

COLORADO STATE LAND BOARD

Ecosystem Services / Mitigation Program

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Presentation to the Western States Land
Commissioners Association



COLORADO
State Land Board
Department of Natural Resources

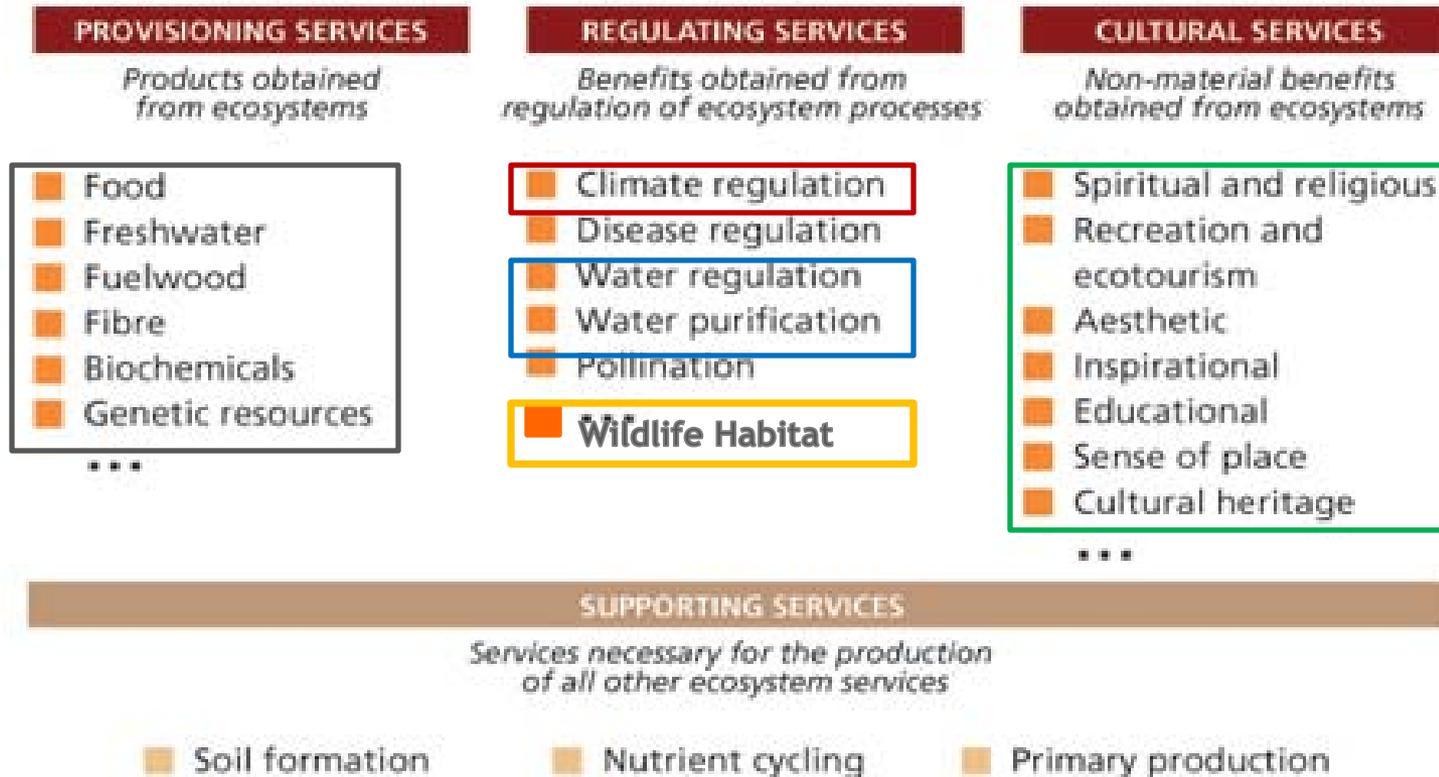
Presentation to WSLCA Annual Meeting
01.05.2015

Discussion Outline

1. Review SLB approach to targeting what kinds of mitigation programs to develop
2. Nov. 2013 Demand Analysis on state trust lands
3. Three pilot projects and involvement in emerging markets



Ecosystem Services



Source: Millennium Assessment, 2003

LIFE ON EARTH – BIODIVERSITY



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3 Main Types of Payments for Ecosystem Services

- Water markets
- Biodiversity markets
- Carbon Markets



Role of Government Regulation in Driving Demand for Ecosystem Service Payments

- **Water**
 - Clean Water Act (1972) Existing Market
 - Wetland Mitigation Rule (2008) Existing Market
- **Biodiversity (plants & animals)**
 - Endangered Species Act (1973) Existing Market
 - Colorado Habitat Exchange (2015) Emerging Market
- **Carbon**
 - Voluntary & “Boutique” Markets Voluntary Market
 - Cap & Trade Future Market



Overview of Market Types in Colorado - by Market “Functionality”

		ECOSYSTEM/HABITAT METRICS & PROTOCOL	
		METRICS & PROTOCOL EXIST	METRICS & PROTOCOL DO NOT YET EXIST <i>(Conservation occurs on an ad-hoc basis with each project requiring its own conservation plan).</i>
MARKET “READINESS”	<p><u>ESTABLISHED MARKETS</u></p> <p>Regulations Exist (but may be regional) (“Compliance Market”)</p>	<ul style="list-style-type: none"> Wetlands mitigation banking <p style="font-size: 48pt; color: green; text-align: center;">1</p>	<ul style="list-style-type: none"> Stream mitigation banking Prebles Meadow Jumping Mouse habitat <p style="font-size: 48pt; color: green; text-align: center;">2</p> <p><i>(“Supply-limited” -- moderate demand, but a ready supply is limited because of an ad hoc approval process)</i></p>
	<p><u>EMERGING MARKETS</u></p> <p>Regulations do not yet exist (or they are emerging regionally)</p> <p>(“Pre-compliance or Voluntary Market”)</p>	<ul style="list-style-type: none"> Carbon Sequestration <i>(voluntary and/or “boutique” markets)</i> Greater Sage Grouse <p style="font-size: 48pt; color: green; text-align: center;">4</p>	<ul style="list-style-type: none"> Greater Sage Grouse Gunnison Sage Grouse Lesser Prairie Chicken Prairie dogs <p style="font-size: 48pt; color: green; text-align: center;">3</p> <p><i>(“Demand-limited” -- lots of potential supply, but demand is limited because no current regulations require mitigation).</i></p>



Colorado SLB Program Development



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ECOSYSTEM SERVICES BUSINESS PLAN 2013-2023

Last Revision: August 2014

I. INTRODUCTION

Ecosystem services are all of the ways in which ecosystems - and the species that make them up - sustain and fulfill human life. They include the air we breathe, the water we drink, the food that nourishes us, and the aesthetic experiences that inspire our cultures and fulfill our lives.¹

In its 2013 Strategic Plan the State Board of Land Commissioners (SLB) established a strategic objective to “generate new sources of revenue based on conservation and ecosystem services” and set a goal of generating a total of \$10 million from these services over a period of five years. This business plan focuses on developing new revenue streams derived from ecosystem services that capitalize on the regulating functions of wetlands and streams and the protection and enhancement of wildlife habitat.

The SLB has a unique opportunity to market ecosystem services due to the amount and distribution of state trust lands in its portfolio. With 2.88 million surface acres spread across much of the state, the SLB’s resources are both extensive and diverse. Marketing ecosystem services on state trust lands will help the SLB generate revenue for trust beneficiaries while stewarding its natural resources for future generations. However, as with any new line of business, the risks and rewards involved must be carefully weighed to ensure that potential projects will yield a net benefit to the organization and the trust beneficiaries.

¹ Millenium Assessment. 2005.

November | 2013

Prepared for
Colorado State Board of Land Commissioners



Mitigation Banking Demand Analysis

Basin-specific market demand analysis for wetlands and conservation banking on Colorado state trust lands

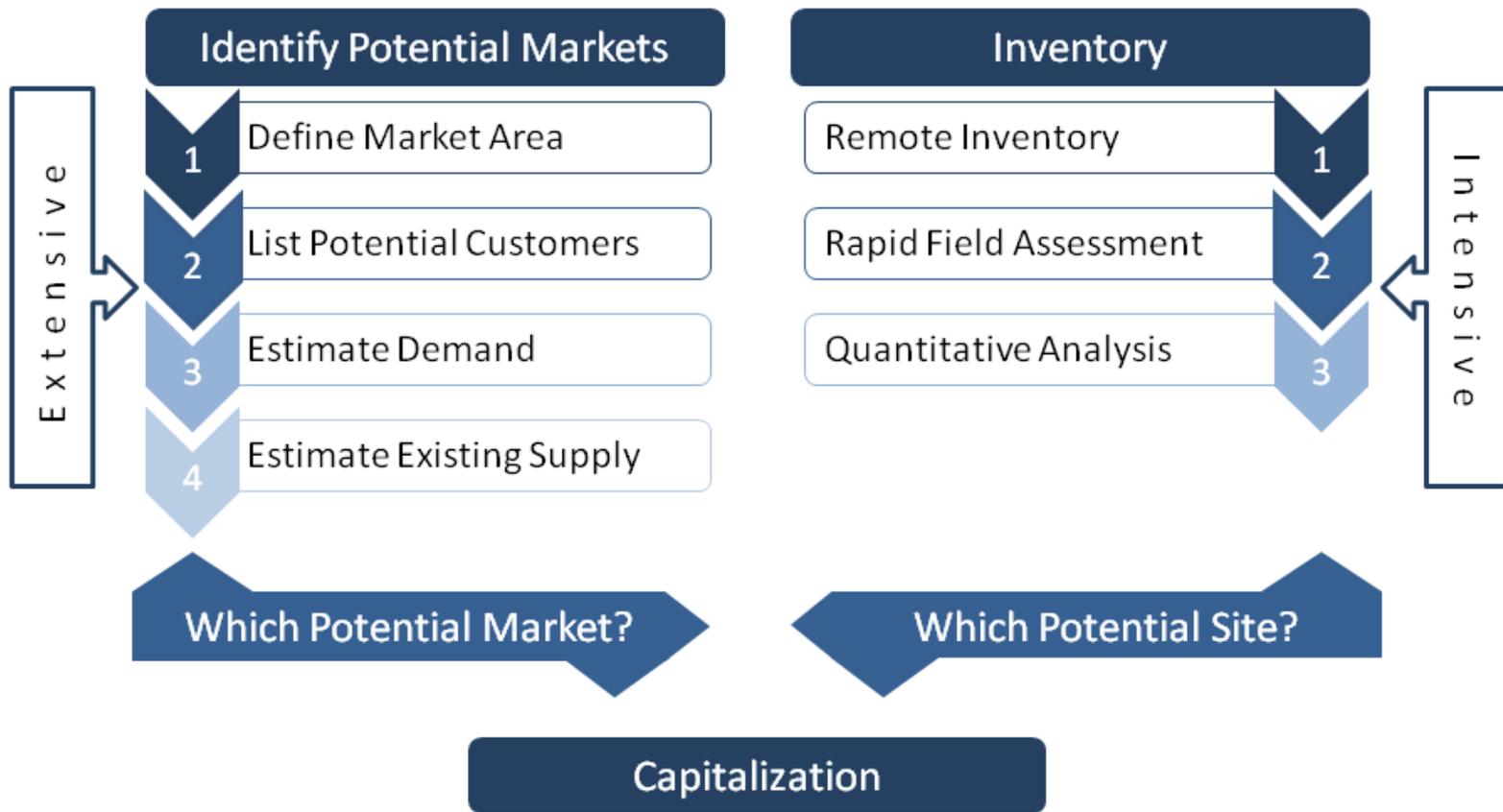


Erik Anderson | Ecosystem Services Intern



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Capitalization Models: Options for project development

1. Traditional: SLB oversees/develops all phases of project development. Has the greatest risk for SLB, but offers the highest potential return.
2. Split: SLB partners with public or private entity, sharing both costs and potential earnings.
3. Lease model: Land leased to entrepreneur who develops bank site. Has the lowest risk to SLB, but offers lower revenue return.



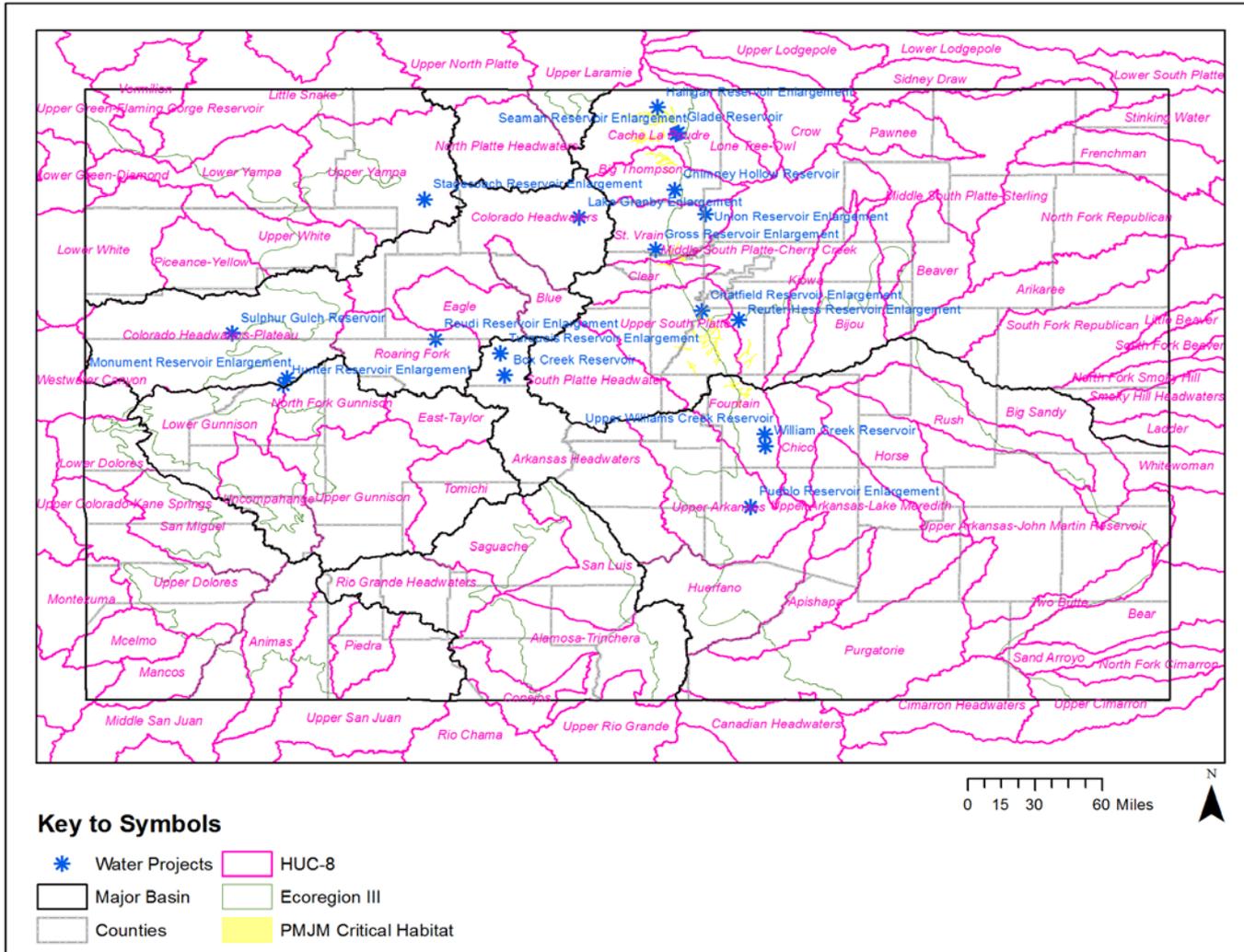
Key components of mitigation banking markets

Market Area (~ service area): Geographic region within which the bank entity can sell mitigation credits.

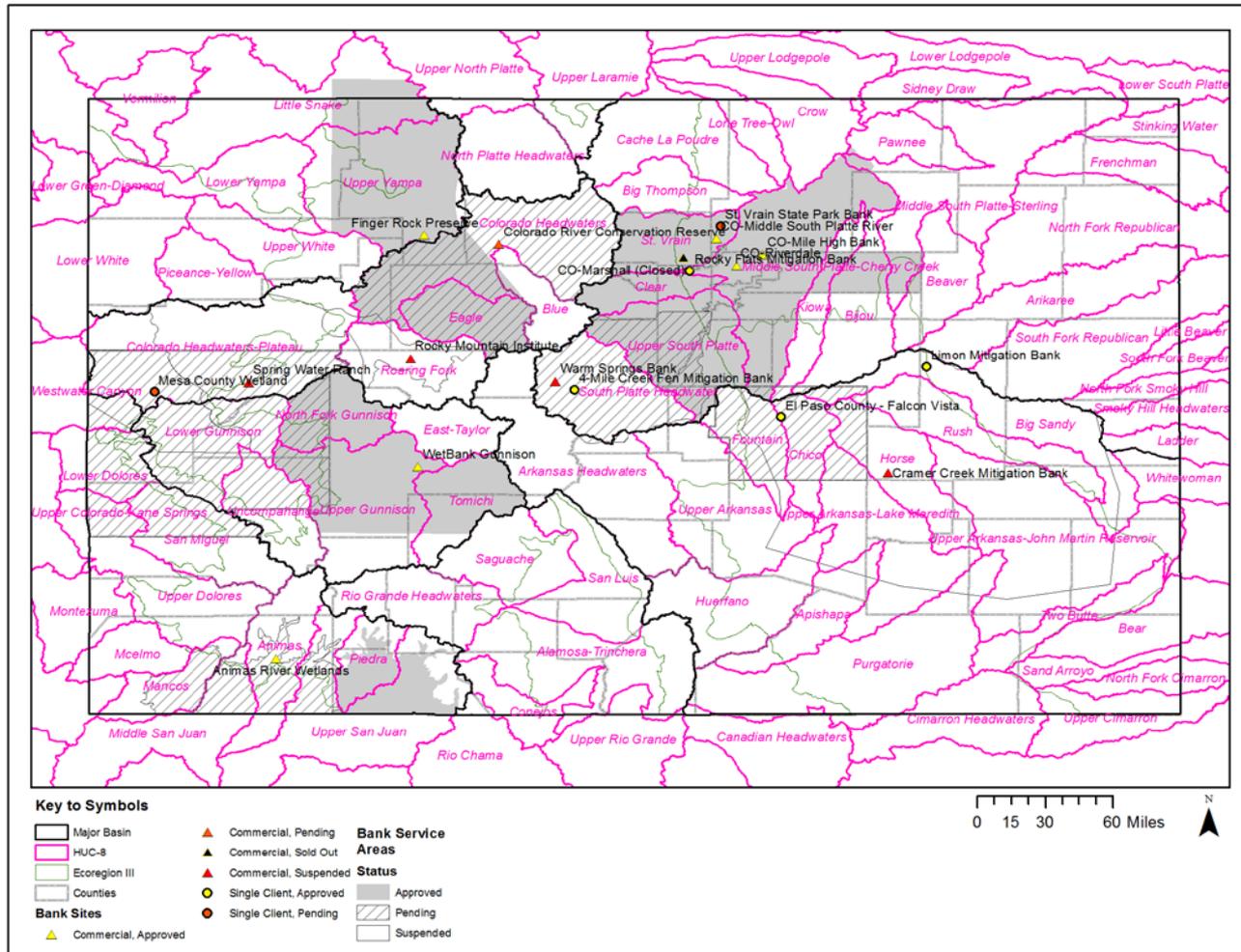
1. Determine type of ecosystem credit to market
2. Define market area (watershed, habitat area, etc.)
3. Identify potential customers
4. Identify existing supply
5. Inventory lands to identify potential mitigation banking sites
6. Conduct feasibility analysis for each potential site



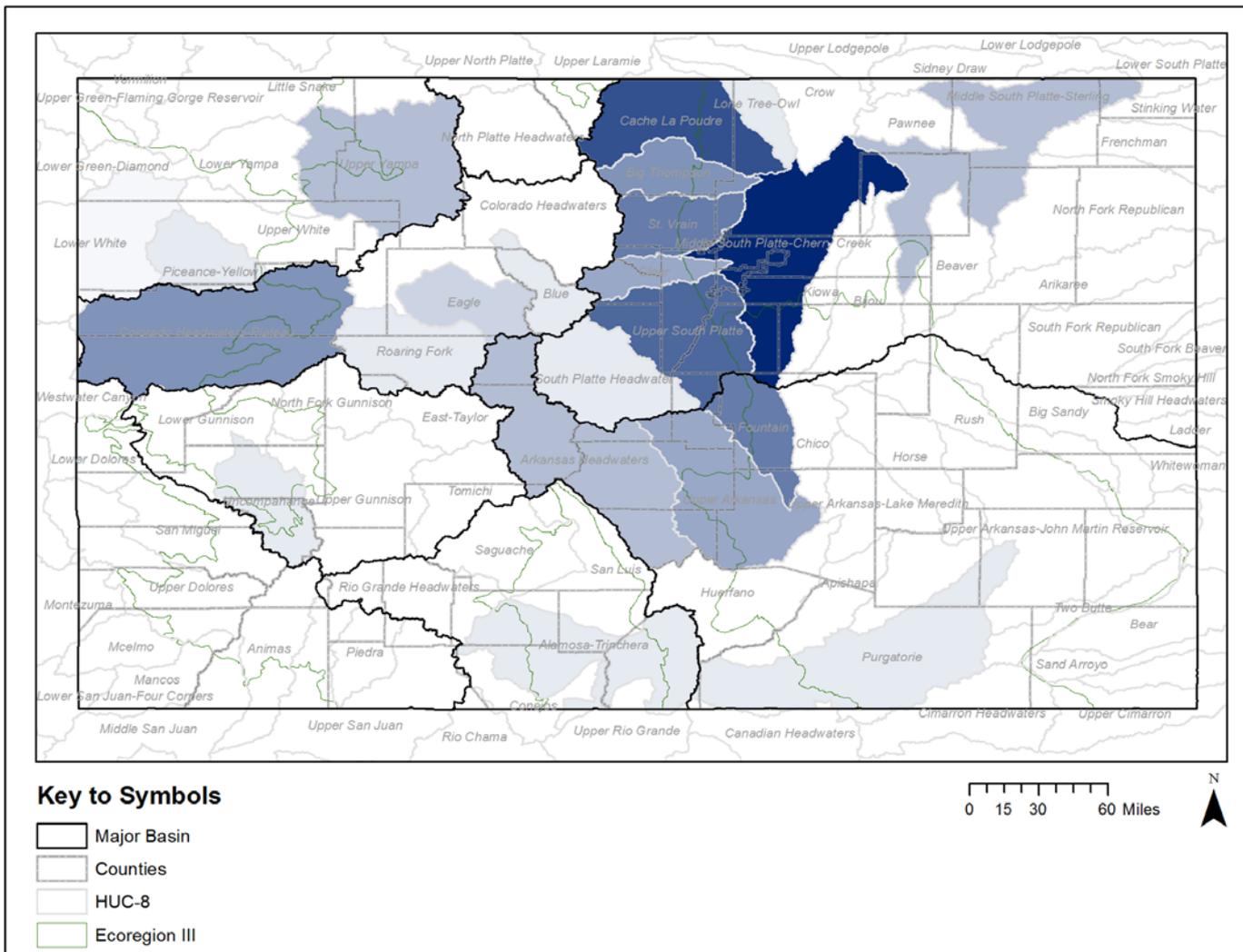
Water Projects Planned in CO



Existing Wetland Banks in CO



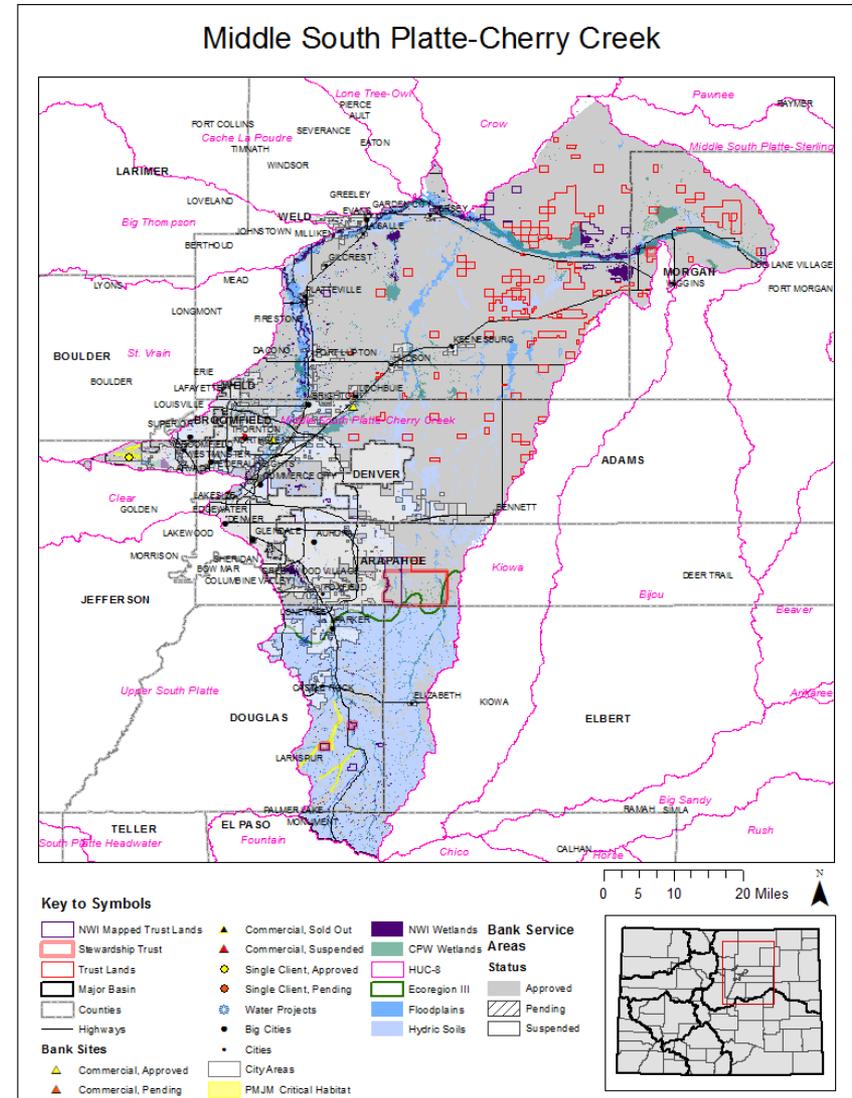
Priority Watersheds for Banking



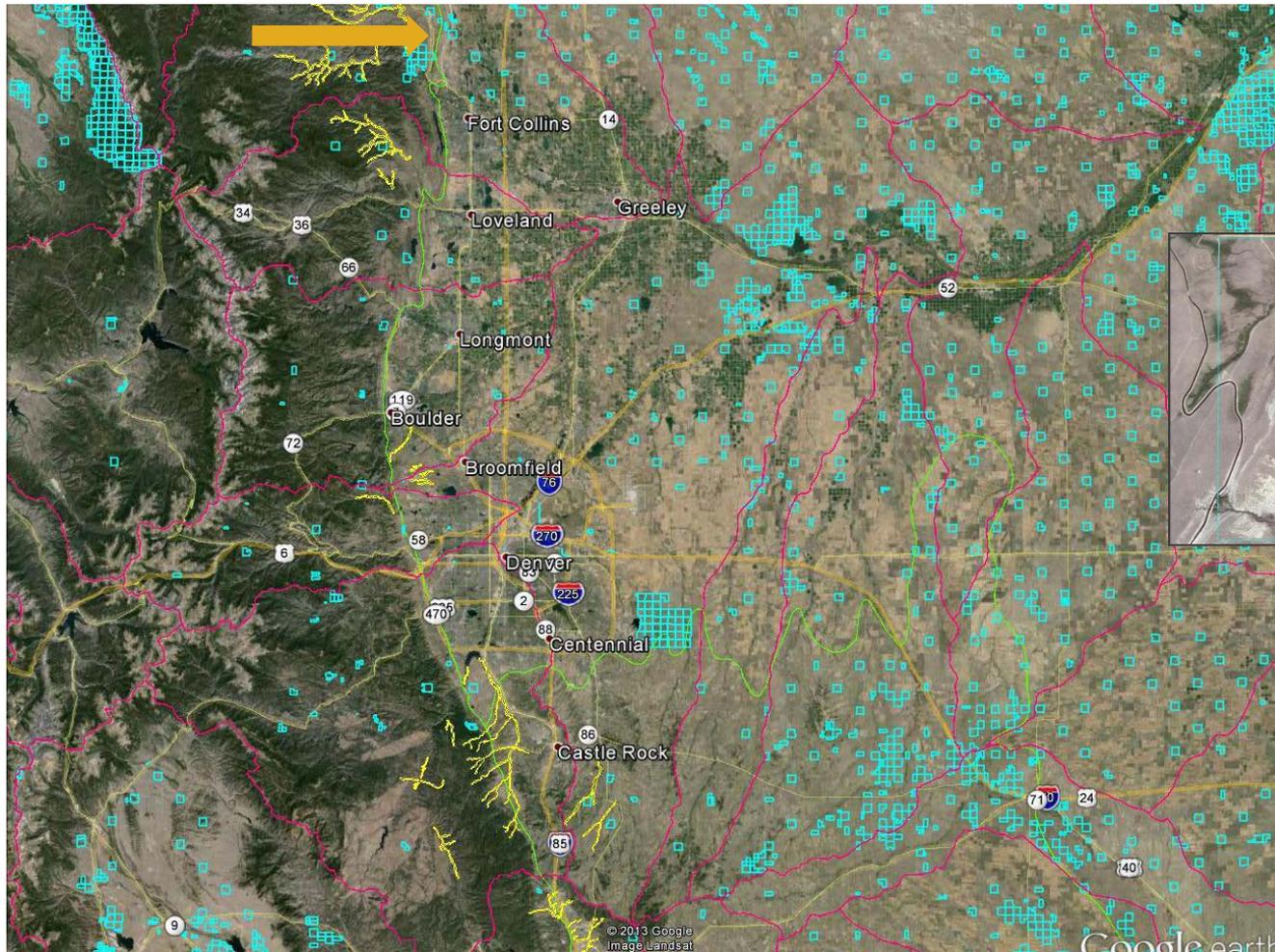
Middle South Platte-Cherry Creek Watershed

Highest population growth of all watersheds predicted in the next 20 years

Two existing banks in watershed may sell out of credits within the next 18-24 months.

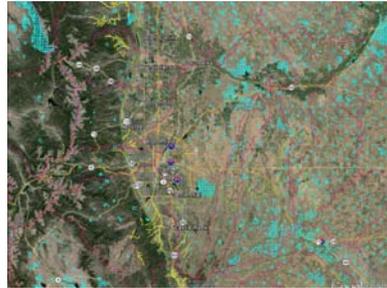


Prebles Meadow Jumping Mouse Critical Habitat

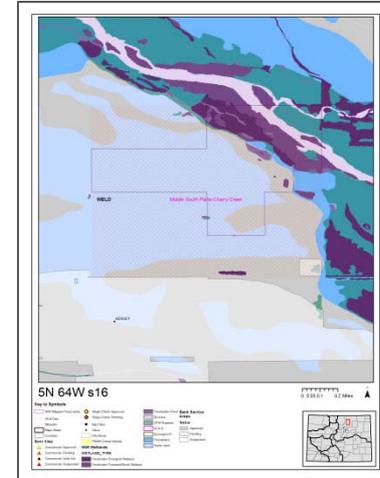


Four Levels of Evaluation for Mitigation Potential

- 100,000 foot view



- 10,000 foot view (desktop GIS analysis)



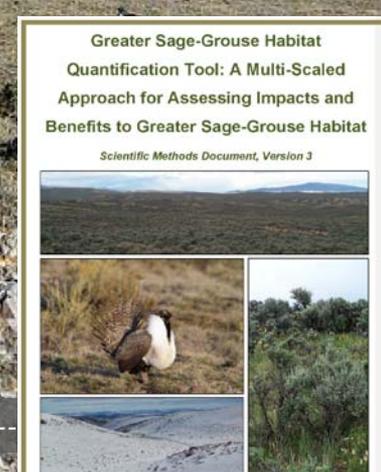
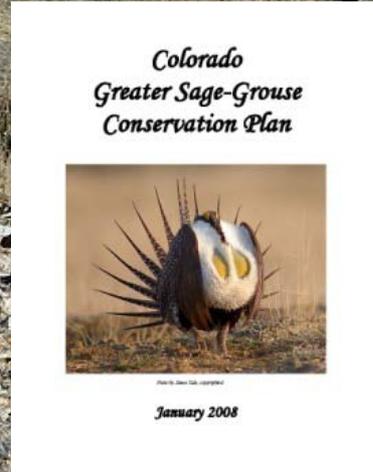
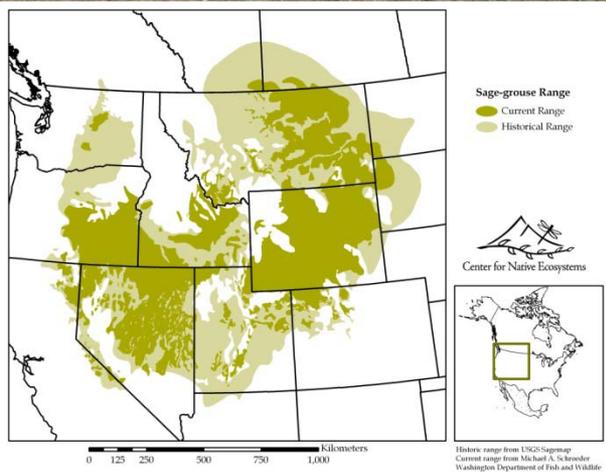
- Rapid field evaluations



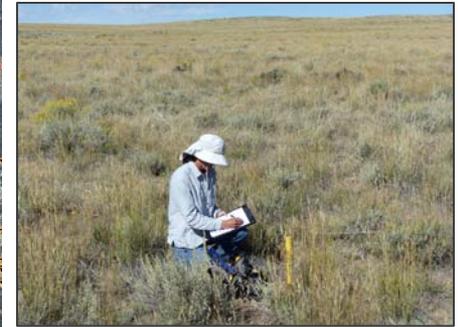
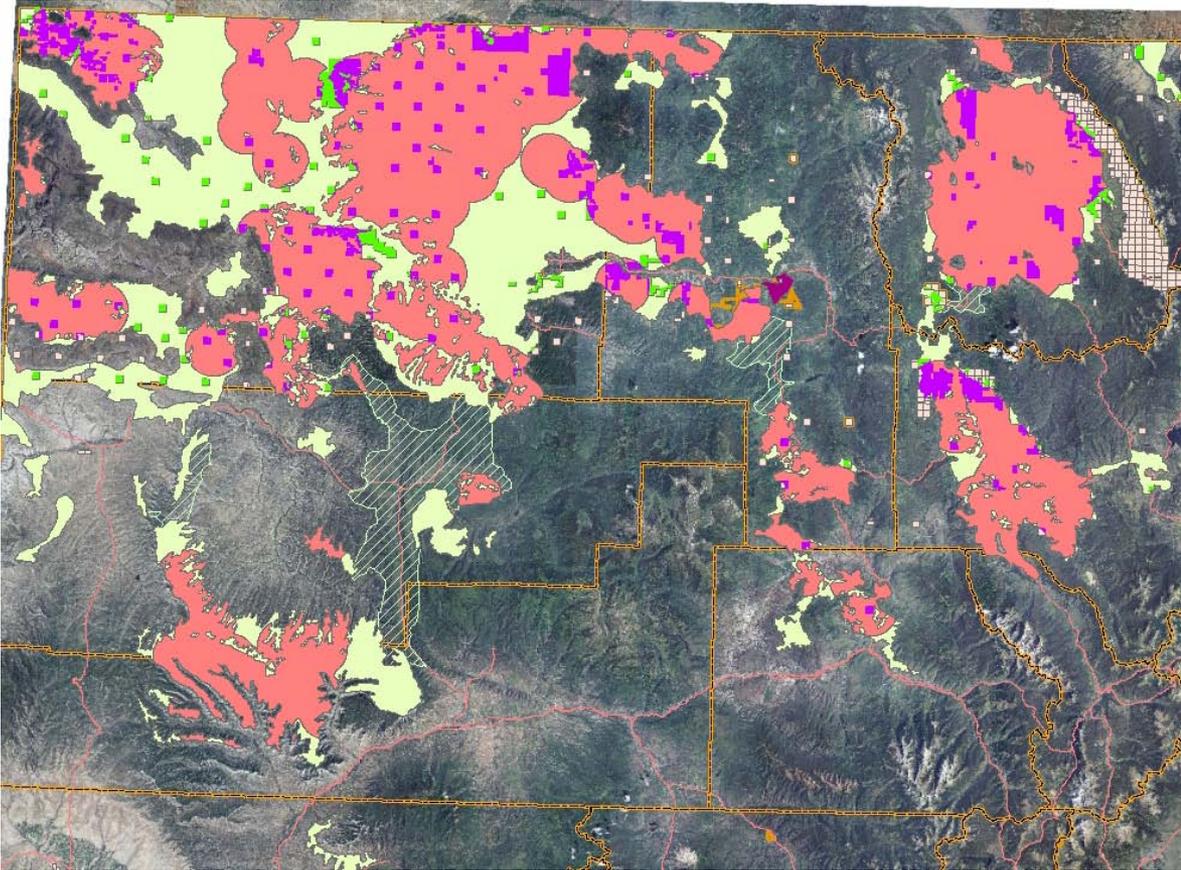
- In-depth site analyses by experts



Greater Sage Grouse Habitat



Greater Sage Grouse habitat on SLB trustlands



264,000 acres of SLB trustlands in identified Greater Sage Grouse Habitat



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