



# Marine Ecological Conservation in the Canadian Eastern Arctic (MECCEA): A project to identify Priority Areas for Conservation (PACs)

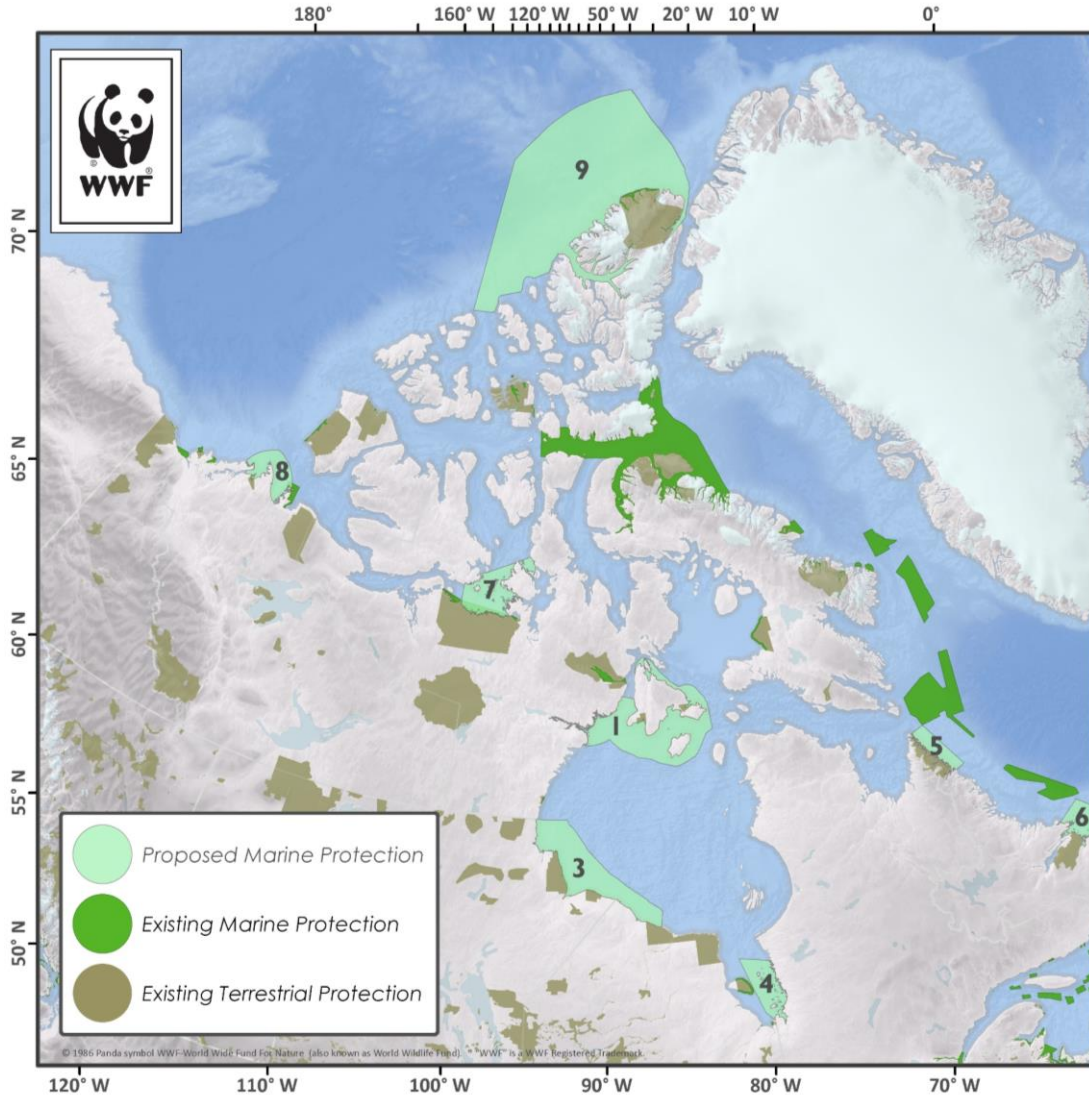
Martine Giangioppi

WWF-Canada

PAME EA International Conference. Bergen, 2019



# Existing & proposed protection measures in the Canadian Arctic



ID	Name
1	Southampton Island Area of Interest
3	Western Hudson Bay NMCA Candidate
4	Eastern James Bay NMCA Candidate
5	Labrador Coast (A) NMCA Candidate
6	Labrador Coast (B) NMCA Candidate
7	Queen Maud Gulf NMCA Candidate
8	Bathurst Polynya NMCA Candidate
9	Tuvaijuittuq DFO Interim Protection Area



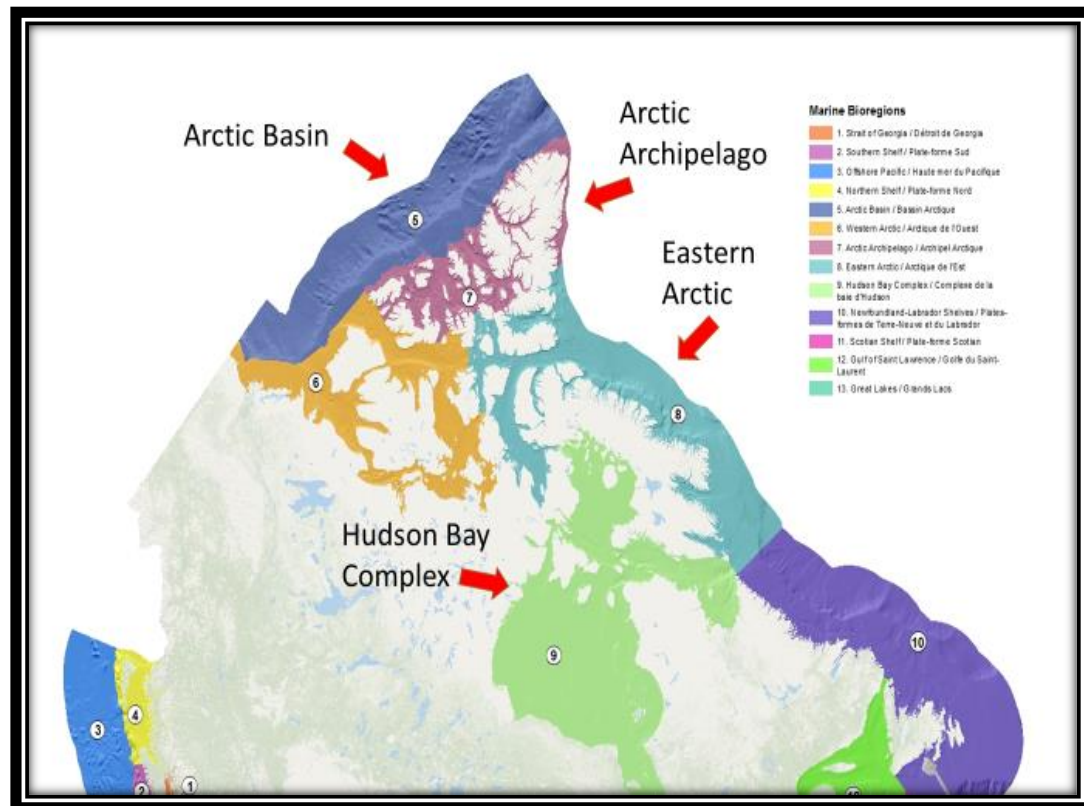
# MECCEA's goals

- To identify a network of Priority Areas for Conservation (PACs) that are connected
- To encourage and inform the development of marine protected area networks in the Canadian Arctic
- To work with Indigenous communities to advance the establishment of future protected areas
- To provide input into marine spatial planning (MSP) and ecosystem approach (EA) processes, inform environmental assessments and commercial activities management

# Scope and objectives

## Conservation objectives

- Protect **distinctive** ecological features (species, habitat, processes)
- Protect **representative** features of habitat types

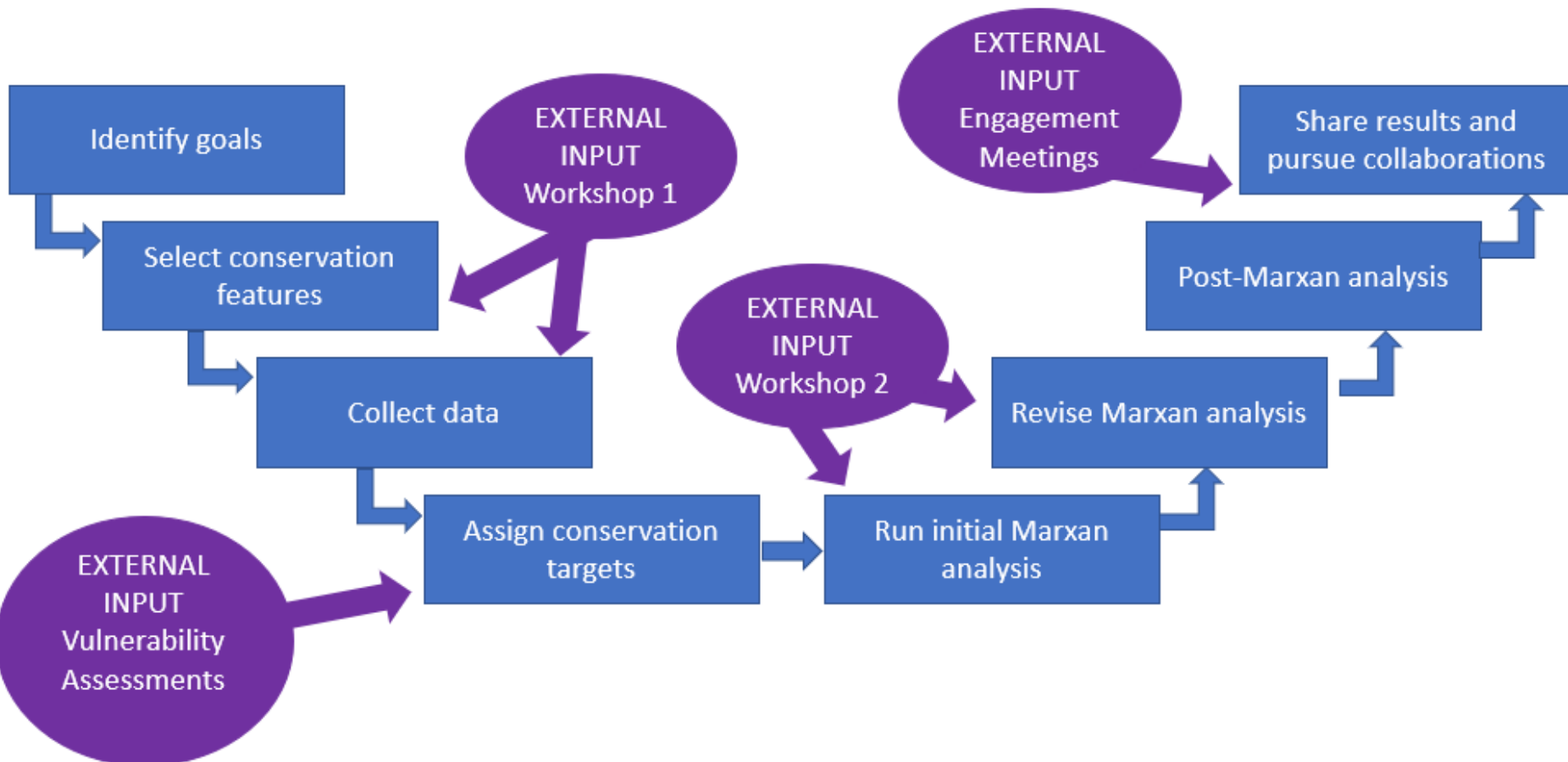




# MECCEA Process

May 2017

June 2019



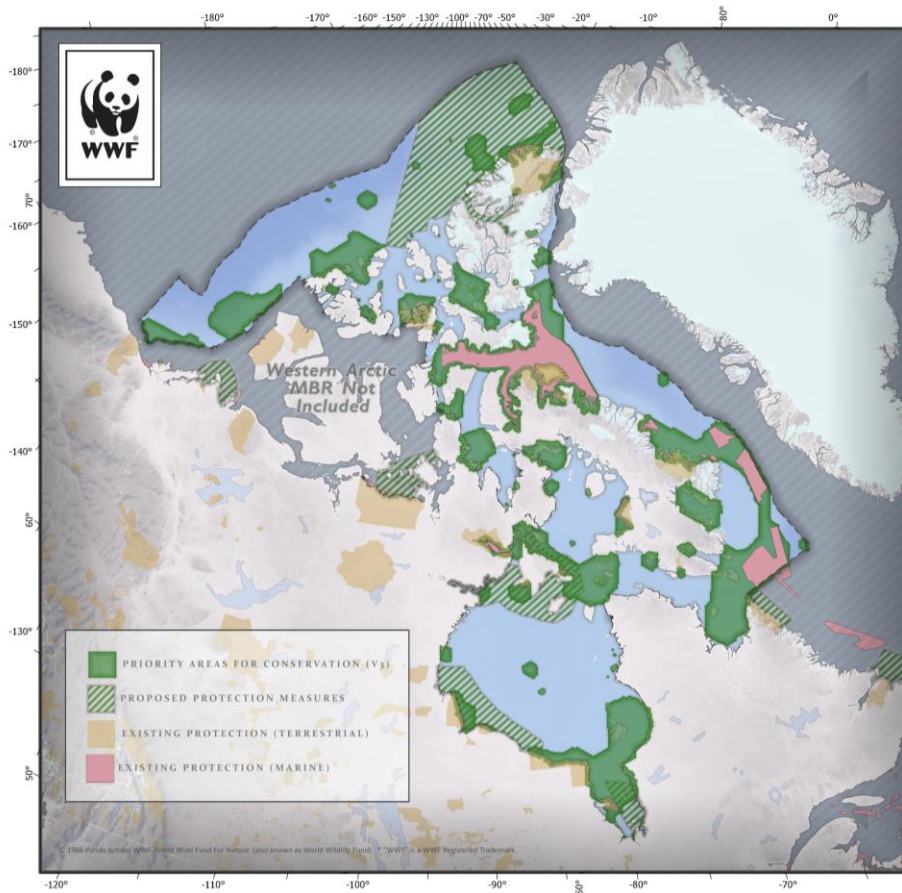
Share data/expertise with broader Pan Arctic MPA network project



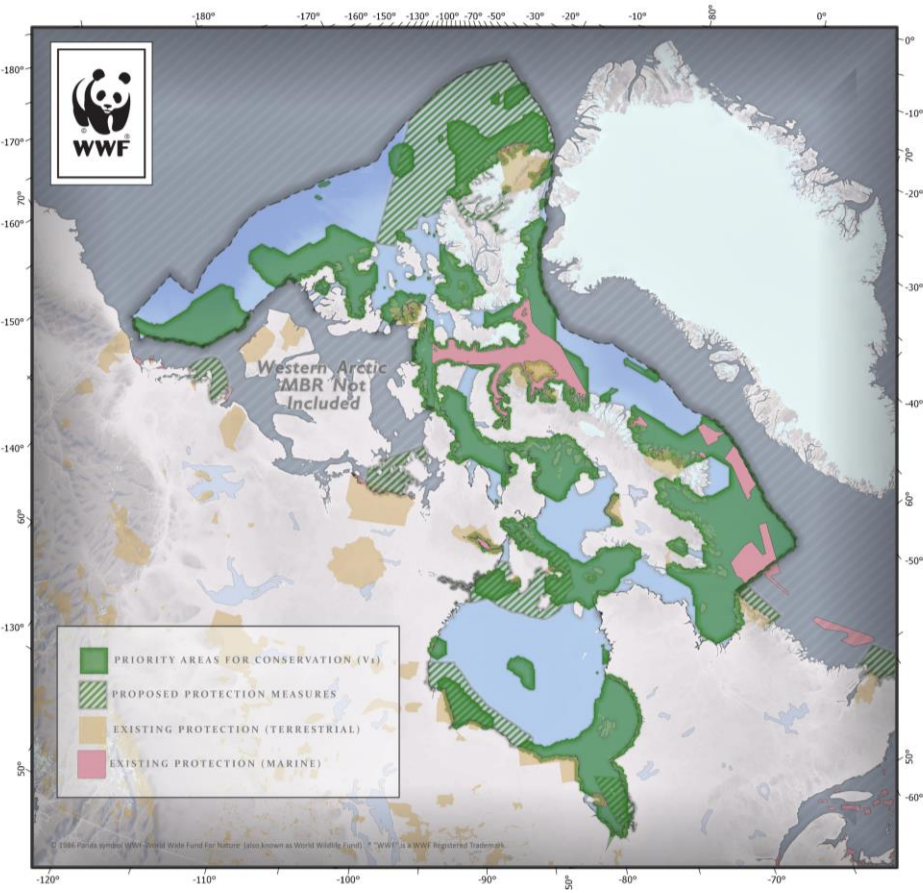
# Preliminary results Marxan scenarios



# DRAFT Priority Areas for Conservation (PACs) with existing and proposed conservation measures



**Scenario 1:** lower end of target range for conservation features = PACs to cover **30.6%** of the study area



**Scenario 2:** higher range of target range for conservation features = PACs to cover **47%** of the study area



# Conservation features within Gulf of Boothia PAC



PAC Name	Conservation Features			
	Species Features	Locally Identified	Geomorphic	Seascapes
<b>Gulf of the Boothia</b>	<ul style="list-style-type: none"> <li>Bowhead summer distribution</li> <li>Bowhead summer foraging/calving areas</li> <li>Polar bear denning areas</li> <li>Narwhal summer range</li> <li>Narwhal summer calving</li> <li>Beluga summer range</li> <li>Arctic Char Habitat</li> <li>Arctic Cod Habitat</li> <li>Four-Horned Sculpin Habitat</li> <li>Coregonus Habitat</li> </ul>	<ul style="list-style-type: none"> <li>Arctic Char Habitat</li> <li>Bowhead Habitat</li> <li>Narwhal Habitat</li> <li>Bearded Seal Habitat</li> <li>Ringed Seal Habitat</li> <li>Harp Seal Habitat</li> <li>Arctic Cod Habitat</li> </ul>	<ul style="list-style-type: none"> <li>Coastal Inlet Habitat</li> <li>Coastal Cliff Habitat</li> <li>Coastal Wetland Habitat</li> <li>6 types of unique seafloor geomorphic features</li> </ul>	<ul style="list-style-type: none"> <li>11 unique classes of Benthic Seascapes</li> <li>4 unique classes of Pelagic Seascapes</li> </ul>



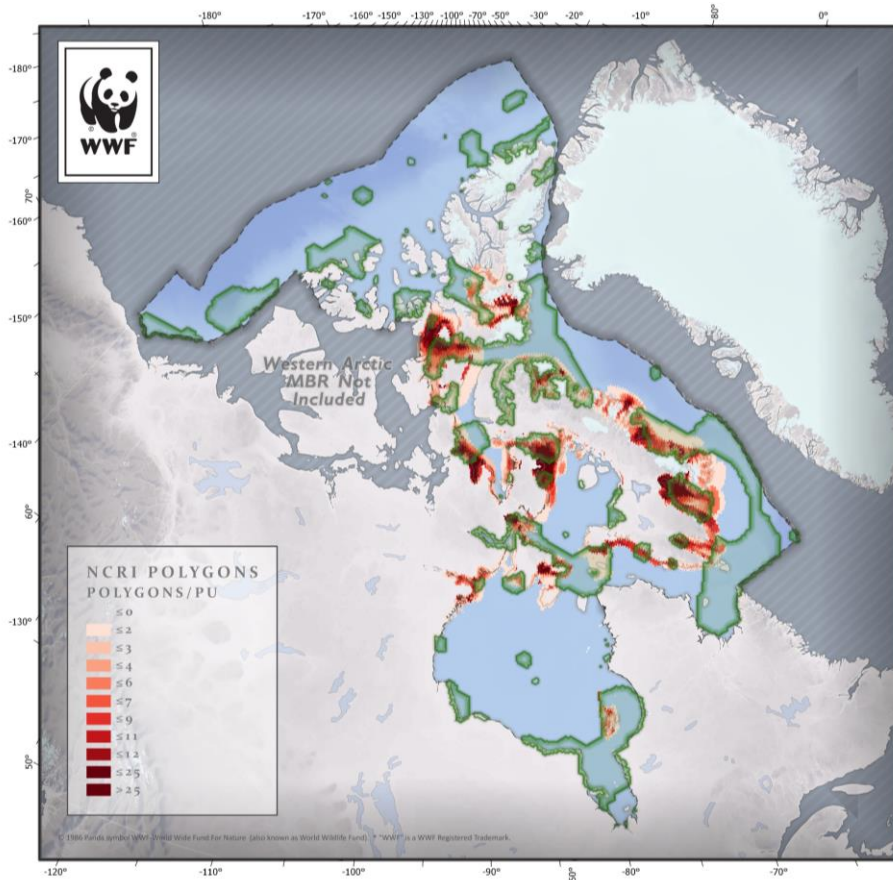


# Preliminary results

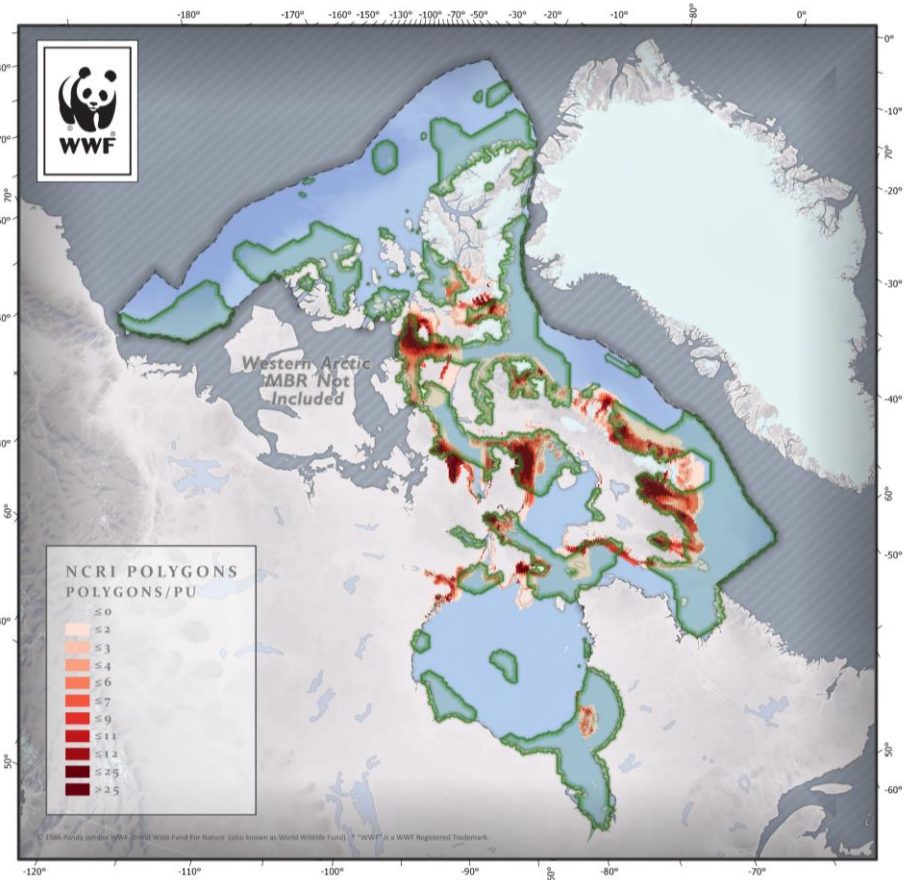
## Post-Marxan analysis



# Overlays of Inuit use areas with PACs



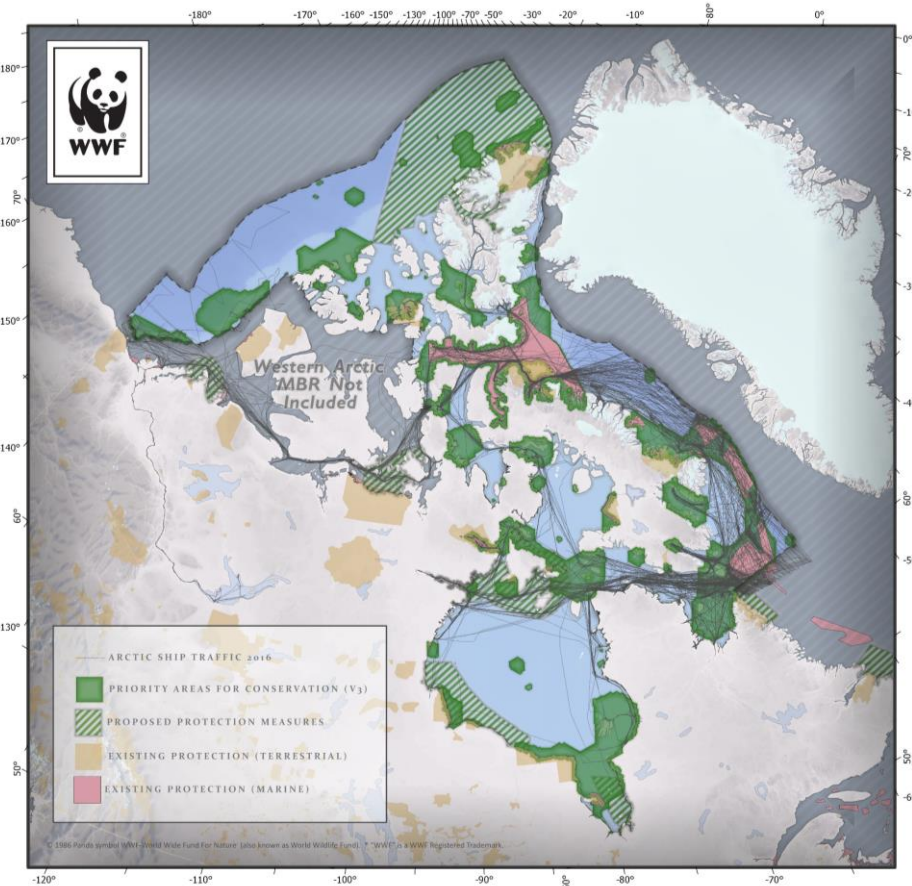
**Scenario 1**  
**52.3% overlap**



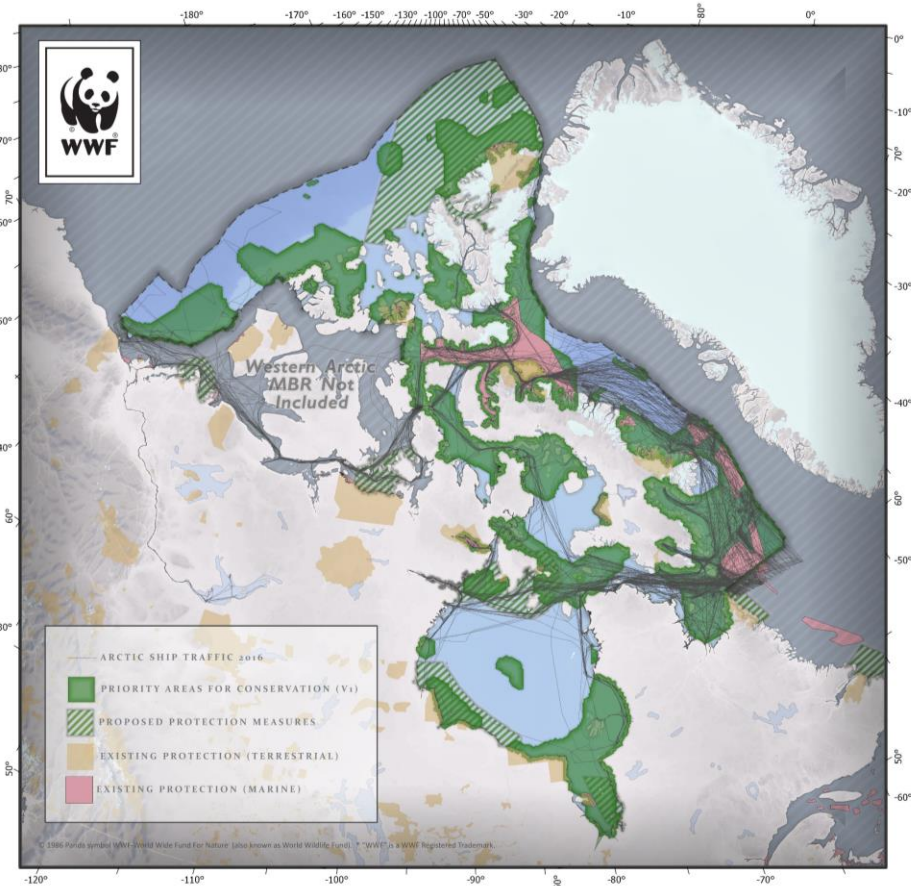
**Scenario 2**  
**74.3% overlap**



# Overlays of ship tracks with PACs



**Scenario 1**  
**53% overlap**



**Scenario 2**  
**67.4% overlap**



# Next steps (2019)

- Select final scenario(s) and prioritize PACs (July)
- Conduct connectivity analysis to see if the PACs are well connected (July)
- Engage interested parties (domestic and international) (ongoing)
- Release technical and final reports (fall)



# Consideration and linkages to EA

Marine Protected Area Network design plans (e.g. MECCEA' PACs) can be used as the ecological/conservation foundation for EA, MSP and other processes.

EA framework (PAME)	MECCEA
Identify the ecosystem	Canada's marine bioregions/correspond to the LMEs
Describe the ecosystem	More than 500 conservation features (CFs) + PACs
Set ecological objectives	Conservation objectives for distinctive and representative areas + individual conservation target for each CF.
Assess the ecosystem	Post-Marxan analysis can be helpful to inform threat/risk assessments (e.g. overlays of PACs with human activities)
Value the ecosystem	Important Inuit use areas
Manage human activities	Conservation/management considerations for each PACs



# Thank you, merci, nakurmiik!

Contact info:

