Toward a National Landscape Conservation Strategy[1]

Agenda

April 16-17, 2009

Lincoln House
113 Brattle Street
Cambridge, Massachusetts

Purpose of the National Policy Dialogue

In response to this growing interest in landscape conservation, the Lincoln Institute of Land Policy and the Center for Natural Resources and Environmental Policy are convening a two-day national policy dialogue to:

1. Clarify the reasons why landscape conservation is imperative as we move into the 21st century;
2. Synthesize what we know about landscape conservation;
3. Clarify the needs, interests, and plans of the Obama Administration along these lines; and
4. Develop a national strategy for large-scale land and water conservation.

[1] In this context, landscape conservation refers to the social, economic, and environmental values associated with large-scale landscapes – both land and water ecosystems.

Thursday, April 16th

8:00 Continental Breakfast at the Lincoln House

8:30 Welcome, Introductions, and Overview
Armando Carbonell, Lincoln Institute of Land Policy
Matt McKinney, Center for Natural Resources and Environmental Policy

Frame the Problem/Opportunity

9:00 Why Large-scale Landscape Conservation? A Paradigm Example

During this opening session, the participants will identify and review the reasons why landscape conservation is imperative as we move into the 21st century. To catalyze and ground this discussion, we will begin by considering recent and ongoing efforts to facilitate regional, landscape conservation in the Crown of the Continent. This presenting case will allow the participants to identify key issues related to what catalyzes landscape-scale initiatives, including who leads and participates in such efforts, how regions are defined, and so on. Throughout the two-day dialogue, we will continue to reflect on the Crown as a case-in-point (and to help people from the Crown develop some practical steps to proceed).

Matt McKinney, overview and moderator (15 minutes)
Joyce Spoonhunter, Blackfeet Tribe (10 minutes)
Evan Berger, Member of the Legislative Assembly of Alberta (10 minutes)
Mary Sexton, MT Dept. of Natural Resources and Conservation (10 minutes)
Racene Friede, Glacier Country Tourism Commission (10 minutes)
Rich Moy, representing the conservation community (10 minutes)

10:05 Discussion

Expected Outcomes = Agree on (1) what we mean by landscape conservation (in terms of spatial scale, mix of values and objectives, etc.); (2) the reasons why landscape conservation is imperative; and (3) the key issues related to catalyzing, enabling, constraining, and sustaining such efforts.

10:30 Break

11:00 Clarify Drivers, Opportunities, and Gaps in Policy and Practice

This session will build on the previous discussion and focus on: (1) refining the drivers for landscape conservation; (2) refining what factors enable and constrain effective landscape conservation; and (3) clarifying the major gaps in policy and practice.

Panel members will spend the first 45 minutes sharing their experiences and knowledge, followed by 45 minutes of dialogue.

Panel Members

- Julia Wondolleck, University of Michigan (moderator)
- Luther Propst, Sonoran Institute
- Mike Eaton, Resources Legacy Fund
- Gloria Flora, Sustainable Obtainable Solutions
- Kit Muller, Bureau of Land Management

Expected Outcomes = Agree on (1) the extent of the challenges and opportunities to landscape conservation; and (2) the gaps in policy and practice.

12:30 Lunch

Guest Speaker -- Charles H.W. Foster

Synthesize What We Know

1:30 Harvest Lessons from Past Experience

This session will focus on lessons learned from experience in managing land use, natural resource, and environmental values at a regional, landscape scale.

The first three panel members will each have 15 minutes to respond to the following questions -- (1) Reflecting on the range of models within [different arenas], what are the most important lessons learned in terms of what compels, enables, constrains, and sustains effective efforts? (2) What issues should we avoid as we move forward in promoting and supporting landscape conservation?

The final two panel members will have a combined total of 15 minutes to respond. The final 30 minutes of this session will be a facilitated dialogue among all the participants.

Panel Members

- Jim Levitt, The Harvard Forest (moderator)
- John Thorson, retired Administrative Law Judge -- Watershed Governance
- Armando Carbonell, Lincoln Institute -- Regional Land Use Planning
- Bob Keiter, University of Utah -- Public Land Ecosystems
- John Singlaub, Tahoe Regional Planning Agency -- response
- Charlie Chester, Brandeis University -- response

Expected Outcomes = (1) Appeciate the menu or typology of models for regional, landscape-scale governance; (2) agree on lessons learned from past

experiences -- what is/is not working and why (which indirectly will help refine compels, enables, constrains, and sustains landscape conservation); and (3) agree on what issues we should avoid as we move forward.

3:00 Break

3:30 Highlight Promising Models of Landscape Conservation

This session will focus on a range of promising models for large-scale landscape conservation – including both land and water.

The first three panel members will each have 15 minutes to (1) explain their unique model of governance; (2) highlight indicators and reasons for success; and (3) emphasize best practices and transferable lessons. The final two panel members will have a combined total of 15 minutes to respond. The final 30 minutes of this session will be a facilitated dialogue among all the participants.

Panel Members

- Nora Mitchell, Conservation Study Institute (moderator)
- Michael Donahue, Ecosystem Charter for the Great Lakes – voluntary, binding mechanism that builds on existing law, policy, and practice
- Steve Frisch, Sierra Business Council – the role of the private sector and intermediary organizations
- Michael Creasey, Blackstone National Heritage Corridor – network-based governance
- Andrea Gerlak, University of Arizona -- response
- Judith Layzer, MIT -- response

Expected Outcomes = Agree on (1) indicators or reasons for success; (2) the role of the federal government, state government, non-government organizations, and the private sector; and (3) the use of regulatory and/or incentive-based approaches, and voluntary vs. mandatory approaches.

5:00 Wrap-up and Review Agenda for Day 2

5:30 Adjourn and Reception at Lincoln House

7:30 Dinner at Harvard Faculty Club

Roundtable on Federal Activities and Priorities

- Bob Bendick, The Nature Conservancy (moderator)
- Dan Ashe, US Fish and Wildlife Service
- James Melonas, US Forest Service
- Nora Mitchell, National Park Service
- Garry Oye, National Park Service
- Carl Rountree, Bureau of Land Management

Friday, April 17th

8:00 Continental Breakfast at the Lincoln House

Identify What Should Be Done – Toward a National Strategy

8:30 The Why – A Refined Statement of Purpose

Based on the discussion from Day 1, staff will present a refined statement of "why" the development of a national landscape conservation strategy is compelling at this point in time. Participants will have time to review the text, followed by a discussion and refinement of the document.

9:00 The What and the How

Given the conversation on the first day and using the ideas and framework presented in the White Paper, participants will be organized into four small groups to draft different sections of the emerging national strategy for landscape conservation.

We will create four groups of seven people each. Each group should identify a recorder who will present a 15-minute presentation at 10:30. The focus of the different groups is as follows:

1. Clarify the What – Strategic Vision, Goals, and Expected Outcomes
2. Clarify the How – Federal Policy Needs and Opportunities
3. Clarify the How – Role of NGOs, Business Community, Universities, and Others
4. Clarify the How – Research Needs and Opportunities

Expected Outcome = Each work group, building on the outline presented in the White Paper, will prepare a draft strategy (or at least an annotated outline) on their topic.

10:30 Work Group Presentations and Discussion

Each group will present their finidngs in 15 minutes, followed by 15 minutes of dialogue, discussion, and feedback from the participants.

12:30 Working Lunch

During this working lunch, the work groups will respond to the comments received during the dialogue and seek to produce a final draft national strategy.

1:30 Next Steps

1. Create an Action Committee to Follow Through
    a. Leadership
    b. Other members
    c. Staff

2. Develop a Communications Strategy
    a. Press release
    b. Presentations in Washington, DC
    c. Other
3. Funding
4. Other

2:45 Returning to the Beginning: Suggestions for the Crown of the Continent

3:00 Evaluation and Adjourn

Toward a National Landscape Conservation Strategy

April 16-17, 2009
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Toward a National Landscape Conservation Strategy

A White Paper/Working Document

Prepared by
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Draft of April 13, 2009

For the National Policy Dialogue on Landscape Conservation

Lincoln Institute of Land Policy
Cambridge, Massachusetts
April 16-17, 2009

Purpose of this White Paper/Working Document

The purpose of this white paper is to:

- Provide a framework for the national policy dialogue;
- Capture, at least in a preliminary way, what we know about landscape conservation;
- Present a framework to develop a national strategy on landscape conservation.

The content of this paper is based on input and advice from the invitees to the policy dialogue, along with research and consultation with practitioners and experts.

The heart of this paper – options to develop a national strategy – will be more fully developed during the policy dialogue in April.

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Introduction

For nearly a decade, the Lincoln Institute of Land Policy and the Public Policy Research Institute have focused on regional approaches to land use, natural resource, and environmental issues. This portfolio has included place-based clinics and workshops, and has resulted in a website[1] and forthcoming book[2].

One of the overarching lessons learned from this body of work is that – relative to the amount of activity and knowledge on regional approaches to land use management and planning in urban areas, watersheds, and river basins – there is much to do and more to learn on regional approaches to large-scale landscape conservation (or what is variously referred to as ecosystem management and regional resource management)[3]. In light of this gap in knowledge and practice, the Lincoln Institute of Land Policy and the Public Policy Research Institute have decided to focus our efforts during the next few years on "landscape conservation" – defined to include both land and water resources, along with the social, economic, and environmental values associated with such landscapes. The focus here is largely on regional natural resource systems (i.e., land and water) and the services they provide.

In addition to the gap in knowledge and practice, the rationale to focus on landscape conservation is based on three additional observations. First, the emerging megaregions of the United States, no matter how large their metropolitan footprint, include and rely on significant natural areas. Cascadia encompasses not just Seattle and Portland, but the open space, habitats, recreational opportunities, and natural resources of the North Cascades, Puget Sound, the Olympic Peninsula, and the Pacific Coast. The Florida "molar" grows around the Everglades and includes coastline, islands, and the ocean itself. Even the "old" megalopolis of the Northeast cannot extricate itself from its codependency with coastal fisheries, the Adirondacks, Catskills, Delaware Water Gap, New York-New Jersey Highlands, Pawcatuck Borderlands, etc. In every case, natural areas provide resources (or ecological services) the cities cannot live without—clean, copious water; food; open space and recreational opportunities; wood products; minerals; and energy. Clearly, these megaregions are defined not just by their urban centers, but also by their natural ecosystems and resources. The natural amenities draw people to these regions. Ultimately, the cities and populations there will exist and grow only as long as their natural systems continue to support them.

[1] http://www.lincolninst.edu/subcenters/regional-collaboration/

[2] The working title of the book, to be released in fall 2009, is *Collaborating Across Boundaries: Regional Strategies for Land Use, Natural Resources, and the Environment* (Lincoln Institute of Land Policy).

[3] For a complete review of the lessons learned on regional collaboration through this joint venture, see Matthew McKinney, "The Realities of Regional Stewardship: From Urban Issues to Natural Landscapes," *Public Land and Resources Law Review* (2008).

Second, there are many experiments in large-scale landscape conservation underway, including initiatives led by federal and state agencies, NGOs, and assorted partnerships. Several federal agencies – including the U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service, National Park Service, and Bureau of Reclamation – are considering or actively engaged in large-scale landscape efforts, albeit somewhat independent of each other. The Western Governors' Association has mapped regional wildlife and energy corridors in the West. In addition, several conservation groups, beginning with The Nature Conservancy, have identified high value, threatened ecosystems and are mobilizing resources at the landscape scale. A number of promosing initiatives – from the Ecosystem Charter for the Great Lakes to the Sierra Business Council to the Blackstone National Heritage Corridor, demonstrate the growing commitment of people to address the mix of social, economic, and environmental issues at a large-scale landscape level. The attached compilation of maps presents a preliminary overview of who is doing what with respect to large-scale landscape efforts.

Third and finally, the timing appears ripe to engage political and agency leaders in Washington, D.C., to explore the possibility of a national strategy (or at least more coordinated efforts) for landscape conservation. In addition to the federal agency initiatives mentioned above, the White House Council on Environmental Quality has a person dedicated to land and water ecosystems. And the GAO just released a report that examines the possibility of integrating the U.S. Forest Service into the Department of the Interior – in part to foster regional resource management.

Purpose of the National Policy Dialogue

In response to this growing interest in landscape conservation, the Lincoln Insitute of Land Policy and the Center for Natural Resources and Environmental Policy are convening a two-day national policy dialogue to:

1. Clarify the reasons why landscape conservation is imperative as we move into the 21st century;
2. Synthesize what we know about landscape conservation;
3. Clarify the needs, interests, and plans of the Obama Administration along these lines; and
4. Develop a national strategy for large-scale land and water conservation.

The following sections correspond to the agenda for the national policy dialogue. Please view them as a starting point for our discussion. *Each section will be revised and refined as we move through the policy dialogue*.

Frame the Problem/Opportunity

The Crown of the Continent: A Paradigm Example

To catalyze and ground the policy dialogue, we will begin by considering recent and ongoing efforts to facilitate regional, landscape conservation in the Crown of the Continent. This presenting case will allow the participants to identify key issues related to what catalyzes landscape-scale initiatives, who leads and particpates in such efforts, how a region is defined, and so on. Throughout the two-day dialogue, we will continue to reflect on the Crown as a case-in-point (and to help people from the Crown develop some practical steps to proceed).

Box A: A Brief Introduction to the Crown

The Crown of the Continent is an ideal laboratory to develop and test ideas on how to promote and support landscape conservation. This remarkable landscape covers approximately 16,000 square miles of land (about twice the size of Massachusetts), making it one of the largest intact ecosystems in North America. It has the highest non-coastal density of grizzly bears in North America, with plant communities ranging from old-growth cedar-hemlock forest to short-grass prairie. The Crown has a rich and diverse cultural heritage, including First Nations, ranchers, farmers, miners, foresters, hunters, anglers, and other recreationists.

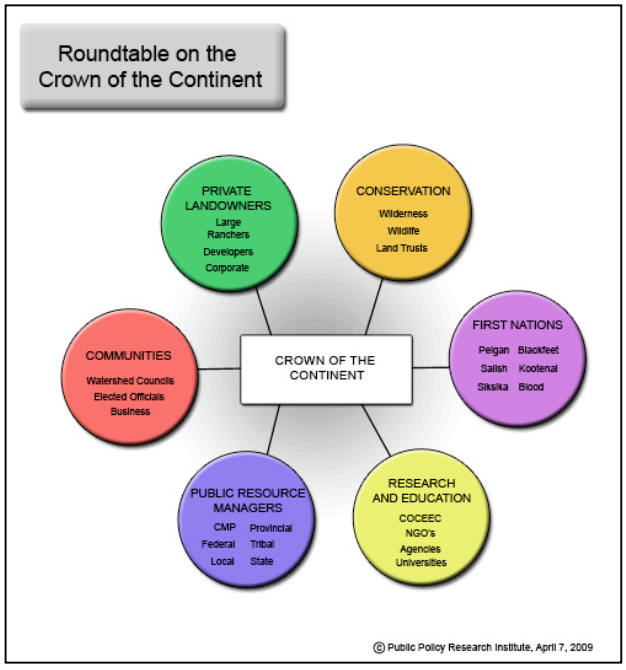
Jurisdictionally, the Crown includes two nations, multiple First Nations in the USA and Canada, two provinces, and one state, with more than 20 government agencies exercising some type of authority and management of the landscape. The Crown is also unique in that it has received more special designations than any similar landscape, including the first International Peace Park, Biosphere Reserve, World Heritage Site, three national parks, five wilderness areas, the Flathead Wild and Scenic River, and habitat for six endangered species.

In light of this rich ecological, historical, cultural, and institutional landscape, the Crown of the Continent faces four drivers or

categories of problems and opportunities. First, the Crown is a mixed ownership landscape where land conservation and issues of urban form and planning are percolating on high. The region's core ecosystem remains robust and, for the most part, unfragmented. No major metropolitan area directly competes for land and resources here, although Calgary's economic engine is beginning to drive changes in land values (and so land uses) in the northern end of the region. Many small collar cities (Lethbridge, Pincher Creek, Fort McLeod, Cardston, Fernie, Cranbrook, Whitefish, Kalispell, Columbia Falls, Missoula, Helena, Great Falls, and Choteau) are rapidly growing and morphing into service centers for amenity-driven residential and commercial development. Increasingly, second homes, resorts, shopping centers, and other developments are encroaching on the Crown's natural lands, watersheds, and wildlife habitats.

Second, the Crown is also a ripe, sensitive lab for understanding climate change. Already, plant and animal communities are changing as species move north and upward in elevation in response to warming average temperatures. Milder winters may also be driving land use changes, from increases in second-home and retirement home development to timber management on forests impacted by unprecedented incursions of pine bark beetle. Climate effects are likely influencing the Crown's ecosystems, economies, and social/cultural scaffolding.

Third, change also erupts at the sub-regional level. Congress recently imposed a moratorium on gas and oil exploration along Montana's Rocky Mountain Front, but Alberta and British Columbia continue to develop their energy resources. The Cline coal mine proposal on B.C.'s upper Flathead is seen by some as a serious threat to water quality on both sides of the US/Canada border. Even "green" energy has its downsides. Wind turbines sprout east of Crowsnest Pass south toward Alberta's Waterton Front, changing the viewshed and endangering eagles and other raptors. Canola and other biofuels replace native shortgrass prairie. Also, a proposal to double U.S. Highway 2 to four lanes is gaining traction at the same time grizzly bear mortality skyrockets due to bear/vehicle collisions. And the largest private landowner in the U.S., Plum Creek Timber, is selling off several million acres along the western edge of the Great Bear and Bob Marshall wilderness areas in Montana. The cumulative effects of such sub-regional activities threaten to fragment the natural landscape and tug local economies in unsustainable directions.



Fourth and finally, there is a heritage of

trans-boundary collaboration in the Crown that dates back at least 75 years to the creation of the Waterton-Glacier International Peace Park.

Unfortunately, past efforts to constructively guide change have struggled to engage local communities, tribes and First Nations, and certain social sectors. We now see, however, signs of an emerging and growing capacity for regional networking, planning, and policy responses to the changes facing the Crown. There is a robust sense of subregional identity in places such as the Rocky Mountain Front, the Flathead Valley, and various watershed groups and other place-based partnerships throughout British Columbia, Alberta, and Montana. These somewhat fragemented initiatives are beginning to reach across their boundaries to coordinate efforts and share resources with similar groups. The Crown Managers Partnership (a group of public resource managers from across the region) and the Crown of the Continent Ecosystem Education Consortium both span the entire ecosystem. The recently completed Crown of the Continent Geotourism Map has perhaps done more than any recent effort to facilitate a sense of regional identity at the level of the Crown. Most recently, a Roundtable on the Crown of the Continent has come together (under the leadership of the Lincoln Institute of Land Policy and Public Policy Research Institute) to provide an ongoing, multi-stakeholder forum to exchange ideas and information, search for common interests, and forge joint projects.

This combination of people and activities present an ideal laboratory to develop and test alternative models for landscape conservation, such as ad hoc and formal networking; government-citizen interaction; the interplay of urban form and land conservation; adaptive management in the face of climate change; and international trans-boundary collaboration. People know each other in the Crown, and the relationships and interdependencies are becoming more readily apparent and comprehensible. Continued climate change, economic globalization, and population growth compel the region to think more holistically and to act at every conceivable scale – local communities, watersheds, and the ecosystem. With an entire, intact ecosystem at stake (and communities and economies, too), regional systems of governance are no longer just an option on a flipchart—they are essential and fundamental to the continued integrity and health of the Crown.

The expected outcomes of this part of the dialogue are to agree on (1) what we mean by landscape conservation (in terms of spatial scale, etc.); (2) the reasons why landscape conservation is imperative; and (3) the key issues related to catalyzing, enabling, constraining, and sustaining such efforts.

What constrains?

Having reviewed what we know about landscape conservation, the next objective is to identify the gaps and/or barriers to landscape conservation.

Based on preliminary feedback from interviewees, the type of factors that constrain landscape conservation include (but are not limited to) the following:

1. Absence of a compelling reason to think and act at the landscape scale
2. Lack of a sense of place
3. Lack of collaborative leadership
4. The right people aren't involved
5. Insufficient capacity (administrative, technical, financial)
6. Lack of legal authority
7. Competing missions and mandates that make it difficult to work across boundaries
8. Inability to move from vision to action

Clarify Drivers, Opportunities, and Gaps in Policy and Practice

This session will build on the previous discussion and focus on: (1) refining the drivers for landscape conservation; (2) refining what factors enable and constrain effective landscape conservation; and (3) clarifying the major gaps in policy and practice.

While participants will inevitably reflect on who is doing what to address these issues, we have begun two efforts that attempt to capture and share some of the most important and relevant information for this dialogue. Please see the attached "inventory" of books, articles, maps, and websites as well as the attached compilation of maps. We found that the maps present a compelling series of pictures that illustrate (at least in part) who is doing what in terms of landscape conservation – as well as what the major threats are to large-scale landscapes.

The expected outcomes of this session are to agree on (1) the extent of the challenges and opportunities to landscape conservation; and (2) the gaps in policy and practice.

Synthesize What We Know

Having framed the problem and opportunity, the next three sessions of the policy dialogue will synthesize what we know about landscape conservation – including both land and water systems. The goal here is to spend the better part of the first day reviewing, refining, and affirming what we know about landscape conservation – thereby setting the stage for day two, where the conversation will focus on developing strategies and agendas to move forward.

Harvest Lessons From Past Experiences

This session will focus on both successes and failures and address (1) what catalyzes, enables, constrains, and sustains regional initiatives in different arenas; (2) what tools, principles, and strategies are essential (or at least common) to success; and (3) what criteria are the most useful for measuring success. The following people will address these topics:

The Lincoln Institute's fortcoming book on regional collaboration provides a succint set of principles for working across boundaries (regardless of spatial scale). These principles will be included in the packet of materials for the policy dialogue.

Box B. Notable Examples of Landscape Conservation
These efforts are a representative sample of landscape-scale regional efforts that might further inform and invigorate the policy dialogue.

Regional Land Use Planning
- Balcones Canyonlands Habitat Conservation Plan (1996)
- Sierra Business Council (1994)
- Long Island Pine Barrens Commission (1993)
- Cape Cod Commission (1990)
- Columbia River Gorge Commission (1986)
- New Jersey Pinelands Commission (1979)
- Adirondack Park Agency (1971)
- Tahoe Regional Planning Agency (1969)

Public Land Ecosystem Management
- Highlands Conservation Plan Act (2004)
- Sierra Nevada Framework (2004)
- Yellowstone Business Partnership (2001)
- Sonoran Desert Conservation Plan (1998)
- Northwest Forest Plan (1994)
- Interior Columbia River Basin Ecosystem
- Malpai Borderlands (1991)
- Grand Canyon Trust (1985)

- Greater Yellowstone Coordinating Committee (1964)

Watershed Governance
- Lower Colorado River Multispecies Conservation Program (2005)
- California Bay Delta Authority (2003)
- Platte River Cooperative Agreement (1997)
- Fraser Basin Council Charter for Sustainability (1997)
- South Florida Ecosystem Restoration (1996)
- Murray-Darling Basin Commission (Australia) (1987)
- Great Lakes Charter (Great Lakes Commission) (1985)
- Chesapeake Bay Commission (1980)
- Northwest Power and Conservation Council (1980)
- Columbia River Treaty (1964)
- Delaware River Basin Commission (1961)

The expected outcomes of this session are to (1) appeciate the menu or typology of models for regional, landscape-scale governance; (2) agree on lessons learned from past experiences -- what is/is not working and why (which indirectly will help refine compels, enables, constrains, and sustains landscape conservation); and (3) agree on what issues we should avoid as we move forward.

Highlight Promising Models of Landscape Conservation

This session will focus on a range of promising models for landscape conservation. Each case study will focus on (1) indicators or reasons for success; (2) the role of the federal government, state government, non-government organizations, and the private sector; and (3) the use of regulatory and/or incentive-based approaches, and voluntary vs. mandatory approaches.

The expected outcomes of this session are to agree on these three components of effective landscape conservation.

Clarify Federal Activities and Priorities

This roundtable discussion will provide an opportunity for our agency participants to share their work, including their latest activities and priorities. The discussion will help clarify the strategic priorities as well as the constraints of the federal agencies and their program areas. To the extent that strategic priorities are emerging from the Obama Administration, we will discuss how these priorities present new opportunities or constraints. The focus will be on exploring how these efforts, constraints, and priorities inform the development of a national landscape conservation strategy.

Identify What Should Be Done

Building on the synthesis of what we know about landscape conservation, the purpose of the second day of the policy dialogue is to develop a national strategy for landscape conservation. The following sections present some initial ideas on what such a strategy might include; it provides a framework to develop the national strategy.

1. The Why

Based on what we know about landscape conservation, why (if at all) do we need a national strategy at this point in time? Some preliminary responses to this question include:

a. Many land use, natural resource, and environmental problems/opportunities transcend political and jurisdictional boundaries and are best addressed at a landscape/ecosystem scale.
b. Drivers such as climate change; energy development; urban sprawl; resource extraction (e.g., oil, gas, timber, etc); transmission lines; transportation corridors; loss of open space, wildlife habitat, and biodiversity; water quality and allocation; and land fragementation make this a compelling issue at this time. These drivers exceed the capacity of any single organizational actor to effectively address on its own.
c. Although there are many effective landscape-scale projects underway, the effectiveness of existing and emerging efforts might be improved via a national strategy that:
    i. Coordinates existing efforts
    ii. Supports one or more innovative approaches to landscape conservation
    iii. Other

2. The What

What are the strategic vision, goals, objectives, and expected outcomes of a national strategy for landscape conservation? Here are some preliminary ideas:

a. Preserve and protect highly valued landscapes for a mix of values (ecological, scientific, economic, recreational, aesthetic, historic, cultural, spiritual, and intrinsic)
b. Provide sustainable ecological goods and services to megaregions and rural areas
c. Respect private property rights
d. Other

3. The How

What are the options to achieve the agreed-upon objectives? The following options are not necessarily mutually exclusive:

a. Option 1 – Coordinate existing efforts

i. Build on existing initiatives within government and NGOs.
ii. Explore opportunities to integrate existing initiatives that focus on common regions/landscapes.
iii. Other

b. Option 2 – Catalyze and sponsor demonstration projects

i. Identify priority landscapes (begin with the criteria to identify and prioritize such landscapes). Some potential areas of interest that have already been identified include:
    1. Chesapeake
    2. Great Lakes
    3. Missouri River
    4. Great Plains
    5. Northern Rockies
    6. Gulf of Mexico
    7. Sierra Nevada
ii. Identify criteria to determine priorities – for example:
    1. Novelty
    2. Strategic significance
    3. Measureable effectiveness
    4. Replicability
    5. Ability to endure
    6. Most important landscapes (defined by most valued and/or most threatened) … relative to ongoing landscape-scale efforts … in other words, compare and contrast what is being done and what should be done
    7. Start with smaller, more rural landscapes; demonstrate success; then move toward rural/urban landscapes
    8. Start with landscapes that have mixed ownership, including significant federal lands
    9. Areas ripe for regional collaboration
    10. Demonstrated capacity
iii. Experiment with a variety of governance arrangements, such as:
    1. Top-down and bottom-up
    2. Regulatory and incentive-based
    3. Proactive and reactive
iv. Other

c. **Option 3 – Increase awareness and understanding**
    i. Create a portfolio of compelling stories
    ii. Organize and convene a national conference to raise awareness, exchange stories, identify best practices, etc.
    iii. Other

d. **Option 4 – Build capacity through education**
    i. Create some type of social network via the web
    ii. Develop and deliver training workshops (preferably peer-to-peer consultation)
    iii. Other

e. **Option 5 – Inform and invigorate landscape conservation via research**
    i. Clarify what we know; don't know; and need or want to know
    ii. Create an inventory of tools, strategies, and best practices that address the questions of what catalyzes, enables, and sustains such efforts?
    iii. Other

f. **Option 6 – Develop the financial resources for success**
    i. Clarify existing resources
    ii. Develop an inventory of conservation finance tools, including how and where each tool could be used
    iii. Other

4. The Who

Who is best equipped to accomplish what? Who is willing to commit to work on the task?

a. What resources do we have to work with? Options may include:
    i. Steering Committee
    ii. Lincoln Institute
    iii. University of Montana
    iv. Federal agencies
    v. Non-government organizations
    vi. Others
b. What individual commitments are people willing to make?
c. What is the role of:
    i. Federal government? Clarify which agencies should be engaged. Identify key people in Congress and the Administration – who are the champions? Identify potential proponents and opponents.
    ii. State government?
    iii. Philanthropic foundations?
    iv. Non-governmental organizations?
    v. Universities?

d. Who might be opposed to such efforts?
e. Who else do we need to engage?

5. **Next Steps**

a. Create an Action Committee to Follow Through
    i. Leadership
    ii. Other members
    iii. Staff
b. Develop a Communications Strategy
    i. Press release
    ii. Presentations in Washington, DC
    iii. Other
c. Funding
d. Other

The University of Montana
Center for Natural Resources and Environmental Policy

LINCOLN INSTITUTE OF LAND POLICY
CAMBRIDGE, MASSACHUSETTS

Appendix A:

Inventory of Who Is Doing What and What We Know
Large-Scale Landscape Conservation and Regional Resource Management

The future of large-scale landscape conservation will be constructed in the context of today's circumstances – the threats we perceive, the specific activities and strategies we have tried and are currently advancing, and the information and resources we have gathered.

As we attempt to improve existing large-scale landscape conservation efforts, this inventory serves as a quick overview of who is doing what and what we know. This inventory, in turn, will help shape, inform, and invigorate our dialogue.

Table of Contents

FRAMING THE PROBLEM

These resources help define the nature and extent of the problem.

There are at least two important perspectives to consider in framing the challenge of effective large-scale landscape conservation.

- The first perspective focuses on the specific nature of the problem. Why is large-scale landscape conservation an important policy arena? What are the public threats of not addressing large-scale landscape conservation? What are the most threatened and/or valuable landscapes?

- The second perspective focuses on the nature of our responses to date to these large-scale landscape conservation challenges. Where have governance responses done well and where have they fallen short?

The resources below help frame the problem through both of the above frames. A distinction is made between those resources focused specifically on terrestrial landscapes and those focused primarily on aquatic challenges.

Terrestrial Resources

Maps

The National Landscape Conservation System
www.blm.gov/wo/st/en/prog/blm_special_areas/NLCS/maps.html

National Heritage Areas
www.nps.gov/history/heritageareas/

The Nature Conservancy's Biodiversity Hotspots Map
gis.tnc.org/data/MapbookWebsite/map_page.php?map_id=53

Landcover Maps from the Eastern Forest Environmental Threat Assessment Center
http://www.forestthreats.org/tools/landcover-maps/landcover-maps

America 2050 – The Emerging Megaregions
http://www.america2050.org//sync/elements/america2050map.png

Two Countries, One Forest (Northeast Forest)
http://www.2c1forest.org/atlas/interactivemap.html

Websites

Eastern Forest Environmental Threat Assessment Center
forestthreats.org
The mission of the Eastern Forest Environmental Threat Assessment Center is to generate, integrate, and apply knowledge to predict, detect, and assess environmental threats to public and private forests of the east, and to deliver this

knowledge to managers in ways that are timely, useful, and user friendly.

State of the Nation's Ecosystems 2008
www.heinzcenter.org/ecosystems/
The 300-page report attempts to provide an integrated picture of ecosystem condition. The authors used 108 environmental indicators to track changes in water quality, erosion, chemical contaminants, invasive species, and biodiversity, among others.

USGS: Endangered Ecosystems of the United States – A Preliminary Assessment of Loss and Degradation
biology.usgs.gov/pubs/ecosys.htm
A 1995 assessment in which the authors report estimates of declines of natural ecosystems in the United States, provide a rationale for ecosystem-level conservation, discuss decline and threat as criteria for conservation, and relate ecosystem losses to endangerment at species and population levels.

World Wildlife Foundation's Regional Assessments
www.worldwildlife.org/science/ecoregions/regional-assessments.html
The Conservation Science Program of the WWF, together with Island Press, publishes a series of regional biodiversity assessments, which highlights ecoregions of global and regional importance for conservation by evaluating richness and endemism, other aspects of biodiversity (e.g., rare habitats, outstanding biological phenomena), and threats. There is an assessment of the "Terrestrial Ecoregion of North America" as well as the "Freshwater Ecoregions of North America."

Articles, Books, and Reports
(in reverse chronological order)

Layzer, Judith A. 2008. Natural experiments: Ecosystem-based management and the environment. Cambridge, MA: MIT Press.
Evaluates several large-scale, ecologically based management initiatives to measure their effectiveness and concludes "projects that set goals based on stakeholder collaboration, rather than through conventional politics, are less likely to result in environmental improvement …"

Mason, Robert J. 2007. Collaborative land use management: The quieter revolution in place-based planning. Lanham, MD: Rowan and Littlefield.
Examines several landscape-scale efforts to restore the Chesapeake Bay, Florida Everglades, Sierra Nevada, and Gulf Coast. Highlights successes and failures, and points out the downside of the regulatory-weak "quieter revolution" (defined as place-based, public-private, multi-stakeholder approaches) when it comes to results.

Gerlak, Andrea K. and Tanya Heikkila. 2006. Comparing collaborative mechanisms in large-scale ecosystem governance. Natural Resources Journal 46: 657-707.
Examines collaborative governance in four high-profile and large-scale ecosystems: the Northwest Power and Conservation Council's Fish and Wildlife Program in the Columbia River Basin, the Chesapeake Bay Program, the CALFED Bay-Delta Program in California's San Francisco Bay/Sacramento-San Joaquin River Delta, and the Florida

Everglades Restoration Program. Compares the governance structures of these four institutional arrangements by examining how collaboration occurs or is organized at three different levels of decision making: constitutional, collective choice (or policymaking), and operational (or implementation).

Chester, Charles C. 2006. Conservation across borders: Biodiversity in an Interdependent World. Washington, DC: Island Press.
Presents a broad overview of the history of transboundary conservation efforts and an introduction to current issues on the subject. Examines in detail two initiatives, the International Sonoran Desert Alliance (ISDA) and the Yellowstone to Yukon Initiative (Y2Y), to explore the benefits and challenges of landscape-scale protection.
field.

Innes, Judith and Jane Rongerude. 2005. Collaborative regional initiatives: civic entrepreneurs work to fill the governance gap. The James Irvine Foundation.

Northeast Midwest Institute. 2005. Large-scale Ecosystem Restoration Initiatives: Lessons for Existing and Emerging Initiatives.
www.nemw.org/restoration_products.htm

White House Conference on Cooperative Conservation. 2005. Reaching across boundaries to promote shared governance. A topic compilation from conference breakout session.
http://cooperativeconservation.gov/DialoguesCompilation.pdf
Provides session notes from the 2005 White House Conference on strategies for improved transboundary governance by relating (1) major themes raised in the session, (2) national-level practical efforts, and (3) local-level practical efforts.

Bergmann, Stefan A., and John C. Bliss. 2004. Foundations of cross-boundary cooperation: Resource management at the public-private interface. Society and Natural Resources. Vol. 17: 377-393.
Explores the opportunities and challenges for cooperative fire management among public and private forest managers in the John Day Valley of eastern Oregon. Identifies five themes affecting cross-boundary cooperation: (1) land tenure, (2) power, (3) ideology, (4) uncertainty, and (5) trust.

Keiter, Robert B. 2003. Keeping faith with nature: ecosystems, democracy, and America's public lands. New Haven, CT: Yale University Press.
Examines the historical, scientific, political, legal, and institutional developments that are changing management priorities and policies—developments that compel us to view the public lands as an integrated ecological entity and a key biodiversity stronghold.

Foster, Charles. 2002. Reviving environmental regionalism. Land Lines 14(4): 7-10.
Describes a recent resurgence in regional environmental action and provides options for future work on environmental regionalism.

Yaffee, Steven L. 1996. Ecosystem management in the United States: an assessment of current experience. The Wilderness Society.
Represents the first practical and comprehensive guide to ecosystem management

efforts nationwide for both practitioners and decision makers. Provides conclusions about the aggregate experience at 105 representative ecosystem management sites -- the stresses that are evident on site and the strategies employed to deal with them.

The Keystone Center. 1996. The Keystone Center national policy dialogue on ecosystem management. The Keystone Center.

Reviews and synthesizes contemporary ecosystem management efforts. Articulates five central goals for ecosystem management: (1) maintain ecosystem integrity, (2) sustain biodiversity and ecosystem processes at a regional scale, (3) sustain vibrant, livable, and economically diverse human communities, (4) incorporate distinct community and stakeholder values in the design and implementation of ecosystem management initiatives, (5) integrate the ecological, economic, and social goals of stakeholders in an ecosystem.

GAO Report to Congressional Requesters. 1994. Ecosystem Management: Additional actions needed to adequately test a promising approach. GAO/RCED-94-111.

Identifies (1) the status of federal initiatives to implement ecosystem management, (2) additional actions required to implement this approach, and (3) barriers to government-wide implementation.

McNab, W. Henry and Peter E. Avers. 1994. Ecological Subregions of the United States. www.fs.fed.us/land/pubs/ecoregions/

This text, which supplements a map (*view the map at http://www.fs.fed.us/land/pubs/ecoregions/ecoregions.html*) by describing the delineated Section ecological units, is the product of collaboration and teamwork by compilers from all Forest Service Regions, other Forest Service administrative units, States, and individuals. Because this document presents information on a wide range of environmental, biological, and cultural characteristics of ecosystems at the subregion scale.

Sax, Joseph L., and Robert B. Keiter. 1987. Glacier National Park and its neighbors: A study of federal interagency relations. Ecology Law Quarterly Vol. 14, No. 2: 207-263.

Explores how federal agencies resolve inter-agency land use conflicts and conflicts with nearby private land-owners and other interests. Looks at these challenges through a case study of the circumstances surrounding Glacier National Park. Describes what the authors learned about Glacier National Park's relationship with its neighbors and evaluates the Park's success in influencing external activities.

Aquatic Resources

Maps

American River's: America's Most Endangered Rivers
www.americanrivers.org/site/PageServer?pagename=AR7_MER
This national advocacy organization provides an annual list of the nation's most endangered rivers. The 2008 list can be found at www.americanrivers.org/site/PageServer?pagename=AR7_MER2008

Websites

USGS Water Resources of the US
water.usgs.gov/
The USGS mission is to provide water information that benefits the Nation's citizens: Publications, data, maps, and applications software. USGS Water-Resources offices are located in every State.

Articles, Books, and Reports
(in reverse chronological order)

World Resources Institute. 1998. River Basins: Ecological Value and Vulnerability available at: archive.wri.org/publication.cfm?id=2900&z=?

Analyzes global data at the watershed level, assessing 145 watersheds worldwide. Focuses on watershed as ecological units, and the risks human degradation may have on their ability to provide ecological services and maintain the biodiversity within them.

Kenney, Douglas S. 1994. Coordination mechanisms for the control of interstate water resources: a synthesis and review of the literature. Advisory Commission on Intergovernmental Relations.

Thorson, John E. 1994. River of promise, river of peril: The politics of managing the Missouri River. Lawrence, KS: University of Kansas Press.

Takes a comprehensive look at how and why the Missouri River basin--with six major dams and hundreds of miles of navigation canals--has become one of the most significantly altered drainage systems in the country. Examines the physical, demographic, and political features of the river basin; analyzes the comprehensive river development that gave birth to the Pick-Sloan Plan; reveals why the original goals of the legislature were never achieved; explores the deep-seated and continuing tensions between basin governments; and investigates how Indian tribes, the river's ecology, and federalism have been damaged as the river has been developed. Describes the various associations created and later abandoned from the sixties to the eighties and assesses their virtues and limitations.

Foster, Charles H.W. 1990. What makes regional organizations succeed or fail? Paper delivered at the Joint Symposium of the American and Canadian Water Resources Associations. Toronto, Ontario, Canada.

Donahue, Michael J. 1987. Alternative institutional arrangements for Great Lakes management: An analysis of generic institutional forms. In Institutional arrangements for Great Lakes management: past practices and future alternatives. Ann Arbor, MI: Michigan Sea Grant College Program.

SEARCHING FOR SOLUTIONS

The following resources represent some of "what we know" about large-scale landscape conservation.

At the same time we continue to learn more about threats (and opportunities) at the landscape scale, we can also draw from the experience and efforts of those that are engaged in large-scale landscape conservation efforts.

TERRESTRIAL RESOURCES

Articles, Books, and Reports

Doyle, Mary and Cynthia A. Drew. 2008. Large-scale Ecosystem Restoration: Five Case Studies from the U.S. Washington, DC: Island Press.

Foster, D.R. and W. Labich. 2008. A Wildland and Woodland Vision for the New England Landscape: Local Conservation, Biodiversity and the Global Environment. Pp 155-175. In R.A. Askins et al. (eds.), Saving Biological Diversity. Springer.

Prato, Tony and Dan Fagre, eds. 2007. Sustaining Rocky Mountain landscapes: Science, policy, and management for the Crown of the Continent Ecosystem. Washington, DC: Resources for the Future.

> Focuses on five aspects of sustaining mountain landscapes in the Crown of the Continent Ecosystem and similar regions in the Rocky Mountains. The five aspects are: 1) how social, economic, demographic and environmental forces are transforming ecosystem structure and function, 2) trends in use and conditions for human and environmental resources, 3) activating science, policy and education to enhance sustainable landscape management, 4) challenges to sustainable management of public and private lands, and 5) future prospects for achieving sustainable landscapes.

IUCN. 2005. The Protected Landscape Approach, Linking Nature, Culture, and Community.

Imperial, Mark. 2005. Using collaboration as a governance strategy: Lessons from six watershed management programs. Administration & Society 37:281-320.

Knight, Richard L. and Peter B. Landres, eds. 1998. Stewardship across boundaries. Washington, DC: Island Press.

> Develops a framework for understanding administrative boundaries and their effects on the land and on human behavior. Offers an integrated strategy for achieving regional stewardship.

Websites

> BLM's National Landscape Conservation System
> www.blm.gov/wo/st/en/prog/blm_special_areas/NLCS.html
> The mission of the NLCS is to conserve, protect and restore nationally significant landscapes recognized for their outstanding cultural, ecological and scientific values.

Ecosystem Management Initiative – University of Michigan
www.snre.umich.edu/ecomgt//index.htm
Faculty, staff, and affiliates at EMI advance research, training, and outreach in ecosystem management through a series of interconnected strategies.

Lincoln Institute of Land Policy – Regional Collaboration Portfolio
www.lincolninst.edu/subcenters/regional-collaboration/
This web site serves as the clearinghouse of principles, tools, and resources for working across boundaries to achieve regional stewardship.

NRDC's BioGems Initiative
www.savebiogems.org/about/
NRDC launched the BioGems Initiative in 2001 to help ensure that the most exceptional and imperiled wild places in the Western Hemisphere -- our BioGems -- remain wild for the sake of a sustainable planet. Each year, the BioGems Initiative mobilizes hundreds of thousands of concerned citizens to take action via the Internet in defense of these irreplaceable natural treasures and the wildlife that depends on them for survival.

The Nature Conservancy's "Conservation By Design" Approach
www.nature.org/aboutus/howwework/cbd/
Conservation by Design marries a collaborative, science-based approach with key analytical methods to assess, prioritize, and plan conservation actions.

National Conservation System Foundation
www.ourconservationlegacy.org
The mission of the National Conservation System Foundation is to protect, restore and expand the Conservation System through education, advocacy, and partnerships.

National Park Services' National Heritage Areas Program
www.nps.gov/history/heritageareas/
National Heritage Areas (NHA) expand on traditional approaches to resource stewardship by supporting large-scale, community centered initiatives that connect local citizens to the preservation and planning process.

Conservation Study Institute, National Park Service
http://www.nps.gov/csi/
The Conservation Study Institute provides a number of resources relevant to landscape conservation efforts. These include a list of publications at www.nps.gov/csi/pub_resources/pub2.htm. The Conservation Study Institute has also produced several research-based publications of interest, including "Development of a National Heritage Areas Evaluation Strategy, Phase 1" and "Learning to Be Better Neighbors," both of which are available on their website.

The Sonoran Institute's Conservation and Land Development Program
www.sonoran.org
The Conservation & Land Development Program's mission is to engage private, public and non-governmental entities in partnerships that leverage the development process to conserve and restore the land.

Western Governor's Association – Wildlife Corridors Initiative
www.westgov.org/wga/initiatives/corridors/index.htm
Western Governors have committed to protecting wildlife migration corridors and crucial habitat. In June 2008 they adopted a new report and created a Western Governors' Wildlife Council to implement the report's recommendations. The governors also adopted a related policy resolution in 2007.

Wildlands and Woodlands – Harvard Forest
www.wildlandsandwoodlands.org

USFS Open Space Conservation Strategy
www.fs.fed.us/openspace/national_strategy.html
The strategy charts a path forward for the Forest Service to work in partnership with states, local governments, landowners, and non-profit organizations to address the loss of open space threat.

USFWS Habitat Joint Ventures
http://www.fws.gov/birdhabitat/jointventures/index.shtm

USFWS Conservation in Transition
http://www.fws.gov/constransition.html

Promising Models and Case Studies

Regional Land Use Cases

Sierra Business Council (1994)
www.sbcouncil.org

Blackstone River Valley National Heritage Corridor (1986)
www.nps.gov/archive/blac/home.htm

Adirondack Park Agency (1971)
www.apa.state.ny.us

Tahoe Regional Planning Agency (1969)
www.trpa.org

Public Land Ecosystem Cases

Roundtable on the Crown of the Continent (2006)
www.crownroundtable.org/

Sierra Nevada Framework (2004)
www.fs.fed.us/r5/snfpa

Northwest Forest Plan (1994)
www.reo.gov

Grand Canyon Trust (1985)
www.grandcanyontrust.org

Greater Yellowstone Coordinating Committee (1985)
fedgycc.org

AQUATIC RESOURCES

Articles, Books, and Reports

Great Lakes Regional Collaboration. 2005. Great Lakes regional collaboration strategy: to restore and protect the Great Lakes. Glen Lake, MI: Great Lakes Regional Collaboration.
Details the recommendations of strategy teams in the areas of: (1) aquatic invasive species, (2) habitat conservation and species management, (3) near shore waters and coastal areas, (4) special areas of concern, (5) non point sources, (6) toxic pollutants, (7) sound information base and representative indicators, and (8) sustainability – for the protection and restoration of Great Lakes resources.

Websites

Transboundary Freshwater Disputes Data Base
www.transboundarywaters.orst.edu/database/
The database is used to aid in the assessment of the process of water conflict prevention and resolution

Western Water Policy Review Advisory Commission
www.den.doi.gov/wwprac/
The Western Water Policy Review Advisory Commission was charged with a comprehensive review of federal activities in the western states which affect the use and allocation of water, and the review of numerous aspects of water resources, management, institutional and legal matters, and the performance of federal agencies.

Promising Models and Case Studies

Watershed and River Basin Cases

California Bay Delta Authority (2003)
calwater.ca.gov

Platte River Cooperative Agreement (1997)
www.platteriver.org/library/CooperativeAgreement/index.htm

South Florida Ecosystem Restoration (1996)
www.sfrestore.org

Ecosystem Charter for the Great Lakes – St. Lawrence Basin (1994)
www.glc.org/ecochart/

Murray-Darling Basin Commission (Australia) (1987); reinstituted as the Murray-Darling Basin Authority (Australia) (2008)
www.mdba.gov.au

Chesapeake Bay Commission (1980)
www.chesbay.state.va.us

Delaware River Basin Commission (1961)
www.state.nj.us/drbc

LANDSCAPE CONSERVATION STRATEGY

Mapping Threats and Opportunities

Augmenting the Dialogue with Maps

Capturing What We Know

- Demographics, natural features, trends, and threats.

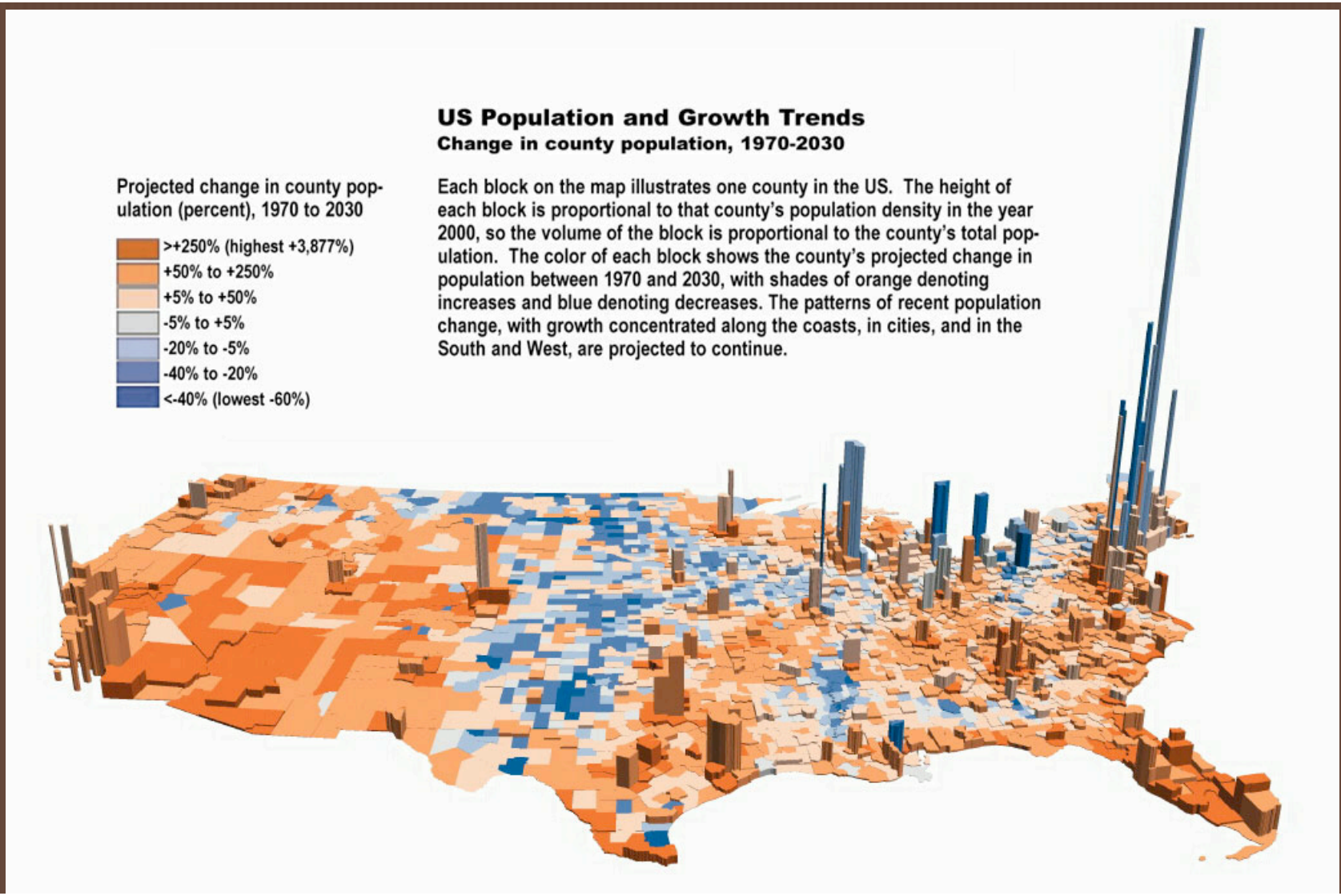
Communicating What We're Doing

- Institutions, strategies, and plans.

Index: Capturing What We Know

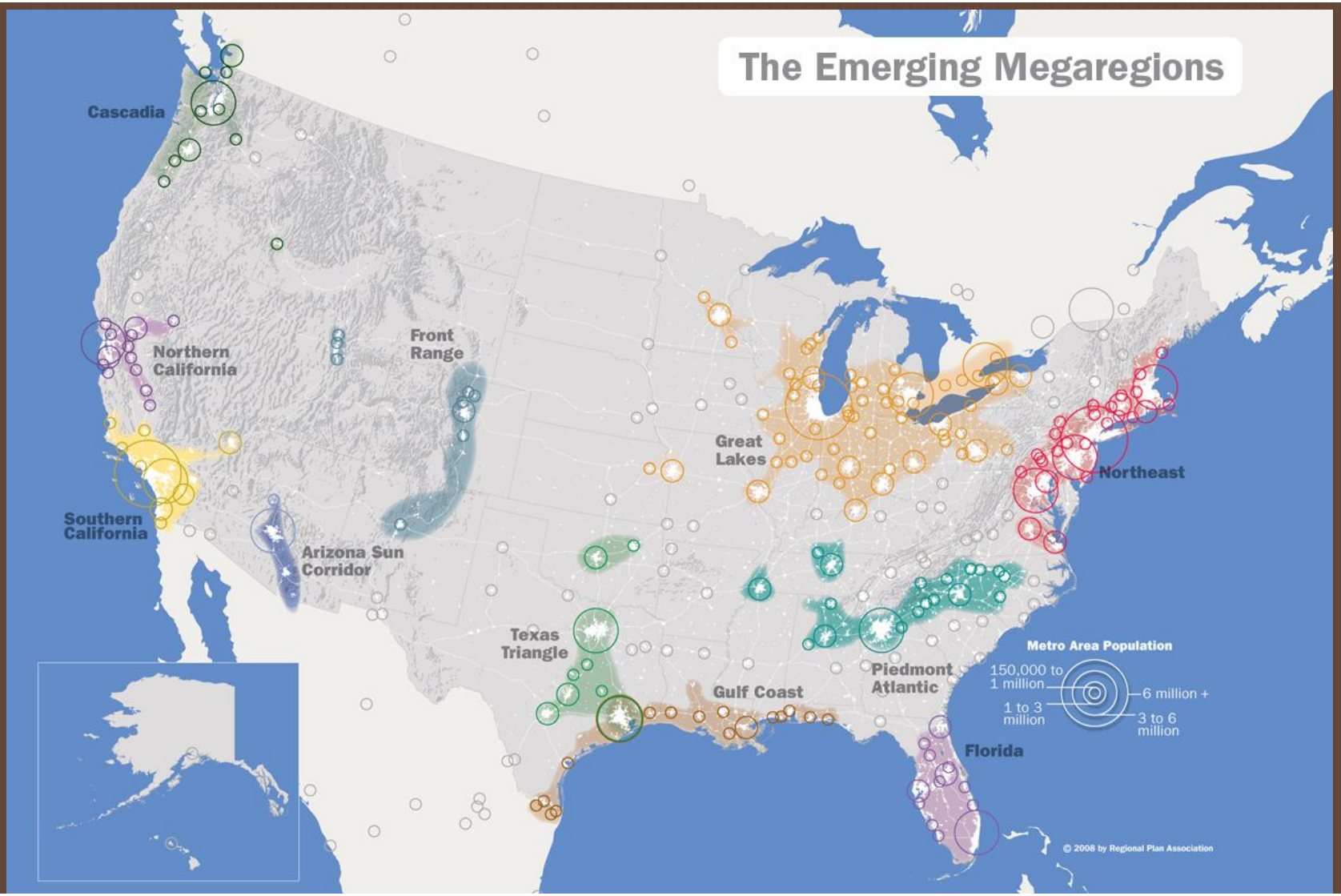
US Population and Trends

Source: US Global Change Research Program



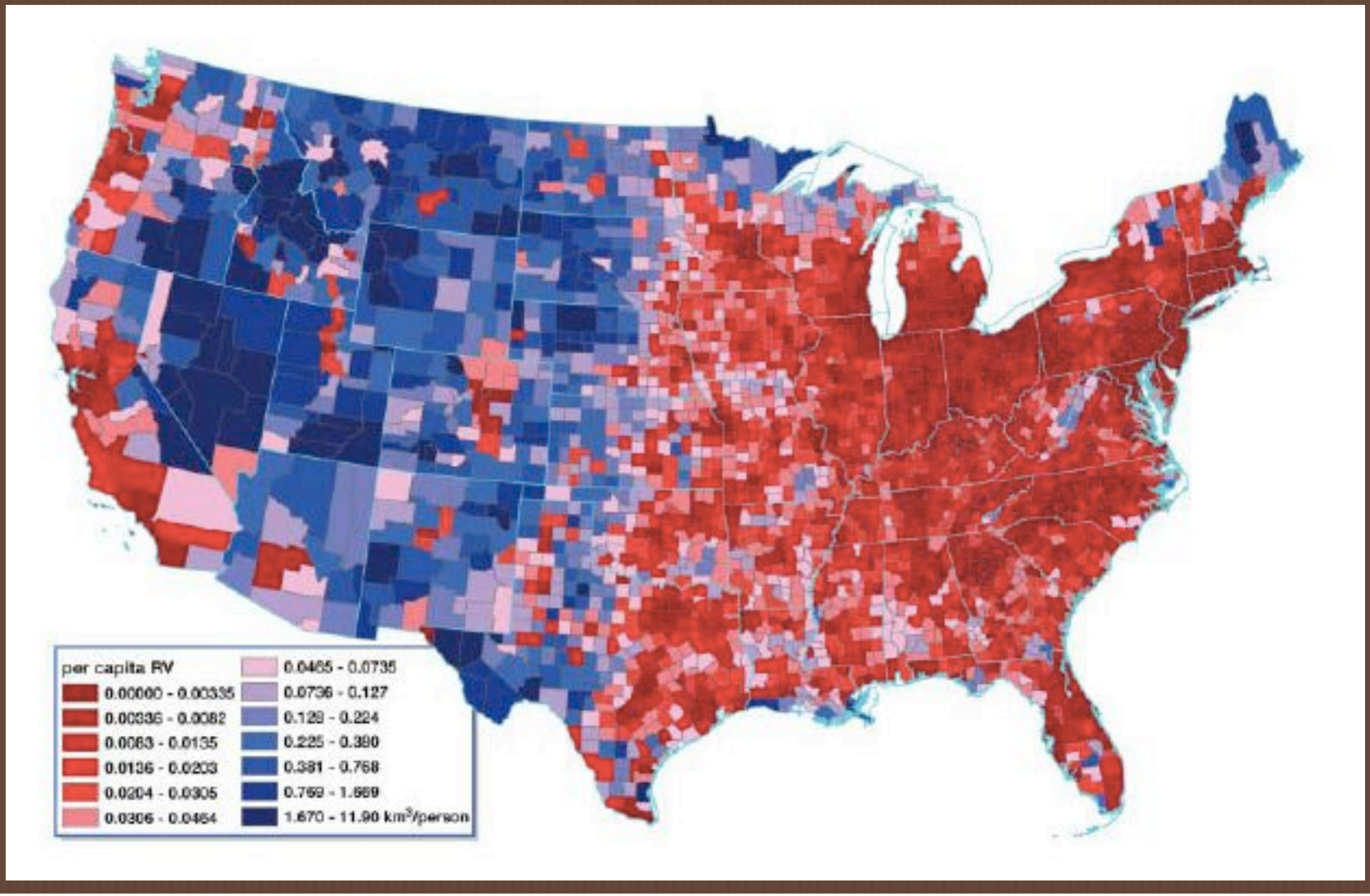
Emerging Megaregions

Source: America 2050



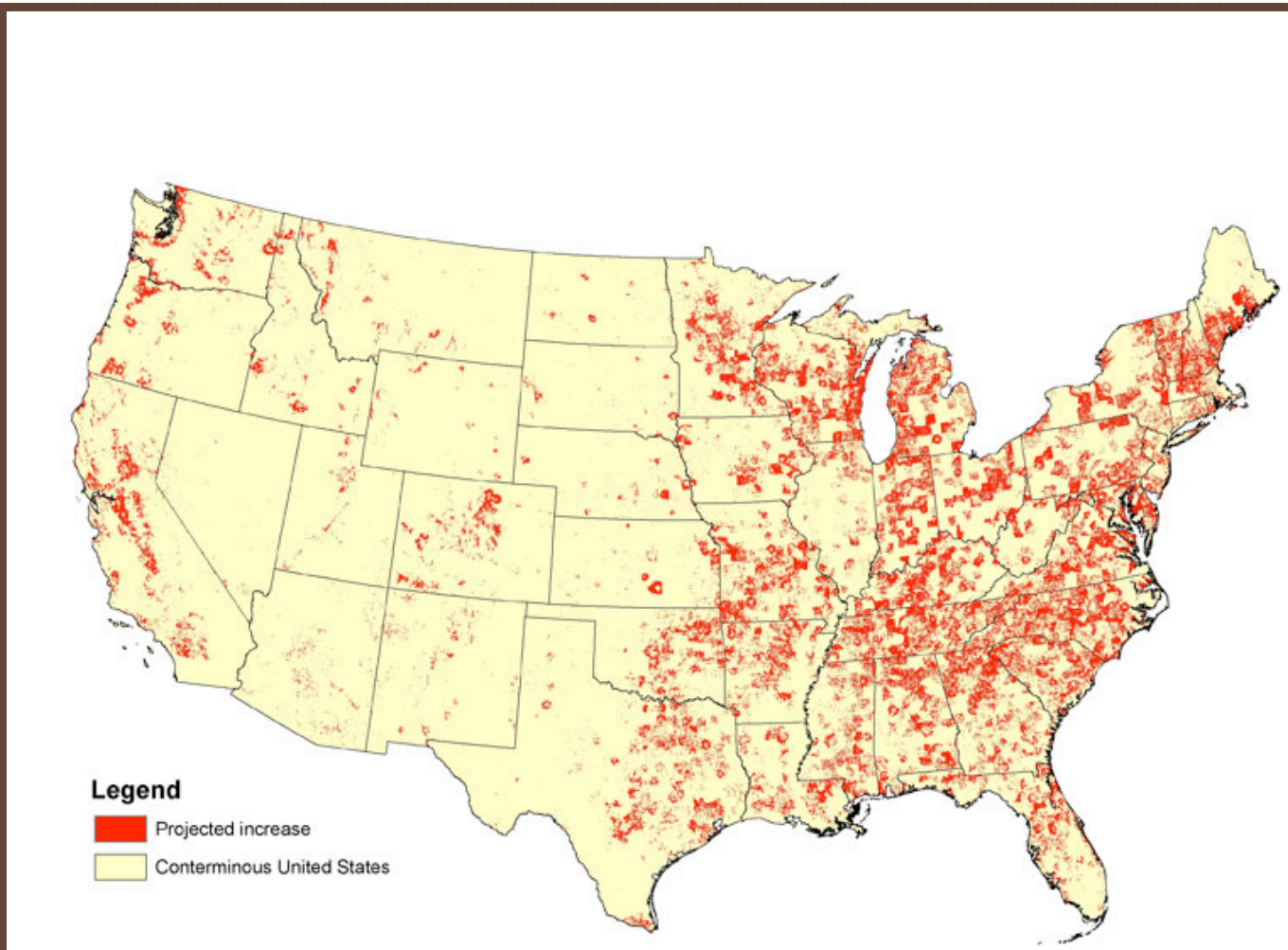
Transportation – Road Density

Source: *Science* Magazine, May 4, 2007



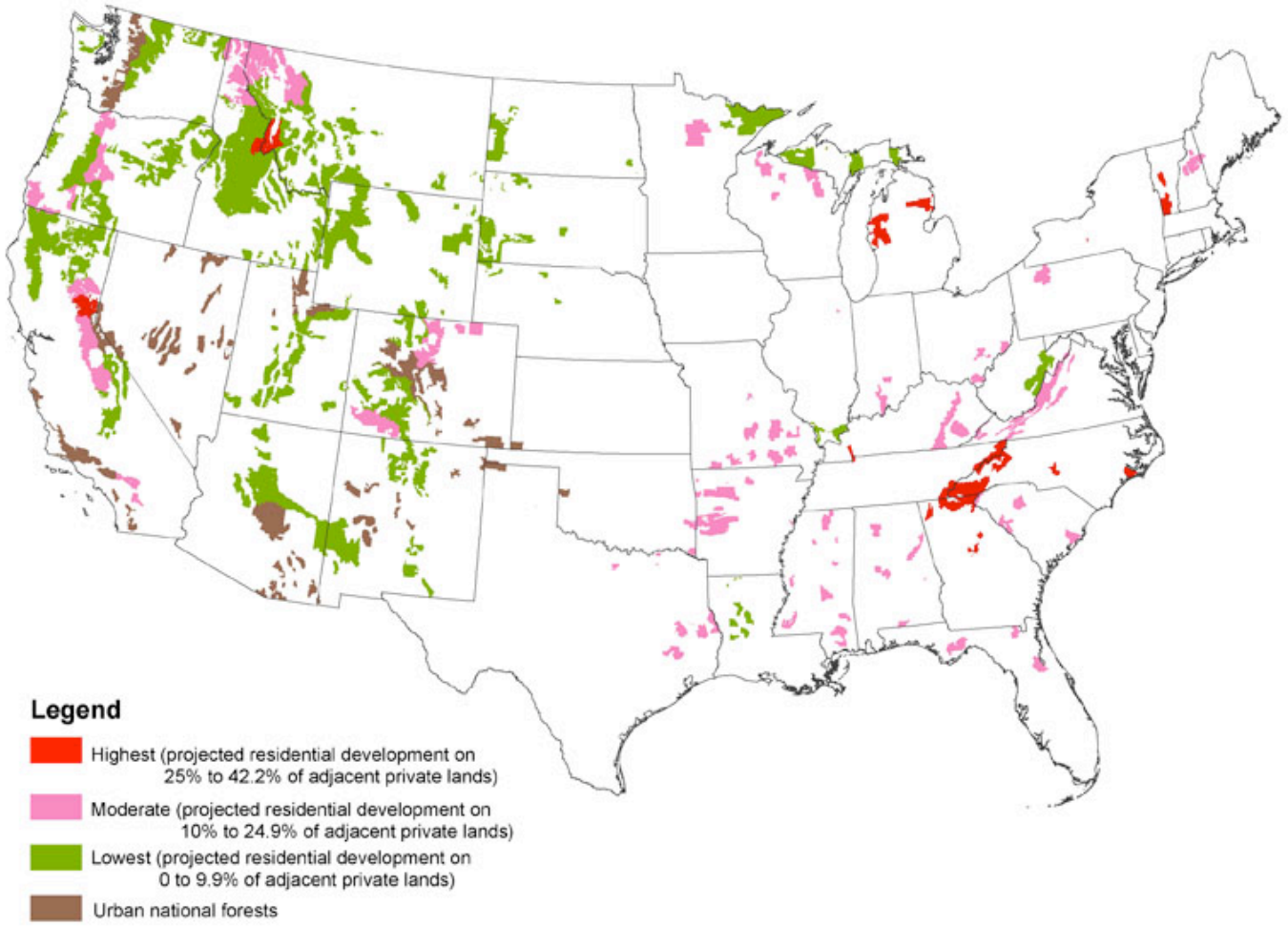
Rural Areas Projected to Experience Increased Development, 2000-2030

Source: USFS Open Space Strategy



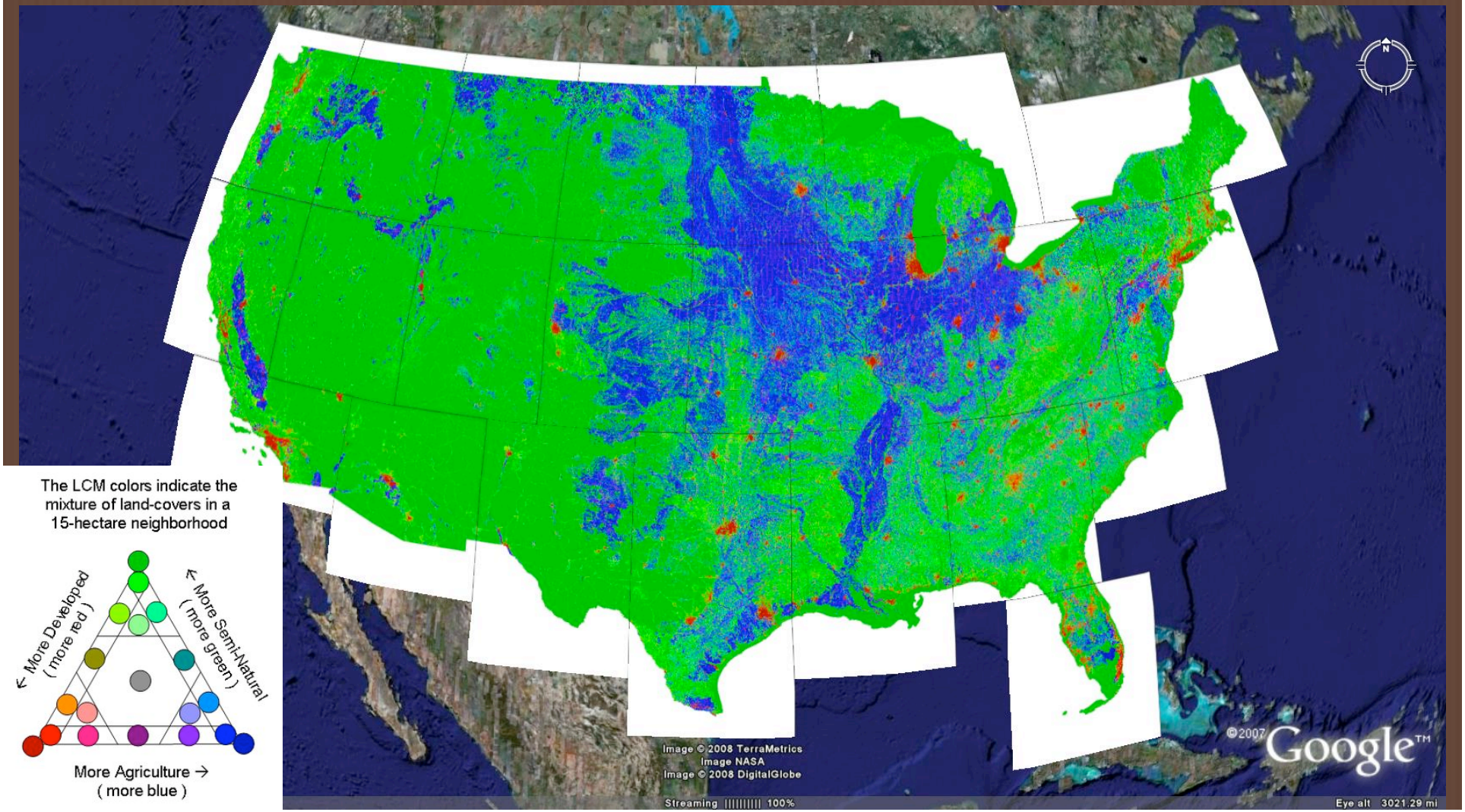
Projected Development Around National Forest Lands

Source: USFS Open Space Strategy



Environmental Threat Assessment Center - Landcover Map

Source: Eastern Forest Environmental Threat Assessment Center



U.S. Major Watersheds

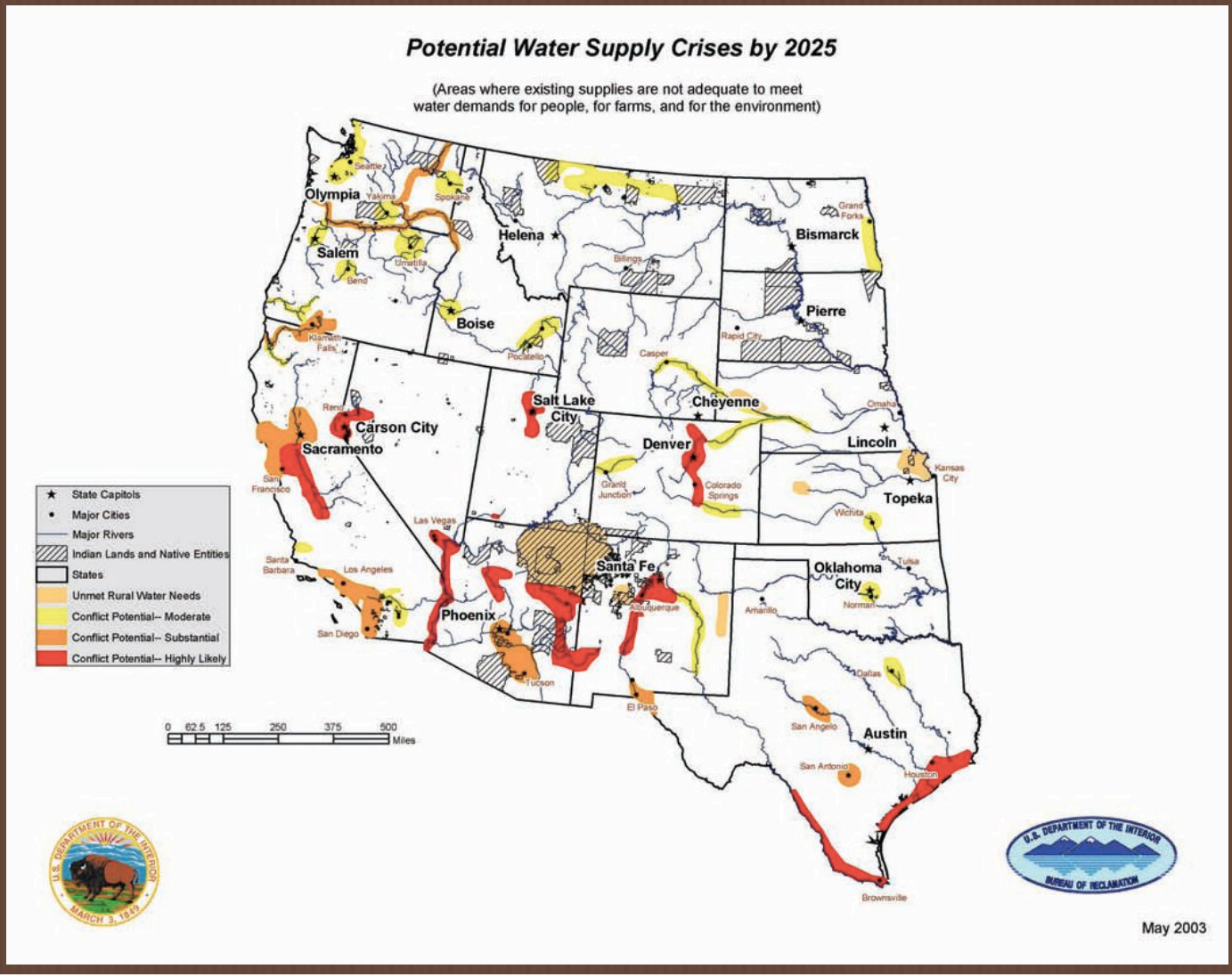
Source: USGS

10 Most Endangered Rivers

Source: American Rivers

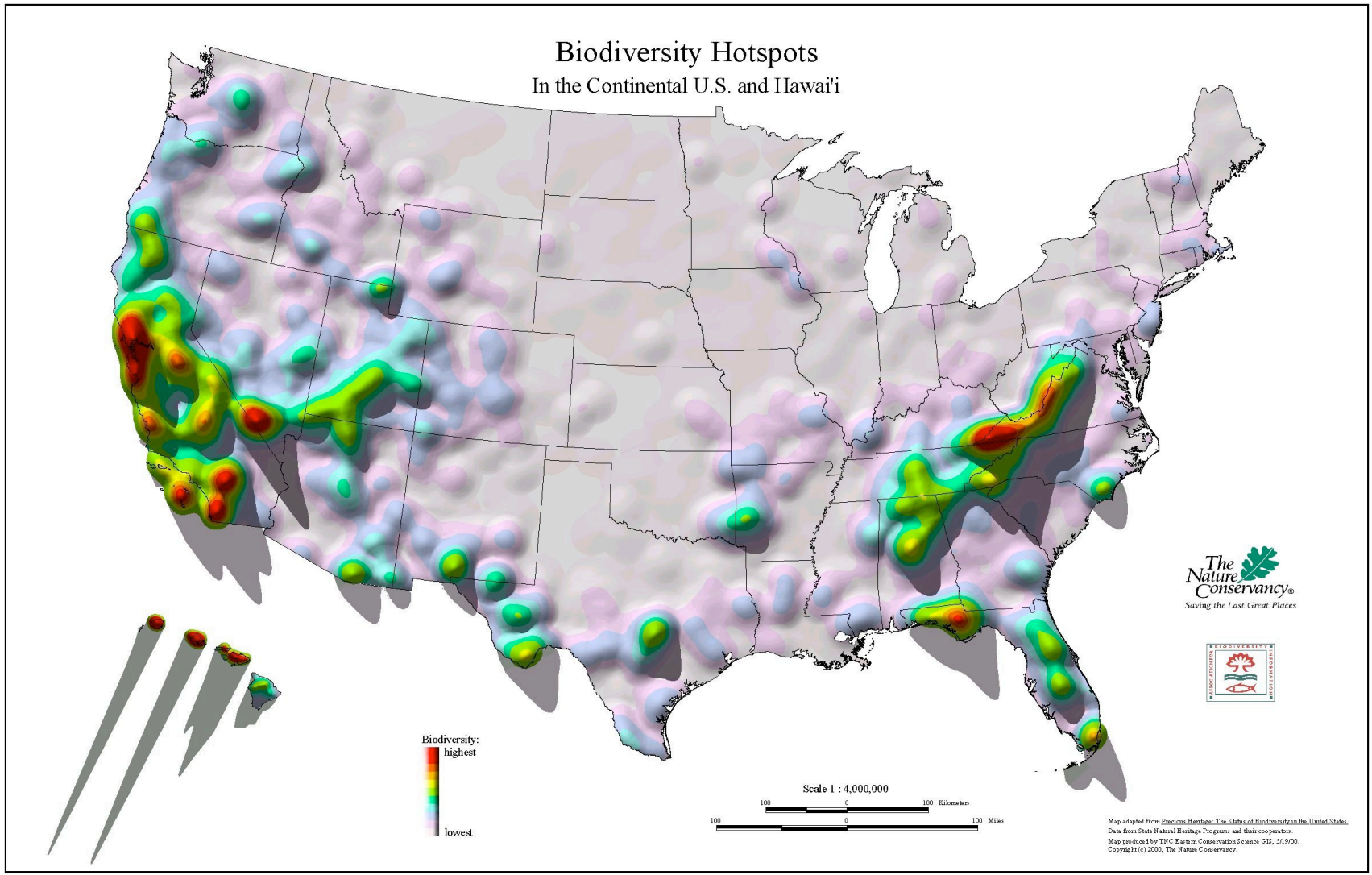
Water Supply Challenges

Source: Bureau of Reclamation, Department of the Interior



Biodiversity Hotspots

Source: The Nature Conservancy



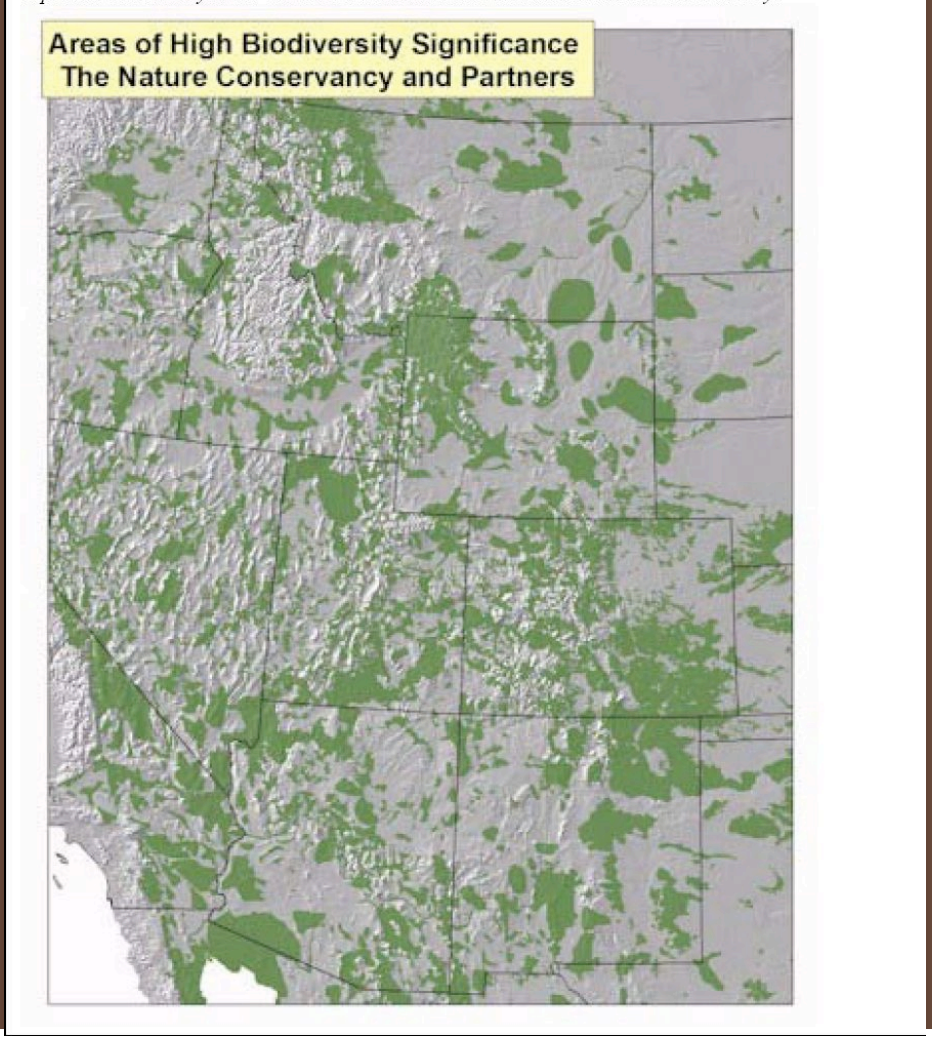
North American Wildlife Corridors

Source: The Wildlands Project

Critical Biodiversity Areas

Source: The Nature Conservancy

Fig. 4. The TNC Ecoregional Assessments (portfolio sites in green) provide a more consistent depiction of important biodiversity areas across the Western States. Source: The Nature Conservancy.



Crucial Elk Habitat

Source: Western Governors' Association

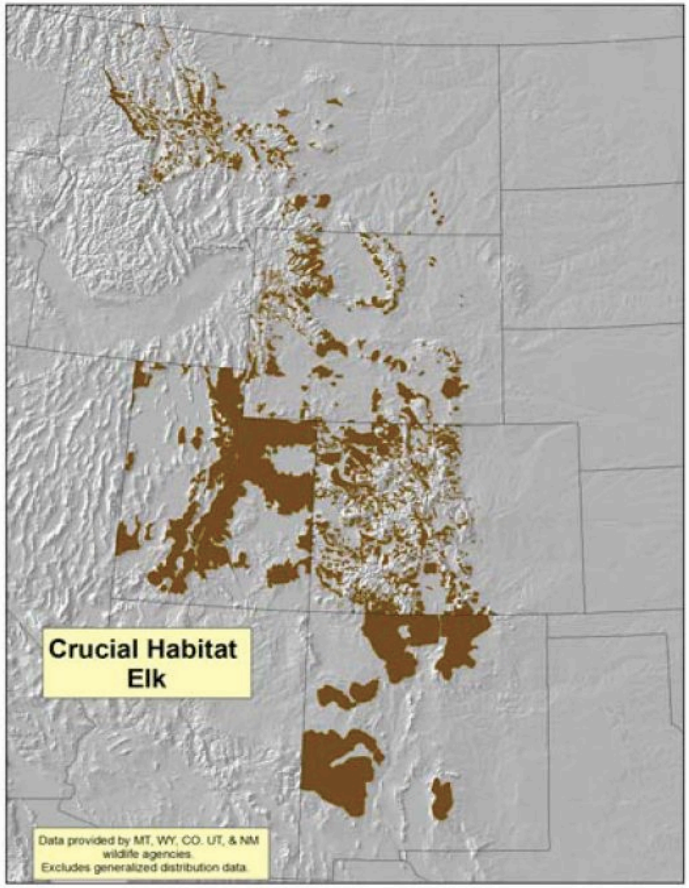
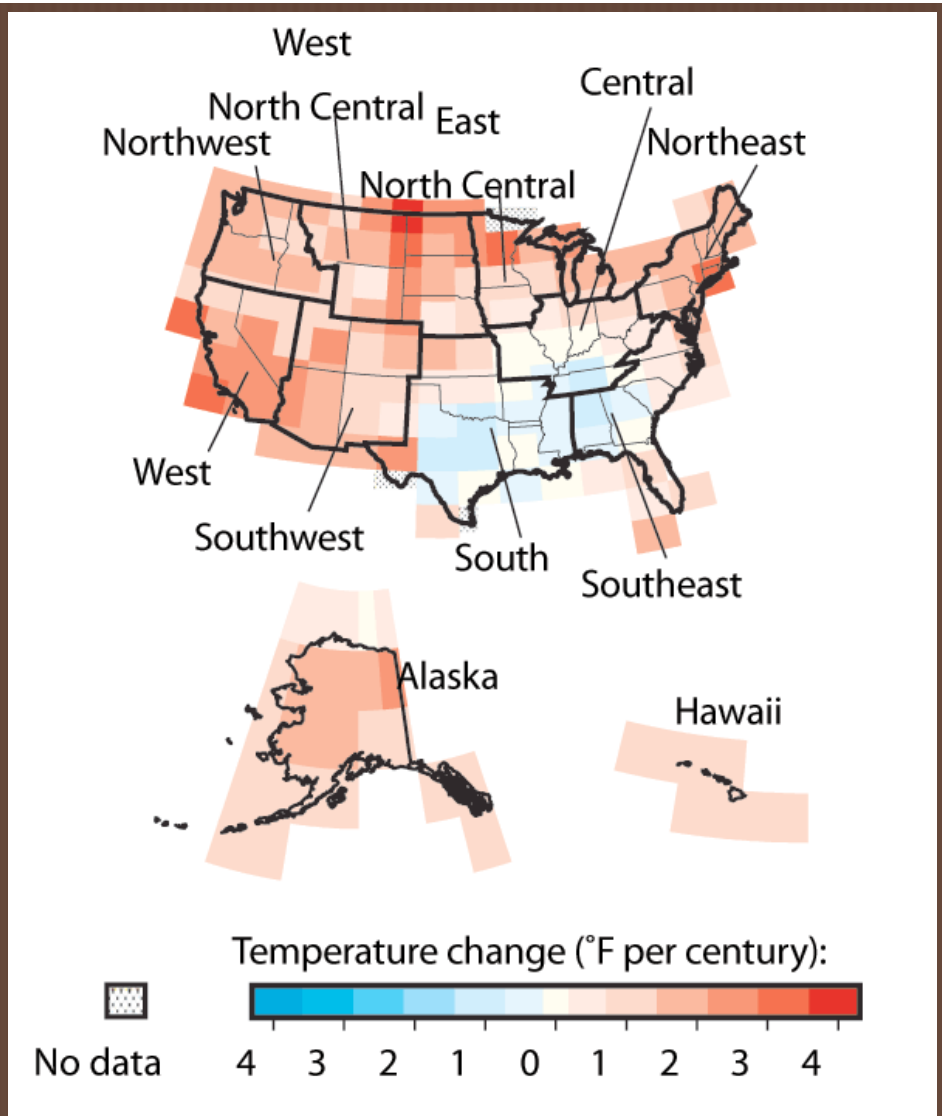


Figure 2. Existing information on crucial habitat for elk. Source: State fish and wildlife agencies

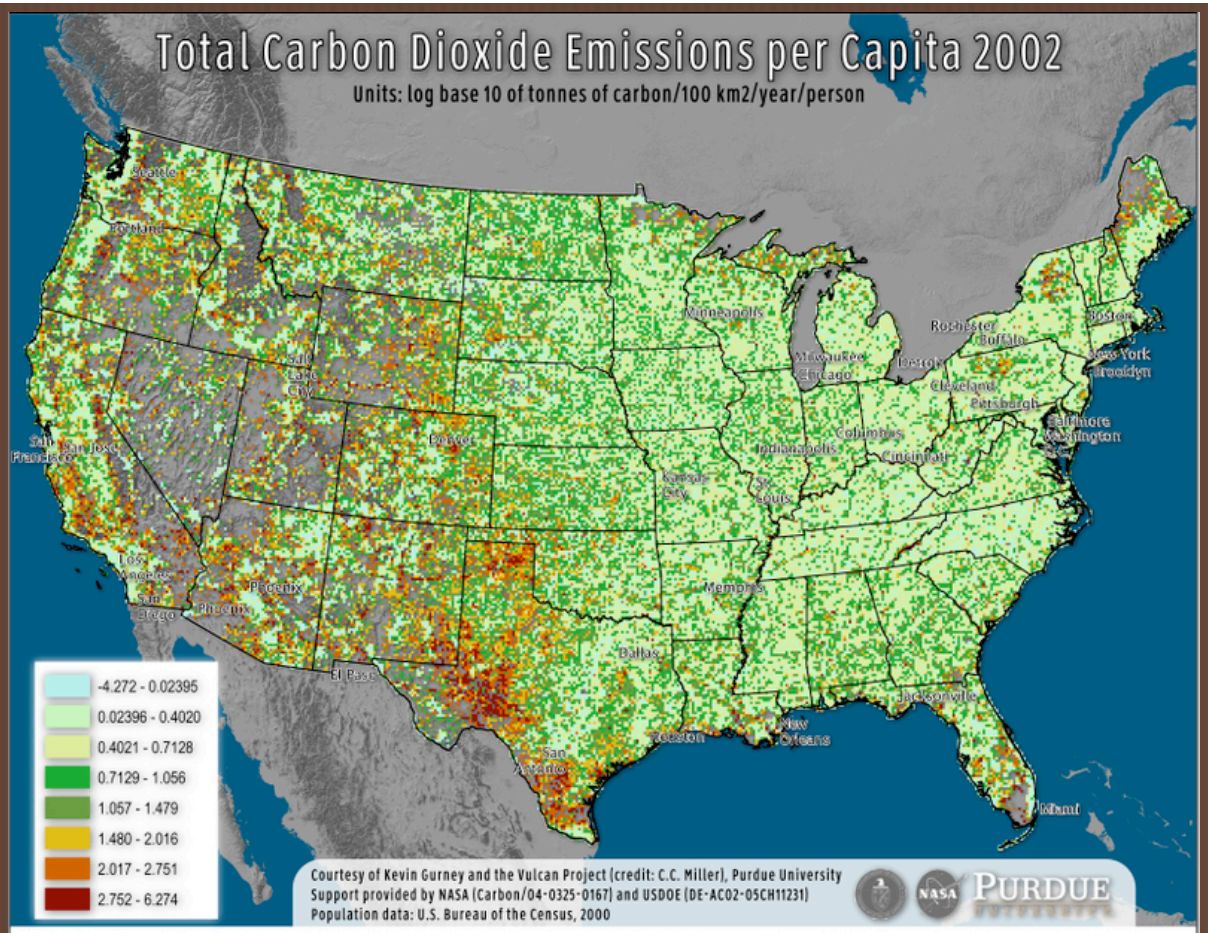
Temperature Change Per Century

Source: Environmental Protection Agency



CO_2 Emissions per Capita, 2002

Source: Vulcan Project, Purdue University



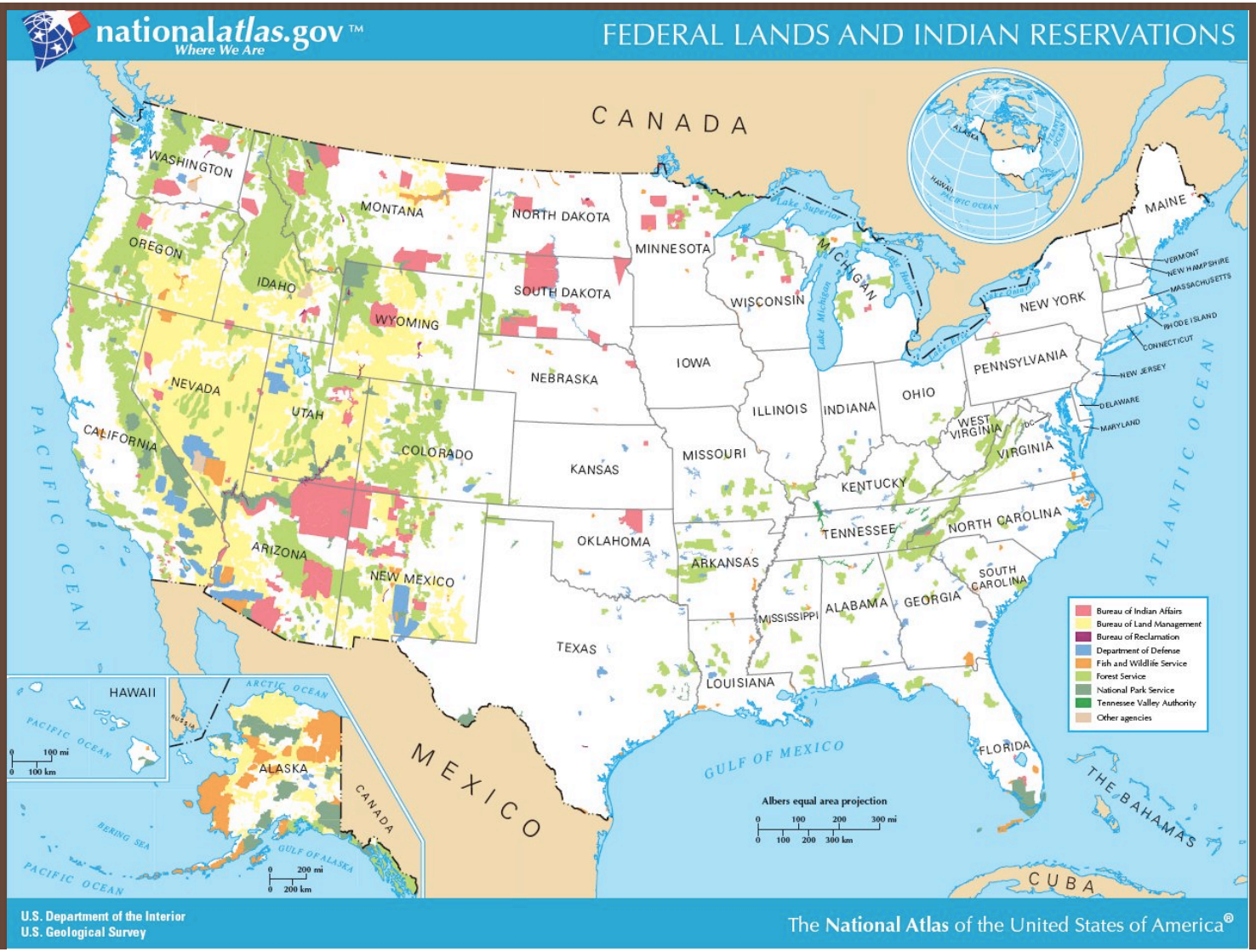
NOTE: This map is a "quick" recalculation of the Vulcan 2002 fossil fuel CO2 emissions inventory in order to achieve a per capita quantity. Please note the methods employed to produce this map and the intrinsic caveats. We are currently developing a more accurate assessment of per capita emissions for the Vulcan inventory. However, this map gives a reasonable approximation of per capita emissions and should serve to adequately inform discussions on that basis.

METHOD: Vulcan emissions in each 10 km x 10 km grid cell were divided by the total population of all U.S. Census Blocks (Decennial Census 2000) found within the cells' boundaries. For simplicity, only the centroids of Census blocks (not their polygons) were used to determine which blocks' populations were summed into any given grid cell. In the likely scenario in which many blocks lie within a single grid cell, the blocks' populations were summed into the cell before the per capita value was calculated. In the fewer cases where a Census block overlaps several grid cells, only the grid cell containing the block's centroid is given that block's population. Vulcan grid cells with no emissions or which overlaid areas with no population were omitted.

Index: How We're Responding

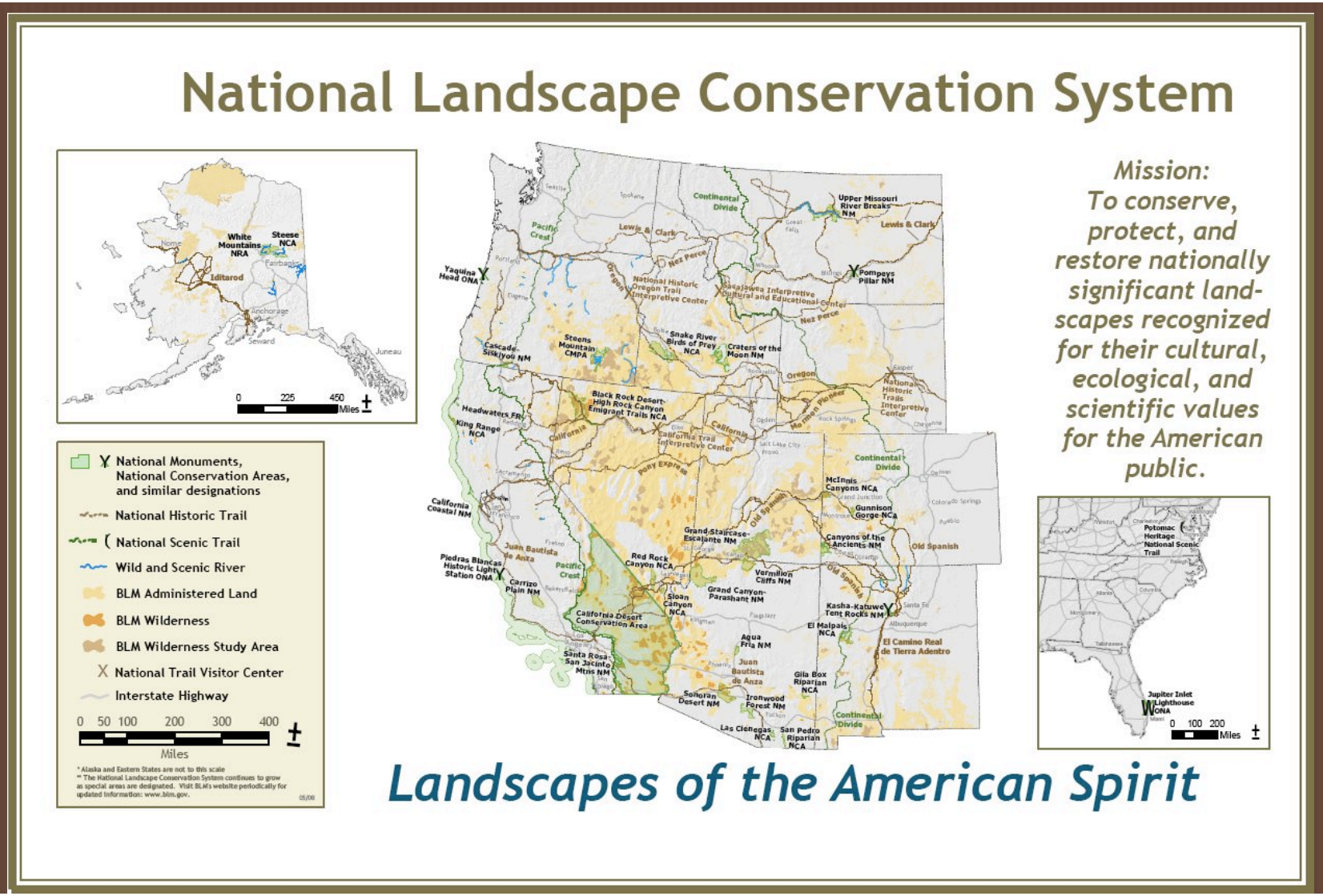
Federal and Indian Lands

Source: nationalatlas.gov



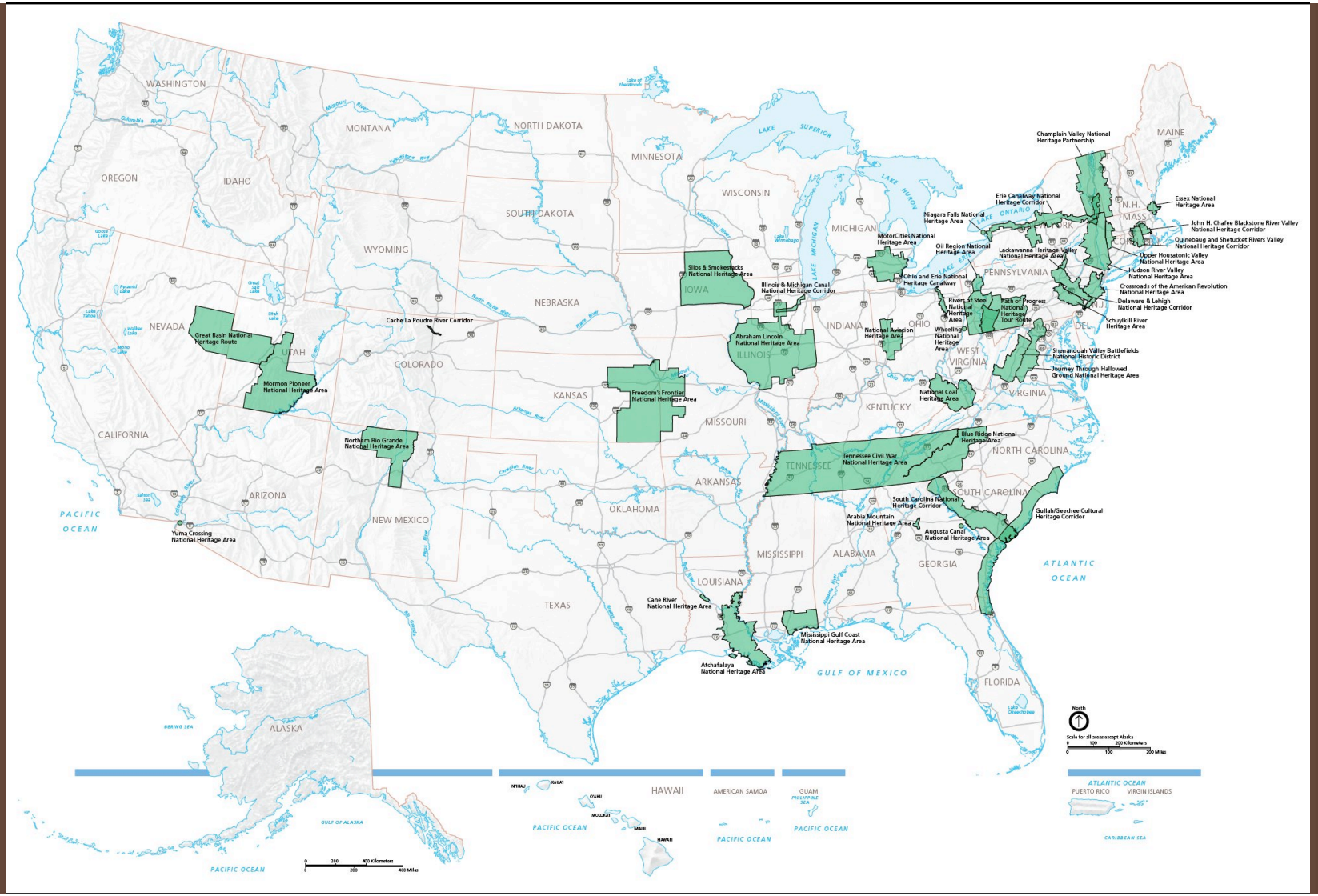
National Landscape Conservation System - BLM

Source: Bureau of Land Management



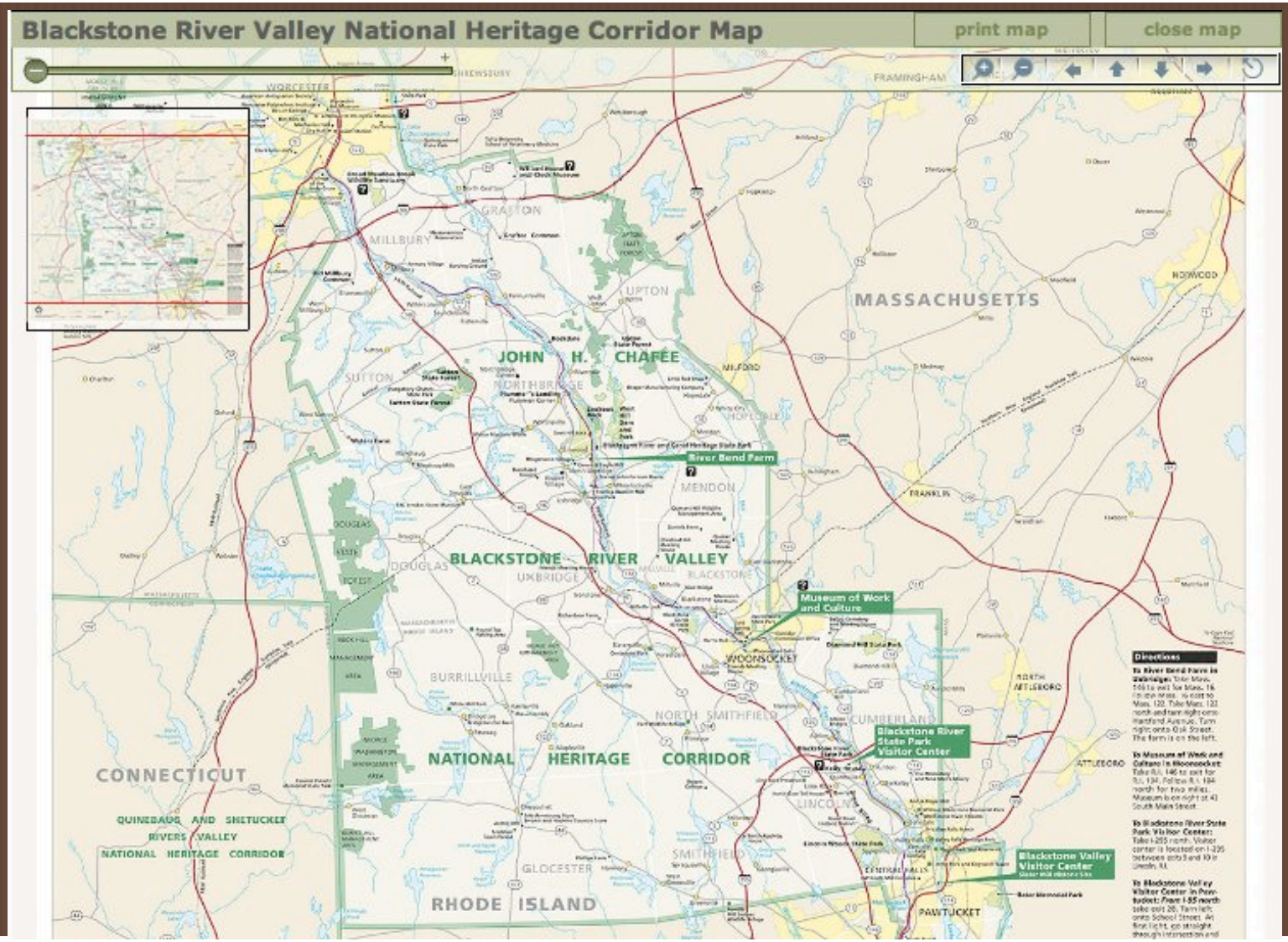
NPS – National Heritage Areas

Source: National Park Service



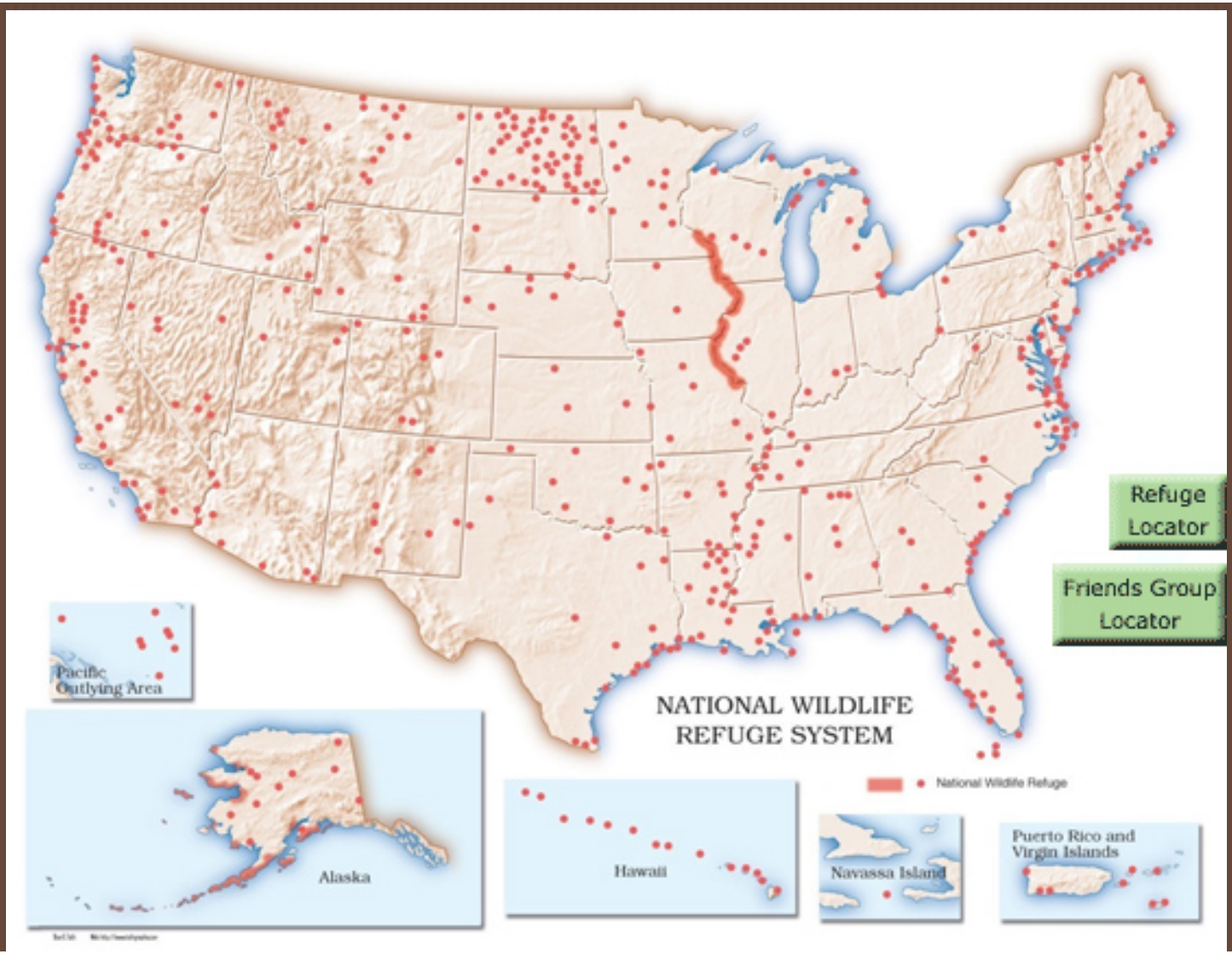
John H. Chafee Blackstone River Valley National Heritage Corridor

Source: National Park Service



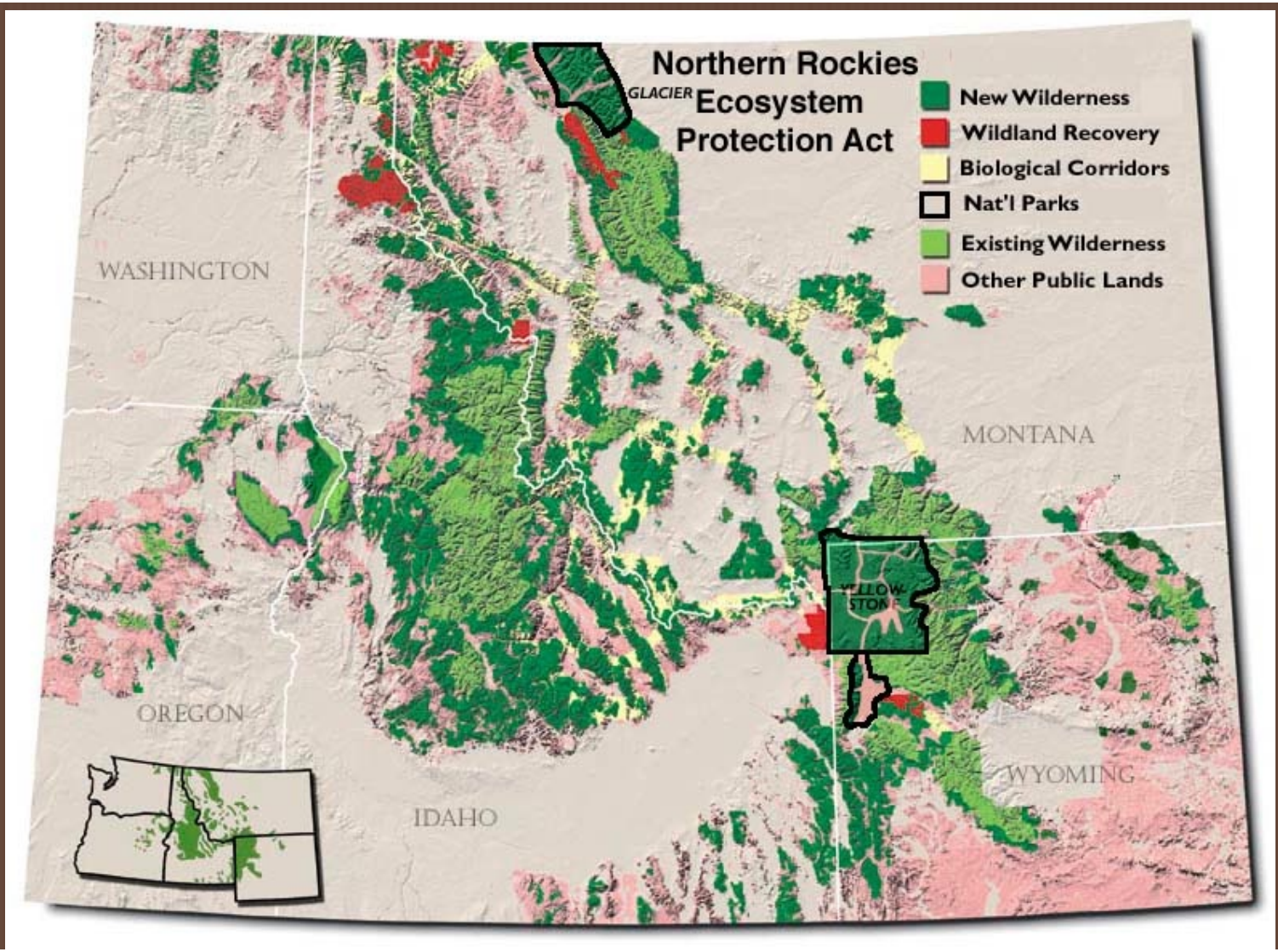
National Wildlife Refuge Areas

Source: U.S. Fish and Wildlife Service



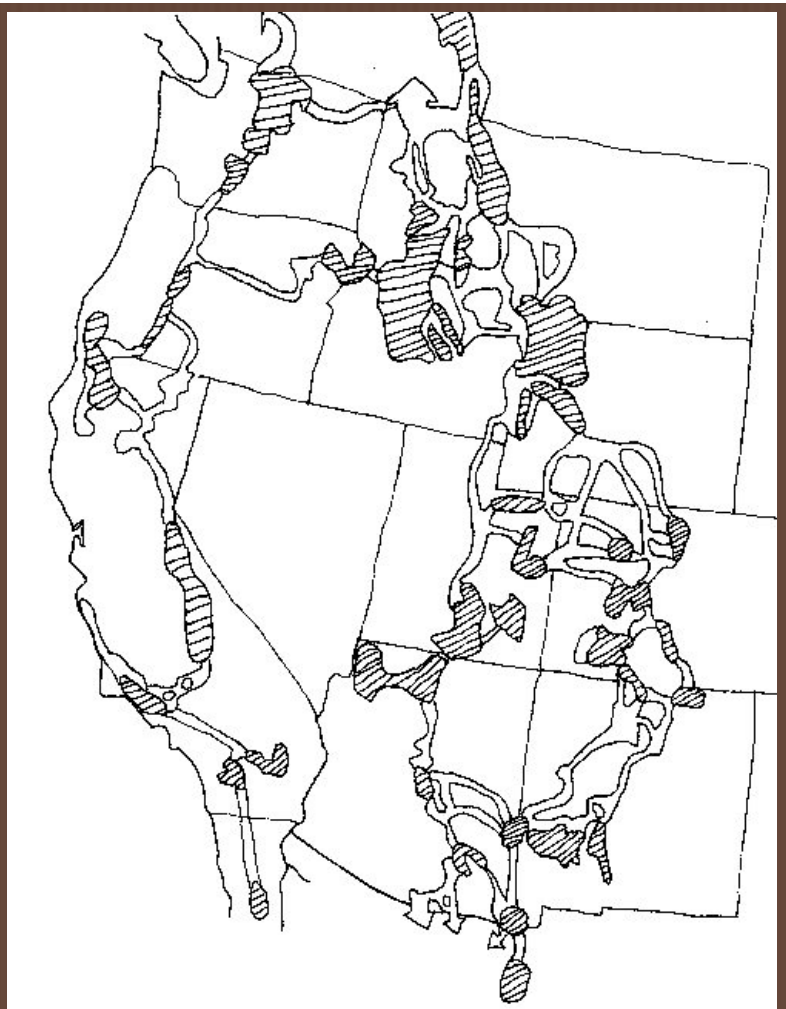
Proposed Northern Rockies Ecosystem Protection Act

Source: Wild Rockies Alliance



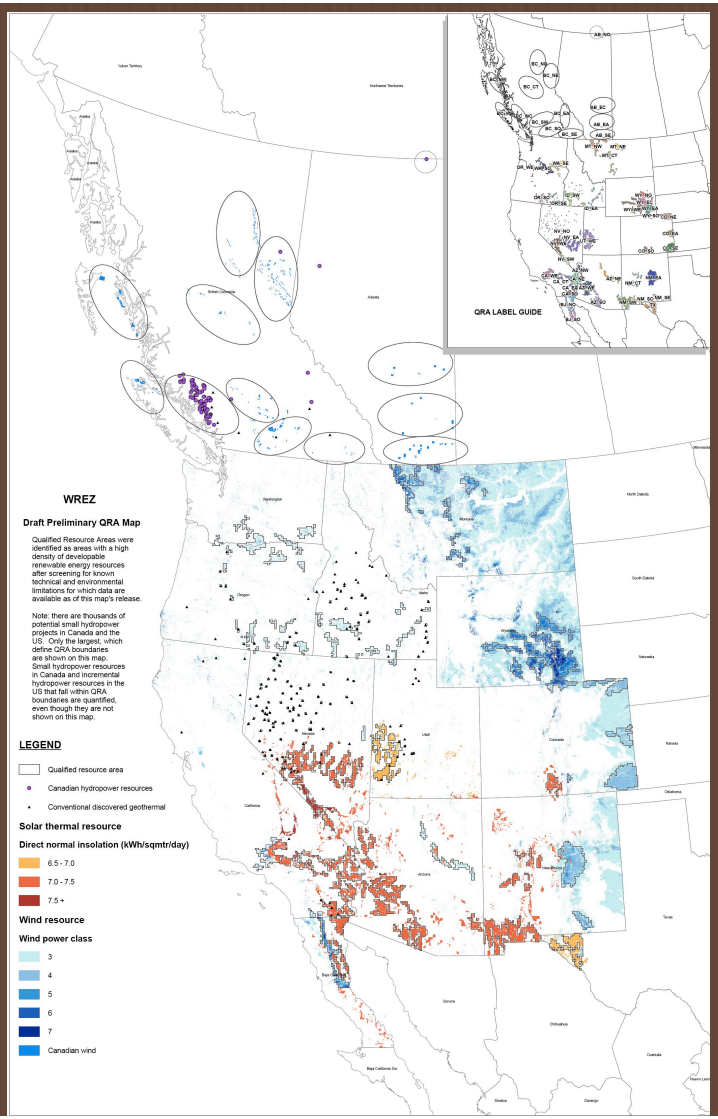
Conceptualized Western Wildlife Corridors

Source: Western Governors' Association



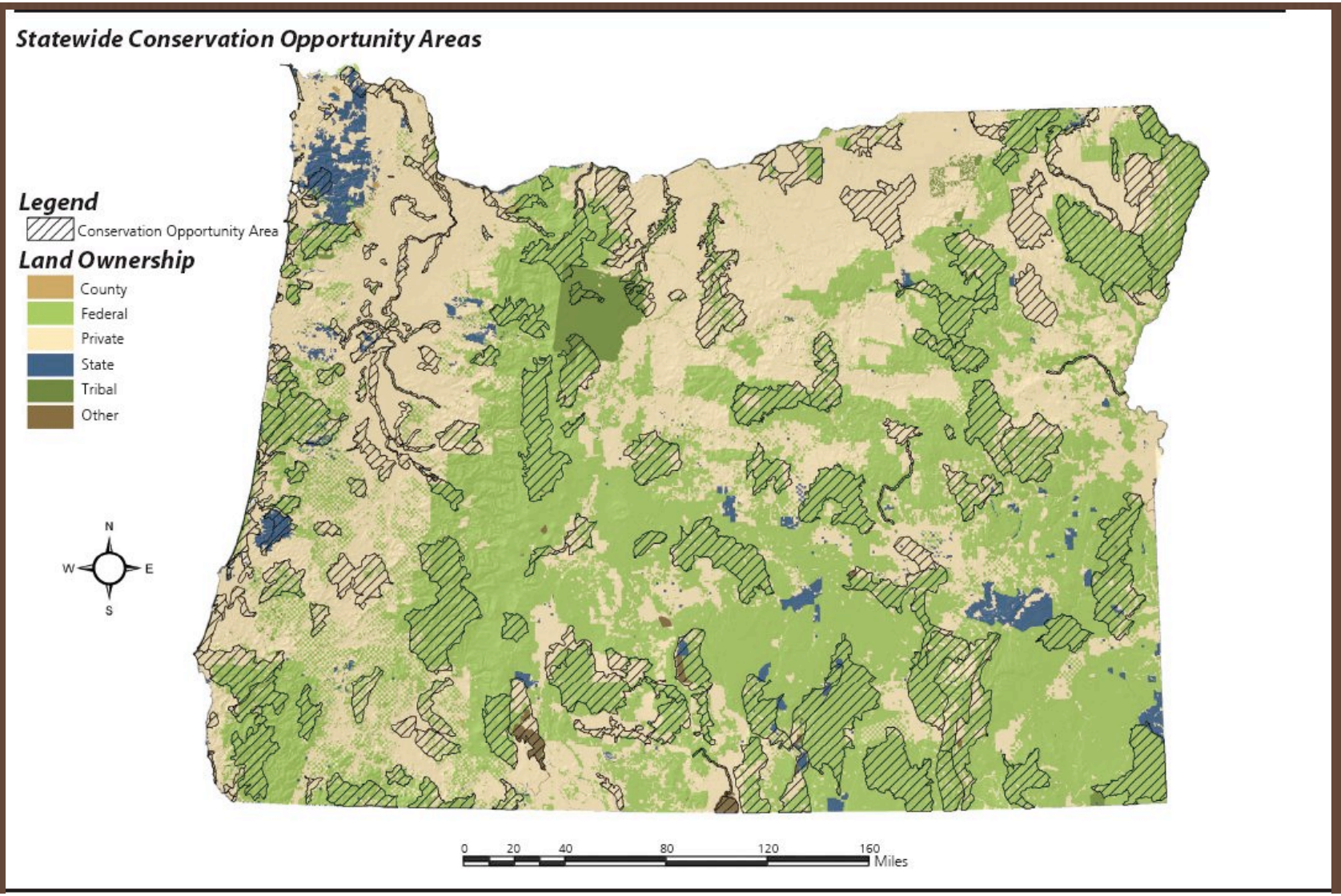
Western Governors' Association Draft Renewable Energy Zones

Source: Western Governors' Association



State Conservation Plans
Example: State of Oregon

Source: Oregon Department of Fish and Wildlife



Conservation by Design
Ex: California

Source: The Nature Conservancy

Preserving Wild California

Source: Resources Legacy Fund

Northern Sierra Partnership

Source: Northern Sierra Partnership

Great Lakes Ecosystem Charter

Sources: Great Lakes Information Network (map), Great Lakes Commission (Charter)

Ecosystem Charter for the Great Lakes-St. Lawrence Basin

Preamble