees: * bigtooth aspen * Manitoba maple * red maple * speckled alder * willow * poplar	Grasses, all the herbs Seeds/Leaves/Roots: - duckweed - marsh marigold Berries of: - climbing bittersweet - buttonbush - dogwood * Insects * Small songbirds * Crayfish * Fish * Frogs * Mice Bark/Twigs of: * aspen * poplar	Larger birds and waterfowl: * **yellow warbler** - eats insects * **duck** - eats grass, roots and leaves of herbs, seeds and insects * **great blue heron** - eats fish, frogs, insects and crayfish * **kingfisher** - eats fish, crayfish, mice, insects * **osprey** - eats fish Mammals: * **mink** - eats mice, birds, frogs, muskrats, crayfish, berries * **muskrat** - eats grass and herbs * **beaver** - eats bark and twigs

My Choices:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

A Helping Hand

ROLL CALL

Talk about your choices of plants and animals for the science display you planned after Meeting Three. What problems did you have? Was it easy or hard to figure out what each species in the display would need to survive?

****

HOW HABITATS CHANGE

In planning the science display, you can really see how plants and animals are linked together in a habitat. We've talked a lot about habitat, and the four basic things that wildlife needs to survive: food, water, cover and space. What happens if the supply of food, or cover, or water disappears, or the habitat becomes too crowded? The habitat won't support that animal anymore. The animal will have to search for a new living area or it won't survive. What will happen to other animals who rely on the affected ones as a food source?

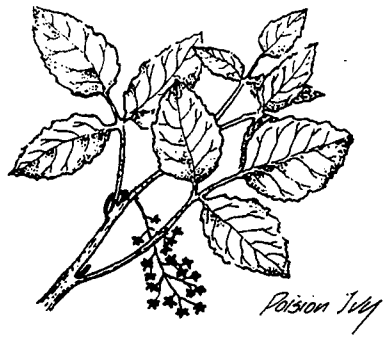
Changes to a habitat can result from both natural and man-made events. What are some natural events that would affect habitat?

When we think of man-made changes, we might think of new highways, or the expansion of cities and towns. We think of things that take over the space once used by wildlife as their habitat. When we think of saving wildlife habitat, we might think of big projects like special parks, wildlife reserves or bird sanctuaries.

Not all of the things that we do affect wildlife habitat so drastically, and not all of the helpful things we could do are difficult projects. There are many smaller ways to help wildlife in your area, as long as you know what species are there, and what they are likely to need. For some species, you can help just by resisting the urge to pull weeds.

For example:
Weeds as a Food Source

Weed	# of Species that eat Weed
pokeweed	28 birds/animals
ragweed	71
crabgrass	22
pigweed	55
poison ivy	61



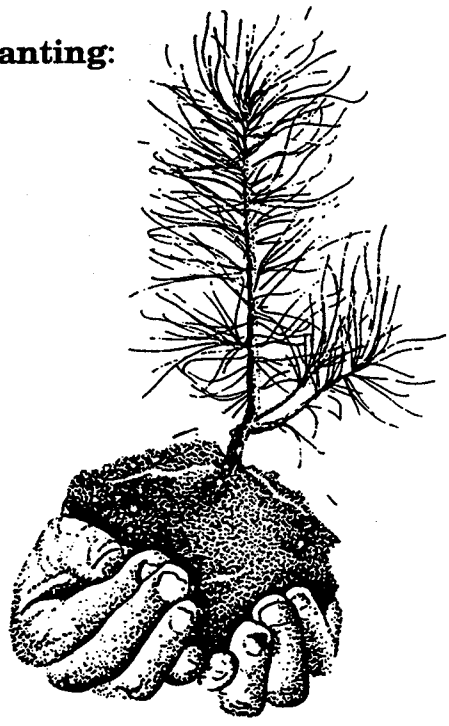
We can also benefit from the things we do for wildlife. In an experiment, scientists actually counted 79,000 insects in a mile of grassy fencerow, where all the dead trees and shrubby growth had been removed. In a fencerow that had shrubby growth in it, the number of insects decreased to 54,000, almost a third less. Why? In the grassy fence row, the scientists could only find an average of 1.5 birds in a mile. But in the shrubby fencerow, where there was more cover, there were 21 birds to the mile, and they were eating the insects!

HOW CAN WE IMPROVE HABITAT?

Building a Brushpile:

Putting together a pile of large and small branches provides cover and a travel lane for rabbits, hares, bob white quail, pheasants and songbirds. If you're going to build a brushpile, put it in an edge zone, near sources of food and other cover. The most useful brushpiles have a stump or large rock in the centre, creating a space under the brush. Pile on larger branches first, in criss-cross fashion, to prevent settling and allow more space within the pile.

Planting:

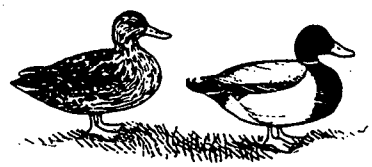


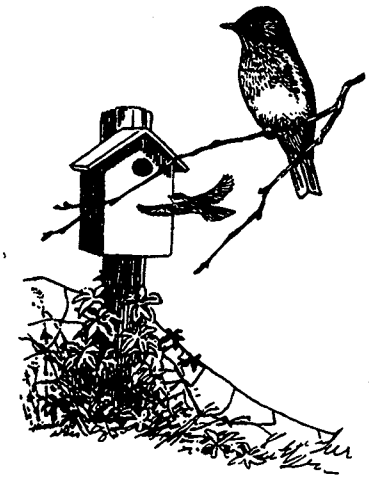
Planting trees, shrubs, and grasses is one of the best ways to improve wildlife habitat. Choose the plants carefully, with some specific wildlife species in mind. The plants will provide food and cover year after year, usually with no further assistance from you. Shrub and tree plantings should form a clump, offering cover from weather and predators. If you're planting a patch for food, try clumps of sunflowers, cosmos, asters and zinnias. They all produce seeds which can be available to hungry birds in winter. Another alternative is to leave a few rows of a regular crop unharvested in areas where there is winter cover (along the edge of a bush).

Hedgerows are a special kind of planting, usually a row of trees and other shrubs at least 10 feet wide. When you plant a hedgerow between two fields, along the edge of a field, or near streams, ponds or sources of food, you're building a highway for wildlife.

Nesting Structures:

You can build a special nesting box for many different species of songbirds, ducks and geese. They are designed differently for each species and of course must be placed in the proper habitat for that species. Many ducks also appreciate nesting islands. They can be constructed for large ponds out of hay bales, rocks, or soil covered with straw or mulch.



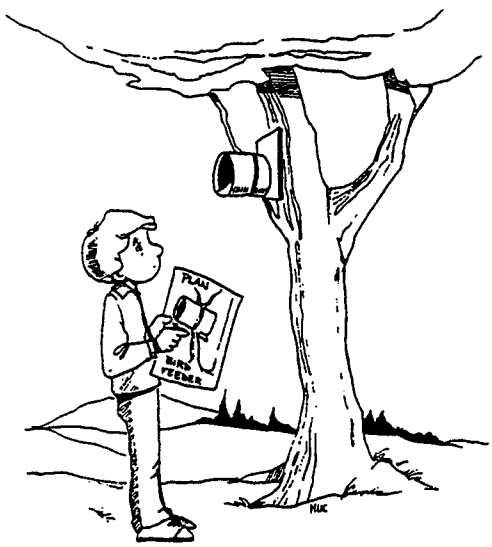


Bird Feeders:

- Designs for bird feeders range from bird palaces to board platforms. What the bird feeder looks like isn't as important as how you look after it.

- Feeders should be set up in the fall before cold weather sets in. Feeding stations are most effective and most necessary in the winter months.

- Feeders should always be supplied with food, especially during the critical winter months. Birds will depend on this new food source after they've been using it for only a short time. For food, you can use a mixture of cracked corn, millet, wheat and sunflower seeds, and add hickory nuts, walnuts, peanuts, peanut butter, raisins or cut up apples. If the food becomes moldy, or rotten, take it out of the feeder.



- Offer sand, gravel or gritty material, either in the same feeder, or nearby. Birds have no teeth, and use sand or grit in their stomachs to grind food.

- A roof or cover will keep the food dry and unspoiled.

- Put the feeder fairly close to the house. You can enjoy watching the birds, and also constantly check on the food supply.

- Cover such as bushes or shrubs should be nearby. The feeder should be cat-proof if on a post, pole or tree.

Field to Woodland Border Areas:

The border edge between a field and a woodlot offers food and cover for deer, rabbits, song birds and others. You can help the edge by protecting it from grazing livestock. Put a zone of grasses between the crops and the forest or plant a shrub and tree border along the field edge.

Woodlands:

Cutting a small number of trees or groups of trees will provide lumber or firewood. This will also encourage the growth of new plants which deer and other animals can feed on. Wildlife can also use snag trees (dead or dying trees that have good nesting spots hollowed out of the inside) or mast trees (trees that bear fruit or nuts).

Wetlands:

Maintaining or planting vegetation around ponds and wetlands will help you as well as wildlife. Grasses and other plants protect ditches and stream banks from erosion. Trees and shrubs reduce evaporation and help maintain a steady supply of water, as well as food, cover and nesting sites for other wild animals.

What Will We Do?

For Meeting Six, your club has the choice of either
1. working on a project to improve wildlife habitat, or
2. visiting an area where a project is underway.

Your leader will have some more specific examples of what your club could do.

BEFORE THE NEXT MEETING

1. Look around your home or community for two examples of man-made changes to a wildlife habitat, and record them here. Do these changes help or hurt the plants and animals in that habitat? How?

_____

_____

_____

_____

Wildlife And The World Around It

ROLL CALL

After Meeting Four, you looked for some examples of man-made changes to wildlife habitats. What did you find?

****

LIVING WITH WILDLIFE

If you put up a bird feeder in your back yard, do you change anything about the birds' habitat in the yard? Yes, because you have changed the supply of food. If you set up a bird feeder in the fall or early winter, the birds will come to depend upon that source of food, because there are few other sources at that time of year.

If, in the middle of January, you stop putting food in the bird feeder, will this affect the birds in the backyard habitat? Yes again. You are decreasing the supply of food at a critical time of the year. Some birds, who are unable to find a new source of food, may starve.

Sometimes the habitat requirements of wildlife conflict with our own needs and interests. Can you think of any examples?

ROOSTER ISLAND LAND USE GAME

Deciding what should be done with land that we share with wildlife isn't very easy. There are always some good points and some bad points to any plan. The Rooster Island game lets your club experiment with land use planning. You'll be trying to decide the future of the land and the wildlife of Rooster Island. Your leaders will divide you into the different groups that are meeting to make these decisions.

****

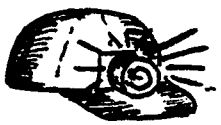
Angus "Red" Rooster has recently passed away, leaving a 300 acre island that was his and his family's home, to the township of Purple Valley. The island itself lies in the middle of the large and fast flowing Purple River. The reeve of Purple Valley township has called a meeting to decide the future of Rooster Island, and has asked all who are interested to come and present their ideas.

The following people have arrived at the meeting.

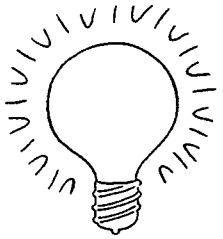
A professor from Lemon City University
The professor has been carefully studying the nesting colony of great blue herons. These birds live and nest on the north west shore of the island, with a smaller colony on the east shore in the centre of the island. Because the great blue herons are very shy and easily scared from their nests, the professor wants the island to be protected as a bird sanctuary. It would be closed to everyone except scientific researchers. The great blue herons are migratory, returning to the southern U.S. and Mexico during the winter months.

A member of the local Historical Society
This person wants the township to establish the Rooster Mansion and the lower 150 acres of the island as an historic site. The society wants to restore the house, and preserve it as a museum for the area. The architecture of the house is very unique, and the house is full of antique furniture which was made by local craftsmen in the late 1800s.

A representative from Paradise, Inc.
This company wants to buy the lower 150 acres of the island, turning Rooster mansion into a hotel, and building guest cabins around the bottom of the island. It also wants to build a dock for motor boats. It believes that it can attract visitors, in the summer, to the unpolluted river for swimming and fishing and bird watchers to view the nesting colony. In the winter, visitors could go cross country skiing in the forest.



A representative from the Mining Company
This company is interested in the bauxite deposit that they found while secretly prospecting on the island. (Bauxite ore is used to produce aluminum). It argues that the mine would offer jobs to people in the township. The company estimates that all the bauxite would be removed, and the mine closed down, in 10 to 12 years.



A representative from the Regional Energy Commission
Purple Valley Township and its neighbouring townships require more energy. The Commission sees Rooster Island as a perfect site for a hydroelectric or nuclear generating station. A hydroelectric station would require double damming the Purple River, thus flooding the largest great blue heron bird colony. The Commission is also at least partially in support of the mining company. They believe that the extra money the mine would bring to the area could help to finance their energy project. Will Purple Valley Township look very selfish if it refuses to allow an energy project that would benefit many people in the area?

You will have a few minutes to think about the person you are going to be, and what your plans and ideas for Rooster Island will be. **Then the reeve will call the meeting to order, and you'll have a chance to state your case!**

BEFORE THE NEXT MEETING

1. Look around your home or community and identify one area where you think the habitat could be improved. What do you think should be done? How will that affect the plants and animals living there? Would it have any negative effects? List the steps necessary to accomplish the improvements you think should be made.

   _____

   _____

   _____

   _____

   _____

   _____

   _____

   _____

   If it's a small project that you or your family could accomplish together, do it! and report your accomplishment to the club in Meeting Six.

2. Have your leaders asked you to prepare anything or bring anything to Meeting Six? If so, don't forget to get it ready and take it with you.

Nature Ned says:

Daisies, dandelions, starlings, house sparrows, jack rabbits, Scotch pine trees and many insects were not part of natural life in Ontario when European settlers arrived. They were all transplanted here, and many by accident!

A Helping Hand In Action

ROLL CALL

Tell the other club members about your ideas for a possible habitat improvement project.

****

GETTING INTO THE HABITAT IMPROVEMENT ACT

What kind of activity did your club see/do in this meeting? Write down a few notes about what your club did, how you helped, how this project will help wildlife, and how you felt about the activity.

BEFORE THE ACHIEVEMENT PROGRAM

1. Prepare for the Achievement Program.

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CONSERVATION – WATCHING OUT FOR WILDLIFE DIGGING DEEPER

Optional Information For Senior Members

What's In A Habitat?

TERRITORY

Many animals "own" a territory at certain times. This is an area, usually right around the home or nest, which the animal will defend against members of its own species and, occasionally, other species. Many birds share the tree in which they nest with birds of other species, but chase off any of their own kind. If a male pheasant defends a territory of three acres and you have a six acre field, you will have only two male pheasants no matter how much food, water, and shelter are available. In this case, living space is the limiting factor.

POPULATION DYNAMICS

Dynamics is the study of forces and influences which cause change. Animal populations are always under pressure to change. The balance or imbalance of various forces determines whether the population will increase, decrease, or remain the same size. You should think of wildlife in terms of populations.

Sometimes you will become concerned with individual members of a population - for example, when you try to save a bird with a broken wing. But the key to understanding wildlife is to understand the population - all of the animals as a group - and recognize that the individual is but one of the population.

For example, a wildlife population goes through an annual cycle. A bird like the bob white quail enters the breeding season (spring) at the low point of the annual cycle. With sixteen chicks raised by each pair of adults the population soon is raised to nine times what it was before breeding season. (Before hatching, population is two. After hatching, population is 2 + 16 = 18.) Obviously, the habitat could not long stand a nine-fold increase in population every year: the carrying capacity would be exceeded. So what happens? Between one breeding season and the next, most of the members of the population die, so when breeding time arrives the following spring, the population is the same size again.

This population curve describes a stable population: there is no net increase or decrease in size from one year to the next. But if more birds remain to enter a breeding season than entered the preceding breeding season, the population increases. If the opposite happens, it decreases.

What happens between breeding seasons to cause animals to die? Natural things. Some die of disease or injury. Predators kill some for food. (Predators go through the same cycle as other animals.) Winter storms may cause death from exposure, particularly if shelter is a limiting factor. If food is in short supply, the weaker animals starve.

The "survival strategy" is different for many species: instead of producing many young and losing many to mortality (death) some species produce fewer and lose fewer. Most predators and larger animals are in this category. Still others produce more and lose more: a single pair of mice may produce several hundred young a year, but if the population is to remain stable, all but two of the total must die.

Becoming "The Great Nature Detective"

You may want to further explore the hiding and stalking specialities of predators and prey. Think of a predator, and its prey, and make a list of adaptations, or special physical attributes or skills that help those species. For example:

OWL

- excellent vision
- sharp claws for capturing prey

MOUSE

- small, hides easily
- colour as camouflage

After you have made your list, make up a "Who Am I" question, for the predator and the prey, to ask each other. For example:

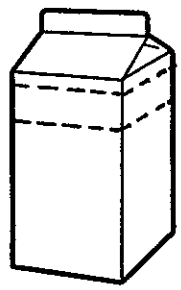
owl: I don't give a hoot about your opinion
I'm busy at night, swooping and hunting.

mouse: I'm very small and fast, and afraid of attacks from above.

MAKING PLASTER CASTS OF WILDLIFE TRACKS

To make casts, you need plaster of Paris powder, water, a container for mixing, and a collar or form to put around the track.

You can recycle a milk carton into the tools needed for making casts. Put the plaster of Paris in a tightly closed plastic bag, and the water sealed in a small jar. Place both inside the milk carton. When you find a track, you can cut off a top section of the carton to use as the form, and use the bottom as a mixing container.



Cut along dotted lines for collar

Use rest as a mixing container

Plaster of paris

Small jar of water

Method:

1. Brush away twigs, stones or dirt lumps near the track.

2. Put the collar around the track, and press firmly into the ground (or snow). This will prevent the plaster from flowing out from underneath the collar.

3. For each 250 ml of water you use, put 400 ml of powder into the mixing container. (Measure the amount of water you have in the jar before you leave home, and take as much plaster of paris powder as you would need for that much water. If you use 1/2 the water, use 1/2 the powder.) The plaster should be the consistency of thick cream or pancake batter. When making a cast of a track in the snow, remember that the snow will melt unless you put lots of snow in the plaster to cool it, or dust dry plaster of paris into the print to form a base.

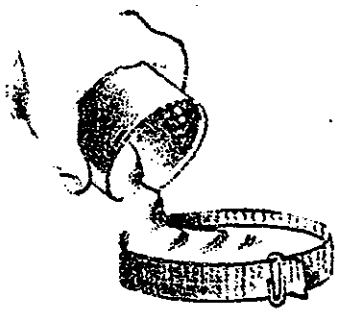
4. Quickly pour the mixed plaster carefully over the print.

5. When the plaster has hardened (usually 1/2 hour) remove the collar carefully. Clean the track gently with a soft brush or cloth. You now have a negative cast.

6. For a positive cast, or a duplicate of the original print, grease the negative cast with light oil or petroleum jelly and repeat the casting process.

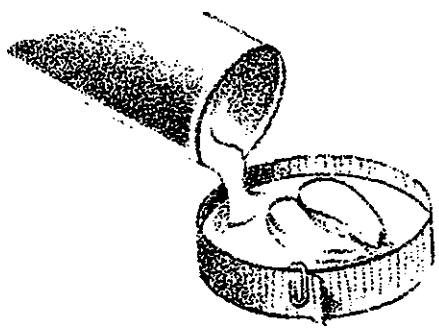
Step 2

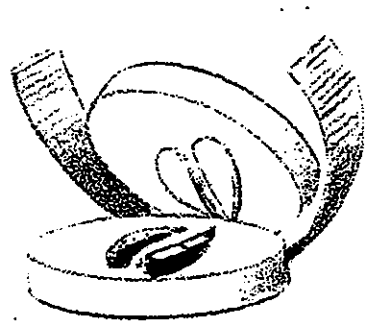
Step 4



Step 5

Step 6



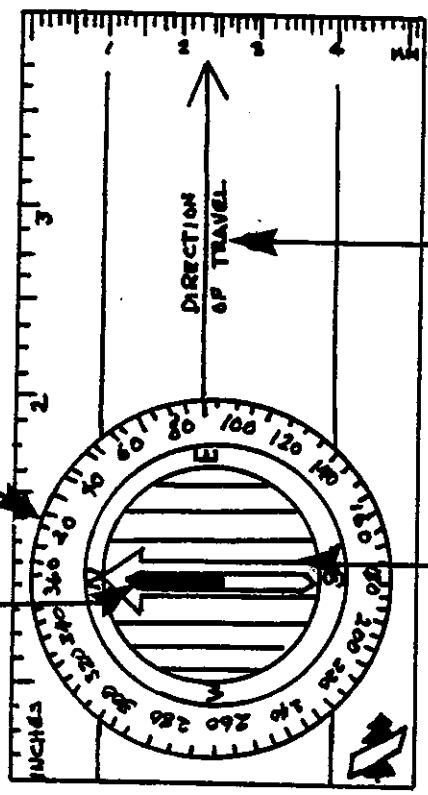


A Walk On The Wild Side

THE COMPASS
(from: Outdoorsman Unit II, B.C., Alberta and Manitoba Departments of Agriculture)

Compasses come in all shapes and sizes, some are easier to use than others. Perhaps the most versatile is the Silva Compass, also known as the **Orienteering Compass**. This instrument has three main parts:

1. Transparent Base Plate
2. Housing
3. Magnetic Needle



The **Magnetic Needle** is a piece of thin, flat steel supported on a point. The red end of the needle always points north.

The **Housing** is made of a non-magnetic metal and is free to turn. Around the inner rim of the housing are marked the four cardinal points - North, East, South and West. The outer rim of the housing is graduated into two-degree units. Printed inside the housing, under the needle, is a black arrow, the "Orienting Arrow", that points to the North (360°) mark. Every 20th degree is marked. Hence, the numbers 20, 40, 60, etc. up to 360 degrees will be found on the compass.

The rectangular **Base Plate** holds the housing. The "direction-of-travel arrow" is marked on the base plate. The spot where the tail of this arrow meets the housing is used to set the number of degrees for any desired course. This spot is called the index pointer.

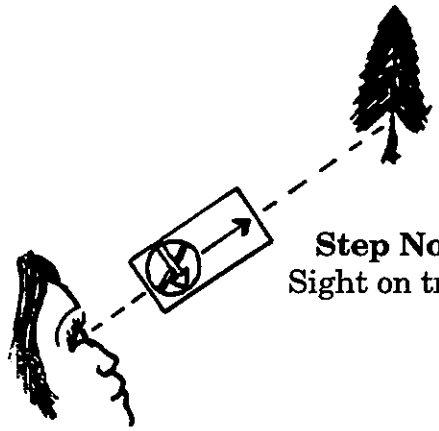
USING THE MAGNETIC COMPASS

In simplest terms, a compass is used to get from Point A to Point B, when Point B will be out of sight all or part of the time. Point B can be selected either from some visible landmark in the field or from a certain feature on a map. Once selected, the true bearing (i.e., angle from True North) of the proposed line of travel toward B is found. By frequent sightings with the compass, this bearing or course is then followed until Point B is reached.

TAKING A BEARING

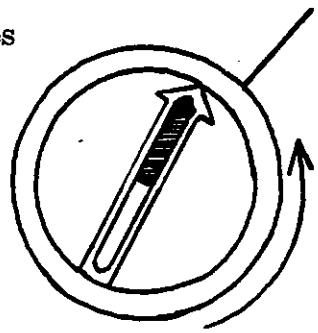
Hold the Silva compass in front of you.

Step 1: Select a building, tree or other landmark. **Face** this object, then point the direction-of-travel arrow toward the object.



Step No. 1
Sight on tree

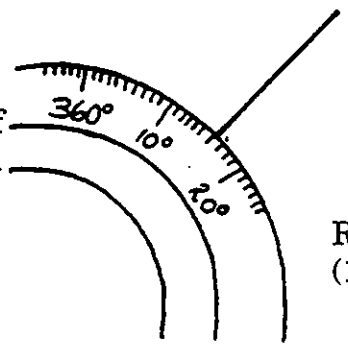
Step 2: Keeping the base plate steady and level, turn the housing until the orienting arrow lines up with the red end of the magnetic needle.



Step No. 2
Rotate housing to line arrow up

Step 3: Read the bearing (the degrees of the direction) on the outside rim of the housing where the index pointer touches the housing.

In this example, the tree is 16° (in a clockwise direction) from North.



Step No. 3
Read bearing (16°)

NOTE: Because the compass needle is magnetized, it is attracted by iron. This means you will not get a true compass reading alongside iron tools, or an automobile, or on a steel bridge. Hydro lines and iron ore deposits in the ground may also deflect the needle if you are standing near them.

FOLLOWING A BEARING

Once the bearing of your landmark is set on the compass, you can use it to reach your destination by:

1. Holding the compass level. Turn the compass with your body until the red end of the magnetic needle and orienting arrow overlap. The direction-of-travel arrow now points in the direction you wish to go.

2. Choose some nearby landmark that is in line with this direction.

3. Walk to it. Repeat the process, sight on a new object, and continue this procedure until your destination is reached.

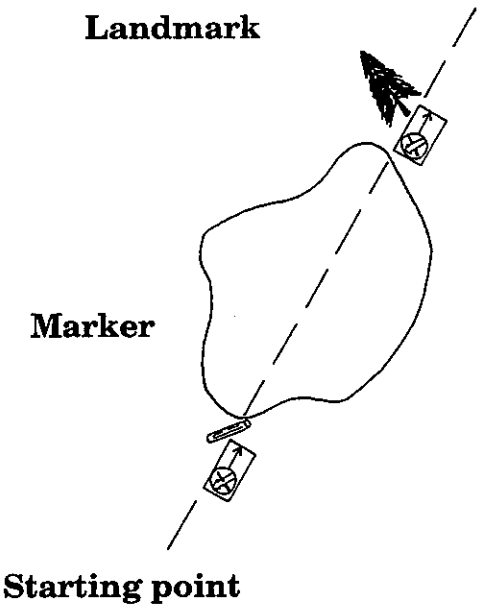
If you walk in the wrong direction, the magnetic needle and orienting arrow will move out of alignment.

PACING

Often, more than one bearing will be needed to reach a destination. Therefore, some simple means of knowing where to alter course is needed, especially if the turning point is not marked by any distinctive feature. Timing yourself from point to point is unsatisfactory because your rate of travel will vary with the terrain, cover, season, degree of tiredness and other factors.

Pacing is the easiest way to keep track of the distance between points. One pace equals two steps, or the distance covered from left foot to left, or right to right. This differs among individuals. The simplest way to calculate your own pace is to take a string of known length and practice pacing this distance over various kinds of terrain. Once you have mastered a steady pace, it will be possible to walk on one bearing for a given distance. Change to a new bearing for a distance, and continue doing this until you arrive at your objective. Pacing is particularly useful for walking courses previously plotted on a map.

OBSTACLES



On compass walks, it is very probable that you will encounter lakes, swamps, buildings and other obstructions that you cannot go through. When the obstacle is a lake or open swamp where you can see the other side, the procedure is very simple. Find on the far side some landmark that lies on your course, walk around to it, and resume your bearing from there. Once there, however, you should make a check on the position by sighting back to the original point. It is wise to mark this point where you break out on a lake or swamp, because it sometimes happens that when you reach the opposite side, the landmark you chose cannot be located with certainty. At the same time, the exact point from which you started may also be hard to locate. When this happens, you have no way to check the exact location of your line of travel, and may have to retrace your steps to relocate it. A marker made from a scrap of paper, small heap of stones, or piece of driftwood will prevent this happening by allowing you to take a back-bearing.

If you cannot see across or through the obstacle, you will have to go around it. This can be accomplished by using right angles. To go around an obstacle to the **right**:

1. Turn your body to the right until you are facing at about right angles to your line of travel. Lift the compass and turn it so the red end of the magnetic needle and the orienting arrow line up. **DO NOT TURN THE COMPASS HOUSING.** (The direction-of-travel arrow will be parallel to your original direction of travel. Refer to diagram.)

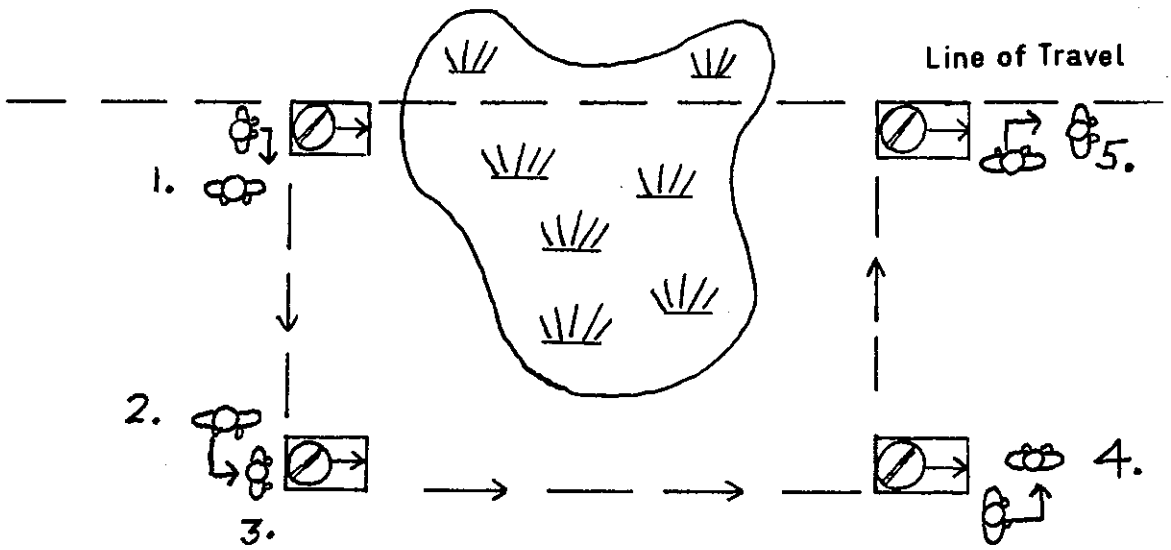
2. Sight along the rear edge of the base plate (which is at right angles to the line-of-travel arrow), and select a landmark. Walk toward it, counting your paces, until you are beyond the obstacle. Remember the number of paces you took.

3. Resume your original bearing by turning your body to the left. Lift the compass and turn it so the red end of the magnetic needle and the orienting arrow line up. Walk following the direction-of-travel arrow until you are clear of the obstacle.

4. Turn left, lift the compass and turn it so the red end of the magnetic needle and the orienting arrow line up. Sight along the rear edge of the base plate at a landmark, and walk exactly the same number of paces as you did to the right.

5. You are now back on your original line, with the obstacle behind. To pass an obstacle to the left, simply reverse the above procedure.

METHOD OF GOING AROUND OBSTACLES



A Helping Hand

POSSIBLE WILDLIFE HABITAT IMPROVEMENTS

The following details about some specific projects were taken from the Community Wildlife Improvement Program (CWIP) Manual; full descriptions and the manual itself are available in all Ministry of Natural Resources (MNR) offices. This program provides funding for approved habitat improvement programs. If you want full details about any one of these projects, please contact your local MNR office.

1. Apple Tree Release

Abandoned apple orchards and old apple trees located in hedgerows and along woodland-field borders are useful to wildlife for their fruit, leaves, twigs, buds and bark.

The release process involves:

- removal of competing and shading vegetation
- apple tree pruning
- tree fertilizing

2. Brushpile Construction

Brushpiles provide cover for small animals and birds. In areas where there isn't enough cover, a series of properly spaced brushpiles can act as a wildlife travel lane. Brushpiles should be located near sources of food and other cover (fencerows, food plots, unused fence/field corners, etc.) What can you use as building materials? -large rocks, stumps, stone walls, old machinery, discarded Christmas trees, tree limbs, brush. You can also make a living brushpile by cutting and bending six or more deciduous saplings growing close together. You would then pile brush against the trunks.

3. Wildlife Openings

An opening is an area containing grasses, herbs, shrubs, tree seedlings, and spots of bare soil in a forest. These provide an edge, and a home for plant species that are important to wildlife but that can't exist in the treed part of a forest.

The following animals use a forest opening

white tailed deer	ruffed grouse	insects
bears	wild turkey	mice
cottontail rabbits	woodcocks	squirrels
hares	songbirds	owls

Openings should only be undertaken in forested areas greater than 4.0 ha. They involve tree cutting, clearing soils, and constructing brushpiles. You could also plant wildlife food plots, seed the area with grasses and legumes, or allow native grasses and plants to invade it.

You could also work to improve existing openings, such as old logging roads or landings, ski trails and slopes or gravel pits so that they are more useful to wildlife.

4. Hedgerows

Hedgerows remaining on agricultural lands form covered travel lanes for wildlife, as well as food, nesting and rearing cover. You should really seek some expert assistance if you're trying to improve or design hedgerows. They should be located on uncultivated land between two fields, along fencerows, gullies, streams, ponds or near wildlife food plots. The hedge should be 3 to 7m wide, but its length can vary according to the space available.

5. Wildlife Food Plots

These offer wildlife an additional food source, especially in the fall and winter and can also provide cover. Food plots can also benefit landowners by providing wildlife viewing areas and possibly drawing animals away from farm crops. Food plots should be located near suitable cover such as hedgerows,

shrubby fencerows, brushpiles, woodland-field borders, or clumps and thickets. The best shape for a food plot is a long narrow strip. When choosing plants, you have to consider what types of wildlife you want to attract. Setting up these plots requires farm tillage equipment, or home garden implements. This is one planting you don't have to weed!

6. **Windbreaks**

Windbreaks, of trees and shrubs, can protect crops or buildings from wind and snow, and provide cover and shelter for wildlife. Windbreaks are usually 1 to 5 rows wide. Again the design and planting should be done in consultation with experts. You could also consider rehabilitating old windbreaks.

7. **Woodland-Field Borders**

Upgrading woodland-field borders can attract wildlife for observation, and can offer food and cover to wildlife. The strip should be 7.5 to 9 m wide, and the length of the woodland border. You'll need advice as to the kind of trees and plants appropriate for your location.

8. **Backyard Planting**

Consider a wildflower bed or some garden plantings for wildlife - shrubs offer shelter and nesting habitats for songbirds and berries as food. The dense foliage of wild grape is good cover for small birds and the fruit is a favourite food of many songbirds. Food patches of seed producing flowers such as sunflowers, cosmos, asters and zinnias are good choices for birds. The M.N.R.'s free publication "Backyard Habitats" would be a good reference for plantings like this.

Wildlife And The World Around It

SUCCESSION

One of the biggest influences on any natural habitat is a natural process known as succession. Just as our bodies grow and change almost constantly from the time we are born, so does the landscape around us. We can compare our baby pictures to our pictures now and see those changes really clearly. But because the changes that succession causes happen so slowly, we don't notice them without really thinking about them.

You may have seen a lawn or garden or field that was abandoned, and overgrown with weeds. These first weeds are usually annuals, plants which live for just one growing season that thrive in open, sunny places. As seasons pass, these weeds are choked out by other taller grasses, which live for more than 1 year and don't need open, sunny places to grow.

After a few more years, the grasses and tall weeds must compete for sunlight, water and other needs along with other plants that spring up - berry bushes, shrubs and tree saplings. How did these seeds arrive? They were carried by birds or small

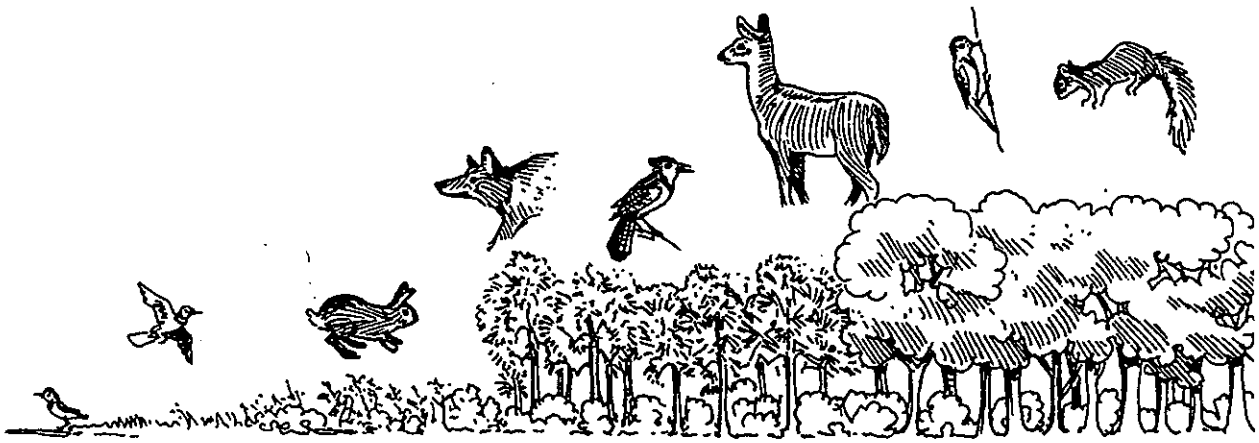
rodents, or were blown there by the wind. If this area is still left undisturbed, eventually the trees become so big that their shade keeps many of the smaller

plants from getting enough sunlight to live, and there is now a forest where there was once an open, grassy field.

As the plant life of a field slowly changes, the animal life must too. Meadow mice thrive among thick grasses and weeds. When the grass becomes sparse, the meadow mice move out and deer mice move in.

While floods, drought, changes in climate and forest and prairie fires do destroy the habitat of some species, they also work to stop or reverse the process of succession and provide habitat areas for species like the meadow mouse again.

Have you noticed this process going on anywhere in your community?



Old Field Succession