Mainstream Media Publications and Northern Issues: Examining the Nature of Information Available to the Public

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Our research team undertook a content analysis of newspaper articles from 2004 to 2008 on polar bears and climate change. This examination of news articles was conceived to uncover the way the media reports on polar bears and climate change. For example:

How are the issues reported to the public?
The group wanted to record what issues were included in each article, so that issues such as hunting, climate change, and industry could be highlighted. Also, we wanted to record whether the issues were simplified, or explained in-depth. For example, there are 13 polar bear populations in the Canadian north, and they are all managed separately. We wanted to capture whether there was a tendency to acknowledge this type of fact, or whether there was a tendency to simplify and generalize for the purposes of reporting.

Who's voices are heard?
What is the role of local people who's lives are interconnected with the bears, and what is the role of others? Is a balance of voices represented?

What knowledge systems are valued?
Inuit traditional knowledge is often at odds with western science. What biases or balance of views tend to come across in the mainstream media?

Who are the key players and how are they represented?
Inuit, scientists, government agencies, environmental groups, companies, Canadians, Americans, and so on, all have a stake in the livelihood and management of polar bear populations. How is each group portrayed in the popular press?

This study responds to the current reality of polar bear management in North America. On February 16, 2005, the Center for Biological Diversity submitted a petition urging the U.S. Fish & Wildlife Service to list the polar bear as a threatened species. Then the Natural Resources Defense Council and Greenpeace added themselves as petitioners on July 5th, 2005 (U.S. Department of the Interior, 2006). Between 2005-2008, the U.S. Fish & Wildlife Service took much longer than allotted time to make a decision, so the Environmental groups had to sue for a decision. Under the U.S. Endangered Species Act, the Secretary of the Interior has 90 days to reply to such a petition (Center for Biological Diversity, 2005; Nunatsiaq News, 2005). One of the *Nunatsiaq News* articles that we read explains,

> The 154-page petition, which contains scientific information, as well a supplemental letter, cites global warming as the primary threat to polar bears, in addition to other threats such as oil and gas development in the Arctic, high levels of contaminants in polar bear tissues, and over-hunting of some populations in Canada, Greenland, and Russia (George, 2005).

In December, 2006, the Fish & Wildlife Service announced its proposal to list polar bears as threatened in the *Federal Register*, inviting public comment on the issue. On May 14, 2008, polar bears were listed as a threatened species under the American Endangered Species Act (U.S. Department of the Interior, 2008).

The issues underlying our study can be divided into four categories. These four categories emerged repeatedly in our content analysis:

Science: Sea ice is primary polar bear habitat. There is compelling evidence of sea ice reduction. Polar bears depend on sea ice for hunting. Of the twenty-two to twenty-five thousand polar bears in the world, two thirds of them live in Canada, mostly in Nunavut:

> Warmer temperatures are thinning ice sheets off Arctic coastlines, shrinking the bears' hunting grounds and hampering breeding. Roughly 15,000 of the world's 22,000 to 25,000 polar bears live on Canadian soil, while Alaska is home to about 4,700 (Lackner, 2006).

Through the articles we read, predictions on polar bear populations vary. Three statements kept recurring: "May decline 30% over the next 50 years", "Will stop producing cubs within 30 years", and "Will be extinct within 30 years". The IUCN *Red List* report on polar bears states, "Ice-dependent polar bear populations will drop more than 30 per cent over the next 45 years if global warming continues to affect the Arctic region" (Schliebe, Wiig, Derocher, & Lunn, 2006).

Polar bears hunt ringed seals from the sea ice, which is melting faster than it used to. During the summer when they cannot hunt seals, they are in a state of "walking hibernation". Polar bears can maintain this for months, but they are starting to suffer. Lower bodyweights mean less successful pregnancies, so the birth rate could decline. Some mothers den in the sea ice during pregnancy, birth, and infancy, so these habits are threatened by diminishing sea ice as well. Less sea ice means bears must swim farther between ice floes. They can swim a long way, but there are reports of them drowning. The effects of climate change are dramatic in arctic regions because dark arctic sea water holds the heat and the average water temperature appears to be going up faster than in more southerly regions. As more dark sea water is exposed due to melting, even more heat gets trapped. "The impact of climate change is increasingly felt in polar regions, where summer sea ice is expected to decrease by 50 to 100 per cent over the next 50 to 100 years" (Schliebe et al., 2006).

Public perception: Polar bears are often used as an emblem of climate change. Some of the articles that we did not include in our coding project showed up in our initial search because they were articles about global warming, with no written mention of polar bears, except that the *picture* associated with these articles was of a polar bear.

Politics: This is the first time that global warming has been given, and accepted, as the reason for a species being threatened:

> The United States is proposing listing the polar bear as an endangered species, marking the first time the Bush administration has suggested climate change could be responsible for threatening an animal with extinction (Lackner, 2006).

Social Justice: What effects will changing the status of polar bears under the U.S. endangered Species Act have on the Nunavut economy and traditional lifestyle? The reported dollar figure contribution of sports hunting to Nunavut's economy varies, but it is uniformly significant. For example:

> Polar bear trophies from Nunavut could be banned from the United States, crippling the territory's annual polar bear sports hunt, if information isn't released soon about the traditional knowledge that was used to establish new quotas and management plans for the species. The sports hunt brings about $1 million into Nunavut every year (George, 2005).

Methods

To start our project, Naomi and Doug drafted a coding sheet, and we all met to agree on the final wording (please see Appendix A). I did a quick search to find some relevant newspaper articles and we all coded the same set of 13 articles to test the reliability of our content analysis instrument. This test allowed us to pinpoint some ambiguities on the coding sheet and verify consistent coding practices between the four members of the team.

Next, we had to decide which newspapers to target. I found circulation rates and target audiences for North American newspapers and news magazines on the Audit Bureau of Circulations and Canadian Newspaper Association websites, and in *Ulrich's*. We decided to concentrate on nine national and regional English-language publications. The newspapers we chose to target represent: variety in geographic origin and viewpoint, variety in publishers, and high circulation where possible. I investigated to determine where the publications were indexed and available fulltext. The *Anchorage Daily News*, *Edmonton Journal*, *Globe and Mail*, *LA Times*, *National Post*, *New York Times*, *Toronto Star*, and *Washington Post* are all indexed and available fulltext from at least 2004 in the database called *Factiva*. I constructed a search to find all possible newspaper articles on our topic. The *Nunatsiaq News* is not indexed in Factiva, so we also had to do a separate search of the publication's online archive using Google. We were looking for articles from 2004 to 2008, covering the lead-up to the submission of the Centre for Biological Diversity's submission, to the present day.

So, based on the information that we were trying to capture in our coding sheet, here is the search I created I *Factiva*:

(polar bear or polar bears or nanuk or nanook or nanuq or nanuuq or wapusk or nannuraluk) and (climate change or global warming or emissions or consumption or greenhouse gas or greenhouse gasses or ecology or ecological or conservation or pollution or endangered or threatened or Species at Risk Act or Endangered Species Act or Committee on the Status of Endangered Wildlife in Canada or COSEWIC or International Union for Conservation of Nature or IUCN or Inuit or Eskimo or Inupiat or Inuvaluit or Cree) not Knut not Kunik not summer camps

Sources:

Anchorage Daily News Or Edmonton Journal Or The Globe and Mail (Canada) Or Los Angeles Times Or National Post Or The New York Times Or The Toronto Star Or USA Today Or The Washington Post - Print and Online

Date range: 01/01/2004 to 04/20/2008

Search for free-text terms in: Full article

Exclude:

Republished news
Recurring pricing and market data
Obituaries, sports, calendars...

Even though we were focusing on English-language papers, we agreed that it was important to include various words for polar bear, and that that part of the search should stand on its own. Also, I wanted to make sure that that climate change and environmental impact part of the search was well-covered as well, that the stakeholders could be an important part of the articles, and that governance issues were included. I added in the "nots" to remove references to two popular Zoo polar bears, and frequent references to summer camps which kept popping up. *Factiva* allows you to specify the sources you'd like to search and a date range, which was really important for our purposes. It also gives the option to exclude certain types of publications.

This search found 901 articles. The hardest part was dividing up the articles because *Factiva* doesn't give a lot of output options. I emailed them to myself 100 at a time, and then went through entire list of 900 and sent every fourth article to one of the team members, 100 articles at a time. We each coded 225 articles from the 8 mainstream papers, and a further twenty each from the *Nunatsiaq News*.

We used the U of A Libraries' subscription to Survey Monkey to code the articles and record all of the data in a shared database. We used a free online whiteboard application called Skrbl to share our concerns and observations about the articles and the coding process http://www.skrbl.com/73493006/.

Data Analysis:

Of the close to 1000 articles that were found by the two searches, we ended up selecting 300 that were relevant enough to code. Articles that got rejected included stories about Inuit art (in which polar bears are often represented), amusing opinion pieces, and articles that did not actually mention polar bears in the text, but that included an image of a polar bear accompanying an article about climate change.

Distribution of Relevant Articles

Northern	# Articles	(% total)	% by region
Anchorage Daily	67	(22.4)	33% Northern
Nunatsiaq News	32	(10.7)	
Canadian News	36	(12)	
Edmonton Journal	15	(5)	42% Canadian
National Post	41	(13.7)	
Globe & Mail	35	(11.7)	
Toronto Star			
US News			
New York Times	42	(14)	24% US
USA Today	14	(4.7)	
Washington Post	17	(5.7)	
Los Angeles Times	0	0	
Total articles coded	300		

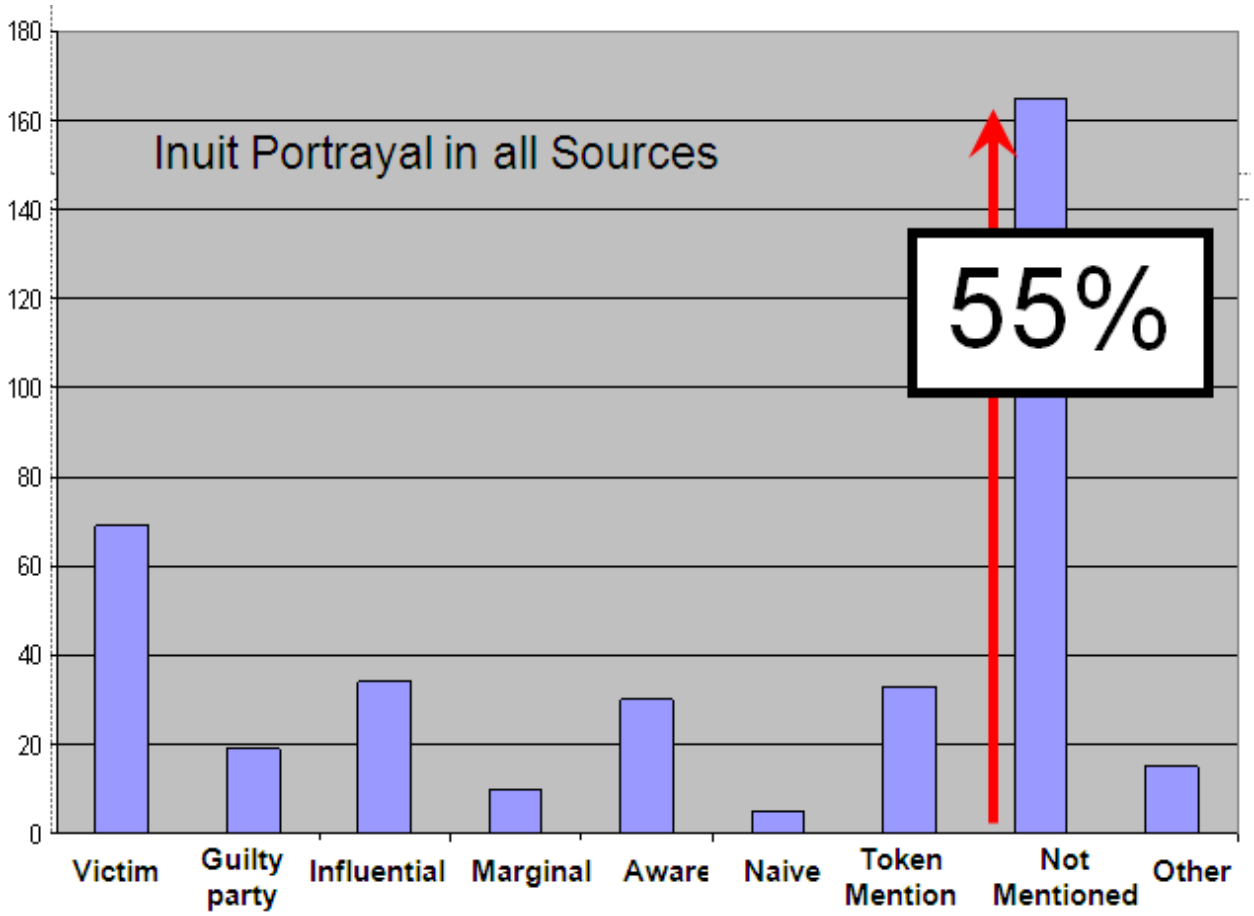
The number of relevant articles increased with time as the issues heated up: 60% of the articles we coded were from 2007 and 2008, with half of those from the first four months of 2008. One third of the articles were front page stories.

We tried to select the main focus of each article. One third of them had "Governance Issues" as their main focus. The Endangered Species Act listing, and proposals for legislation in other jurisdictions, were popular topics in the news. Polar bear science and climate science got equal coverage, and the other main issues we had identified were also represented: social justice concerns, hunting, and incidences of human-bear conflict.

9. Article Focus (perspectives & standpoints): please select one.

	Response Percent	Response Count
Polar bear science and research	23.4%	70
Climate science and research	23.1%	69
Social justice issues (who might benefit/lose from a ban on polar bear hunting, who is being consulted and how, Inuit culture and health as tied to polar bear hunting)	11.7%	35
Governance issues (who has rights to what, enact policy, enforce policy, inform policy, ESA listing, species of special concern, IUCN listing)	**31.8%**	95
Polar bear hunting (includes harvest quotas, sport trophy hunters)	4.7%	14
Human-bear conflicts	5.4%	16

One very telling response is the "Inuit Portrayal" category. There were varying interpretations of how Inuit people were portrayed in the articles we read, but *more than half* fell into the category "NOT MENTIONED". So, in all of these articles that were about polar bears and climate change or pollution or endangered species listings, less than half even ***mentioned*** Inuit people.



In case you are ever trying to help a researcher with portrayals of Inuit people in the popular press, it is useful to note that, of the sources we chose, Inuit people were mentioned the most often in the *Nunatsiaq News*, *Globe and Mail*, *Toronto Star*, and the *New York Times*. The *Anchorage Daily News* was fifth on this list, and then there is a big drop in the number of mentions in the Edmonton Journal, the National Post, USA Today, and the Washington Post (which included no mentions at all). Lee codes the type of portrayal in the chart below. Green denotes Inuit people being portrayed as a *credible* source, yellow indicates *less credible*, and the *victim* category stands on its own:

Results: Inuit Portrayal by Source				
Mention	*Nunatsiaq News*	*Globe and Mail*	*Toronto Star*	*New York Times*
Total "mention" categories	43	36	32	29
Victim	7	17	7	11
Aware	12	3	3	5
Influential	14	4	3	1
Guilty Party	4	3	5	1
Marginal	1	3	2	0
Naive	1	1	2	0
Token Mention	0	5	8	9
Not Mentioned	5	18	16	23
Other	4	0	2	2

Further Research:

During the coding process, I was struck by the number of government agencies, NGOs, and other organizations that were mentioned in the articles. Appendix B lists my record of all agencies that were mentioned. This list gives an indication of the complexity of the issues we were investigating. The list comprises only a small sample of the agencies that concerned with polar bears and climate change, considering I only read a portion of the coded articles, and these were only from a small selection of North American newspapers. This proliferation of potential author agencies underlines the importance of undertakings like the *Cold Regions Bibliography Project*.

The summary of all results from our coding project can be found at https://www.surveymonkey.com/sr.aspx?sm=g5I6cXG_2fCOfxOr834xNoWWeduBOQIYsjgYeMa0ciNNU_3d . In many of the categories, we included an "other" option that allowed us to account for information that we did not predict when writing the coding instrument, and to record detailed notes. Our "other" notes reveal discoveries such as: how often the issue of oil comes up under *Governance Emphasis*; how often we referred to pollution and government inaction under *Perpetrator(s) / Protagonist(s): what is the cause of the deprivation of values?*; and how often the notes read "NONE" under *Prescriptive solutions proposed*.

Lee, Naomi, and Doug intend to apply the methods of this content analysis to a much broader analysis, and to use the results to contribute to their research on the impact of polar bear legislation and management on indigenous peoples.

References

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Appendix A: The Coding Sheet

Polar Bear Media Content

1. Article Identifier

Article Identifier

2. Coder

- Coder Doug
- Lee
- Lindsay
- Naomi

3. Citation information

Citation information Title

Author

4. Source of Article

- Source of Article Anchorage Daily News
- Edmonton Journal
- Globe and Mail
- LA Times
- MacLeans
- National Post
- Newsweek
- New York Times
- Nunatsiaq News

- Time
- Toronto Star
- USA Today
- Washington Post

5. Month article was published

1 2 3 4 5 6 7 8 9 10 11 12

6. Year article was published

2004 2005 2006 2007 2008

7. Section of paper / magazine: front page?

- Section of paper / magazine: front page? Yes
- No

8. Number of words in article

Number of words in article

9. Article Focus (perspectives & standpoints): please select one.

- Article Focus (perspectives & standpoints): please select one. Polar bear science and research
- Climate science and research
- Social justice issues (who might benefit/lose from a ban on polar bear hunting, who is being consulted and how, Inuit culture and health as tied to polar bear hunting)
- Governance issues (who has rights to what, enact policy, enforce policy, inform policy, ESA listing, species of special concern, IUCN listing)
- Polar bear hunting (includes harvest quotas, sport trophy hunters)
- Human-bear conflicts

10. Sense of Urgency

- Sense of Urgency None

- Low
- Medium
- High

11. Inuit Portrayal – Select overriding theme. Choose up to two categories:

- Inuit Portrayal – Select overriding theme. Choose up to two categories: Victim
- Guilty party
- Influential
- Marginal
- Aware
- Naïve
- Token mention
- Not mentioned
- Other (please specify)

12. Governance Emphasis

- Governance Emphasis Not addressed
- Indigenous people's involvement
- Endangered Species US listing
- Species at Risk Canadian listing
- IUCN Red listing
- Other (please specify)

13. Role of Climate Change

- Role of Climate Change Not mentioned
- Denial that climate change exists
- Minor importance

Intermediate importance (mentioned alongside several other forces changing polar bear health and numbers)

Strong influence (emphasized as the leading cause for concern)

Climate change itself is denied or minimized as a problem affecting bears

Other (please specify)

14. Declines in polar bear numbers in the North and Climate Change arguments:

Declines in polar bear numbers in the North and Climate Change arguments: Simple (sea ice melting due to warming, no mention of variation across sub-populations)

Complex (mention of sub-populations and different levels of threats to each)

Climate change not addressed in regards to changing polar bear populations

Causal relationship questioned or denied

Variation across US, Canada and Nunavut in depiction of victim, perpetrator/protagonist, representative anecdote (story that typifies problem). Code on basis of emphasis, even if there is more than one victim, perpetrator, etc.

15. Victim(s): whose values are being deprived? Choose up to two categories

Victim(s): whose values are being deprived? Choose up to two categories Polar bears

All (generalized, can include local) citizens

Inuit and/or other North American Aboriginal peoples (Inupiat, Cree)

Canadians

Americans

Trophy hunters

16. Perpetrator(s) / Protagonist(s): what is the cause of the deprivation of values? Choose up to two categories

Perpetrator(s) / Protagonist(s): what is the cuase of the deprivation of values? Choose up to two categories Greenhouse gas emissions

Government policies and/or actions

Not given, just “is”, natural variation, solar cycles

Inuit hunting

Environmental and animal use groups

☐ Other (please specify)

17. Prescriptive solutions proposed. Choose up to two

☐ Prescriptive solutions proposed. Choose up to two Policy listing (ESA, IUCN, COSEWIC)
☐ Further hunting restriction and/or banning
☐ US ban on importation of polar bear hides & trophies
☐ Increased efforts towards smaller scale or regional collaborative management
☐ Stricter regulations on greenhouse gas emissions
☐ Other (please specify)

18. Representative anecdote: What is the story line: polar bears starving? Inuit hunter losing his culture? Look for the personal story that is designed to grab the reader and "typify" what is happening.

○ Representative anecdote: What is the story line: polar bears starving? Inuit hunter losing his culture? Look for the personal story that is designed to grab the reader and "typify" what is happening. Polar bears are drowning (an alarmist call for government action on CO2 emissions)
○ Scientific management is necessary (science identified the problem so we need more of the same to solve it – a bit less alarmist than narrative above)
○ Listen to us – we see more bears now (the predominant Inuit perspective)
○ No problem (climate change denial)
○ Other (please specify)

19. Attitudes (based on Kellerton's framework). Choose up to two:

☐ Attitudes (based on Kellerton's framework). Choose up to two: Utilitarian
☐ Naturalistic
☐ Dominionistic
☐ Aesthetic
☐ Moralistic
☐ Negativistic

- [ ] Spiritual
- [ ] Humanistic
- [ ] Ecologistic

20. Three classes of a problem (Clark, in press). Select only one:

- ○ Three classes of a problem (Clark, in press). Select only one: Ordinary problems (understanding the problem from a technical, scientific management [more surveys, more sciences, more regulation] as solutions. This is the way most conservation problems are conceptualized and approached.
- ○ Governance problems (agency authority and ground rules for allocation, use, harvest)
- ○ Constitutive problems (problems affecting the ground rules that govern the first two levels, eg: current challenges of negotiating and implementing of Aboriginal land claims are constitutive-level problems, since those claims set out the rules by which those other kinds of decisions are or will be made)

21. Truth source: select one

- ○ Truth source: select one Western science as most trustworthy information source
- ○ Inuit traditional knowledge as trustworthy information source
- ○ Attempt at balance recognizing multiple sources
- ○ not identifiable from article

22. General Notes

Appendix B: List of Agencies

1. Alaska Climate Impact Assessment Commission
2. Alaska Conservation Foundation
3. Alaska Eskimo Whaling Commission
4. Alaska Inter-Tribal Council
5. Alaska Nanuuq Commission
6. All Russian Institute of Nature Conservation
7. American Meteorological Society
8. Arctic Climate Impact Assessment
9. Arctic Institute of North America
10. Arctic National Wildlife Refuge (Alaska)
11. Aurora Research Institute
12. Canadian Arctic Shelf Exchange Study (Lead scientist: Fortier)
13. Canadian Foundation for Climate and Atmospheric Sciences
14. Canadian Wildlife Federation
15. Canadian Wildlife Service
16. Center for Biological Diversity
17. COSEWIC
18. Environment Canada
19. Greening Earth Society
20. Greenland Home Rule Government
21. Greenpeace
22. Intergovernmental Panel on Climate Change (IPCC)
23. International Council for Local Environmental Initiatives
24. International Polar Year
25. International Union for Conservation Of Nature
26. Inuvialuit Game Council
27. Inuvialuit Wildlife Management Advisory Council
28. Manitoba Conservation Department
29. Meteorological Service of Canada
30. NASA's Goddard Space Flight Center
31. National Center for Atmospheric Research (NCAR) – US (Colorado)
32. National Park Service
33. Natural Resources Defence Council
34. Polar Bear Specialist Group of the World Conservation Union
    - 1973 Agreement on the Conservation of Polar Bears
35. Polar Bears International
36. Polar Environment Atmospheric Research Laboratory (Eureka, Ellesmere Island)
37. Renewable Energy for Alaska Project
38. Trustees for Alaska
39. U.S. Environmental Protection Agency
40. U.S. Fish and Wildlife Service
41. U.S. Fish and Wildlife Service Marine Mammal Management Program
42. U.S. Geological Survey
43. U.S. Interior Department
44. Ursus International
45. World Conservation Union
46. World Meteorological Organization
47. World Wildlife Fund