



USFWS Climate Change Efforts

2010 PNW CESU
Annual Meeting
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Stephen Zylstra, PhD.
Regional Landscape Conservation Manager
Pacific Region – Science Applications Program



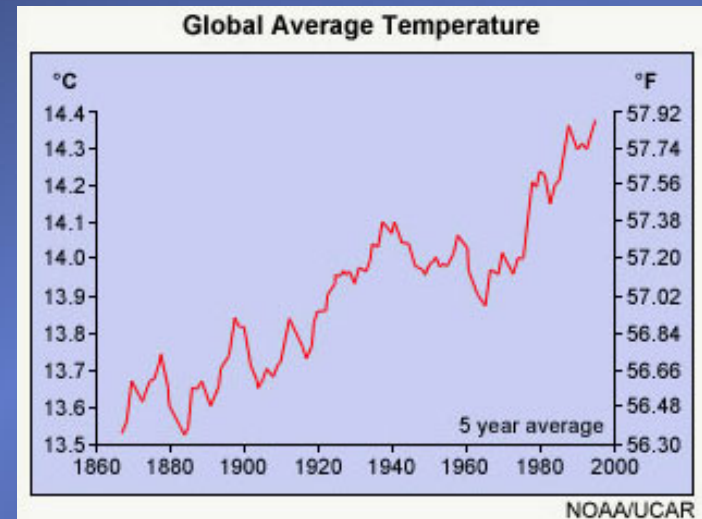
SPECIAL REPORT GLOBAL WARMING

TIME

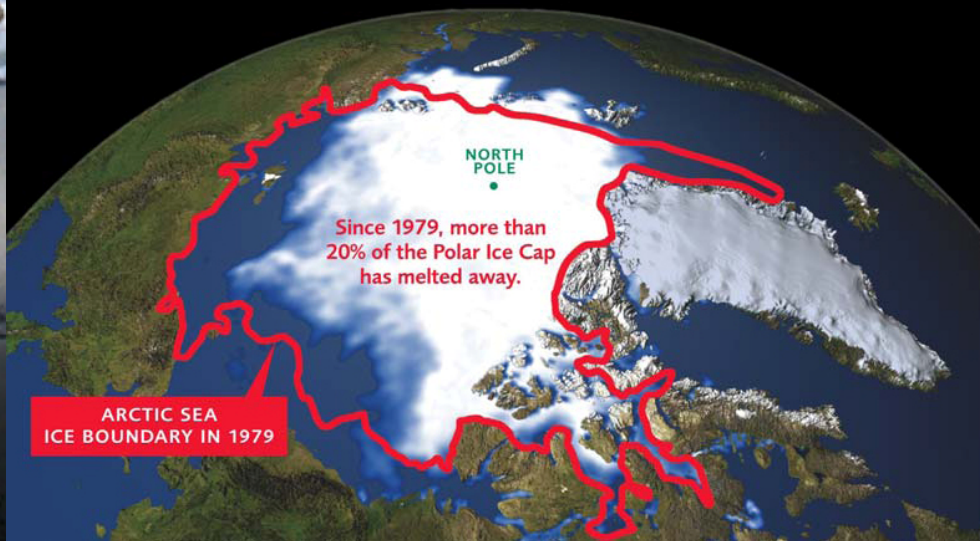
BE WORRIED. BE **VERY** WORRIED.

Climate change isn't some vague future problem—it's already damaging the planet at an alarming pace. Here's how it affects you, your kids and their kids as well

- EARTH AT THE **TIPPING POINT**
- HOW IT THREATENS YOUR **HEALTH**
- HOW **CHINA & INDIA** CAN HELP SAVE THE WORLD—OR DESTROY IT
- THE CLIMATE **CRUSADERS**



Rapidly Melting Sea Ice

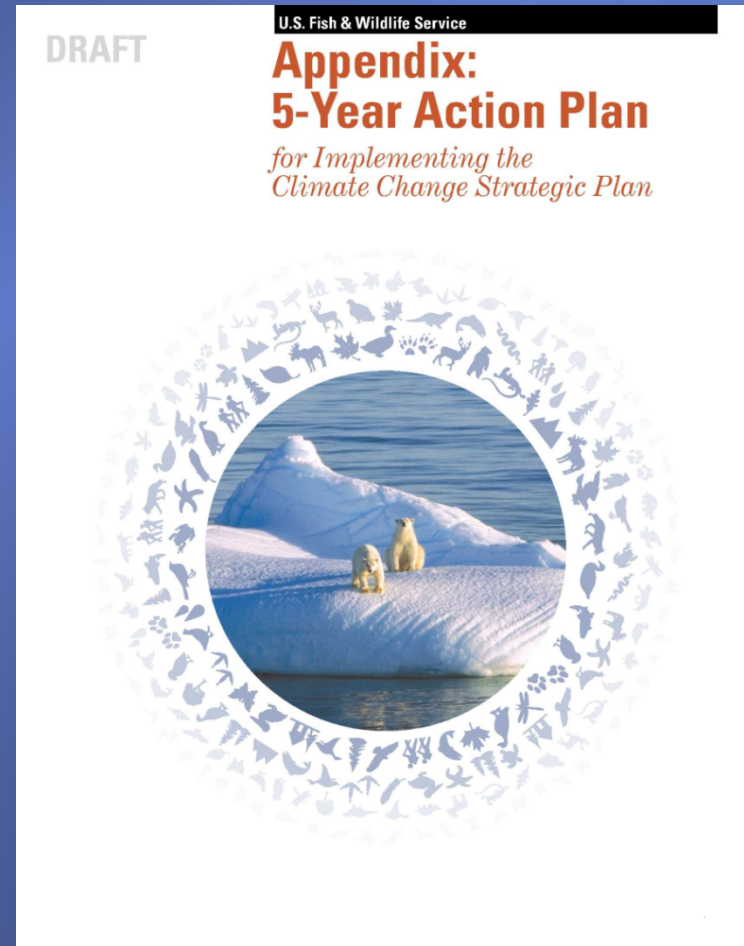


Major Climate Change Effects

- Extreme weather patterns (wetter/drier)
- Decreased snow pack
- Water cycles altered (early spring, temp increase)
- More frequent and intense wildfires
- Range shifts in ecosystems/habitats
- Invasive species outbreaks
- Sea level rise (habitat loss, flooding)
- Ocean acidification



USFWS Climate Change Strategic Plan



<http://www.fws.gov/home/climatechange/>
comment period ended November 30



Climate Change Strategic Plan

- Focused in three areas
 - Adaptation – reduce impacts
 - Mitigation – reduce levels of greenhouse gases
 - Engagement – reaching out
- Identifies priority strategies and actions
- Adopts SHC or landscape conservation approach
- Introduces concept of Landscape Conservation Cooperatives
- National and Regional Climate Teams
- Science Applications Program



Landscape Conservation Cooperatives

- Applied science partnership focused on a defined geographic area
- Provide scientific and technical expertise to understand climate change and other major system stressors
- Serve as a national network for shared science capacity to support natural resource managers
- Inform strategic efforts at landscape scales to be used in conservation planning and delivery



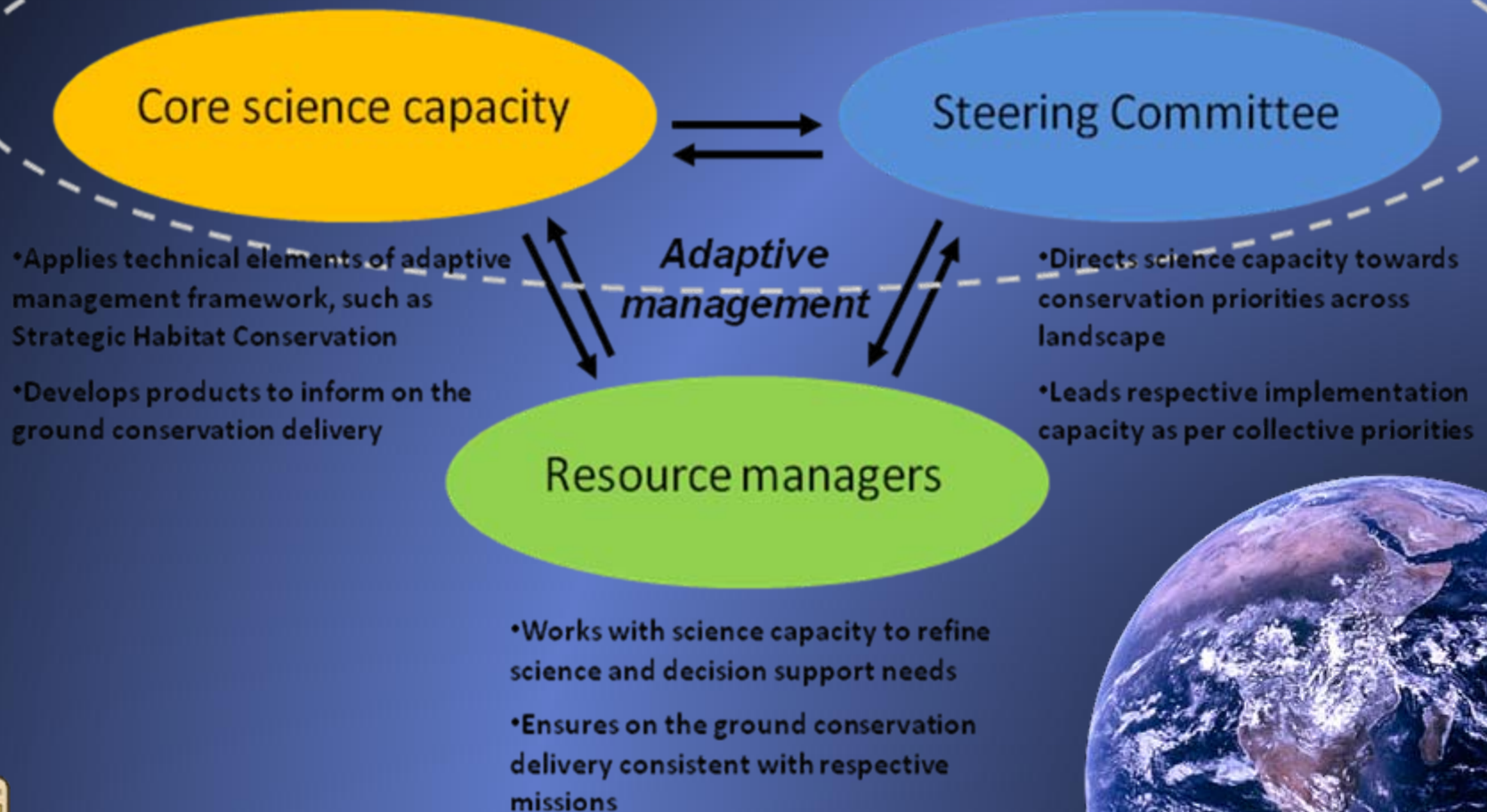
Preliminary LCC Concepts

- Science partnerships within a geographic area
 - State, Provincial, and Federal agencies, Tribes, NGOs, Universities
- Rely on and support existing partnerships
- Guided by a Steering Committee
 - Provide management direction and identify priorities
- LCC Coordinator/Science Coordinator
- Shared science capacity
 - Science, technology, data management
- All species and all habitats
- Leverage funding and expertise
- Link science with natural resource managers' needs



LCC Process

Landscape Conservation Cooperative



Science Capacity

- DOI Climate Science Center (PNW)
- USGS Science Centers (FRESC and NoRock)
- USFS - PNW Research Station/WWETAC
- NOAA Climate Service
- University of Washington Climate Impacts Group (CIG)
- Oregon Climate Change Research Institute (OCCRI)
 - Regional Integrated Science and Assessments (RISA) for the Northwest
- 5-year grant to Idaho Universities
 - National Science Foundation - EPSCoR
- Pacific Institute for Climate Solutions in British Columbia



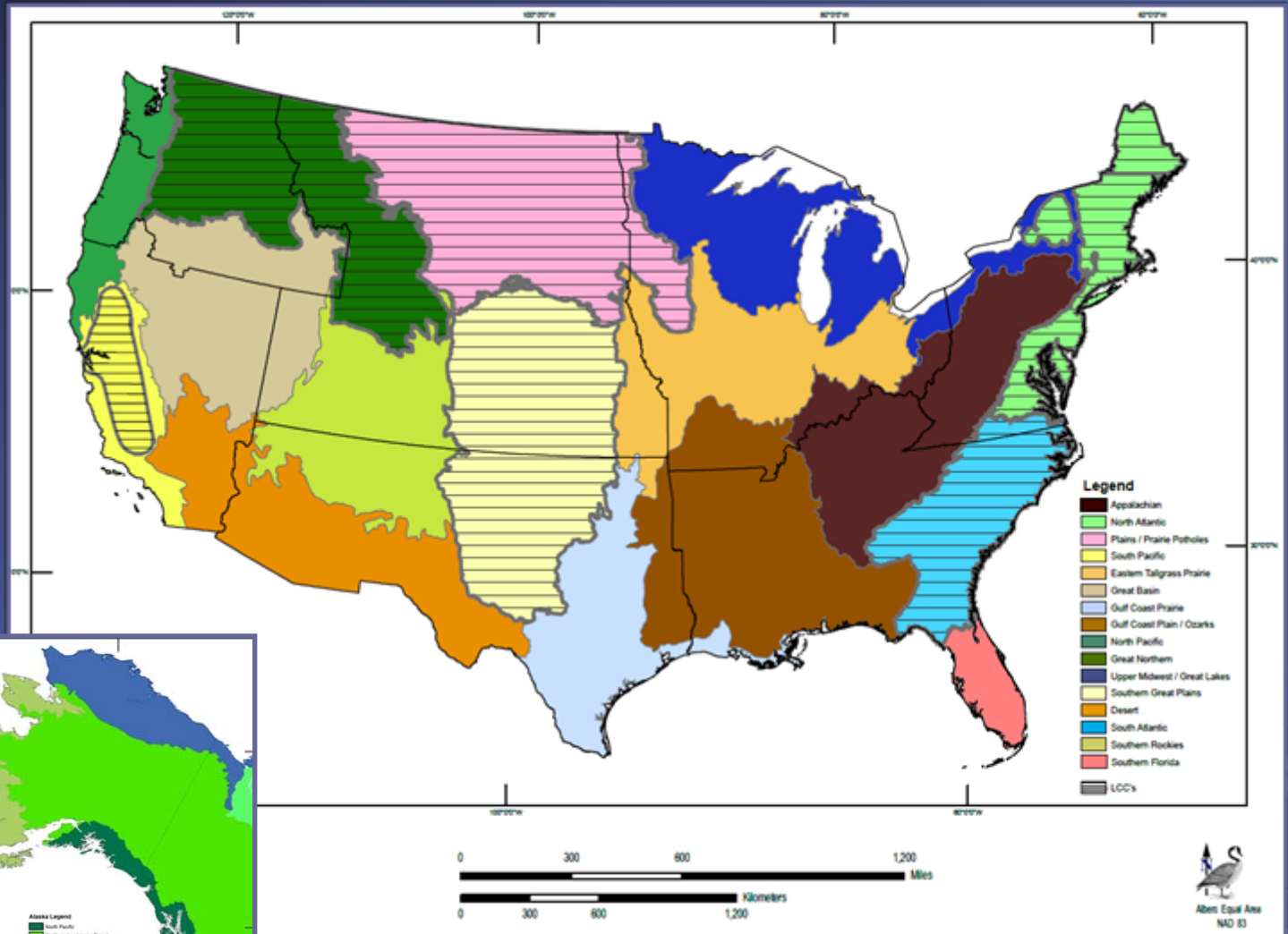
What will LCCs Do?

- Identify and address scientific information needs
- Facilitate better understanding of habitat response and species distribution to ecological process changes
- Inform landscape-scale conservation and management decisions
- Forum for sharing information and resources



LCC Geographic Framework

- 22 LCCs
- 8 initiated in FY2010



Alaska Equal Area
NO ID

Potential LCC Outcomes

- Maps of sensitive species and habitats
- Down-scaling of regional climate change models to local communities/populations
- Potential range shifts of native and invasive species
- Vulnerability assessments for species and habitats
- Potential refugia and priorities for land acquisition
- Potential corridors linking present and future habitat
- Convergence of climate and non-climate stressors
- Inventory and monitoring strategies
- Data sharing



Pacific Region LCCs

FY2010

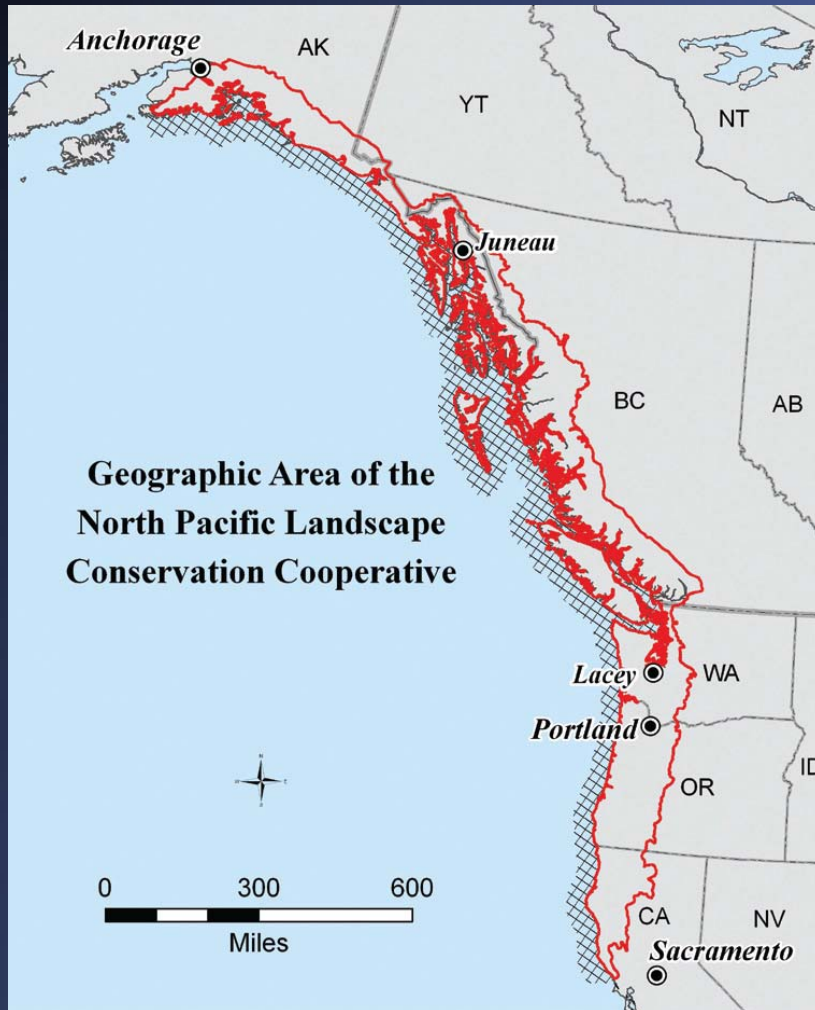
- Pacific Islands
- Great Northern

FY2011

- North Pacific
- Great Basin



North Pacific LCC



Includes:

Alaska
Washington
Oregon
California
British Columbia

- Extends over 2,200 mi. (3,500 km) from north to south
- Approx. 204,000 sq. mi. (530,000 sq. km.)
- Ocean boundary not defined



North Pacific LCC

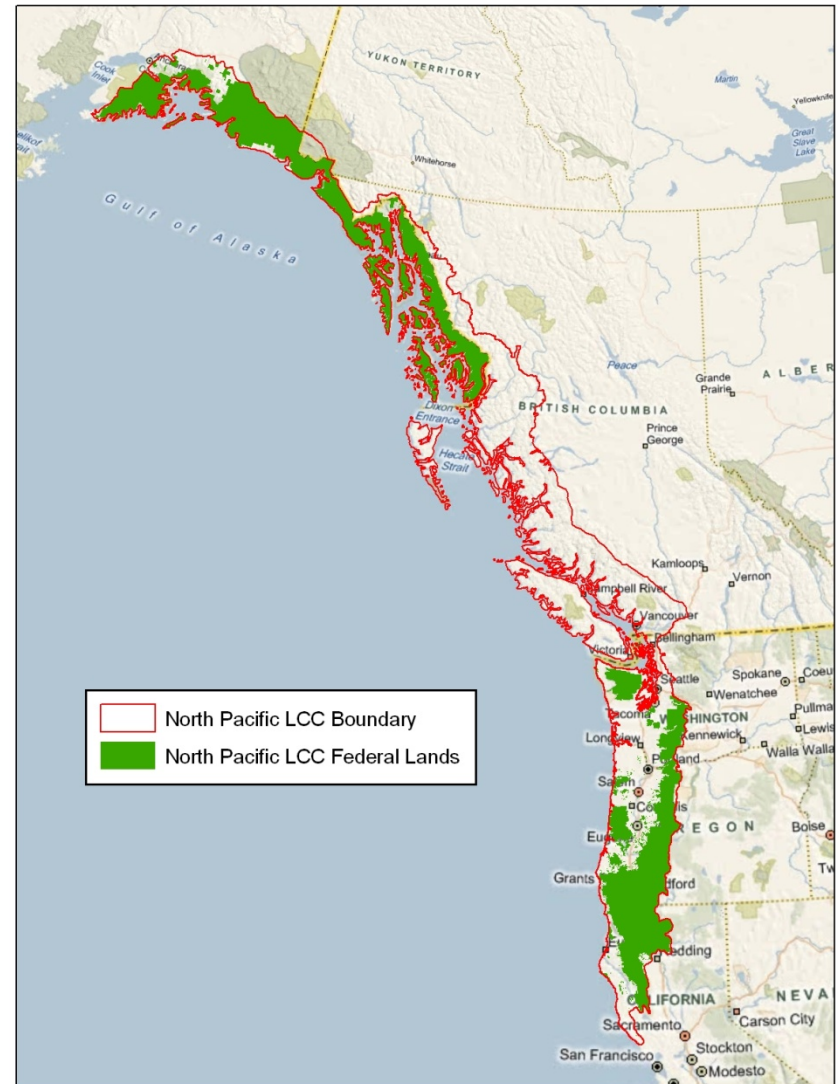
Protected Lands

Identified on Map:

- Over 82,000 sq. miles (approx. 213,000 sq. km) of U.S. Federal lands

Not Shown on Map:

- Additional State, Provincial, Canadian Federal, Tribal, and NGO lands



Northern Pacific LCC

- Early initiation in FY2010
- Potential Partners
 - U.S. State and Federal Agencies
 - Canada Federal and Provincial Agencies
 - Tribes, First Nations
 - NGOs (e.g., TNC, NWF, Defenders)
 - Partnerships (e.g., PCJV, PSP)



Northern Pacific LCC – Next Steps



- Webinars in May
- Additional dialog with partners
- Meeting with State wildlife agencies
- Summer planning meetings with all potential partners
- Identifying management or conservation questions
- Identifying science needs
- Planning Information **gap analysis**



Summary

- Climate change is greatest challenge in the history of conservation
- Primary function of LCCs is providing and sharing science support for resource managers
- CESU can support science capacity needs

