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Shared solutions to protect shared values

Photos: Chase Fountain, James Jordan, George Andrejko

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A Partnership of U.S. Federal, State and Tribal Fish and Wildlife Agencies
with support from the
Association of Fish & Wildlife Agencies

www.wildlifeadaptationstrategy.gov

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Today's Conversation

- CC Adaptation Planning Context and NFWPCAS
- Strategy Implementation and LCCs
  - From Framework to Blueprints
  - What CC Does to the National Habitat System
  - Opportunities for LCCs
- Questions/Discussion

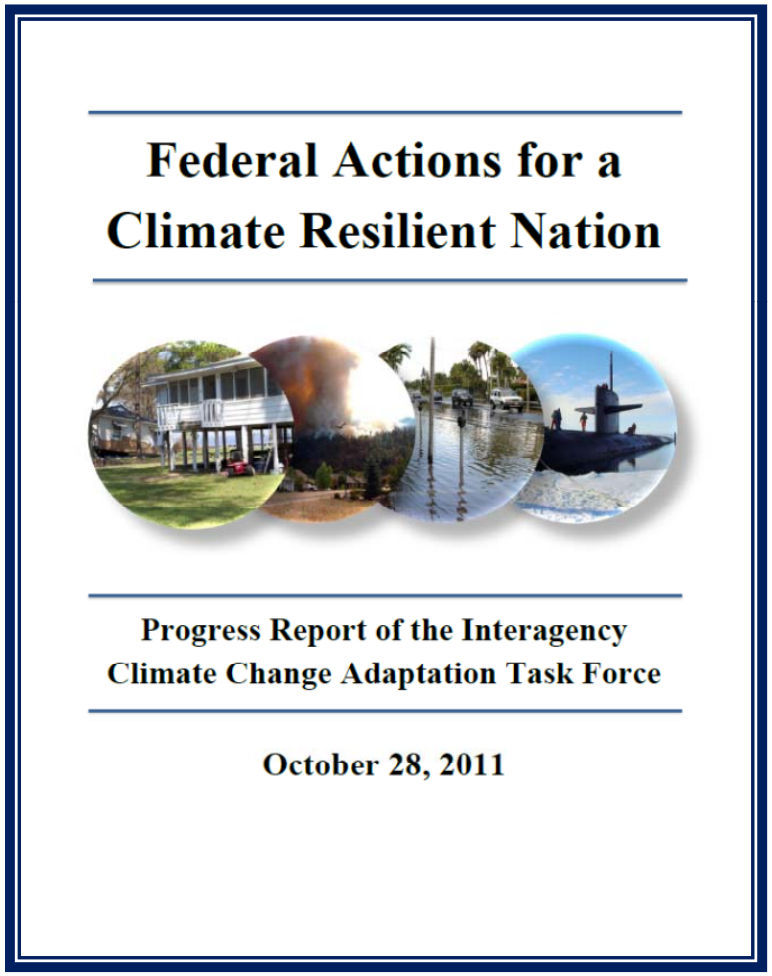
How is the Federal Government adapting to climate change?

Interagency Climate Change Task Force

- Active engagement of over 20 Federal organizations
- Implementing recommendations to minimize climate risks
- Coordination, exchange of best-practices
- Reporting on progress

Report: Federal Actions for a Climate Resilient Nation

- Progress Report of the Interagency Climate Change Adaptation Task Force, released on October 28th, 2011
- This report highlights progress towards implementing recommendations in the October 2010 Progress Report of the Interagency Climate Change Adaptation Task Force

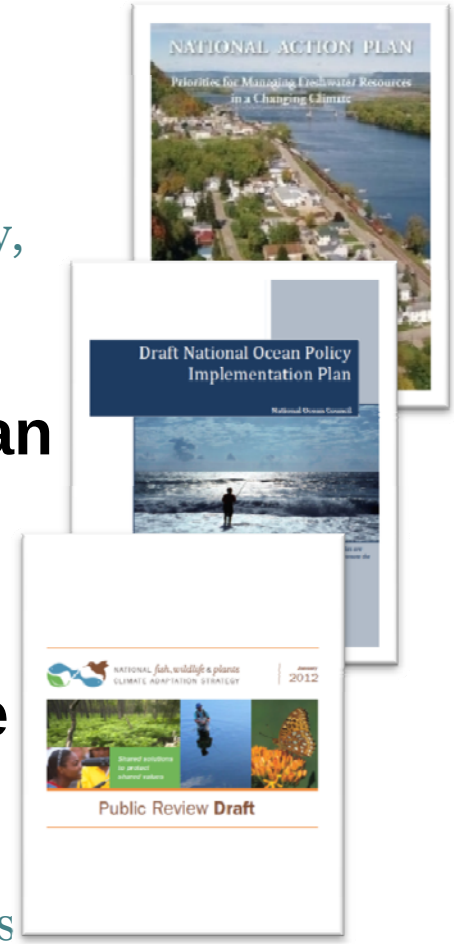


Crosscutting National Strategies

1. **National Action Plan for Freshwater Resources**
   - Assure adequate water supplies and protect water quality, human health, property, and aquatic ecosystems

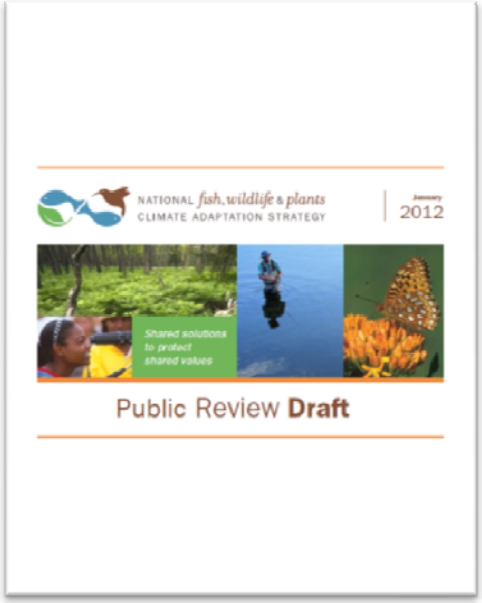
2. **National Ocean Policy Implementation Plan**
   - Includes a priority objective on Resiliency and Adaptation to Climate Change and Ocean Acidification

3. **National Fish, Wildlife, and Plants Climate Adaptation Strategy**
   - Provides a unified approach for reducing the negative impacts of climate change on species and natural systems



National Fish, Wildlife and Plants Climate Adaptation Strategy

- Request in 2009 Interior Appropriations Conference Report, endorsed in 2010 by the Task Force
- Led by U.S. Fish and Wildlife Service, CEQ, and NOAA, partnering with state wildlife agencies and tribes
- Draft released for public comment in January 2012
  - Focuses on preparing for and reducing the most serious impacts of climate change on fish, wildlife, and plants
  - Identifies major goals and outlines more specific strategies and actions needed to attain them
- Final will be published in mid-2012
- Will be implemented through a joint effort across federal, state and tribal agencies with jurisdiction over fish, wildlife and plant populations and habitat



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Strategy Goals

1. Conserve and connect habitat
2. Manage species and habitats with CC in mind
3. Enhance management capacity to deal with CC
4. Support adaptive management
5. Increase knowledge and information on CC
6. Increase awareness and motivate action
7. Reduce non-climate stressors

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Strategy Implementation

- Five to ten-year bites
- Agencies and partners integrate *Strategy* in their own plans and actions
  - LCCs, JVs, other regional collaboratives
  - State Wildlife Action Plans
- Federal Agencies integrate *Strategy* in EO 13514 adaptation plans

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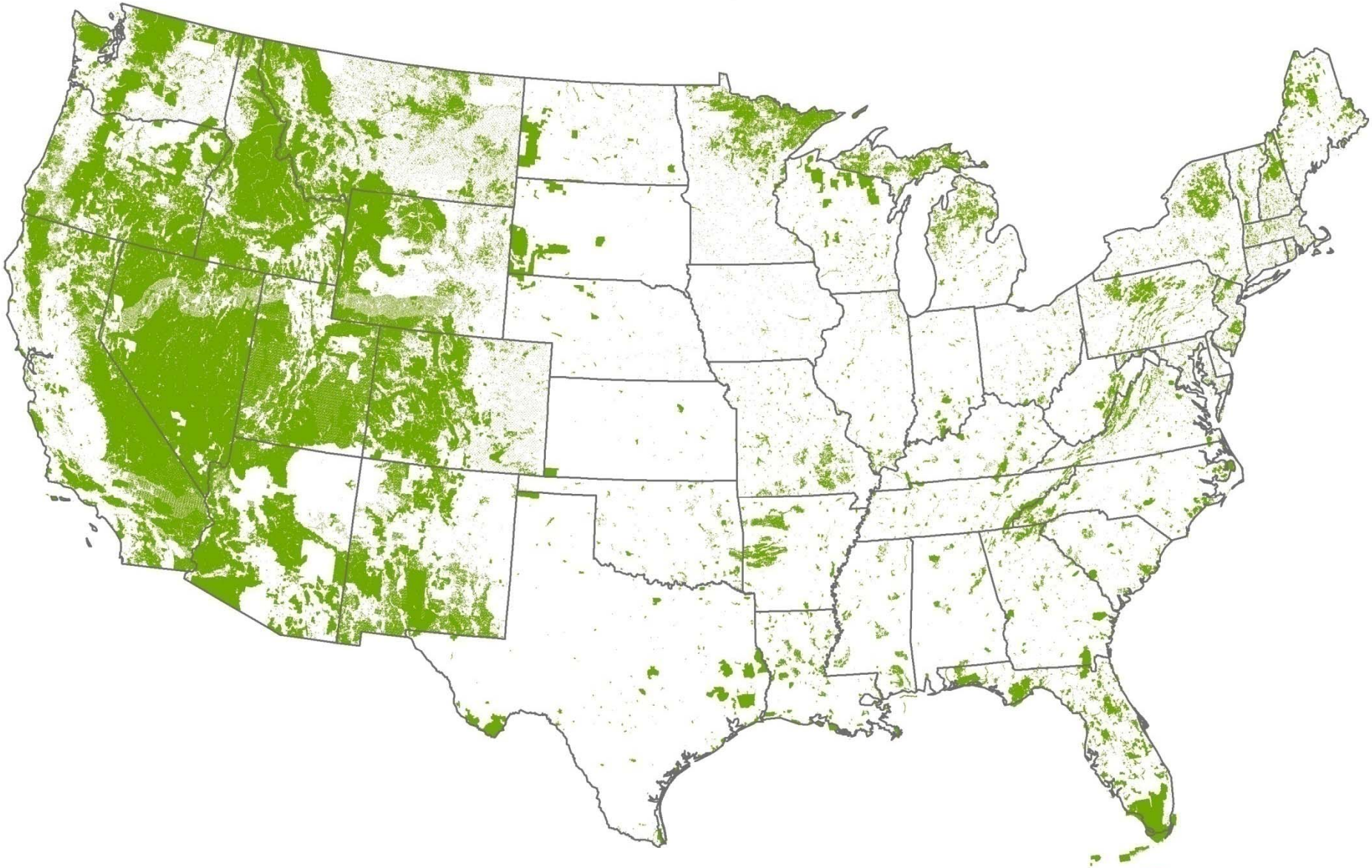
Strategy Implementation (cont.)

- Federal, State, and Tribal coordinating body
  - Promote use of *Strategy*
  - Report on progress
  - Guide revision (every four years)
  - Engage conservation partners, natural resource industries, and private landowners

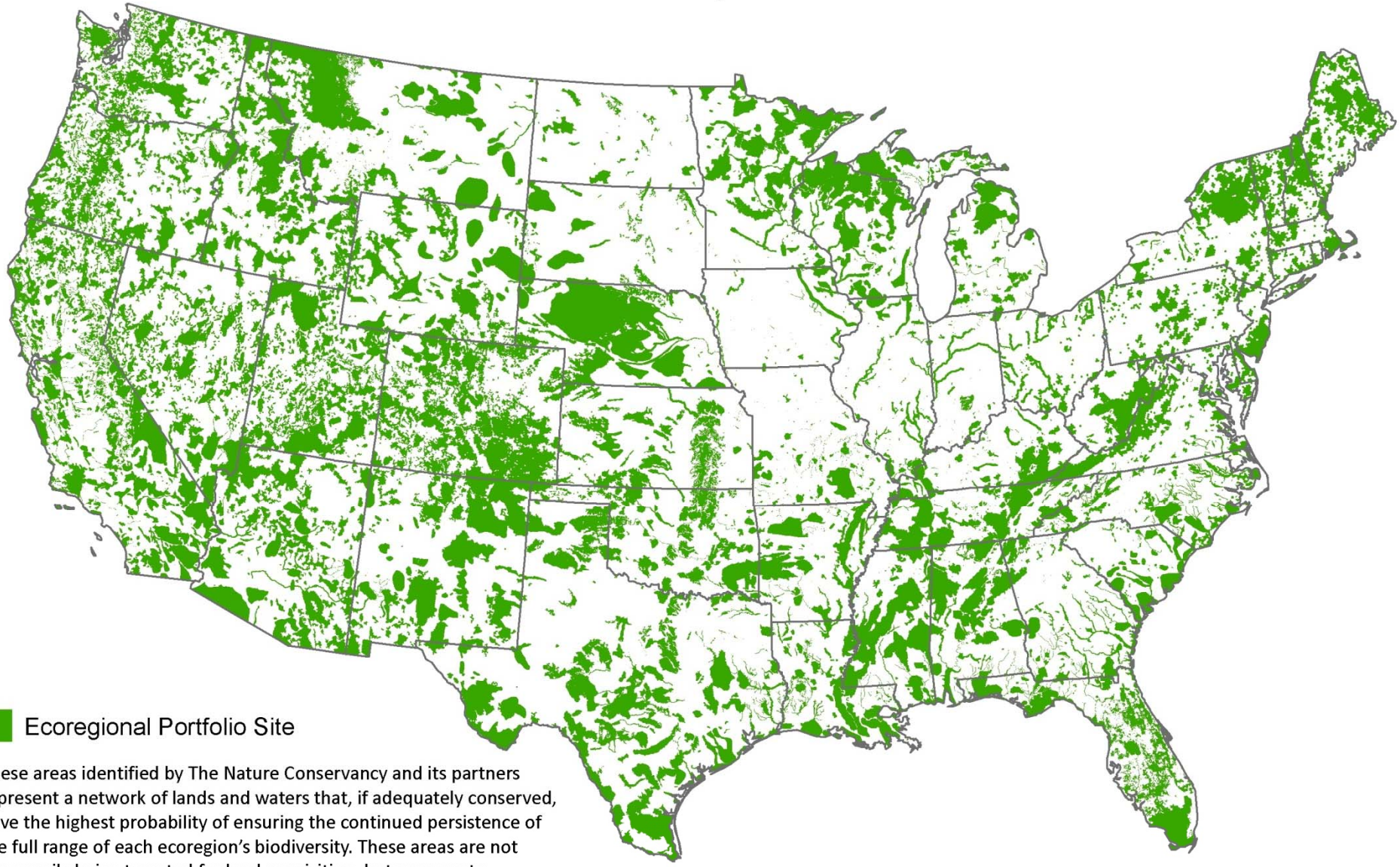
Protected Areas of the Lower 48 States (GAP 1-3)
DRAFT -- May 2009



LandScope America

The Nature Conservancy Ecoregional Portfolio for the Lower 48 States

DRAFT -- April 2009



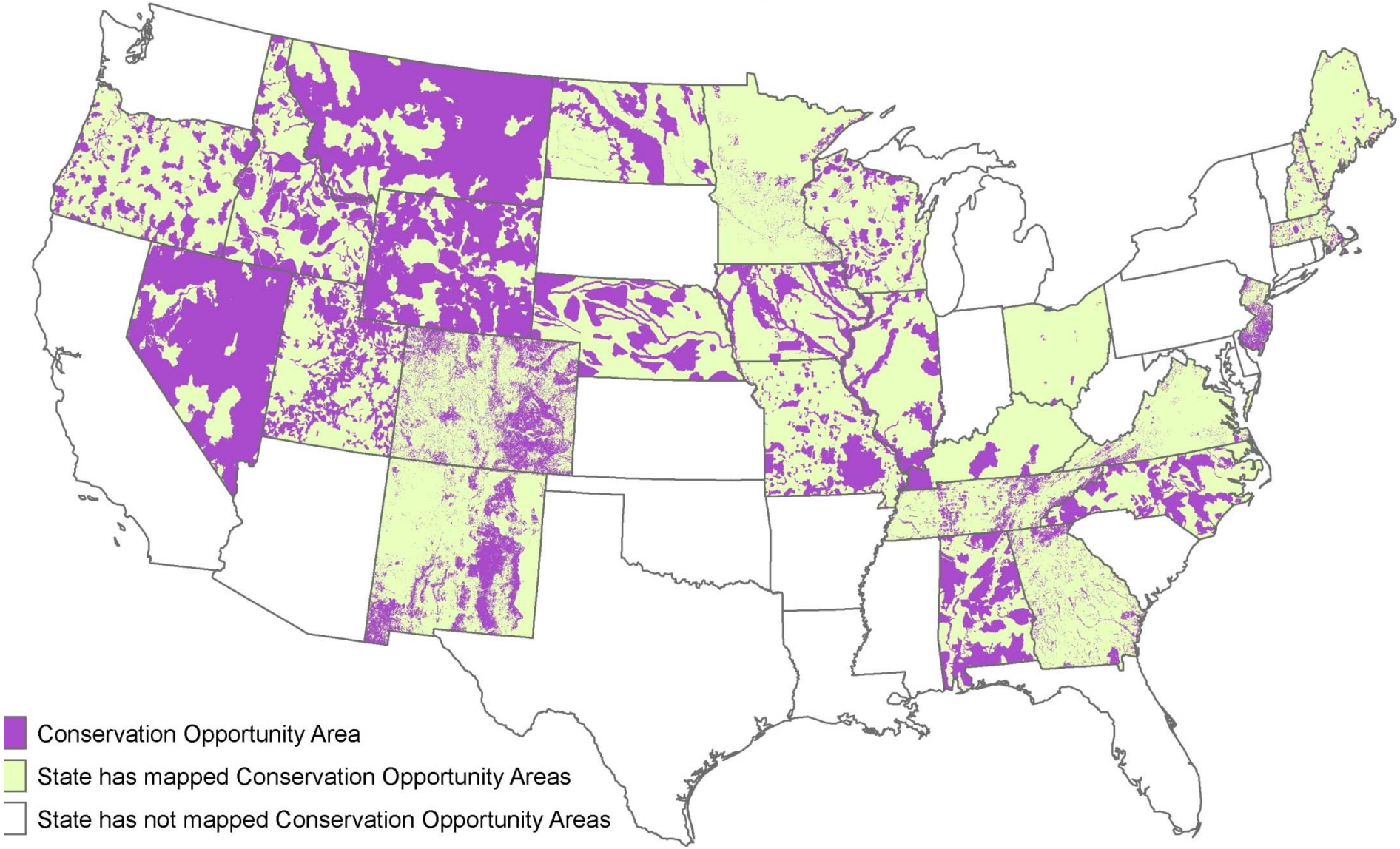
Ecoregional Portfolio Site

These areas identified by The Nature Conservancy and its partners represent a network of lands and waters that, if adequately conserved, have the highest probability of ensuring the continued persistence of the full range of each ecoregion's biodiversity. These areas are not necessarily being targeted for land acquisition, but represent a scientific assessment and vision for where to conserve the native plants, animals, and natural communities of each ecoregion most efficiently and effectively.

LandScope America

Identified State CWCS Conservation Opportunity Areas for the Lower 48 States

DRAFT -- May 2009

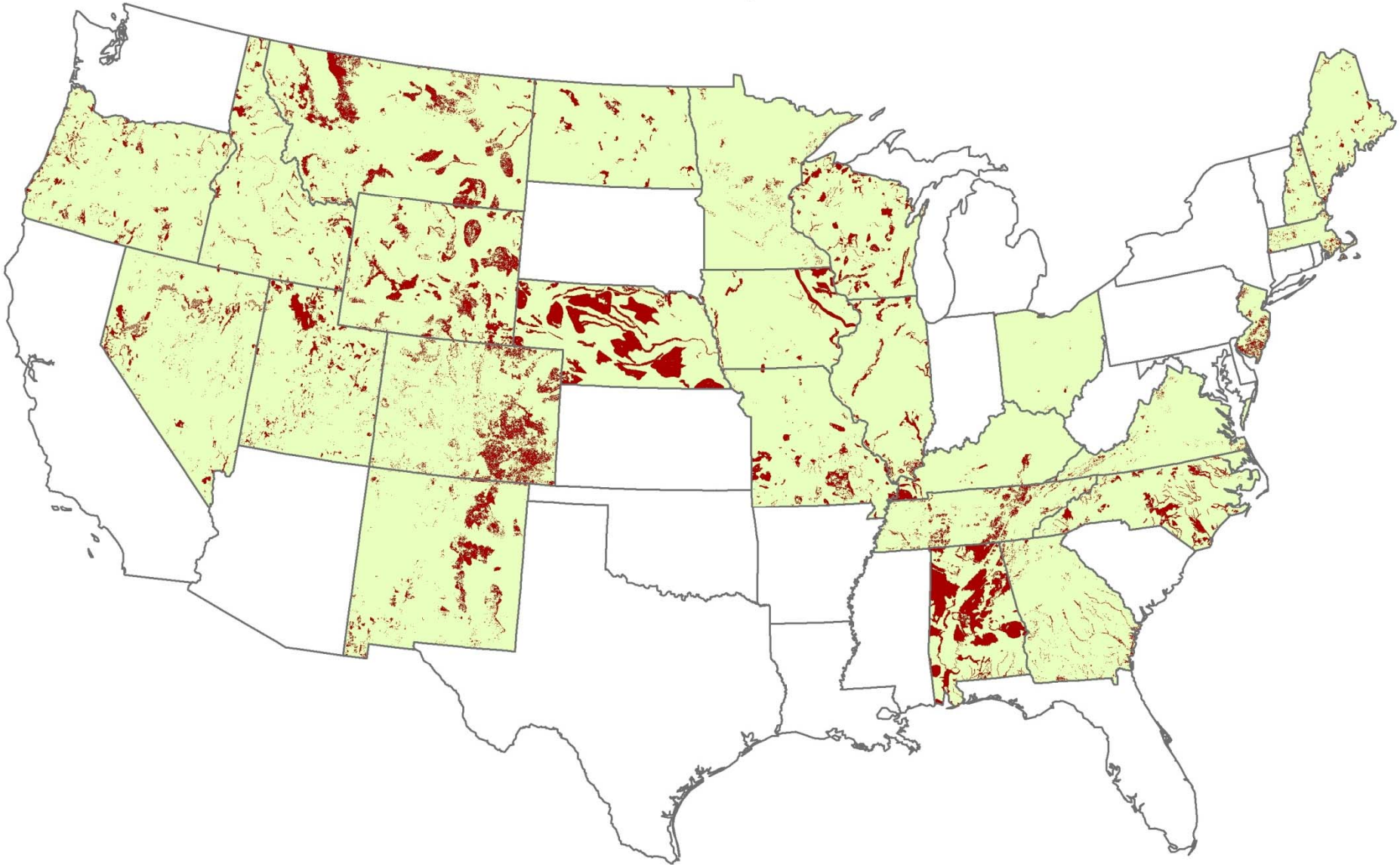


lote:
lew Mexico scored all areas of the state along a continuous
cale rather than defining discrete conservation opportunity areas.
his map depicts only the highest scoring areas (scores 12-16).

LandScope America

Unprotected Areas Identified by both SWAP and TNC

DRAFT -- May 2009



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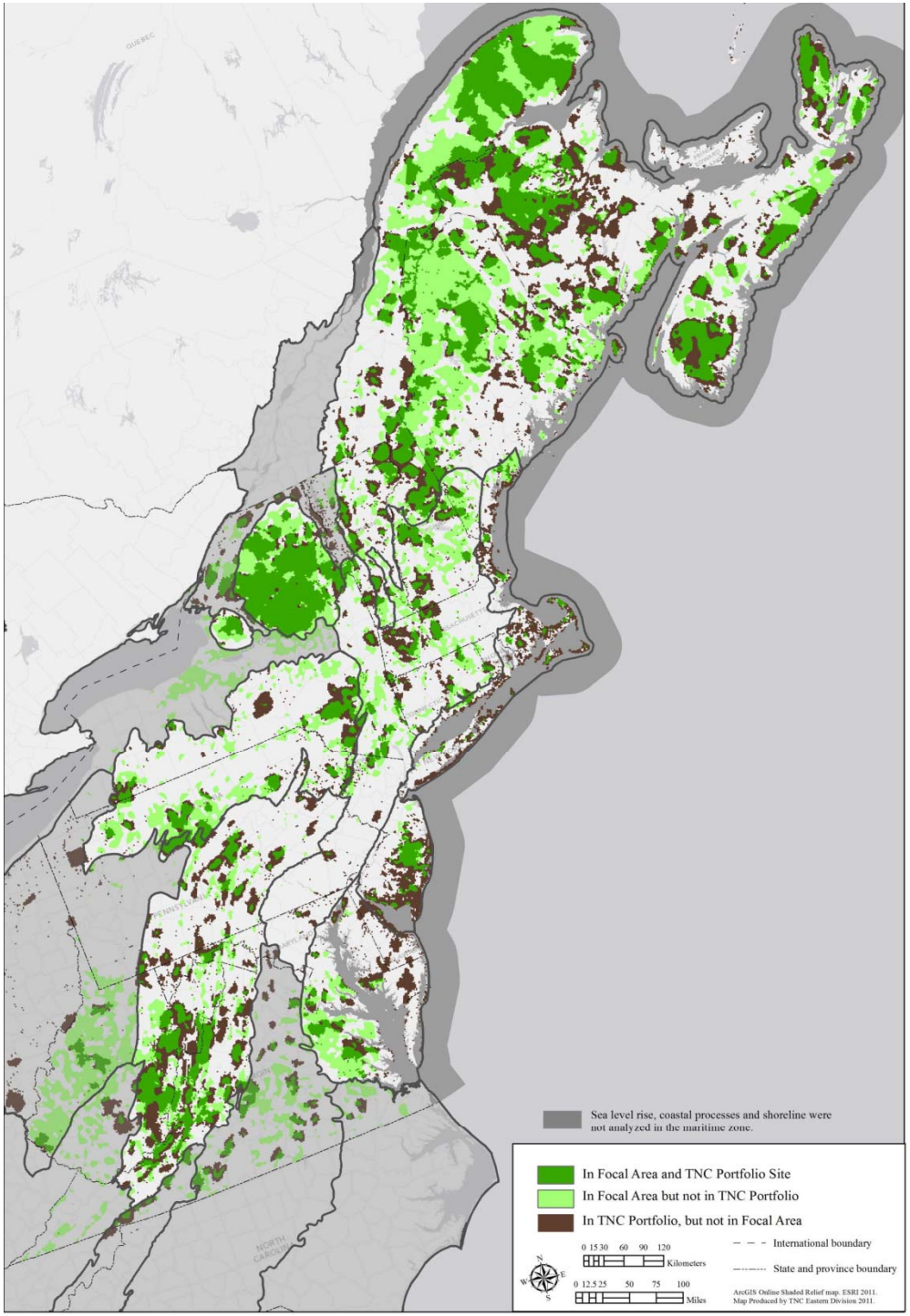
QUEBEC
Sea level rise, coastal processes and shoreline were not analyzed in the maritime zone.
In Focal Area and TNC Portfolio Site
In Focal Area but not in TNC Portfolio
In TNC Portfolio, but not in Focal Area
0 15 30 60 90 120
Kilometers
0 12.5 25 50 75 100
Miles
International boundary
State and province boundary
ArcGIS Online Shaded Relief map. ESRI 2011.
Map Produced by TNC Eastern Division 2011.

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What CC Does to the Map

- From Design to Projection

- "Complete" Is An Aspirational Goal, Not An Actual Destination

- Conservation Value Is Now Time Dependent—If Stationarity is Dead, so is Perpetuity

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What CC Does to Efforts to Complete the Habitat System

- Enduring Features Become More Important
- "Natural" Communities Become Less Important
- Increases Need for I & M Efforts
- Incentives And Leases Become More Important Than Designations And Acquisitions

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Opportunities for LCCs?

- Help Re-define Conservation In A Period Of Climate Change (Vulnerability, Resilience, Restoration, etc.)
- Show America What Conservation Success Could Look Like (A Map Is Worth A Million Words)
- Be Creative
- Be Cohesive

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Questions?

Discussion?

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Shared solutions to protect shared values

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Partners:

Washington Department of Fish & Wildlife, Bureau of Indian Affairs, Animal & Plant Health Inspection Service, U.S. Department of Defense, Bureau of Land Management, Bureau of Reclamation, Northwest Indian Fisheries Commission, National Park Service, California Department of Fish & Game, Council on Environmental Quality, U.S. Geological Survey, U.S. Environmental Protection Agency, North Carolina Wildlife Resources Commission, Natural Resources Conservation Service, New York, Division of Fish, Wildlife & Marine Resources, U.S. Army Corps of Engineers, Farm Service Agency, Tulalip Tribe, U.S. Forest Service, Great Lakes Indian Fish & Wildlife Commission, Georgia Department of Natural Resources, Florida Fish and Wildlife Conservation Commission, West Virginia Division of Natural Resources, Maryland Department of Natural Resources, Wildlife and Heritage Service, Massachushetts Division of Fisheries and Wildlife, Yakama Nation, Wisconsin Department of Natural Resources, California Department of Forestry and Fire Protection, Texas Parks and Wildlife Department, New Jersey Division of Fish and Wildlife, Nevada Department of Wildlife, Oregon Department of State Lands, Pennsylvania Fish and Boat Commission, Miccosukee Tribe, Columbia Intertribal Fish Commission, Connecticut Department of Environmental Protection Inland Fisheries Division, Passamaquoddy Tribe at Pleasant Point

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Strategy Guiding Principles

- Build a national framework for cooperative response
- Foster communication and collaboration
- Engage the Public
- Landscape/seascape-based approach that integrates science & adaptive management
- Integrate strategies for natural resources adaptation with other sectors

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Strategy Guiding Principles (cont.)

- Focus on natural resources of the United States and Territories
- Identify critical scientific and management needs
- Identify opportunities to integrate climate adaptation and mitigation efforts
- Act now

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Goal 1: Conserve and connect habitat

Strategies:

1. Identify ecologically-connected network of conservation areas resilient to climate change (4 actions)
2. Secure appropriate conservation status for network (5)
3. Restore habitat (6)
4. Conserve, restore, establish new ecological connections among conservation areas (6)

Progress Check List:

- ❑ Resilient areas identified
- ❑ Gap analysis completed – priority candidates identified
- ❑ Desired ecological connectivity identified
- ❑ Inventory of conservation areas completed
- ❑ Land protection tools evaluated and updated

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Goal 2: Manage species and habitats

Strategies:

1. Update /develop new species and habitat plans, programs and practices (9 actions)
2. Develop/apply species-specific management (3)
3. Conserve genetic diversity (5)

Progress Check List:

- ❑ Co-managers identified and engaged
- ❑ Species requiring active intervention identified
- ❑ Guidelines developed for translocation, assisted migration and captive breeding
- ❑ Species and area management plans updated
- ❑ State Wildlife Action Plans updated

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Goal 3: Enhance management capacity

Strategies:

1. Increase awareness/professional capacity of resource managers to design, implement, evaluate adaptation programs (7 actions)
2. Facilitate coordinated response at appropriate scale and among state, federal, tribal and private conservation organizations (6)
3. Review legal, regulatory, and policy frameworks to identify opportunities to improve (7)
4. Optimize use of existing funding to design, deliver, evaluate adaptation programs (6)

Progress Check List:

- ❑ Core curricula for climate adaptation identified
- ❑ Training opportunity and accessibility increased
- ❑ LCCs engaged for inter-jurisdictional collaboration
- ❑ Criteria to include adaptation in existing grant programs developed
- ❑ Funding and resource needs for climate adaptation identified

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Goal 4: Support adaptive management

Strategies:

1. Support distributed, but integrated observation and information systems to detect and describe climate impacts on fish, wildlife, and plants (9 actions)
2. Identify, develop, and employ decision support tools for managing uncertainty (e.g. vulnerability and risk assessments, scenario planning) (8)

Progress Check List:

- ❑ Public/private collaborative for climate change observation and information systems convened
- ❑ Existing public and private observation and information systems linked and interoperable
- ❑ Data collection standards for common climate change metrics established
- ❑ Standardized climate change scenarios developed
- ❑ Framework of tools for managing under uncertainty developed
- ❑ Vulnerability and risk assessments conducted for priority species

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Goal 5: Increase knowledge and information

Strategies:

1. Identify knowledge gaps and define research priorities (6 actions)
2. Conduct research into adaptive capacity of species, communities, and ecosystems (5)
3. Advance understanding of climate change impacts and species and ecosystem responses through modeling (3)

Progress Check List:

- ❑ Inventory of knowledge gaps completed
- ❑ Research agenda developed
- ❑ Regional and sub-regional projections of climate change impacts completed
- ❑ Protocols and metrics for valuing ecosystem services developed
- ❑ Approaches to improve linkage of atmospheric/climate models to ecological impact models developed

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Goal 6: Increase awareness and motivate action

Strategies:

1. Increase public awareness and understanding of climate impacts to natural resources and ecosystem services (4 actions)
2. Engage the public through education, outreach and stewardship opportunities (6)
3. Coordinate climate change communications across jurisdictions (3)

Progress Check List:

- ❑ Focused outreach to key decision makers is initiated
- ❑ Improved messages about climate change and fish, wildlife, and plants is developed and targeted to key audiences
- ❑ Programs to engage citizens in monitoring impacts of climate change developed
- ❑ Collaborations with zoos, aquaria, museums, and botanic gardens initiated
- ❑ Use of *Strategy* web site and other electronic climate change adaptation resources increased

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Goal 7: Reduce non-climate stressors

Strategies:

1. Slow and reverse habitat loss and fragmentation (8 actions)
2. Slow, mitigate, and reverse eosystem degradation from anthropogenic sources via land/ocean-use and water resources planning, pollution abatement and use of best management practices (8)
3. Use, evaluate and improve programs to prevent, control, and eradicate invasive species and manage pathogens (7)
4. Coordinate climate change communications across jurisdictions (3)

Progress Check List:

- ❑ Regional and local land-use, water resource, coastal, and marine planners engaged
- ❑ Collaboration with farmers/ranchers re livestock management begun
- ❑ Disruptive floodplain infrastructure reduced/removed
- ❑ Coordinated invasive species and disease monitoring systems established
- ❑ Multiple barriers to invasive species introduction in place

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Opportunities for Multiple Sectors in Fish, Wildlife, and Plant Climate Adaptation

Strategies:

1. Improve understanding/communication of impacts of other sectors' adaptation options on fish, wildlife, and plants
2. Enhance coordination among sectors and natural resource managers, land-use planners, and decision makers
3. Use integrated planning to engage all levels of government and multiple stakeholders in multi-sector planning
4. Make best available science accessible for planning and decision-making across sectors
5. Incorporate fish, wildlife, and plants into sector-specific climate adaptation planning
6. Use decision support tools, technologies, and BMPs to reduce impacts on fish, wildlife, and plants
7. Focus linear development in existing developed corridors to minimize barriers to migration
8. Expand compensatory mitigation requirements