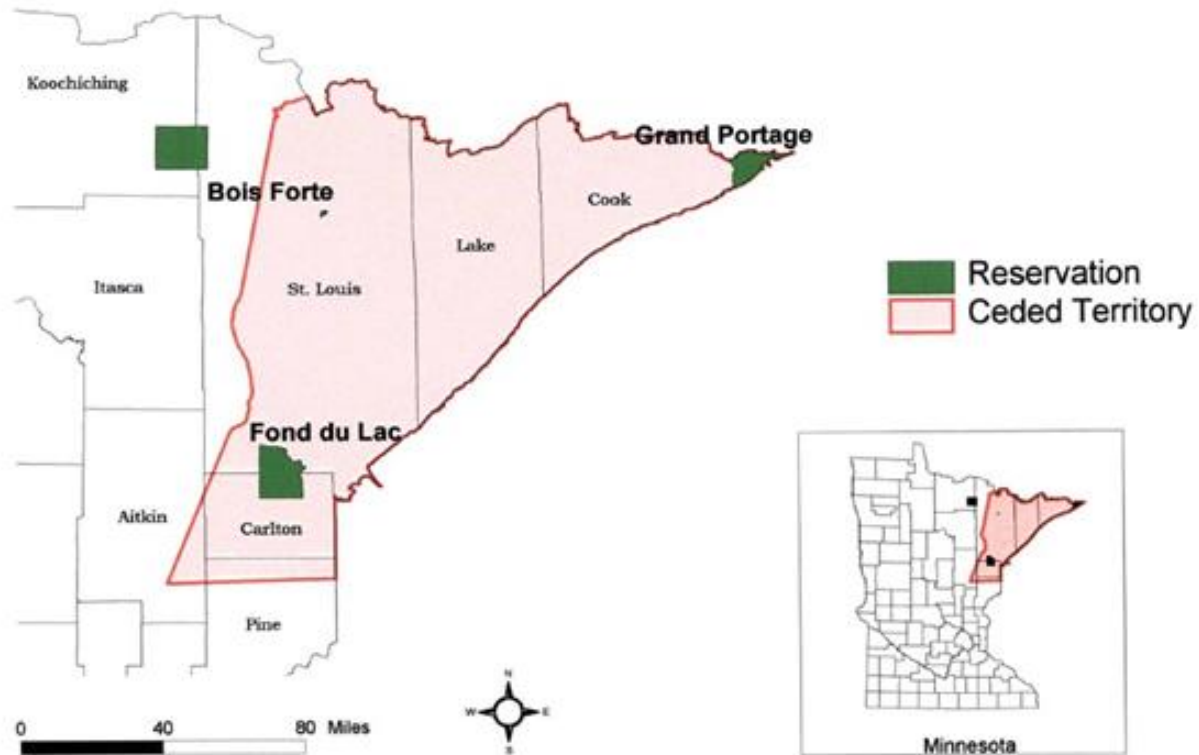


1854 Ceded Territory



Vulnerability Assessment

		Sensitivity: Low → High				
		S0	S1	S2	S3	S4
Adaptive Capacity: High ↓ Low	AC4	<ul style="list-style-type: none"> Black Crappie 	<ul style="list-style-type: none"> Berries (w/o Bog Species) White-Tailed Deer 			
	AC3		<ul style="list-style-type: none"> Bald Eagles Wolves Birds and Waterfowl (turkey, duck, pheasants, geese) 	<ul style="list-style-type: none"> Air Quality Walleye Northern Pike 	<ul style="list-style-type: none"> Sturgeon Eastern White Pine Furbearers (beaver, black bear, bobcat, coyote, fisher, fox, mink, muskrat, river otter,) Northern Red Oak, Bass Wood, and Chokecherry 	
	AC2			<ul style="list-style-type: none"> Culturally Significant Plants Sugar Maple Black Ash Resource Access Shrub Wetlands 	<ul style="list-style-type: none"> Wild Rice Labrador Tea Berries (bog species) 	<ul style="list-style-type: none"> Quaking Aspen
	AC1			<ul style="list-style-type: none"> Culturally Significant Places 	<ul style="list-style-type: none"> Water Quality and Quantity Birds and Waterfowl (ruffed grouse, spruce grouse, loons, swans) Cisco Furbearers (lynx, American marten, snowshoe hare) Lake Trout Whitefish 	<ul style="list-style-type: none"> Moose Brook Trout Vernal Pools
	AC0					<ul style="list-style-type: none"> Paper Birch Boreal Wetlands Northern White Cedar

Strategy Categories

Category	Number of Strategies for Focus Species	Example Strategies
Collaboration	45	<ul style="list-style-type: none"> Enhance collaboration with local, county, state, and federal wetland management organizations to identify, monitor, and track wetlands throughout the region. (<i>Culturally Significant Plants</i>) Strengthen partnerships with the MNDNR and universities to continue to evaluate and monitor climate change impacts on walleye. (<i>Walleye</i>)
Conservation Preservation Maintenance	98	<ul style="list-style-type: none"> Assure future availability of wetlands and other habitats where moose are most secure from heat stress by undertaking wetland conservation initiatives such as conservation easements, mitigation banking, and others deemed viable. (<i>Moose</i>) Promote landscape water retention to protect against soil drying and overall drought stress. (<i>Paper Birch</i>) Protect remaining populations of wild rice, regardless of density. (<i>Wild Rice</i>)
Education	31	<ul style="list-style-type: none"> Work with news media sources to inform and educate the public about moose and moose management programs in northeastern Minnesota. (<i>Moose</i>) Make sure that heat alerts are very clearly advertised to the public through venues such as websites, social media, and potentially an air quality flag system (e.g., EPA has a program). (<i>Air Quality</i>)
Monitoring Assessment	69	<ul style="list-style-type: none"> Develop and maintain water quality database for reservation waters and for waters within 1854 Ceded Territory. (<i>Water Quality</i>) Inventory important sugar maple stands for climate protective site characteristics (e.g. north facing, deep, fertile soils, low drought stress) and work with partners to enhance and protect these areas. (<i>Sugar Maple</i>)
Restoration	26	<ul style="list-style-type: none"> Resize new and existing culverts (e.g., retrofits) to ensure they can handle projected changes in precipitation. (<i>Boreal Wetlands</i>) Reduce non-climate stressors like pollution: expand the restoration or enhancement of riparian buffer zones around key lakes and streams to limit agricultural run-off or other non-point source pollution that would degrade water quality, ensure water quality standards are met and enforced. (<i>Sturgeon</i>)

Current Status: Implementation

- ▶ Plan finalized in August, 2016
- ▶ More information:
<http://www.1854treatyauthority.org/environment/climate-change.html>
- ▶ Hired Tansey Smith, Climate Change Specialist, to develop program and implement plan

Climate Change Vulnerability Assessment and Adaptation Plan

1854 Ceded Territory Including
the Bois Forte, Fond du Lac,
and Grand Portage Reservations



POTENTIAL NECSC ASSISTANCE

- ▶ Track timing of frog/toad calling in the spring
 - ▶ NRRI, Apostles Island Natl. Park and Bad River Band
 - ▶ Goal: deploy acoustic devices early Spring 2018
- ▶ Spring/Fall walleye assessments
 - ▶ Characterizing the timing of walleye spawning
- ▶ Weather station data





Miigwech!! (Thank You)

1854 Treaty Authority

4428 Haines Road

Duluth, MN 55811

(218) 722-8907

[http://www.1854treaty
authority.org/](http://www.1854treatyauthority.org/)