NATIONAL *fish, wildlife & plants*
CLIMATE ADAPTATION STRATEGY

Project Title: "Climate Change and the Ceded Territories: Scoping Report and Preliminary Vulnerability Assessment."

Headline Title (2-5 words): Climate Change and the Ceded Territories

Brief Summary (Abstract): A project to use downscaled climate change predictions produced by the Wisconsin Initiative on Climate Change Impacts (WICCI) and the Northern Institute of Applied Climate Science (NIACS) to begin characterizing potential effects of climate change on specific species of cultural importance to GLIFWC member tribes.

Project Location: Lake Superior basin, and the 1837 (Minnesota and Wisconsin), 1842 (Wisconsin and Michigan), 1854 (Minnesota), and the Upper Peninsula portion of the 1836 (Michigan) ceded territories.

Partners: No official partners but we are working with staff from WICCI and NIACS

Background: The Wisconsin Initiative on Climate Change Impacts (WICCI) was one the first groups in the world to attempt to characterize the effects of Climate Change on specific places and resources. Until recently, models of climate change scenarios have been global in scale, which is not of much use in natural resource management, which takes place at local scales. Downscaling global climate change models allows more site specific assessments of the expected changes in climate across the ceded territories and what those changes mean to treaty guaranteed resources.

Climate Modeling indicates that the Ceded Territories are likely to undergo some significant changes in the next 50 years. Using Wisconsin as an example, since 1950, the state's average temperature has increased by 1 degree; however, this statewide number does not reflect some regional differences in the effects throughout the ceded territory. The western half of the Wisconsin ceded territory has warmed more than the eastern half. Precipitation has also changed with a general trend towards dry conditions along Lake Superior.

The data indicates that climate change effects will become more pronounced over the next 50 years. There is a 95% probability that a 4 to 6 degree average temperature increase will occur in the next 50 years. The most pronounced effects are predicted to occur during the winter season where an increase in temperatures of 6 to 8 degrees is forecast. Summer temperatures are predicted to increase by 4 to 6 degrees. Changes in precipitation are also expected with a general trend towards drier summers and decreased snow in winter.

While data around climate projection is being solidified, this downscaled data offers a new opportunity to really assess the effects the projected climate change effects will have on species of cultural importance to better understand management decisions that will need to be made and actions that will need to be undertaken with regard to these species.

Project Goals: The goals of this project are to incorporate climate change information into management planning and implementation efforts by providing a better understanding of how, among others, increased precipitation events and increasing summer temperatures will affect the sustainability of wild rice; whether warming water temperatures will shift ceded territory lake habitats; and affect known spawning sites ; what effects increasing temperature will have on, pine martins, fishers and moose in the ceded territories; and how changing temperatures will impact trees in the ceded territories, such as birch, maple, and fir, among others.

Strategy Goals Implemented:

1) Goal 2, Strategy 2.2, Action 2.2.1: Use vulnerability assessments to design and implement management actions at species to ecosystem scales.
2) Goal 2, Strategy 2.1, Action 2.1.3: Identify species and habitats particularly vulnerable to transition under climate change.
3) Goal 3, Strategy 3.1, Action 3.1.1: Build on existing needs assessments to identify gaps in climate change knowledge and technical capacity among natural resource professionals.

Climate Impacts Addressed: Impacts on species and habitats.

Status of Project Implementation: Project is ongoing.

Project Outcomes: The outcomes of this project will be a scoping report that lists existing climate data and any identified climate data gaps, a list of species included in the preliminary assessment, and the relevant biological metrics and data gaps in biological knowledge for those species, as well as an integrated understanding of how the downscaled climate change data will potentially impact the species on the list. This data will then be available to be used by others to actively manage populations of the species of interest to protect their sustainability and biodiversity, human use, and other ecological functions. It will also serve as a building block for more detailed climate change risk assessments for these and potentially other species.

Funding Sources: Great Lakes Restoration Initiative