



Student Name:	Erica Zaja
Matriculation number:	S1800681
Degree Programme:	Ecological and Environmental Sciences with Management
Supervisor:	Dr Isla Myers-Smith
Project Title:	Shrubification in the Western Arctic and its Effects on the Porcupine Caribou Herd Habitat
Brief Description of Project and Methods: The research objective is to understand how shrubification within the Porcupine Caribou Herd habitat may affect their nutritional health and how this might affect their distribution pattern and future migratory behaviour. I will investigate which areas within the PCH range are most vulnerable to shrubification, how changes in vegetation will influence the nutritional health of the PCH and how shrubification will affect the PCH future migratory behaviour. I will answer these questions by firstly mapping shrub cover (aboveground biomass) within the summer (and winter range) of the PCH, using total caribou annual range data 1983 - 2001 (U.S Department of the Interior, from Griffith et al. 2002) and a shrub map of North Slope of Alaska 2007-2016 (Berner et al., Arctic Data Centre, 2021). I will crop the shrub map to the caribou range to know where shrubs are within the range. I will then map out changes in NDVI (or other vegetation indices) within the PCH range, using Landsat NDVI data over time (Berner et al., Nature Communications, 2020) and test whether increasing spectral greenness corresponds with shrub cover. I will then compile forage quality and preferred summer forage information for caribou from the literature (pers. comm. Libby Ehlers, 2021). I will analyse vegetation change from long-term plot-based vegetation monitoring in or near the PCH summer range. Finally, I will map out areas within the PCH range that are most “vulnerable” to shrubification and infer how that might change diet with future migration patterns.	

Dissertation Safety Declaration



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Please tick one or more of the following:	
The proposed project will involve fieldwork and / or overseas travel. I have assessed the risks using the appropriate form and this has been seen by my Supervisor.	<input type="checkbox"/>
The proposed project will involve lab work. My Supervisor and I have completed the appropriate Lab Safety Forms. Lab work will not involve lone working.	<input type="checkbox"/>
The proposed project will involve long periods of computer usage. I have taken note of the University guidance on the use of computers and will take appropriate rest breaks.	<input checked="" type="checkbox"/>
Supporting forms must be submitted for review by the School Health and Safety Manager either electronically via LEARN or by email to your Degree Programme Administrator.	
I agree to abide by the precautions noted on the submitted risk assessments and undertake to review the forms should the project parameters change or the control measures are shown to be inadequate.	
Print Name (Student):	Erica Zaja
Signed (Student):	
Date:	03/06/2021
I have reviewed the safety forms for this project and am satisfied that all reasonable steps have been taken by the student to ensure their health and safety during the project.	
Print Name (Supervisor):	Isla Myers-Smith
Signed (Supervisor):	
Date:	3 June 2021
I have reviewed the safety forms for this project and am satisfied that all reasonable steps have been taken to ensure the health and safety of the student during the project.	
Print Name (Health and Safety Manager):	P WILSON
Signed (Health and Safety Manager):	
Date:	11.6.21

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