

# Teaching Information Literacy through a Case Study on the Presence of Cougars (*Puma concolor*) in Nova Scotia

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Students are introduced to the five information literacy standards for higher education developed by the American Library Association. During a class discussion groups are asked to interpret the standard and provide an example. Students then practice skills such as judging credibility, designing research questions, and determining information gaps, by considering reports of cougar sightings in Nova Scotia. Students complete the exercise by reflecting on how the skills associated with one information standard, judging credibility, was applied in the case study and how this skill could be applied in future assignments.

**Keywords:** information literacy, case study

## Introduction

Information literacy is the ability to source, evaluate, and use information effectively (ALA 2000). The broadness of the definition reflects a wide range of skills that need to be mastered to be considered information literate. These skills include producing figures and graphics, finding appropriate literature, the manipulation of information to reflect or support a point of view, and the ethics of such practices (ALA 2000). Students completing a Biology or Marine Biology degree at Dalhousie University are expected to learn some of the skills associated with information literacy as part of their degree course work but there is no explicit course work in information literacy included in the degree program. More generally, information literacy as a subject tends to be included as part of a Library Science degree and may not be available to students in other faculties.

To aid in information literacy instruction outside of the library sciences, the American Library Association (ALA) developed a set of guidelines and concrete measures that could be used across disciplines and at a variety of instructional years (ALA 2000). Under these standards the information literate student 1) “determines the nature and extent of the information needed”; 2) “accesses needed information effectively and efficiently”; 3) “evaluates information and its sources critically and incorporates selected information into his or her knowledge base and

value system”; 4) “individually or as a member of a group, uses information effectively to accomplish a specific purpose”; and 5) “understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally” (ALA 2000)

Nova Scotia is a small sparsely populated province on the east coast of Canada. The province shares one land connection with New Brunswick to the west, but is otherwise surrounded by the Atlantic Ocean. There are currently no known cougar populations in Nova Scotia and the last official cougar sighting from the province was an animal trapped in the 1930s (MacDonald 2016). Further, The Cougar Network, a research organization that monitors the range expansion of western cougars in North America lists only three sightings in New Brunswick, and no established population of cougars east of Alberta (Cougar Network 2015). However, the public record including news reports and Internet forums, have regular anecdotal reports of cougars in the province. These reports come from both reputable wildlife biologists and the general public (Bancroft 2010)

In this case study, students will practice skills associated with the first and third information literacy standards; the ability to determine what information is needed and; critically evaluate information, by judging the credibility of the cougar sighting reported in the public record and determining what additional information would be needed to address the debate.

## Student Outline

The purpose of this project is to have you determine the likelihood of cougars (*Puma concolor*) in Nova Scotia. In working through the project you will practice your information literacy skills.

You will be submitting one assignment per group. Part one will be completed as a group, and every member of the group should review the final draft, as all members of the group will receive the same mark. Part two will be completed as an individual and submitted with part one. Be sure that all group member's names are included on part one, and that individual names are included in part two.

This project is worth four percent (4%) of your overall grade. Three (3) marks will be based on the group submission of part 1, and one (1) mark will be based on the individual submission of part 2.

### Part 1: To be Completed as a Group

#### *Section 1.1: Background*

There is an ongoing debate in Nova Scotia as to the presence of cougars in the province. The last official sighting of a cougar occurred in the 1930's but rumors persist and every year sightings are reported to the Nova Scotia Department of Natural Resources. Read the following two articles for additional background information.

1) Bancroft B. 2010 Nov/ Dec. The Elusive Eastern Cougar. Saltscapes. [Accessed October 23, 2016]; <https://www.saltscapes.com/people-culture-section/people-culture-category/1661-the-elusive-eastern-cougar.html>

2) MacDonald M. 2016 Apr 27. Ghost Cougar of Nova Scotia still a mystery to Kejimikujik researcher. The Canadian Press. [Access October 23, 2016]; <http://www.cbc.ca/news/canada/nova-scotia/kejimikujik-cougar-research-ghost-chris-mccarthy-1.3556466>

#### For Submission Question 1:

In your groups discuss the different types of evidence that could be used to determine the presence of cougars in Nova Scotia. After discussion, provide a written answer to the following statement.

- Rank the types of evidence and provide a rationale for your rankings.

#### *Section 1.2: Evidence*

There has been no physical evidence of cougars in NS, but there are many people willing to share their sighting both with the press, or on internet forums. Below you will find a collection of these sightings taken verbatim from the original source. All spelling and grammatical errors are original. Information presented in [brackets] has been edited to provide clarification.

Review each sighting and determine if the sighting was credible. To help you see if there are trends with the cougar sighting, plot any credible sighting on your small paper map.

- a) John Western Cape Breton (Pulsifer 1992)

[In June of 1992, a man] called the Department of Natural Resources in western Cape Breton [to say that] a young cougar had fallen into a well and drowned. The owner removed the carcass from the well and left it nearby until he could report it Monday morning. When the site was visited Monday, the carcass was gone. No trace, except the smell-no blood or fur or tissue. The observer described the cat as a young cougar .6-.75 m (2-2 1/2 ft) long, greyish brown, and with long legs-30 cm (12 in.) from knees to toe. He didn't recall seeing the tail. However, he was convinced that it wasn't a domestic cat or a bobcat.

- b) Amy, Sable River (Woolvett 2010)

As I'm cruising along the highway, towards Sable River, thinking about all the great purchases I had just made at Frenchy's I saw a flash of movement off to the left.

I quickly tapped my brakes and slowed to a complete stop, expecting to see a deer dart out onto the road in front of me, but I was wrong.

My eyes widened and my mouth dropped as a very, very large cat sauntered sleekly about 20 ft in front of my car and across the highway to the other side.

My brain took a few seconds to register what it was I was actually seeing.

Flat and square face with short rounded ears, a long, thick body fraught with muscle under a coat that lay flat and bore the single colour of wheat. I eyeballed its height to be level with the hood of my Honda Fit.

I stared, with a fleeting thought to my camera in the seat beside me, before I could make any move it had reached the other side and was gone from sight.

c) Rita, West Jeddore (McPhee 2011)

Rita Baker says she saw a big wildcat near her home in Lower West Jeddore two weeks ago. While looking out her bedroom window on the morning of April 8, she spotted something unusual coming out of the bushes on her neighbour's property, about 100 metres away.

"All of a sudden, this thing was nonchalantly walking up my neighbour's driveway," she said in an interview Monday.

"I couldn't believe my eyes."

Mrs. Baker watched the animal for a few minutes until it went back into the woods. She said it was much larger than a bobcat, which she has seen before.

"I know a bobcat," she said. "This reminded me of a lion walking along. It was quite exciting."

d) Roger, Waverley (McPhee 2011)

Roger Doyle describes a much closer encounter with what he's certain was a cougar. On Jan. 22, the Waverley man had just let out his cat and was heading back into the house when he heard his cat yowl.

Believing that another cat had come onto the property, he went back into the house in Silversides subdivision and looked out his bedroom window.

"At first I thought, 'What is it?'" he said in an interview Monday. "It wasn't a lynx or a bobcat; I've seen them before.

"It was a cougar, looking right at me."

He went back to the doorway, fearing for his cat's safety. His wife joined him and they watched the cat start to mark a tree, only about five paces away from their house. "It was looking at us as if to say, 'I'm in control here,'" he said.

He said the cat was similar to a deer in colour. He estimated it weighed about 55 kilograms, with a head "as big as a cantaloupe" and a long tail.

e) Monika, Guysborough County (CBC News 2010)

A family in Guysborough County said two of their horses sustained deep cuts and puncture wounds on Sunday evening.

Monika Duersch took pictures of the wounds to show to the Department of Natural Resources and to her veterinarian.

"I showed them to him, and he said that there was no chance that it could have been a coyote because all the scratch and bite marks are on their backs," she said.

Natural Resources officials came to Duersch's property to assess the horses' injuries but could not confirm what animal was responsible for the attack.

f) Finn, Lunenburg (MacDonell 2010)

It happened on a late October day in 1985. As the sun was going down, Finn Bower was driving Highway 103 along the South Shore, leaving Shelburne County to visit relatives in Lunenburg. Her husband Brian was sleeping in the front passenger seat and their teenage son Andy sat in the back.

While passing through a wooded area, Finn suddenly heard a clunk and felt the force of an impact through the steering wheel. She looked in the rear-view mirror and saw what she thought was a person lying on the road. Brian awoke, and Finn stopped to back up the car.

Instead of a person, they found a large, long-tailed cat, twitching but unconscious. Its fur was the color of a deer's, and the body was about five to six feet long, as measured against the back bumper of Finn's car.

Assuming it was dead, Brian and Andy dragged it into the ditch.

"They picked it up by the fore and hind paws, with its long tail dragging on the ground, and moved it off the road," remembers Fred Scott, who was then a mammalogist at the Nova Scotia Museum in Halifax.

When the Bowers returned the next day, the animal was gone. Finn reported the incident to Scott, who believes it is the most credible cougar report in the province to date.

g) Sydney 2010, Tatamagouche (Facebook 2010-2018)

"Around 5:30 yesterday afternoon, in full daylight, my husband and I were driving along the beginning of Sand Point Road near Tatamagouche in Colchester County, Nova Scotia when we saw a cougar standing in the road. It started to move into the woods so we approached slowly in our car to try and get a better look. It then disappeared from our view. it was tawny in color with a definitively cat-like head and a long tail. It was about the size of the local coyotes."

h) Jim 2010, Englishtown (Facebook 2010-2018)

"i have seen a cougar on kellys mountain 22 years ago and was told then by lands and forests there is no cougars in cape breton who they trying to kid"

i) No name 2010, Point Tupper (Facebook 2010-2018)

"i was driving down the bear head road in point tupper with a co-worker and a cat walked out in front of us and we both had a clear look at it and it had a tail and and it was a cougar, a good looking one to."

j) Terry 2010, Englishtown (Facebook 2010-2018)

"Yes there are cougars (mountain lions) here in Cape Breton. I personally saw a cougar jumping over a guard rail on Kelly's Mountain near the Englishtown turn-off at 11:20 pm June 2006. Also my son-in-law saw another cross the road near Louisdale Sept 2008 at about 3:30 pm. They are no different than the cougars at Two Rivers park so there is no mistake at what we saw."

k) Lester 2010, Whiteside (Facebook 2010-2018)

"I noted in the readings that one representative from the NS Department of Lands and Forests stated that cougars are not native to Cape Breton Island. That statement I must question. because there were cougar sightings in the Whiteside area of Richmond County well before the Causeway was built and too soon after for the cougars that were seen to have just arrived on the island. Sighting #1 Cousins of mine who attended the one room Whiteside School House at Whiteside, Richmond County had a cougar follow them home on the road to Basin Road. There were four children, two brother and two sisters with two of them being young teenagers and one girl being eleven years of age. Each clearly saw the big cat that followed them at a distance. This happened in 1956."

l) Lester 2010, Whiteside (Facebook 2010-2018)

"Sighting # 2 The father of the four children mentioned in sighting #1 was setting on the veranda of his house one afternoon along with his two sons and an older brother of mine who worked as a forest ranger at one time

for the Department of Lands and Forests. Suddenly they were alerted to a noise in the pasture behind the house and rushed around the corner of the house to see what was happening. What each saw was a large buck with antlers breaking out of an alder cover to rush across the pasture towards the field surrounding the house. Immediately behind it was a large cougar giving chase. The buck jumped the fence into the field and frantically raced across it with the cougar in pursuit, while the observers looked on with astonishment. Within the field the buck easily outdistanced the cougar and escaped over the opposite fence of that field. The cougar, apparently winded, also left that field and disappeared into the woods adjoining the field. The buck and increased its distance from its pursuer by racing down the road outside the field before reentering the woods. I have interviewed three of the observers, and each claimed to have seen the same thing. The father, my brother and the youngest son insists to this day that the animal was a cougar, and none of the observers had been at any great diostance from either animal on that occasion. I have four more sightings that I will write at a later time. I participated in three of those sightings,experiences that generated my interest in this subject.”

- m) No name 2010, Kelly’s Mountain [Englishtown] (Facebook 2010-2018)

“I SAW A COUGAR TODAY ON KELLY'S MOUNTAIN !!!! THE ANIMAL I SAW IS IDENTICAL TO THE PICTURE IN THE PAPER ! I AM CERTAIN THAT IS WHAT IT WAS !!!!”

- n) Noelle 2010, River Bourgeois (Facebook 2010-2018)

“Haha so glad i found this site. So glad someone else saw the same thing I saw. In 1996 I saw a black cougar crossing the highway just outside River Bourgeois. I wasn't alone that day, there was a man on a motorcycle in front of me. He got a closer look than I did, by the time I slowed down to where the motorcycle was the cougar was just entering the woods.”

- o) Noelle 2010, Chapel Island (Facebook 2010-2018)

“A few years ago my cousin had a cougar sighting at her home in Chapel Island. It ripped apart her screened gazebo on her patio and left a huge claw mark in one of her seat cushions.”

- p) Del 2010, Eastern Passage (Facebook 2010-2018)

“I just saw a cougar tonight (Canada Day 2010) in Eastern Passage at 7:40 pm. It ran across the road in front of me while I was driving. What a beautiful animal. Glad I found this sight to know there are other people who saw Eastern Cougars.”

- q) Brian 2010, Kentville (Facebook 2010-2018)

“Tonight there was a large cat spotted in our yard travelling up our lane, it had short legs approximately 3-4' feet in length with a long tail, dark ears but with a tan/ dark coat; it was seen by three people, we think it may have been the eastern cougar, it was located near Dundee Cape Breton, the next door neighbour saw the same cat in 2008. I now believe that the eastern cougar exists in this province.”

- r) Lori 2010, Musquodoboit Harbour (Facebook 2010-2018)

“Just last week my son and I happened to look out our dining room window at lunchtime and there was a cougar in our driveway. Unfortunately I did not get a picture before he moved off into the woods. We left a message with Natural Resources but no-one ever called back. Cougars are definitely alive and well in Nova Scotia! Some people we've told are skeptical but there isn't any other animal that looks like a cougar - certainly no house cat gets that big lol. “

- s) Glendaler 2010, Pictou (Facebook 2010-2018)

“normally i wouldn't say anything but this is the most litigitimate info i've heard on this. i've had countless

people in my native cape breton recount stories of cougars but this is much more concrete. today, outside the nursing home in pictou, nova scotia, 2 cougars were spotted by the staff. my wife was there but didn't get a look at them. natural resources were called and of course told them they were crazy and that they had seen a dog or bear but a couple of guys came out anyway. the two natural resources guys confirmed to the staff members standing there, one being my wife that there were 2 cougars right down the hill and advised them to keep all residents inside and that they didn't know what to do beyond that because there is no protocol for such a thing because they don't exist. i've been told there were pictures taken.”

- t) Jack 2012, Parrsboro (Facebook 2010-2018)

“There have been numerous sightings and audio encounters here in Parrsboro, Nova Scotia, Canada in the past week or so. Yesterday our taxi driver plus passenger had a visual encounter along with two other vehicles. There has been at least 4 to 5 visuals and 2 auditorys.”

- u) Lythia 2012, Victoria Mines (Facebook 2010-2018)

“Cougar seen near the playground around 5 pm. It just crossed the road, and went into the woods.”

- v) Jacob 2012, Antigonish (Facebook 2010-2018)

“Found a track in October when i was out hunting in antigonish, i was using a predator call at the time and the track was very fresh “

- w) Glenn 2013, Centre Rawdon (Fairclough 2013)

“I didn't think I saw it,” Glenn said. “I saw it.”

He said he was walking along the road near his home on Old Trunk 14 in Centre Rawdon when he saw an animal cross the road in front of him.

“I was heading toward where there were no houses and a grown-over clearcut from about four or five years ago,” Glenn said. “About two or three telephone poles in front of me I saw this animal stepping out. I thought it was another dog at first, but then I saw it step out a little farther and I saw its cat-like head and its shoulders.”

Glenn, who has a bachelor of science degree with a minor in biology, heeled his own dog and stopped, and looked at the animal looking at him.

Glenn said he's five-foot-eight and the animal was up to his hips in height.

“The way I was sure 100 per cent that it was a cougar was when it gracefully, slowly walked across the road instead of pouncing,” he said.

“It's a dirt road so it's quite narrow, maybe about 12 feet (3.6 metres), and it took just three or four casual steps right off into the woods.”

He said the animal was dark brown, and that its tail almost touched the ground and then swept up about 15 centimeters.

- x) Heather 2014, Tatamagouche (CTV Atlantic 2014)

Retired animal control officer- “Right in front of us and Karl goes, ‘look at that kitty cat.’ He said ‘that's the biggest kitty I've ever seen,’ and we're looking again. I was shocked,” says Heather. When I first saw it, I mean, the whole body structure and the tail length and the markings. I mean, I've seen them before.”

The sighting lasted 10 seconds but the animal was gone before Heather could grab her phone and snap a photo.

Heather is now a farmer in Tatamagouche, N.S. but she was an animal control officer in Burlington, Ont. for 18 years. She says she had direct contact with cougars outside the city during that time.

“Dens we found were down near railway tracks and creeks and they usually used creek beds to get through the inner parts of the city,” she says.

y) Jill 2015, Brookfield (Arsenault and Campbell 2015)

Jill first saw the cat picture this Wednesday, but it was actually taken in the Brookfield area on Oct. 4 at 7:07 p.m.

She and her husband, Terry, have two motion-detection trail cameras they set up to look for wildlife. He is a hunter and both of them like taking their three children four-wheeling around Brookfield. They put one of the cameras on Crown land in that area, but she didn't want to be too specific about its location.

She sent the picture to Shubenacadie Wildlife Park, but was told the animal is likely a bobcat. However, Jill said their reasoning had to do with an estimate of the cat's size in relation to some nearby apples, which her husband uses to attract animals to the camera. Jill said the camera would have been about six meters away from the cat, which would make it larger than it seemed onscreen.



z) Gail 2016, Porter Lake (Facebook 2010-2018)

“Yes Cougars are in NS. I live in Porters Lake and a cougar crossed the highway right in front of me three leaps across 4 lanes and it was in the woods it was amazing to see! This was about 9 years ago.”

aa) Gloria 2016, Clementsvale (Facebook 2010-2018)

“My whole family sat in our living room several years ago and watched a large cougar on our front lawn in Clementsvale N S. I called the Wild Life Park and told them one of their cougars had escaped. They checked and called me back saying they were all accounted for. So I called the lands and forest and several men were on sight in a short time frame. They had dyes they sprayed on the snow and plaster they made casts of the tracks with. We had visited several wild life parks prior to our sighting and well know what a cougar looks like. Cougars and their tracks have been seen by other people in the area.”

bb) Wheelie, 2007, Annapolis Royal (Facebook 2010-2018)

“I was with a friend on my four wheeler on the old annapolis rd. (bowater mersey) last year when we heard a very loud scream coming from the woods ...then it went to a low growl. Now I've seen enough Disney movies and such to know the sound of a cougar when i hear one ... I have very destictive hearing and my frind also said (before I had the chance) "hey...that sounded like a cougar"!!! We hi-tailed it out of there in a heart beat ...it was growling at us from a bush no more than 30 feet away. I KNOW what I heard ... I believe the Eastern Cougar DOES exist.”

cc) KT, 2007, Scotch Village (Facebook 2010-2018)

“I live in Scotch Village, Nova Scotia. Today my dog was growling and looking out the window into the field across the road. We were shocked when we looked out and saw a large cat with a long tail siting up tall and proud. The cat sat there very still for about ten mintues before going back into the tree line. The cat was much bigger than my dogs who wieghs over eighty pounds. After researching on the internet, I would have to say that we have spotted a cougar in Scotch Village, Nova Scotia on today's date. I will report the sitting tomorrow to the Department of National Resources tomorrow.”

dd) John 2016, Tidnish (Facebook 2010-2018)

“Driving car on Route 366 eastbound on the way to village of Tidnish, NS, Canada.

A large black cougar like animal crossed the road and disappeared into the brush covered ditch on the side of the road. I still can't believe what I saw but I did. Truly amazing. I tried to report the sighting to the Wildlife Services of the province but never got to speak with anyone.”

For submission Question 2:

Provide written answers to the following two questions:

- Having read through the sightings, would you revise your criteria of a credible sighting?
- What would you suggest people include in their sighting to help wildlife official validate their sighting?

### Section 1.3: Similar Wildlife

What other animals might be mistaken for cougars? Starting with the following list determine the likelihood of these animals being mistaken for cougar. Think about sighting in poor light, dense forest conditions, and sighting of quick moving animals.

- Eastern Coyote (*Canis latrans*)
- Red Fox (*Vulpes vulpes*)
- Black Bear (*Ursus americanus*)
- Fisher (*Martes pennant*)
- American Marten (*Martes americana*)
- Lynx (*Felis lynx*)
- Bobcat (*Felis rufus*)
- White- tailed deer (*Odocoileus virginianus*)

Using “Wildlife of Nova Scotia” (Towers 1980) to learn about the size of each animal (you can use the provided tape measures to judge relative size), the different life stages of each animal, the type of habitat they are found in, and how that habitat might influence their perceived size.

For Submission, Question 3:

Provide written answers to the following three questions:

- Are there any other animals that should be on that list?
- Why is it either likely for each animal to be mistaken for a cougar or unlikely to be mistaken for a cougar?
- What features should an observer look for to distinguish between each likely species and a cougar?



### *Section 1.4: Possible Scenarios*

Keeping in mind that there is evidence of cougars in New Brunswick (from Fundy National Park), examine your map of the sightings you deemed credible. Is there any pattern to the reported sightings? Are your sightings clustered in any particular part of Nova Scotia? Does there appear to be a migration route?

#### For Submission, Question 4:

- Include your small paper map with your project submission. Your map should include the locations of credible sightings, and if warranted, a proposed migration route.
- Propose at least two theories to explain your credible sightings.
- If you determine there are no credible sightings, what sort of experiment could you do to convince people they did not see a cougar?
- Imagine you've been tasked with finding definitive proof of cougars in the province. How would you approach this task? What could you do (be sure to include details)?

### *Section 1.5: Other Considerations*

No animal lives in isolation, in this section you are to consider the ecology of potential Nova Scotia cougars. Discuss how cougars might live in Nova Scotia. Consider habitat, prey, & competitors.

#### For Submission, Question 5:

- What don't you know about how cougars might live in Nova Scotia?
- How could you fill in your knowledge gaps?

## **Part 2: Information Literacy Reflection, to be Completed Individually**

This part is to be completed individually, and handed in with a completed part 1.

In this section, each student is to complete a reflection on the following tenant of information literacy. Reflective writing is meant to be personal, and your response to an idea. Therefore, it can be written in the first person and can draw on your own previous experiences.

The third information competency standard states: "The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system" (ALA 2000).

- What does this statement mean to you?
- Relate this standard to the work you completed in the cougar case study.
- How does this standard apply to referenced works in a lab report or essay?

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## Materials

One case study for each group four students.

Case studies include:

- four paper copies of background articles
- list of sightings
- a road map of Nova Scotia
- color pictures
- range maps of animals potentially mistaken for cougar
- excerpt from Wildlife of Nova Scotia (Towers 1990) on life history of animals likely to be mistaken for cougars
- a small map of Nova Scotia for students to mark
- 2-3 different colored markers for each group

## Notes for the Instructor

This lab is run with second year students in an Animal Diversity lab. There are approximately 250 students in the class, broken up into six lab sections of forty-four to forty-eight students per lab. Students work on the case study in groups of four.

This project starts with an in class discussion of the nature of information, and information literacy as a set of broad tenants, and specific skills and outcomes. The tenants are taken from the American Library Association “Information Literacy Competency Standards for Higher Education” (ALA 2000). In this document the ALA identified five broad standards with between three to seven learning outcomes associated with each standard. The information literacy standards include determining how much information is needed, sourcing information, evaluating information, using information, and understanding the social, legal, and ethical context of information.

As part of the class discussion students are organized into four to five larger groups and assigned an information literacy standard to discuss. Students are directed to take two minutes to interpret the standard and then to come together as a group to discuss what the tenant means and to choose an example. Groups are also directed to select a group leader to present their ideas to the whole class.

During the discussion I have found students are able to interpret the meaning of the tenant but often only think about them in terms of sourcing information and not about what the standard means if they are generating information. The examples students present are usually based in academics, so I usually try to have examples from other fields ready to add to the discussion.

For the discussion I leave one standard out, as part two of the case study, students write a reflection on what the tenant means and apply the standard to what they’ve done in the case study (looking backwards) and how they will apply the standard to future lab reports or essays (looking forward).

After the class discussion on information literacy, students are introduced to the debate on whether there are cougars in Nova Scotia. There has been no confirmed case of a cougar since the 1930’s but every year there are media stories and sighting reported to the Nova Scotia Department of Natural Resources and on various Internet forums. In this case study students are to decided if there are cougars in Nova Scotia. If there are, where did they come from? Are they Eastern cougar or Western cougars? Are they a remnant population, migrants, or escaped pets?

During the case study students practice several information literacy skills. In section 1.1 & 1.2 they determine what types of criteria should be used to determine information credibility, first in an idealistic way and then in a more practical way with poor information sources.

In section 1.3 they practice determining if they know enough by comparing cougars to other animals. In discussing coloration, they have to decide if a Florida panther could walk to Nova Scotia or the strength of wildlife trafficking laws.

In section 1.4 they are tasked with proposing a hypothesis for the sighting the group decided were credible in section 1.2; or a way to convince people that what they saw was a different type of animal. This forces students to practice making a testable question.

Finally in section 1.5 students need to consider the extent of information that is still missing. The case study gives them very little habitat information, and students need to think about what they don’t know. For example habitat types might allow them to determine the extent of potential cougar habitat in the province, local range maps of deer or population statistics could help them determine if there is sufficient prey to support cougars. Behavioural information on our coyote (*Canis latrans*) population could help them determine if coyotes are acting as competitors.

In part two of the assignment students are asked to reflect on one information literacy standard, the ability to critically evaluate sources, and to apply the standard to what they have done in this exercise, and to what they will do in future lab reports or essays. Most students are able to apply the standard to what they have done but are superficial in how they apply the standard to a novel situation such as researching a lab report.

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