Deep Reading Assignment

Controversy At Muskrat Falls

Instructions: COMPLETE ALL QUESTIONS AND MARGIN NOTES using the CLOSE reading strategies practiced in class. This requires reading of the article several times.

Step 1: Read article. Read article again and use a variety of annotations in the space provided.

- Comments that show that you understand and that demonstrate deep thinking by reading the article.
- Questions you have that show what you are wondering about as you read.
- Notes that differentiate between fact and opinion.
- Observations about how the writer's strategies (organization, word choice, perspective, support) and choices affect the article.

Step 2: Answer all the questions included in complete sentences and with the appropriate amount of detail to demonstrate your understanding of the article.

Step 3: Write a one-page response to the article using the They Say/ I Say format we have practiced in class.
- Writing process should be included (brainstorming/rough copy).
- Good copy is 12 pt. font and double spaced.
- All items stapled together as one assignment.

Controversy At Muskrat Falls

In early October, hundreds of protestors gathered at a hydro dam construction site in Labrador. The largely-Inuit crowd carried signs saying, "Your decision impacts ME", "It's NOT too late to do what's Right!" and "Science Doesn't Lie."

The protests continued for almost two weeks. Nine people were arrested. One protester cut through a chain link fence, allowing the demonstrators to occupy the construction site. At least 700 workers at the multi-billion dollar project were sent home as a result of the unrest.

The activists weren't protesting the dam itself, which is being built at Muskrat Falls on the lower Churchill River by Nalcor Energy, a provincial Crown corporation. What they're opposed to are plans to flood a 41-square-kilometre area upstream of the dam to make a reservoir.

Jethylmercury Concerns

Are critics environmentalists?

Critics say that the flooding will release jethylmercury into the water, and that this toxin will then be carried downstream into Lake Melville, a fjord opening into the Labrador Sea.

Notes on my thoughts, reactions and questions as I read:

Was there a particular provocative reason for the protestor to do this? How do the workers opinion on the hydro dam affect the situation? Does money for the project come from these people through taxes? What is a Crown Corporation?
Methylmercury is the most toxic form of the element mercury. Found naturally in the environment, it is created when submerged organic material, which contains mercury, decomposes. In humans, methylmercury affects the nervous system. It can cause serious brain and spinal cord damage. The developing fetus is most vulnerable to its effects.

If methylmercury collects in Lake Melville, scientists say it will gradually work its way up the food chain. As larger and larger organisms ingest the poison, it will become more concentrated. By the time the toxin is eaten by fish and seals, it will be ten million times more concentrated than it is in the water.

Contaminating The Food Chain
That’s a problem, because much of Lake Melville’s shoreline is within the boundaries of Nunatsiavut, a self-governing Inuit region within Newfoundland and Labrador. Some 2000 Inuit live here, and many of these people get their food from the lake.

The land and its resources are important to the Inuit culture and economy, and fishing for salmon and hunting for seals provide affordable food in a part of the country where groceries are very expensive. The people who live on the shores around the lake would be devastated if their food supply became contaminated.

Duelling Scientists
Before receiving approval from the government of Newfoundland and Labrador to begin the five-year project in 2012, Nalcor conducted an environmental assessment. It found there would be no measurable downstream effects from the flooding because any methylmercury that formed in the reservoir would break down as it moved downstream.

However, a four-year, independent study commissioned by the government of Nunatsiavut and released in April 2016 contradicted these findings. The Lake Melville Scientific Report stated that if Nalcor carries out its plan to cut down trees and then flood the land, high amounts of the poison would be funnelled into Lake Melville. Toxin levels in the lake would rise by as much as 380 percent, and methylmercury exposure in those who consume high amounts of local foods from the lake could increase by up to 1500 percent.

A Unique Ecosystem
Why did findings from the four-year study differ so much from Nalcor’s own assessment? The later research delved further into Lake Melville’s ecosystem, discovering that it is “Incredibly efficient at accumulating methylmercury,” says lead author Amina Schartup from Harvard University.

That’s because the lake contains both saltwater and freshwater. Rather than the waters mixing, the freshwater rests on top of the saltwater. That means that fluffy organic matter in the water that would typically settle on the lake bottom remains suspended in a band. Here, bacteria gather to feed on the organic matter, turning it into deadly methylmercury. Marine plankton then feed on the toxin, are consumed by other organisms, and the poison works its way up the food chain.

Notes on my thoughts, reactions and questions as I read:

If methylmercury is a harmful toxin, found in nature, how do we know we aren’t already consuming harmful amounts of the substance?

I thought Nalcor, being based in St. John, would take more of the residents of Lake Melville’s concerns, because there is a chance that some of Nalcor’s employees would live there. Could methylmercury eventually spread into the food chain affecting people on the eastern coast of the U.S.?

If the government could provide these rural communities with more resources, would it change the residents view on Nalcor’s project?

Duelling Scientists: These very different test results would provide residents with more confusion about their opinion on the proposal.

Does methylmercury have similar affects on other organisms as it does on humans?

Could Nalcor have only revealed information about its study that would look good for it? If they have done this, would it serve as a delay or convinces a convenience for the company?
Protests are widely considered to be an important component of a democracy. In fact, freedom of speech and freedom of assembly are part of Canada's Charter of Rights and Freedoms. However, protesters are also required to follow the rule of law, including respecting private property.

1. Do you agree or disagree with the protesters' decision to cut a fence and occupy private property? Use three pieces of evidence to support your reasons for agreeing or disagreeing from the article.

   I think the protesters shouldn't have trespassed during their protest. Unless the government/Nalco was completely ignoring the protestors for a sufficient amount of days, I believe the trespassing was unnecessary. Nine protestors were arrested, which indicate that people were paying attention to the protestors' message. The province and Nalco were both in the midst of conducting studies about methylmercury levels in Lo! Melville. However, their protests in early October helped reach an agreement on the 25th.

2. If you were Newfoundland and Labrador Premier Dwight Ball, what position would you take on the issue of flooding the Muskrat Falls reservoir? Give reasons to support your response.

   I would be against flooding the reservoir until Nalco could take a safer approach to the project. In the past, Canada has not respected the values and needs of indigenous people. Basing the project off of science and the needs of members of the Nunatsiavut Community could be a step forward to mending our dark past. It could also set a good example for solving future conflicts. If methylmercury levels were raised, this could have an effect on the economy for the Nunatsiavut Community, and possibly Newfoundland and Labrador as a whole. The land and resources are also important to the Inuit culture, and in not respecting these values, strong connections and relationships could be lost.

   We also have to keep in mind that Nalco is a company, and it looks for projects and plans that would benefit it. Nalco is in favor of Nalco, not the environment, not the Community of Nunatsiavut. Therefore, we need to be careful in our relations with the company, and how we pursue this project.
The study found that because of this process, Lake Melville already has naturally high methylmercury levels. To determine how much higher levels might rise once the reservoir is filled, scientists simulated the effects of the flooding. They found it would increase toxin levels in Lake Melville by about 13 percent — if all the topsoil and vegetation is cleared beforehand. If just the trees are removed, as per Nalcor’s plans, toxin levels would rise much higher because more ‘fuel’ — more organic matter — would remain to be converted into methylmercury.

Putting On The Pressure

The solution, according to protesters, is for Nalcor to minimize the risks by clearing all vegetation and topsoil before filling the reservoir. In 2015, the Nunatsiavut government launched a campaign called ‘Make Muskrat Right’ encouraging the corporation to do just that.

Nalcor, however, refused. Its solution? To monitor methylmercury levels in the lake, and if safe levels are exceeded, to pay compensation to those who are affected.

The provincial government accepted Nalcor’s plan — but the President of Nunatsiavut didn’t.

“We’re not interested in compensation. We want to be able to continue our way of life,” said Johannes Lampe. “We want to enjoy good health, and we want our children, grandchildren, and generations to come to know they don’t have to live in fear, that they can eat the fish, the seals and the birds from Lake Melville.”

Reaching An Agreement

On October 25, the provincial government met with Indigenous leaders to try to work out a solution. After intense discussions, the two sides agreed that further independent assessments of the Muskrat Falls project would take place before flooding begins. Also, a committee of scientists and members from three Indigenous groups — Nunatsiavut, NunatuKavut and the Innu Nation — would look at ways to reduce possible methylmercury contamination. Finally, the province’s premier, Dwight Ball, promised to make all future decisions “using science-based research.”

“Should this not have been the approach to this is a huge step forward,” said Todd Russell, the president of the NunatuKavut Community Council. “The decisions that will be made, going forward...will be made by science and will incorporate the traditional knowledge of our people.”

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Deep Reading Assignment

"Controversy At Muskrat Falls"

Comprehension questions – answers may be in phrases.

1. Explain what hydroelectric power is and how it is generated. Hydroelectric power is a form of renewable energy that uses a turbine to generate electricity. Water from flowing rivers or dams flows to turn blades. The blades spin a generator that converts the mechanical energy of the spinning turbine into electrical energy.

2. Describe the impacts of this type of power generation. Hydropower doesn’t pollute the water or air. The power doesn’t have large environmental impacts. These impacts are caused by changing the environment and affecting land use, homes, and natural habitats in the area of the dam and reservoir.
3. Where does Nalcor Energy plan to build a new hydro dam?

Nalcor planned to build the dam at Muskrat Falls on the lower Churchill River, in Newfoundland and Labrador.

4. Explain why some people are opposed to this project.

Some believe the flooding to create the reservoir will release methylmercury into the water. This toxic substance will then be carried downstream to Lake Melville, a fjord opening into the Labrador Sea. Many people rely on the food sources of Melville Lake, which will become contaminated.

5. Describe how methylmercury can affect people.

Methylmercury affects our nervous system. The toxic can released into the water cause serious brain damage, along with spinal cord damage. Most vulnerable to its effects is the developing fetus.

6. Explain how methylmercury is a danger to the people living near Lake Melville.

The methylmercury could collect in Lake Melville, and if it does, scientists say it will gradually work its way up the food chain. The self-governing Inuit community, Nunatslavut, contains much of Lake Melville in its boundaries. The lake provides this community with resources, an economy, and affordable food sources, it would be devastating for them.

7. What were the findings of the environmental assessment conducted by Nalcor? Explain.

Nalcor found there would be no measurable downstream effects from the flooding because any methylmercury formed in the reservoir would break down as it moved downstream.

8. What were the findings of the environmental assessment conducted by the government of Nunatslavut?

Providing Nalcor cuts down trees and floods the land, high amounts of methylmercury would be funneled into Lake Melville. Toxic levels in lake would rise by at most 380%, and methylmercury exposure to those who consume high amounts of local foods from the lake could increase.

9. What does the government of Nunatslavut want Nalcor to do before it floods the reservoir? Explain.

The government of Nunatslavut is encouraging Nalcor to clear the area of vegetation and topsoil before flooding the reservoir. Protesters believe this will minimize methylmercury risks.

10. What did the two sides agree on in late October?

The two sides agreed that before flooding would begin, further independent assessments of the Muskrat Falls will take place. A committee of scientists and members from three different indigenous groups will look at ways to try and reduce possible methylmercury contamination.
Muskat Falls: a Conflict of Interests

We all have values. They vary depending on who we are, and how we live.

But what happens when our values clash, when people arguing have different values? Do we find a happy medium, or does the conflict rage on for extended periods of time? Residents near Muskat Falls, Newfoundland and Labrador's government, and Nalcan, an energy company, are all experiencing this conflict of interests over a potentially harmful hydrodam.

In 2012, a St. John's-based energy company, Nalcan Energy, proposed to build a hydro dam. For this project, they would flood a 41-square-kilometre area located upstream of the dam to create a reservoir. This serves as a problem because the flooding would release methylmercury
into the water. Methylmercury is the deadliest form of the element mercury. The toxic substance has been known to cause damage to the brain, spinal cord, and the nervous system in humans. The intoxicated substance could be carried downstream into Lake Melville, and eventually be ingested by fish, birds, seals, and other organisms. A self-governing community, Nunatsiavut, heavily relies on the animals of Lake Melville for their food sources, and therefore don't want this destructive dam to be built. This creates a conflict of interests between Nalcor Energy and the Nunatsiavut community. Nalcor Energy has conducted tests regarding methylmercury levels, and insists there will be no higher levels of the toxin with the new hydro dam.
The government also conducted a study with contradicting results suggesting a rise in methylmercury levels by 380%. Protestors have requested a safer approach to the project, which Nalcor has refused. Instead, Nalcor proposes to monitor the methylmercury levels of Lake Melville, and provide compensation in the event that they do rise to unsafe levels. This proposal has been approved by the government of Newfoundland and Labrador, and denied by Nunatsiavut's government. President of Nunatsiavut, Johannes Lampe, states, "We're not interested in compensation...". The community would rather continue their way of life, and have Nalcor begin construction using a safe approved plan. Discussions about the project continue to take place, as Nalcor Energy, the provincial
government, and the Nunatsiavut community make compensations to find a happy-medium regarding the project.

My opinions lie with those of the government of Nunatsiavut. I believe the project should guarantee no rise in methylmercury levels before it begins. However, I think that either way the project could have harmful effects on the environment. The protesters of Nunatsiavut request that all vegetation and topsoil be removed before the beginning of the project. This may lower methylmercury levels, but could have an effect on the food sources and habitats of the animals living near Lake Melville. Science-based research is the best way to approach this conflict.
Nalcor Energy might only be revealing information from their study that would look good for it. The government could be only revealing only information playing in its favor or against Nalcor. "We want to be able to continue our way of life," said president of Nunatsiavut, Johannes Lampe. "Along with the consideration of science, we need to remember the appalling way we have treated first nations groups in the past. By respecting the Inuit people's values and needs, we can build trusting relationships. By considering everyone's values with the community, we can set a good example for solving future conflicts. We also have to keep in mind that Nalcor is a company, and like most companies, their main goal is to make money. Nalcor is for Nalcor. They will make decisions based on what will be best for them, not for the Nunatsiavut communities' culture and economy."
Therefore, while trying to solve this conflict of interests, we need to remember our values, and make our decision based on what is best for our future.

As we approach this conflict of interests, let us remember our needs, values, and the way we would like the future for the community of Nunatsiavut to be shaped.
Muskrat Falls: a Conflict of Interests

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In 2012, a St. John’s based energy company, Nalcor Energy, proposed to build a hydro dam. For this project, they would flood a 41-square-kilometre area located upstream of the dam to create a reservoir. However, the flooding would release methylmercury into the water. Methylmercury is the deadliest form of the element mercury. The toxic substance has been known to cause damage to the brain, spinal cord, and the nervous system in humans. The intoxicating substance would travel downstream into Lake Melville, and eventually be ingested by fish, birds, seals, and other organisms. A self-governing community, Nunatsiavut, relies heavily on the animals of Lake Melville for their food sources, and therefore don’t want this destructive dam to be built. This is the basis of the conflict between Nalcor Energy and Nunatsiavut community. Nalcor Energy has conducted tests regarding methylmercury levels, and insists their levels of the toxin will be no higher with the new hydro dam. The government also conducted a study which had contradictory results suggesting a rise in methylmercury levels by 380%. Protestors have requested a safer approach to the project, which Nalcor has refused. Instead, Nalcor proposes to monitor the methylmercury levels of Lake Melville, and provide compensation in the event that they do rise to unsafe levels. This proposal has been approved by the government of Newfoundland and Labrador, and denied by Nunatsiavut’s government. President of Nunatsiavut, Johannes Lampe, states, “We’re not interested in compensation...”. The community would rather continue their way of life,
and have Nalcor begin construction using a safe, approved plan. Discussions about the project continue to take place, as Nalcor Energy, the provincial government, and the Nunatsiavut community make compensations to find a happy medium regarding the project.

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While trying to solve this conflict of interests, we need to remember everyone’s values, and make our decision based on what is best for everyone’s future.

Well done!