Inuvialuit Values and Incentivizing Participation in the Harvest Study

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Introduction

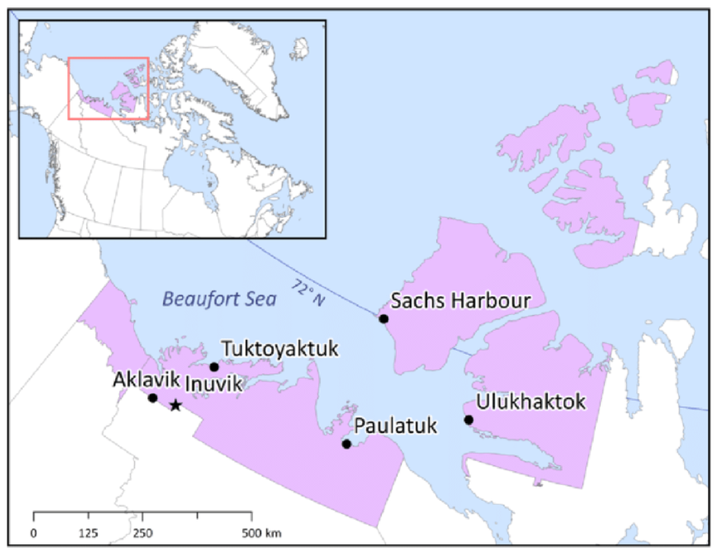
Embedding Values into Decision-Making

The IPBES Report on Valuation (2022) recognizes the need for more evidence on valuation approaches used by Indigenous communities and embedding them in biodiversity policy. Harvest studies are used to account for the human-caused mortality of wildlife. However, community-based monitoring (CBM) programs often fail to take food security and livelihoods into account (Kouril et al 2016; Kenny and Chan 2017). Environmental programs have faced challenges combining science and Indigenous ways of knowing, but methodologies are improving (Manero et al 2022). We aim to contribute by attempting to bridge qualitative and quantitative measures in valuation.

Research Questions:

1. Can the Harvest Study be adapted to communities?
2. How to keep the participation level high?
3. How is harvest data valued by hunters?

Julia Poissant in Sachs Harbour, NWT on April 15, 2024 (personal photo)



Location of the Inuvialuit Settlement Region and its six communities. (Map created by Sarah Simpkin; Map data from Natural Resources Canada (2016), licensed under the Open Government Licence-Canada)

The Inuvialuit have control over their lands and co-management agreements with the federal government from the Inuvialuit Final Agreement 1984 (IFA), the oldest land claim in Canada. The IFA enshrines the right to hunt, trap, and fish for all Inuvialuit. The original Inuvialuit Harvest Study ran from 1988-1997 to set a baseline for hunting activities and has been used as an example for other Canadian and international harvest studies (Priest and Usher 2004, Thompson et al 2021). Climate change and development are creating new risks and challenges to the Arctic environment and Inuvialuit way of life (Kouril et al 2016). An attempt to restart in 2015-2018 was paused due to low participation rates and concerns on data quality.

Methods

Community-Driven Research

A collaboration between the Inuvialuit Joint Secretariat (IJS) and Dr. Parlee was agreed upon to help re-imagine a new program. In February 2023, I went on my first trip to Inuvik and Aklavik to understand the needs and scope for the project. I had many meetings over the year with the following groups:

- Inuvialuit Game Council
- Wildlife Management Advisory Board (NWT)
- Joint Fisheries Management Committee
- Hunters and Trappers Committees for Aklavik, Tuktoyaktuk, Sachs Harbour, Ulukhaktok

Online Survey via Qualtrics

Members of 5 Hunters and Trappers Committees (HTCs) accessed the survey via a link or QR code. The survey comprised of 6 sections about the type of questions, how to collect, why it is important, how to incentivize participation, and demographics.

Inuvialuit Harvest Study Redesign

Julia Poissant in Tuktoyaktuk, NWT on April 11, 2024 (personal photo)

Results

Table 1: Demographics of Survey Respondents (n = 80)

Demographic	Statistic	Frequency	Percent of Total
Gender	Male+	33	41.3%
	Female+	47	58.8%
Home Community	Inuvik	44	55.0%
	Aklavik	21	26.3%
	Sachs Harbour	9	11.3%
	Tuktoyaktuk	4	5.0%
	Ulukhaktok	2	2.5%
	Paulatuk	0	0.0%
Years of Hunting Experience	None	3	3.8%
	1 month -9 years	8	10.0%
	10-19 years	15	18.8%
	20-29 years	14	17.5%
	30-39 years	13	16.3%
	40-49 years	16	20.0%
	50+ years	11	13.8%
Hunting Intensity Level	Intensive	9	11.3%
	Active	20	25.0%
	Occasional	35	43.8%
	Supporting	12	15.0%
	Do not hunt or harvest	4	5.0%
Past Harvest Study Experience	Inuvialuit Harvest Study only	39	48.8%
	Others only	1	1.3%
	Inuvialuit Harvest Study and others	12	15.0%
	None	28	35.0%

Individual and Collective Values and Barriers to Participation

Table 2: Inuvik vs. Other Communities Value Agreement

Inuvik		Other Communities	
Highest Agreement	Lowest Agreement	Highest Agreement	Lowest Agreement
Individual Values			
64% - The effort and cost to individual hunters needs to be recognized	16% - Harvest data is good evidence in compensation claims	56% - Hunting and Harvesting is necessary to meet my food needs	25% - Harvest data is good evidence in compensation claims
		56% - Hunters have responsibilities as members of HTCs	
Collective Values			
77% - Demonstrate strong Inuvialuit management	50% - Benefit from successful community compensation claims should negative impacts from development occur	81% - Map Traditional and Local Knowledge (TLK)	47% - Commitments to management bodies FJMC and WMAC
77% - Useful skill development for youth			
Barriers			
36% - Technology errors or problems (lack of internet or mobile data)	7% - Dissatisfaction with harvest data usefulness	44% - Fear that the data will be used to lower harvest quotas on important species	8% - Dissatisfaction with harvest data usefulness
			8% - Fear that the data will be used by law enforcement
			8% - Questions are difficult to answer

Choice Experiment with Values

Figure 1: Example of Choice Set

*Scenario 4

	Original Program	Alternative Program A	Alternative Program B
Chance of Payment	Lottery	Guaranteed	Guaranteed
Payment Value	$80	$0	$150
With Recognition	No Recognition	Recognition Programs: examples like Harvest Study Community Ambassadors, social media profiles, or awards.	No Recognition
Method of Data Collection	Paper with in-person interviews	Paper with in-person interviews	Mixed paper and app (HTC decision)

○ Original Program ○ Alternative Program A ○ Alternative Program B

Figure 2: Participant Consequentiality

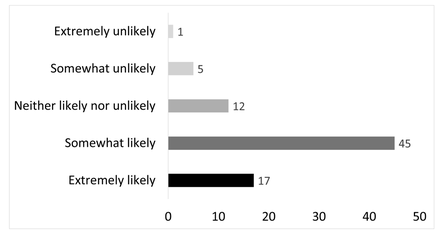


Table 3: Latent Class and Conditional Logit Models

	Class 1		Class 2		Conditional Logit	
Share	0.22		0.78		1.00	
	Coefficient	*95% Confidence Interval*	*Coefficient*	*95% Confidence Interval*	*Coefficient*	*95% Confidence Interval*
Payment	0.029 (0.02)*	-0.000, 0.059	0.009 (0.00)***	0.006, 0.011	0.008 (0.00)***	0.005, 0.010
Guarantee	-2.228 (1.11)**	-4.395, -0.062	0.899 (0.18)***	0.546, 1.251	0.203 (0.16)	-0.110, 0.516
Recognition	-3.040 (1.53)**	-6.035, -0.044	0.803 (0.16)***	0.485, 1.121	0.285 (0.14)**	0.008, 0.562
App	-0.739 (0.87)	-2.442, 0.963	0.759 (0.26)***	0.250, 1.268	0.315 (0.21)	-0.093, 0.722
Hybrid	-2.734 (1.16)**	-5.011, -0.456	1.336 (0.25)***	0.847, 1.825	0.396 (0.20)**	0.001, 0.791
ASC3	-0.586 (1.07)	-2.684, 1.511	-0.361 (0.15)**	-0.661, -0.060	-0.360 (0.14)**	-0.639, -0.081
N	924[a]				960	
Log-likelihood	-245.594				-322.984	
AIC	564.188				657.968	
BIC	743.85				687.17	

a Some responses were removed due to errors.
*** 0.01 ** 0.05 * 0.1

Choice Experiment

The first part of the survey was used to look at the distribution for the expression of values around harvest monitoring. We use a choice experiment to further distinguish how the values and preferences impact hunters' behaviour.

<u>Conditional Logit</u>

- Payment amount has the greatest significant, but the smallest value
- Having the flexibility of a hybrid method of data collection (between paper and phone app) is preferred over one or the other
- Average WTA payment is $100.53

<u>Latent Class Model</u>

- Used demographics and the individual and collective values as the basis for class membership
- Class 2 is the majority and is highly supportive of the Harvest Study
- Class 1 is a group who may resist participating in a Harvest Study – payment is the only positive variable but is only weakly significant
- Class 1 is generally male with fewer years of hunting experience, concerned with preserving Traditional and Local Knowledge (TLK) and values increasing the availability of tags to hunt key species

Conclusion

Implications for Inuvialuit Harvest Study Policy

Due to the small overall population, a group resistant to reporting their harvest information can have a large impact on the validity and usefulness of the Harvest Study.

<u>Communication and Outreach</u>

- Public good benefits of the program unevenly understood
- Will need local, targeted efforts to engage with holdouts

<u>Incentives</u>

- Monetary incentives to help offset the personal costs of participating
- Program supports to pair social and intrinsic motivation with action