

CREE STUDENTS AWARENESS PROGRAM FOR THE PROTECTION OF BIRDS OF PREY

Teacher's Manual



Contents :



Preparatory activity



Visit from wildlife professionals



Integration activities

- ***Role-playing game***
- ***Quiz game***



Evaluation





Document produced by

Union québécoise de réhabilitation des oiseaux de proie (UQROP)



and the Cree Trappers' Association of Quebec (CTA)



in collaboration with
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Teacher's Manual

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INTRODUCTION

It is important to mention that Article 24.3 of The James Bay And Northern Quebec Agreement, Article 15.3 of The Northeastern Quebec Agreement, and the Act respecting hunting and fishing rights in the James Bay and New Quebec territories (R.S.Q. c. D-13.1), gives Aboriginals the right of use. This right allows them to hunt, fish, trap, capture or kill all species of fish, mammals, and wild birds throughout the territories ruled by these agreements.

In accordance with subparagraph 24.4.27 of the JBNQA, however, the Hunting, Fishing and Trapping Coordinating Committee (HFTCC) can provide the responsible minister with recommendations on species of wildlife to be protected on an on-going basis or from time to time. The Coordinating Committee (HFTCC) has studied reports relating to the situation of the bald eagle, the peregrine falcon, and the golden eagle and consequently provided notices which were adopted by resolution on August 26, 1998 (98-99:22) and on June 25, 2002, supporting the designations decreed, in accordance with *The Act respecting threatened or vulnerable species* (R.S.Q.c. E-12.01), as vulnerable species, considering the situation of the three species involved.

In the last few years, a phenomenon has been observed in different Cree communities of Northern Quebec; birds of prey can be the target of some hunters who might find them distracting during their traditional activities of hunting waterfowl (migratory birds).

After being alerted directly by trappers of certain communities denouncing this situation, the ministère des Ressources naturelles et de la Faune (MRNF), in collaboration with the Cree Trappers' Association (ATC) and the Union québécoise de réhabilitation des oiseaux de proie (UQROP), began a campaign in 2006 to raise awareness in the Cree Nation about the protection of birds of prey in jeopardy.

After being presented in the nine Cree communities, the campaign on the birds of prey situation in Quebec, especially the endangered species, is now adapted and ready to be presented in those communities' schools.

An educator of the Union québécoise de réhabilitation des oiseaux de proie (UQROP), accompanied by a live bird of prey and by people from the ministère des Ressources naturelles et de la Faune (MRNF), including a wildlife protection officer, will soon visit your class.

With your help, we hope to successfully meet and educate as many students as possible on the importance of these predatory birds in our environment, and to give the students the knowledge and tools necessary to understand them.

To this end, this paper gives you the information necessary for the proper execution of this activity, and makes you aware of the different topics which will be discussed.

Thank you for your participation!



OBJECTIVES

In order to adequately understand the importance of birds of prey in the environment and the need to protect them, a number of concepts related to the lifestyle of birds of prey, their biology and their role in the food chain as well as their various threats will be addressed in the presentation.

The student will therefore be brought to:

- ◆ realize the importance of land and animals for the Cree population;
- ◆ recognize a bird of prey and differentiate between various families;
- ◆ recognize the three vulnerable species of birds of prey as well as some of their characteristics;
- ◆ understand the concept of superior predator, as well as their role in the food chain and in the environment;
- ◆ understand the phenomenon of scarcity in some species of birds of prey;
- ◆ realize the impact of accidental trapping on these birds' populations;
- ◆ understand the energy needs of birds of prey;
- ◆ understand the problems between hunters and birds of prey in danger;
- ◆ be aware of the various threats to birds of prey;
- ◆ know the impact of certain toxic substances, present in the environment, on these birds;
- ◆ understand the impregnation phenomenon;
- ◆ be aware of the various efforts undertaken for the conservation of birds of prey;
- ◆ know the Union québécoise de réhabilitation des oiseaux de proie and its activities;
- ◆ know what to do if they find an injured bird of prey.

PREPARATORY ACTIVITY



Title : « Living with birds of prey »

Animation : by the teacher

Time : 30 minutes

Location : in the classroom or as homework

This activity must be done before the arrival of the UQROP educator and of the MRNF person (wildlife protection officer).

The goal is to prepare the students for their arrival by giving them an idea of the topics that will be covered, and to arouse their curiosity about birds of prey. Thus they can begin thinking about the hunting of birds of prey in danger and will be able to prepare their questions or comments for the educators.

What the teacher needs to do before the arrival of the educators:

1. Make photocopies (in english or french) of the document "Living with birds of prey" and "Personal experiences", **pages 15 and 16 in the Appendix**, according to the number of students in the class.
2. Announce the coming activity, and the date of the educators' visit.
3. Distribute the two pages of the document "Living with birds of prey" and "Personal experiences" to the students and give them the time needed to complete it in the classroom. It can also be given as homework.

** The aim of this activity is to have an idea of the general knowledge of students on birds of prey. It is not the right answers that matter most, but rather the thinking the students do on the subject. Mention to the students that they will be able to complete the questions that seem more difficult to them during the meeting.

In the meantime, you can get an idea of what the students might answer with the worksheet "Answers", which can be found in **Appendix, page 17**.

You can also use this exercise to encourage your students to practice internet browsing. Offer to have them find answers to questions by using a search engine, or by visiting the UQROP website: www.uqrop.qc.ca, as well as the MRNF website: www.mrnf.gouv.qc.ca

4. Get the students' copies and keep them until the visit.



UQROP CLASS VISIT

The meeting with a UQROP educator is a very important step in understanding the various issues that affect birds of prey today. With the help of adapted visual support (PowerPoint presentation, anatomical bird parts such as feathers, legs, etc.), the expertise of a UQROP educator and of a person from the MRNF (wildlife protection officer), students will have all the support they need for a good understanding of the lifestyles of birds of prey's as well as the threats they face.

- ◆ It is important for the students to do the preparatory activity.
- ◆ Give back the completed pages of the preparatory activity "Living with birds of prey" and "Personal experiences" to each student. That way the student can better remember their answers and the questions they had wanted to ask.
- ◆ At the end of the visit, give the copies of the preparatory activity to the educator, and then respond to the evaluation form on **page 13**.



Title : « Birds of prey: Vulnerable predators »

Animation : produced by a UQROP educator and a person from MRNF (wildlife protection officer). The presence of all the teachers from all the classes is also required.

Time : 1 hour

Location : class or school gymnasium

Material : provide a screen or a white wall for the projection. The rest of the required material will be provided by the animation team.

Educational techniques: multimedia visual support, questions/answers, scenarios; by the touching of birds' anatomic parts and by the presentation of a live bird of prey.

The animation ends with the presentation of the living bird of prey specimen, as part of the list of vulnerable species. This unique approach will give the students the opportunity to closely observe a peregrine falcon and to ask any questions they have regarding this species. An overview of the rehabilitation work and medical history of the bird can therefore be dealt with more concretely.



Following this meeting, a **CD** will be given to the teacher containing the PowerPoint presentation from the event. On the same CD, a more detailed document of the presentation will be attached, allowing the teacher to do the presentation again in the future for his or her students.

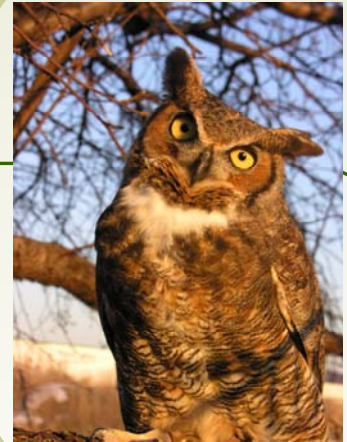
In addition, the teacher will have the opportunity to do this presentation again in his or her class in the next few years and to share it with other teachers from secondary levels (1 to 5) so that they can also deal with the topic in their respective classes.



The questions from the "Preparatory activity" can serve as an introduction and be asked in the classroom by the teacher, before the PowerPoint presentation. It is also advisable to revise the theme by doing the "Integration activities", either by a role playing game (allowing you to assess the critical thinking abilities of your students regarding the environment) or by a Quiz game (allowing you to assess their achievements in a more theoretical manner).



UQROP MESSAGE



For teachers who want to repeat the experience of this presentation, or for other levels that have not had this experience (primary and secondary), contact your school board to discuss the possibility of bringing back a UQROP representative and a bird of prey to your school.

The project we are working on in 2008 with the ministère des Ressources naturelles et de la Faune and the Cree Trappers' Association may not have a second edition. However, our organization will continue to transmit its message for the protection of birds of prey throughout Quebec.

It would therefore bring us great pleasure to come back to your school to share presentations tailored to each grade level.

Please share this information with others!



INTEGRATION ACTIVITIES



Threatened birds of prey in Chisasibi



Title : « Threatened birds of prey in Chisasibi »

Animation : produced by the teacher after the PowerPoint presentation to the class

Time : 15 min. of preparation the first day and 60 min. of games the second day

Location : in class

Material : sheets to be photocopied (notebooks, scenario, game rules, identification badges, developmental proposal sheet, argument cards, reply cards) and tokens

Educational techniques : role-playing, value analysis, discussion table

Grade level targeted : students of secondary 1 to 5

Summary :

A vacant lot on the edge of the discharge of a lake in the municipality of Chisasibi must be converted. The band council has received five different proposals from companies in several fields to fill this place.

Some students will play the role of the representatives of these companies. Thus, there will be:

1. A promoter of the construction of a hydro-electric dam
2. A forestry development company
3. An environmental conservation group
4. A leisure and outdoor company
5. An outfitter manager (hunting and fishing).

An assembly, composed of other students, will determine which proposal is most appropriate for the site, depending on the arguments presented. This assembly must take into account that there have been two vulnerable species of birds of prey identified: the peregrine falcon and the bald eagle. In addition, there are trees and rare plants on the site.



Educational content:

Objectives:

- ◆ Become aware of the various threats to birds of prey and their environment. Encourage the adoption of environmentally friendly attitudes.
- ◆ Identify habitat loss as a major cause of declining populations of birds of prey.
- ◆ Confronting different options for land use according to their impact on the survival of two species of birds of prey and rare plant species in Quebec.

Pedagogical approaches:

- ◆ Education values and critical approach: the role-playing game is designed to develop critical thinking and judgment in regards to the quality of the environment provided to birds of prey.
- ◆ Problem solving: role-playing allows the students to discover a problem in a fictitious environment (development of a site), to find solutions to this problem and implement a plan of action.

ACTIVITY TIME

** The teacher must read the regulations of the game and understand the activity before he or she carries it out in class. The rules of the game, the scenario, notebooks and other documents required for the activity can be found **on the CD** provided by the UQROP educator during his or her visit to the school in 2008 .

First day :

The teacher should have on hand copies of all documents needed for the activity, according to the number of students in the class.

For example, for a class of 16 students, 2 teams of 8 students can be formed. Therefore, **each team** of 8 students should have the following photocopies in hand:

6 **notebooks** (1 for each character),
8 **sheets of scenarios** (1 for each student),
6 **identification badges**,
1 **sheet of the development proposal**,
30 **argument cards** (6 cards for each of the 5 speakers),
30 **reply cards** (6 cards for each of the 5 speakers),
30 **tokens**

**Take about 15 minutes in class to prepare the students for the activity:

1. Depending on the number of students in the class, form one, two or three teams of at least eight students per team.

If the class is not large enough, perhaps you can get another class to participate in the activity. Otherwise, it is possible to remove one or two characters from the game.

2. Explain to the students the purpose of role-playing, referring to "Summary" written on **page 8**.

3. Explain that each team will be comprised of:

- **a municipality representative** (Joyce Pleasants). Her role is to ensure that the game goes smoothly.

- **five speakers** (Norman Stone, Mary Woods, Bobby Heart, Sally Powers et Roger Wells). Each want to occupy this land at any cost. Their role is to defend their position with solid arguments and well placed replies to the other speakers (the arguments and replies of each character are already written on the cards to photocopy, which can be found on the CD).

- **voters**, formed by the other students in the team (2 or more). The voters will decide in favor of one of the speakers. During the debate, they act somewhat like a jury.

4. Distribute the roles and notebooks by choosing a student who has the leadership to act as the municipality representative.

The municipality representative, (Joyce Pleasants) will choose one student among the voting members to fill the position of secretary. The secretary will complete the worksheet "Development proposal" in the time required.

5. Give the students who represent one of the 6 characters the notebook and scenario to read at home. Voting members with no role to play in the situation can read the scenario and make a short summary of the game's context.

Second day :

Preparation of activity:

- Photocopy the sheet "Development proposal" that will be given to the secretary or secretaries of each team (appointed by the voting members).

- Photocopy the sheet with the game rules, so that the teacher can read the rules to the students before the beginning of the game.

- Check whether students have learned their roles as homework with the help of questions. For example:

Eric, could you tell us the name of your character? What is your position?



ACTIVITY TIME

1. In class, explain the role-playing rules and ensure that each student has understood how it will unfold.
2. Distribute the argument and reply cards, the tokens and the "Development proposal" to the municipality representative of each team.
3. Students begin the role-playing game with instructions from Joyce Pleasants, the municipality representative (the guidelines and the rules of the game are written in her notebook).
4. The game continues during the period while the teacher circulates among the teams to answer questions.
5. When the students have made all their arguments, the secretary writes the chosen proposal on the "Development proposal" sheet.
6. Each secretary must make a report on the proposition chosen by their team to the entire class.
7. Initiate a discussion in which all teams can opt for the development proposal that makes the most sense for the site in Chisasibi.



NOTE : We are curious to know your class' choice. Please send us the chosen proposal as well as your comments on the activity to:

info-ugrop@ugrop.qc.ca

This will be greatly appreciated!





Quiz game



Animation : conducted by the class teacher after the PowerPoint presentation

Time : take the time necessary to complete the work (about 40 min.)

Location : held in class

Material : sheets from Quiz game (Appendix pages 18 to 21). Make photocopies for each student.

Educational techniques: revision of the PowerPoint presentation's theoretical content with a questionnaire. Repetition of the most important concepts.

Grade level targeted: students secondary 1 to 5



Objectives:

- ◆ Have the students explain, in their own words, what they have understood of the important phenomena concerning birds of prey.
- ◆ Encourage the students to think about the importance of birds of prey in the environmental balance.
- ◆ Check the listening and understanding skills of students on some simple concepts (physical characteristics, different families), and some more challenging concepts (migration, food chain, threats).

ACTIVITY TIME

The teacher must photocopy all four pages of the Quiz game, which can be found in **Appendix, page 18 to 21**, and distribute a copy to every student in the class.

The activity may be done individually, or by dividing the class into several teams. The teacher can then distribute a copy of the Quiz game to each team and give points to the teams who have obtained correct answers (**the corrected Quiz game is attached in the Appendix, page 22 to 24**). The teacher will determine whether to bring a reward for the winning team. After, take back the sheets of the Quiz game.



Please return the copies of the Quiz game to:

Union québécoise de réhabilitation des oiseaux de proie
Casier postal 246
Saint-Hyacinthe, Qc
J2S 7B6

Thank you for your participation!



Photo: Simon Chaloux



EVALUATION

The following questions may be asked by the teacher to students in the class, following the meeting with UQROP and the MRNF person (wildlife protection officer):

1. What did you like? / What impressed you the most?
2. What did you find less interesting?
3. How do you perceive birds of prey now?
4. What would you say to someone who wishes to hunt a bird of prey in danger? What arguments would you use?

With students' comments and your own assessment, we would like to know your opinion on the presentation.

1) unsatisfied	2) passable	3) satisfied	4) very satisfied
-----------------------	--------------------	---------------------	--------------------------

- | | | | | |
|--|---|---|---|---|
| 1) The presentation is adapted to its audience | 1 | 2 | 3 | 4 |
| 2) The content is clear (ideas adequately explained) | 1 | 2 | 3 | 4 |
| 3) The quantity of material presented is sufficient | 1 | 2 | 3 | 4 |
| 4) The educator is well prepared | 1 | 2 | 3 | 4 |
| 5) The material used during the presentation is adequate | 1 | 2 | 3 | 4 |
| 6) The educator transmits the message clearly (tone, delivery) | 1 | 2 | 3 | 4 |
| 7) The presentation is a valuable educational experience | 1 | 2 | 3 | 4 |
| 8) Do you have any comments or suggestions? | | | | |

We would also like to have your opinion on the development of your students starting from the preparatory activity to the integration activity. How much knowledge do you think your students have gained? What changes have occurred in your students' attitudes about birds of prey, especially those at risk.

Please return this copy to:
**Union québécoise de réhabilitation
 des oiseaux de proie**
 Casier postal 246
 Saint-Hyacinthe, Qc
 J2S 7B6
 or by fax : 450 778-8125

and to the **Ministère des Ressources naturelles
 et de la Faune**, Direction de l'aménagement de la
 faune du Nord-du-Québec
 951, boulevard Hamel
 Chibougamau (Québec)
 G8P 2Z3
 or by fax: 418 748-3338

APPENDICES

Contents :



Sheets to photocopy for the preparatory activity:
«Living with birds of prey», page 15
«Personal experiences», page 16



Answers to preparatory activity questions:
«Living with birds of prey», page 17



Sheets to photocopy for integration activity:
«Quiz game», page 18 à 21



Correction of «Quiz game», p.22 to 24





LIVING WITH BIRDS OF PREY

Name :

School :

Age :

Date :

The Union québécoise de réhabilitation des oiseaux de proie (UQROP) is an organization that works for the protection of birds of prey in Quebec. An educator from this organization will come to see you soon to discuss the situation of these birds in your region.

Q.1 According to you, what is a **bird of prey**? What does it eat?

Q.2 Can you name a few species of birds of prey?

Q.3 There are two major groups of birds of prey, **diurnal** and **nocturnal**. How would you distinguish between the two?

Q.4 Some species of birds of prey are referred to as **vulnerable** in Quebec. According to you, what does that mean? Why are these species referred to as such? Can you name a few?

Q.5 What is your perception of birds of prey?
Are they frightening, annoying, game or unlucky? Or do you think that they are beautiful, useful or fascinating?

The UQROP educator will be accompanied by someone from the ministère des Ressources naturelles et de la Faune (MRNF), a wildlife protection officer.

Q.6 Do you have an idea what this person's work consists of?



PERSONAL EXPERIENCES

The UQROP educator and the person from MRNF (wildlife protection officer) will come to your school to talk more specifically about a hunting problem for some of the birds in your region (Northern Quebec).

Could you please share, in detail, if anything like these situations ever happened to you?

*Maybe you would like to share one of those experiences with others during the visit from UQROP!

Q.1 Have you ever been out hunting with your family? Did you ever participate in trapping activities?

Q.2 Have you ever noticed birds of prey in the sky near your home? If the answer is yes, do you have an idea of what species they were?

Q.3 Suppose that you are out hunting with your father and that you see a very big bird that makes you think of an eagle, how would you go about identifying it? What would you do to be sure what kind of bird it is?

Q.4 According to you, why do we have to protect certain birds of prey?

Do you have any questions or comments on birds of prey that you would like to ask the UQROP educator or a person from the MRNF (wildlife protection officer), when they come to your school?

If the answer is yes, write them down below so you don't forget them:



ANSWERS TO QUESTIONS FOR THE PREPARATORY ACTIVITY « Living with birds of prey »

Q.1 What is a bird of prey?

A bird of prey is a bird that hunts (always with its talons) and eats only meat. It is carnivorous, so it can feed on small mammals like rodents, smaller birds, fish, reptiles, amphibians, insects or carrion.

Q.2 Can you name a few species of birds of prey?

Below are the 27 species of birds of prey in Quebec:

peregrine falcon, merlin, american kestrel, gyrfalcon, bald eagle, golden eagle, sharp-shinned hawk, cooper's hawk, northern goshawk, red-tailed hawk, broad-winged hawk, red shouldered hawk, northern harrier, osprey, turkey vulture,
great horned owl, long eared owl, eastern screech owl, short-eared owl, snowy owl, barred owl, great gray owl, northern hawk owl, northern saw-whet owl, boreal owl, barn owl.

Q.3 What is, according to you, the difference between the diurnal birds of prey and the nocturnal birds of prey?

The diurnal birds of prey hunt during the day while the nocturnal birds of prey hunt at night (between sunset and sunrise).

Q.4 Why are the **vulnerable species** named as such?

They are so named because their survival is precarious in Quebec, even though their disappearance is not feared (they are not threatened with extinction or will not disappear). The bald eagle, the golden eagle and the peregrine falcon are birds of prey referred to as vulnerable in Quebec, while the short-eared owl is a species of special concern in Canada.

Q.6 What does a wildlife protection officer do in his work?

The wildlife protection officer is a peace officer for the ministère des Ressources naturelles et de la Faune of Quebec. He or she is responsible for enforcing the laws for the protection of wildlife and conservation of its habitats.

To that end, he or she conducts patrols to ensure that no breach of the laws and regulations on wildlife are committed. In the event of a crime, he or she investigates so that those responsible are identified and prosecuted. In order to prevent crime and to educate young people and adults, he or she visits educational institutions and certain events during which the focus is on the protection of fauna and flora.

This awareness project for the protection of birds of prey in danger in Northern Quebec is a good example.



/ 34

Name:

Class:

1. With the help of this picture, what are the two physical features that distinguish birds of prey from other birds? / 2



2. Name two species of **diurnal** birds of prey that have been shown in the slides: / 2

1 _____

2 _____

3. Name two species of **nocturnal** birds of prey that have been shown in the slides: / 2

1 _____

2 _____

4. Why are the bones of a bird lighter than those of a mammal? / 1

5. *Who am I?*

/ 1

I am one of the largest birds of prey in Quebec. I can be found in mountainous regions throughout the province except in the extreme south. I am completely dark brown. Only the back of my head is more golden, like a crown.

6. *Who am I?*

/ 1

In the summer I nest in the far north of the province, in the arctic tundra. In winter, when it's very cold in the Arctic, it is possible to see me in southern Quebec. I can be seen hunting rodents over the fields. I am the emblem bird of Quebec.

7. Make a link between different kind of diurnal birds of prey and their particularity.

/ 7

Eagles, Hawks, Harrier, Falcons, Osprey, Turkey vulture

- A. We live either in woodland or open-space, and we can be red-shouldered, rough-legged, sharp-shinned or broad-winged:

- B. We are very good gliders and our territory is very large because of our size:

- C. I am very rarely seen in Northern Quebec, and I am the only one who does not hunt to eat: _____
- D. I have a facial disc, as do owls, to better hear my prey. I fly very close to the ground to catch it: _____
- E. We are the fastest at catching our favorite food, birds:

- F. My chest is white and I nest near a river: _____

8. True or False

/ 2

◆ The peregrine falcon nests on the ground, sometimes even on the streets of Montreal. _____

◆ The head of the bald eagle is white only from the age of five.

9. What is the status of the bald eagle, the golden eagle and the peregrine falcon in Quebec? Are they extinct, endangered, vulnerable, rare or special concern ? **/ 1**

10. Explain how birds of prey are beneficial to the environment. Why is it good for the environment that these birds hunt as much prey ? **/ 2**

11. Birds of prey such as the golden eagle and the bald eagle benefit from the passage of waterfowl (migratory birds) in Northern Quebec to hunt and rebuild their energy reserves. **/ 2**

Why do they need so much energy in the spring and fall?

12. Name at least three threats to the survival of birds of prey. **/ 3**

13. Make a diagram of a food chain by drawing an appropriate organism at every stage of the chain and put its name underneath. You must include a bird of prey in the diagram. You may use these terms: / 5
producer / primary consumer / secondary consumer / detritivore

14. If you find an injured bird of prey on the ground, to whom do you report its presence? / 1

Presentation of a live bird of prey / 2

Which bird of prey species has the educator shown in class?

What happened to this bird?



QUIZ GAME CORRECTION

Give 1 point for each part of the answer

(For a 2 point question, students can get 0, 1 or 2 points)

The possible answers are listed in green. Compile the result out of /34

1. Two physical characteristics: (2 points)

They have **hooked beaks** and large powerful **talons**. Their excellent vision is not something that can be seen physically on a photo.

2. The diurnal birds of prey in the presentation: (2 points)

peregrine falcon, merlin, american kestrel, gyrfalcon, bald eagle, golden eagle, sharp-shinned hawk, cooper's hawk, northern goshawk, red-tailed hawk, broad-winged hawk, rough-legged hawk, northern harrier, turkey vulture.

3. The nocturnal birds of prey in the presentation: (2 points)

great horned owl, northern hawk owl, barred owl, snowy owl, short-eared owl.

4. The bone of a bird is lighter than that of a mammal

because it is empty on the inside, while the bones of a mammal, as well as those of a human being, are full (of marrow). (1 point)

5. Largest bird of prey of Quebec: **golden eagle** (1 point)

6. Emblem bird of Quebec: **snowy owl** (1 point)

7. Different kind of diurnal birds of prey: (7 points)

Eagles: We are very good gliders and our territory is very large because of our size.

Hawks: We live either in woodland or open-space, and we can be red-shouldered, rough-legged, sharp-shinned or broad-winged.

Harrier: I have a facial disc, like owls, to better hear my prey. I fly very close to the ground to catch them.

Falcons: We are the fastest at catching our favorite food: birds.

Osprey: My chest is white and I nest near a river.

Turkey vulture: I am very rarely seen in Northern Quebec, and I am the only one who does not hunt to eat:

8. True or False (2 points)

- ◆ **False.** The peregrine falcon nests high on the cliffs, or on buildings in cities like Montreal.
- ◆ **True.** The bald eagle has a brown head up to the age of sexual maturity, which is at 5 years of age.

9. Status: (1 point)

The bald eagle, the golden eagle and the peregrine falcon species are **referred to as vulnerable** because their survival is precarious in Quebec, even though their disappearance is not feared. As for the short-eared owl, it is a species of special concern in Canada.

10. How are birds of prey beneficial to the environment: (2 points)

Because they feed on small animals (rodents, birds, amphibians, etc.), which are found in greater numbers in the environment. By hunting them, birds of prey **control the populations of these animals, which prevents the prey (such as mice) from being too numerous, from destroying the environment and from spreading disease.**

11. Energy needs in the fall and spring: (2 points)

For their migration and breeding.

Birds of prey like the golden eagle and the bald eagle need a lot of energy in **the fall** as they prepare to fly thousands of kilometers to spend the winter in a hotter country which will provide them with a larger quantity of prey. So it is for this migration that consumption of waterfowl from Northern Quebec becomes paramount.

Whereas in **the spring**, when they return to their territory, they need a lot of energy to replenish their reserves, which they have exhausted during their second migration, and use it towards their reproduction. At this time they need the resources that the nordic region can provide.

12. Threats: (3 points)

Habitat loss, climate change, pollution, colliding with human structures (wires, cars, windows, wind turbines), disturbances by humans, accidental slaughter and trapping, poisoning from pesticides or other toxic substances such as mercury or lead.

13. Food chain: (5 points)

The student should have represented 4 organisms (4 points) with arrows connecting them, like a cycle. The name of the organism should be written near every picture, if it is the case, give 1 extra point. Here's what the students could have drawn:

Producers: Plants that produce their own food through photosynthesis. Ex: grass, leaves of trees and shrubs, plants that grow close to the ground.

Primary consumers: Animals that feed on producers. They can only be herbivores (Ex. rabbits, hares, porcupines), or consume insects, seeds or fruits, such as amphibians (frogs, toads), reptiles (snakes, lizards, salamanders, turtles), birds (ducks, geese, chickadees, pigeons...) or rodents (beavers, rats, mice, field mice...).

Secondary consumers: Animals that eat primary consumers. They are carnivores. It is at this stage that the student should have drawn a bird of prey, such as a hawk, an eagle, an owl, a vulture, a harrier or an osprey.

Detritivores: They are small organisms (earthworms, insect larvae, bacteria, fungi) that live in soil and decomposing plant debris and animal carcasses. Therefore, the result of this degradation is very rich in minerals. These minerals, now available in the soil, will be absorbed by the roots of other plants.

14. Presence of an injured bird of prey on the ground: (1 point)

If a bird of prey is found on the ground, and it is visibly injured, report it to a wildlife protection officer, who will bring the bird to UQROP as soon as possible so it can receive specialized care.

You can contact them at the Department of Wildlife Protection of Northern Quebec, wildlife division of the MRNF at the following numbers:

(418) 748-7701 or (418) 748-7744

Presentation of a live bird of prey (2 points)

The educator of the UQROP brought a female peregrine falcon into the classroom.

The nature of the bird's injuries : it suffered a fracture to the right wing and following the surgery, it has not been able to extend its wing properly, so it cannot fly perfectly. Since its survival in nature is compromised, the UQROP keeps the bird to educate the public by touring schools.



