

# National Indian Health Board



## Spotlight on Tribal Climate Adaptation in the Mountain States

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HOST

NATIONAL INDIAN HEALTH BOARD (NIHB)

ANGELICA AL JANABI, MPH

PUBLIC HEALTH PROJECT COORDINATOR

# National Indian Health Board



## Mission Statement

Established by the Tribes to advocate as the united voice of federally recognized American Indian and Alaska Native Tribes, NIOB seeks to reinforce Tribal sovereignty, strengthen Tribal health systems, secure resources, and build capacity to achieve the highest level of health and well-being for our People.

# Good *Housekeeping*

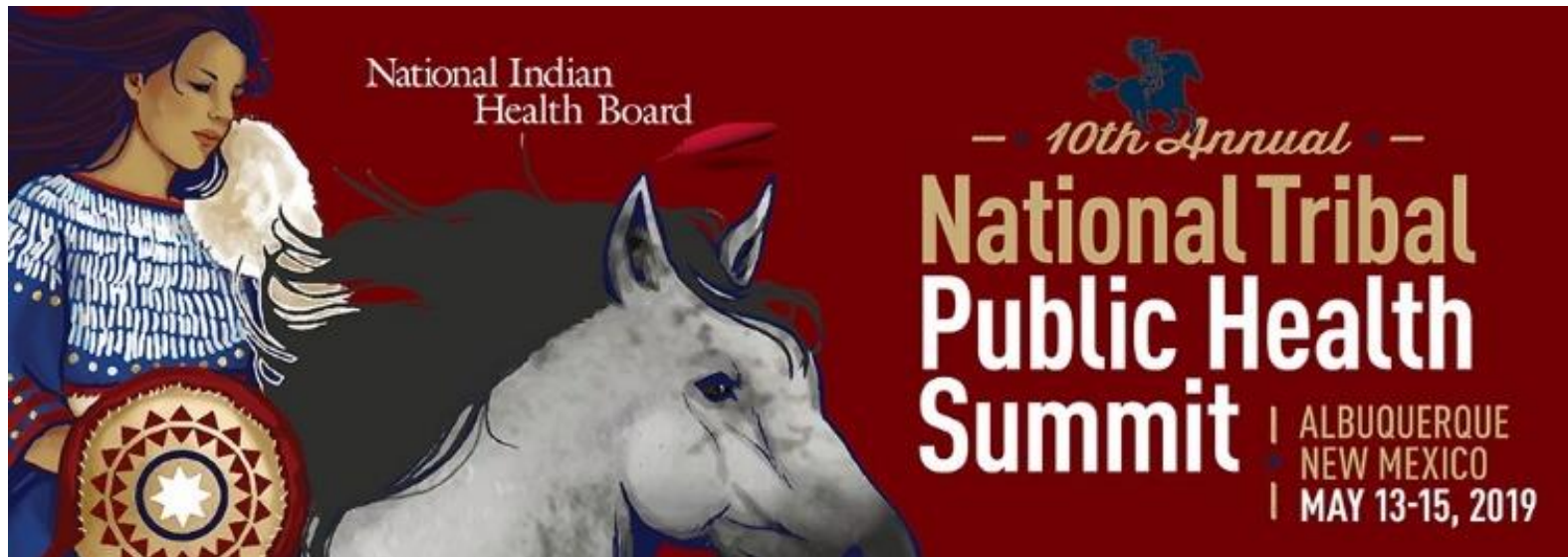
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- Recorded and posted online
- Please keep phone lines muted
- Questions
  - Dedicated times
  - Use the chat box (not Q&A box)
- Survey

# 10<sup>th</sup> Annual Tribal Public Health Summit

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- May 13-15, 2019
- Albuquerque, New Mexico



# Climate Ready Tribes Initiative

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- Host an Environmental Health and Climate Change Track at the NIDDK Annual Tribal Public Health Summit (& presenter scholarships)



# Climate Ready Tribes Initiative

- Share information and resources nationally



**NIHB Resources**

**Sign Up for Email Updates**

For Email Marketing you can trust.

**Articles**

- [Climate Change & Tribes: Exploring Current Impacts and Future Predictions for America's First People, 1/14/19](#)

**Tribal Climate Champions Spotlights**

- [Spotlight on Gila River Indian Community, 1/9/19](#)
- [Spotlight on Blackfeet Nation, 5/29/18](#)
- [Spotlight on Village of Wainwright, 1/10/18](#)
- [Spotlight on Swinomish Indian Tribal Community, 12/1/17](#)

**Webinars**

- **6/12/18**  
Including *Indigenous Health in Climate Change Assessments: Overview of Methods and Results from Swinomish*  
[Read Description](#) | [Watch Recording](#) | [View Slides](#)
- **1/25/18**  
Climate Change and Health in the Arctic: Impacts on Alaska Native Communities and a Spotlight on Efforts to Improve Climate Health  
[Read Description](#) | [Watch Recording](#) | [View Slides](#)
- **7/17/17**  
Climate and Health in Indian Country  
[View Slides](#)
- **4/20/17**  
CDC Climate and Health 101  
[View Slides](#)

**Climate and Health in Indian Country Fact Sheet**

[View Fact Sheet Here](#)

# Climate Ready Tribes Initiative

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- Share information and resources nationally

## New! Climate & Health Learning Community

- Nearly 500 members
- Opportunities to share and learn
  - Webinars (like this one!)
  - In-person event at Tribal Public Health Summit
- NIHB is seeking webinar presenters!

## Next Webinar: April 1<sup>st</sup> – Tribal Health & Climate Change

# Climate Ready Tribes Initiative

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- Provide funding and support for Tribes to conduct local climate and health work



## Awardees Include

### *First cohort*

Blackfeet Nation  
Swinomish Indian Tribal Community  
Village of Wainwright

### *New cohort*

Kaw Nation (mini-award)  
Lummi Nation  
Pala Band of Mission Indians  
Sitka Tribe of Alaska

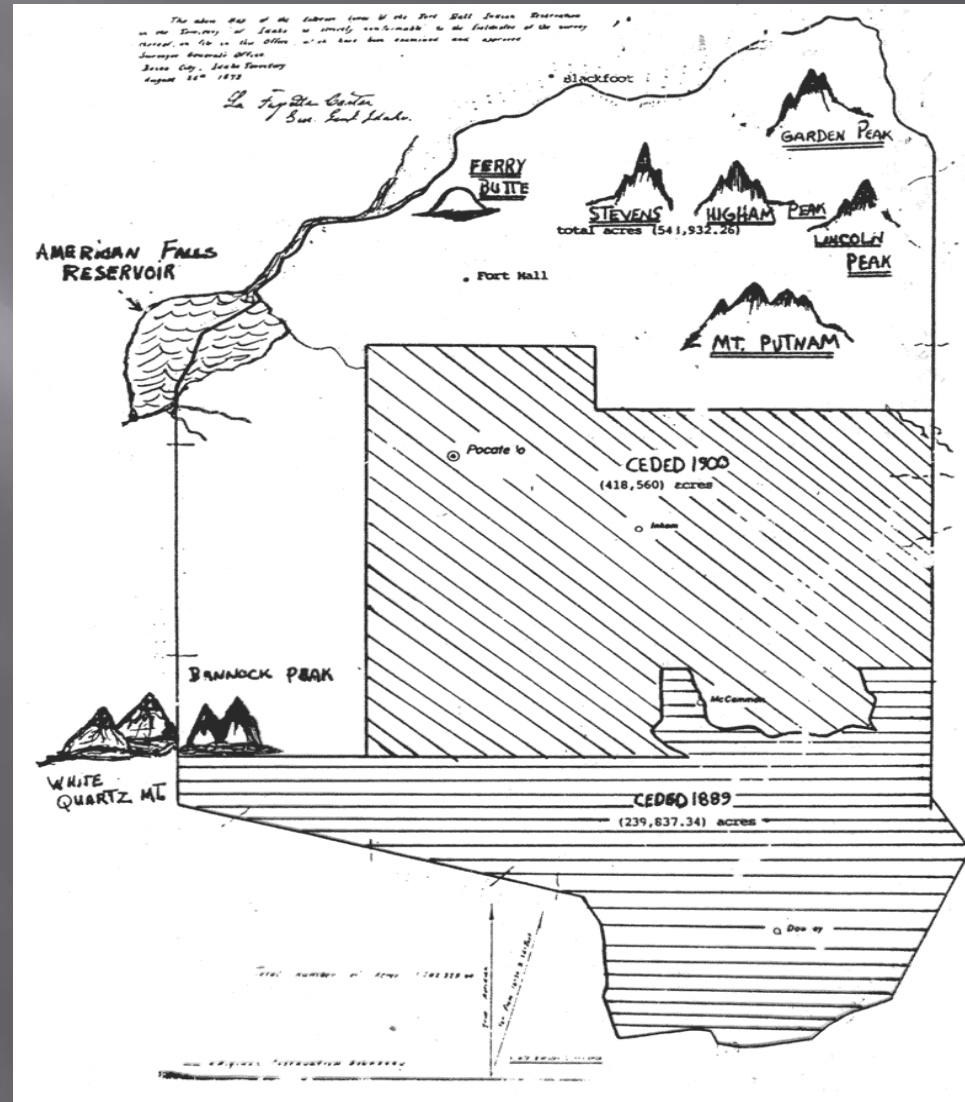


# CLIMATE RESILIENCY ON THE FORT HALL RESERVATION

Daniel Stone, Policy Analyst  
Shoshone-Bannock Tribes

# Fort Hall Reservation

- “Commencing on the south bank of Snake River at the junction of the Port Neuf River with said Snake River; then south 25 miles to the summit of the mountains dividing the waters of Bear River from those of Snake River; thence easterly along the summit of said range of mountains 70 miles to a point where Sublette road crosses said divide; thence north about 50 miles to Blackfoot River; thence down said stream to its junction with Snake River; thence down Snake River to the place of beginning,” embracing about 1,800,000 acres, and comprehending Fort Hall on the Snake River within its limits.



# The Policy of the Shoshone-Bannock Tribes for Management of the Snake River Basin Resources



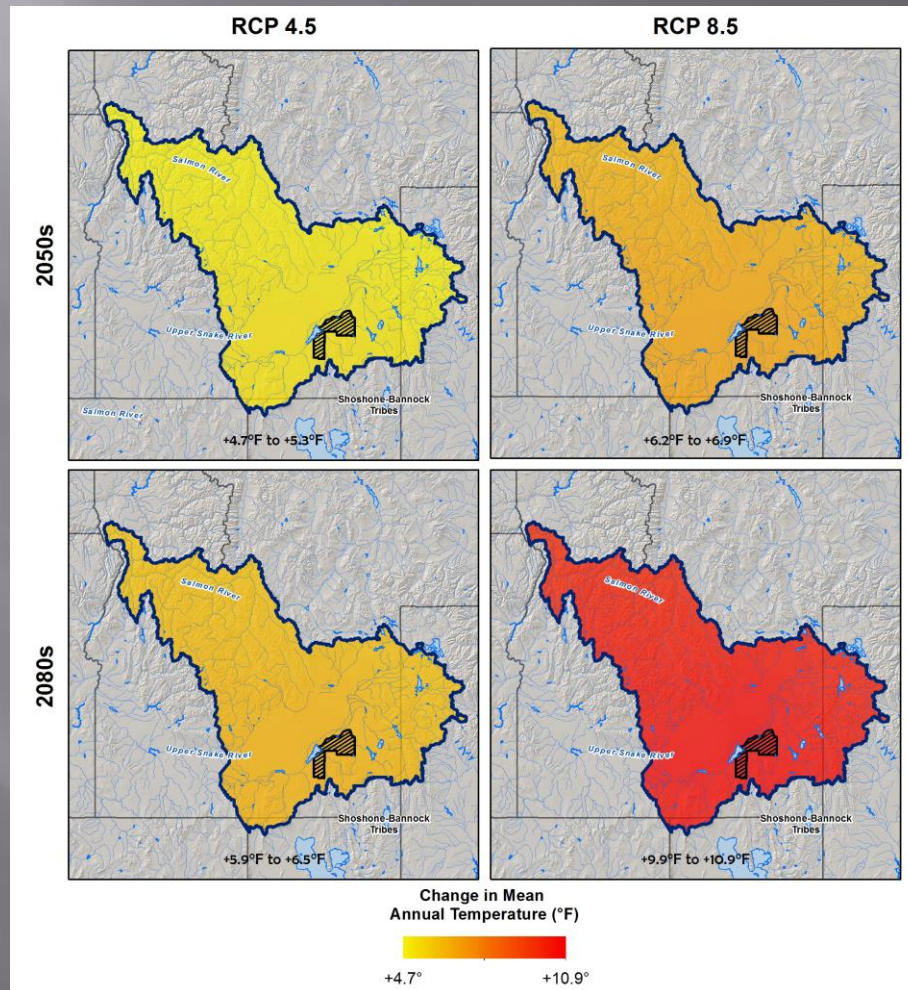
*The Shoshone-Bannock Tribes (Tribes) will pursue, promote, and where necessary, initiate efforts to restore the Snake River system and affected unoccupied lands to a natural condition. This includes the restoration of component resources to conditions which most closely represent the ecological features associated with a natural riverine ecosystem. In addition, the Tribes will work to ensure the protection, preservation, and where appropriate, the enhancement of Rights reserved by the Tribes under the Fort Bridger Treaty of 1868 and any inherent aboriginal rights.*

# Stewardship in a Changing Climate

- ▣ The growing consensus is that virtually every species in our biosphere will be faced with challenges at an unprecedented rate.
  - Most protected species will face immediate risk of near-term extinction by the mid-century (or sooner)
- ▣ The Tribes encourage every resource manager to take their position seriously in the face of this new challenge.
  - Each management decision carries consequences, but the effect of those consequences will be amplified if the species becomes conservation reliant.



# Temperature Projections



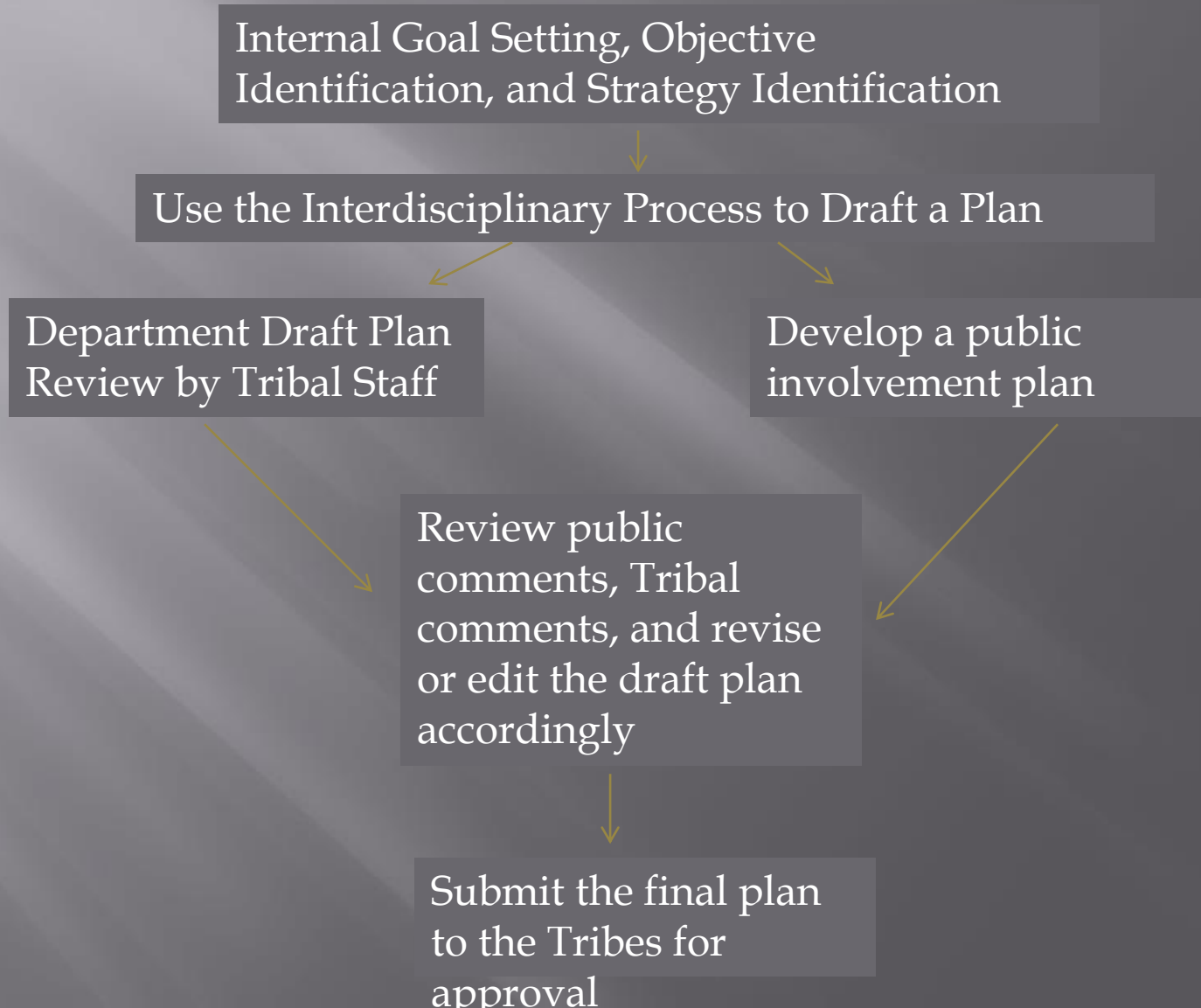
# What this means for forest health

- ▣ *The mixed conifer forests found within the Upper Snake River Watershed are sensitive to warming temperatures, as reduced soil moisture availability may negatively affect more drought-sensitive species, leading to shifts in species composition and habitat structure. These forests are also sensitive to the indirect effects of climate change; for example, declining snowpack and warming air temperatures are likely to increase the likelihood of stand-replacing fires and insect outbreaks (e.g., bark beetle and western spruce budworm).*

# What this means for watersheds

- ▣ Headwater streams and healthy forests sustain both agriculture and residential uses on the Fort Hall Reservation.
  - Frequent wildfires have the potential to impact Tribal communities' use of the lands.
- ▣ Flooding events due to disturbed soils remain a threat to Tribal communities.

# Integrated Planning Process





# Tribal Forestry Program





*For us to realize a better future that includes ecosystem health intricately linked to our own well-being as stewards, we must strive to understand our own unique perspectives and promote a sustainable lifestyle. In order for my son to replicate a moment, that my father and his father offered their sons, we must succeed today. This is only possible if we take the opportunity to work with one another.*



**Thank you for participating!**

*On behalf of the Shoshone-Bannock Tribes' and our membership.*







# Promoting Human Health by Building Adaptive Capacity to Climate Change

A project funded by the National Indian Health Board and led by Gerald Wagner of Blackfeet Environmental Office, in partnership Libby Khumalo from the Center for Large Landscape Conservation Photo: Kim Paul



# Climate Change and Health

A series of 10 handouts to promote a healthy Blackfeet community in a changing climate





# The Blackfeet Nation and Climate Change

Many members of the Blackfeet Nation understand that as the climate changes, so does human health.

The focus of our discussion will be on air quality, water-borne illnesses, and Extreme weather events

Our goal of the Blackfeet Nation is to protect and prepare our people on how to adapt to their changing environment.

Out of the human health sector we observed ten sectors in which we prioritized



# **Ten sectors Out of the human health sector**

- 1. Extreme weather**
- 2. Cancer**
- 3. Mental health and well-being**
- 4. Human development**
- 5. Heat-related illnesses**

- 1. Water-related illnesses**
- 2. Vector-borne diseases**
- 3. Neurological diseases and disorders**
- 4. Air quality**
- 5. Food safety, nutrition and distribution**

# Air Quality

Changing climate is impacting air quality, increasing wildfires with more frequent intense air pollution

Most vulnerable members

- Elders
- Children
- Pregnant woman





# Extreme weather





# Extreme Weather Events and Climate Change

Climate change is increasing the frequency of flooding, wildfires, drought, heat waves, cold waves, and heavy snows. Extreme weather events like these can result in injury, illness, and death. Health risks can occur during an event, and also in the processes of disaster preparation and clean-up.

Extreme events often disrupt power, water supply, transportation, and communication systems, making it difficult to maintain medical access and emergency response services. Extreme events like heavy snow can trigger cascading failure (when one failure triggers another failure which triggers another failure, and so on). For example, heavy snow might cause power outages, making it difficult for people to stay warm, and it might also slow or block vehicle travel, making it hard to reach people who lost heat, which could then trigger medical emergencies.

Extreme events like flooding can contaminate food and water supplies with chemicals (e.g. PCBs, fire retardants, pesticides, herbicides), heavy metals (e.g. mercury and cadmium), and pharmaceuticals (e.g. synthetic hormones, antibiotics).

Impacts to mental health from extreme events can include stress, grief, and a sense of loss, as well as clinical disorders like depression, anxiety, and post-traumatic stress disorder.



Sweat lodge spring 2019



# Water quality



## Water-Related Illnesses and Climate Change

For more information visit [blackfeetclimatechange.com](http://blackfeetclimatechange.com)

Climate change is increasing precipitation and snowmelt in late winter and early spring, increasing run-off and flood risk. Increased precipitation, heavy rainfall, and flooding are linked to outbreaks of waterborne disease. Exposure to pathogens like norovirus, rotavirus, adenovirus, *Salmonella*, *E. coli*, *Cryptosporidium*, and *Giardia* are expected to increase. Increased run-off may expose more people to contaminants like heavy metals, herbicides, and pesticides as they move into freshwater systems used for drinking and recreation. As flood risk increases, so does the risk of storm surges that can contaminate water and food supplies, especially when storms hit aging water and sewage treatment facilities. Droughts can also pose problems with water treatment by increasing concentrations of pathogens in effluent (discharged sewage).

Sewer lagoons on next slide



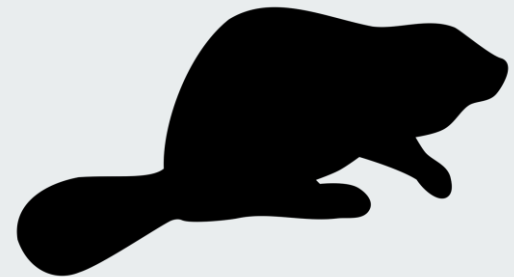




# The Ksik Stakii Project

Increasing natural water storage while  
protecting beavers in the Blackfeet Nation

**Jacob LeVitus** - *Big Sky Watershed Corps Member*  
*Blackfeet Nation Fish & Wildlife*  
*The Center for Large Landscape Conservation*



**BLACKFEET  
RESERVATION**

Kalispell

**FLATHEAD  
RESERVATION**

Missoula

**ROCKY BOY  
RESERVATION**

Great Falls

**LITTLE  
SHELL**

Helena

Butte

Bozeman

**CROW  
RESERVATION**

Havre

**FORT BELKNAP  
RESERVATION**

Billings

Glasgow

**FORT PECK  
RESERVATION**

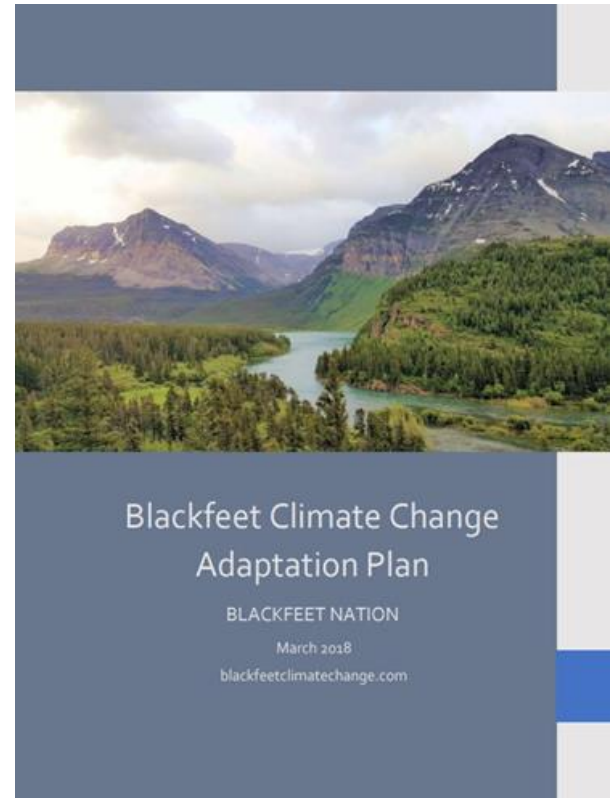
Miles City

**NORTHERN CHEYENNE  
RESERVATION**



# What makes the Ksik Stakii project unique?

- Blackfeet Climate Change Adaptation Plan
- Cultural significance to the Piikani people
- Pilot demonstration project
- Blackfeet Community College Native Science Fellows
- Collaboration between multiple partners:



# Native Science Field Center Program

- Blackfeet Community College program
- Culturally-informed science educational field activities
- High school and college STEM students



Photos by Libby Khumalo



# Beaver Mimicry

- Local, natural materials
- Increases groundwater storage
- Reconnects stream to floodplain
- Encourages increased biodiversity



Photos by Jacob LeVitus



# Nonlethal Beaver Management

- Beaver activity can cause challenges...
- Flooding properties, damming culverts, unwanted tree removal
- Trap-free management strategy



Photos by Jacob LeVitus



# Pond Leveler

8/08/2018



8/17/2018



8/31/2018



8/20/2018



Photos by Jacob LeVitus and Jamie Faselt



# Tree Fencing



Photos by Jacob LeVitus, Libby Khumalo, and Katie Behme

**Spiritual health**  
**Emotional**  
**Physical**  
**Mental well-being**



# Questions?



The Beaver Pond Tray - Cobble Hill Puzzle Company

 The Ksik Stakii Project

[www.blackfeetclimatechange.com/ksik-stakii](http://www.blackfeetclimatechange.com/ksik-stakii)



# National Indian Health Board



## Questions and Discussion

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TO ENTER A QUESTION, PLEASE USE THE CHAT  
BOX, NOT THE Q&A BOX

PLEASE SEND TO ALL PANELISTS

# National Indian Health Board



## Thank you!

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PLEASE BE SURE TO COMPLETE SURVEY