CHAPTER 6.
CREATING OUR VISION

For nearly four decades, project partners have continually drawn upon the latest thinking in ecosystem management, landscape ecology, land conservation techniques, real estate, and recreation management to create and maintain a high quality, county-wide open space system. In contemplating past achievements and envisioning future possibilities, Larimer County and its municipalities worked with consulting firm Logan Simpson Design and The Trust for Public Land to develop innovative Geographic Information Systems (GIS) models weighted by public values to evaluate and map the region's greatest natural resource assets and land conservation opportunities. The result was four open space maps and an interactive mapping website that illustrates where multiple opportunities to reflect public values exist.
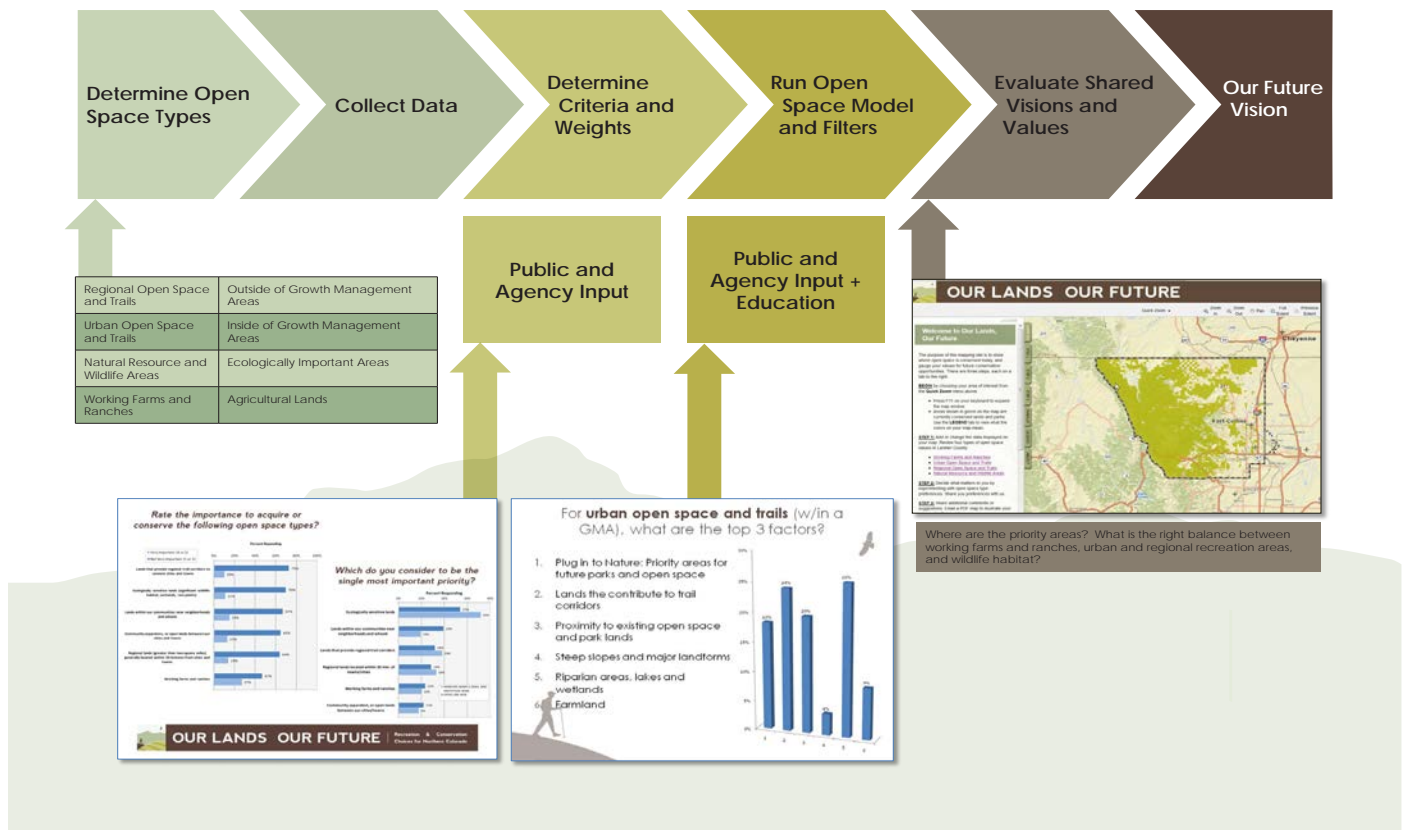
OPEN SPACE MODELING PROCESS

Figure 6.1 Open Space Modeling Process. The open space modeling processes were driven by public and Advisory Board input. Online users can create their own scenarios and review the criteria, weights, and results at http://tplgis.org/OurLands-OurFuture/.

The Our Lands – Our Future decision support system identifies natural resource assets and land conservation opportunities that merit special consideration for protection to achieve the public's values for open space conservation. The tool provides partners and citizens with a mechanism to update open space data, priorities and criteria over time to meet changing needs. Benefits of the modeling process are that it:

- Utilizes the best available scientific data in a GIS format
- Prioritizes the data according to Advisory Board and public input
- Is non-political
- Provides a documentable, repeatable process with transparent weighting and online accessible metadata
- Identifies optimum locations for each of the four open space types
- Has the flexibility to allow multiple, customized analysis applications using a weighting tool to match individual and collective preferences
- Allows for results to be incorporated flexibly into local master plans.

Defining Open Space Goals

As described in Chapter 3, locally conserved lands were categorized into four broad types of open space that share similar functions, conservation values, and costs of acquisition, facility development and long-term management costs. Each open space type emphasizes specific resources but may include other resources as well. Furthermore, these four open space values were commonly expressed as priorities in the partners' previously adopted plans and policies and in the recent survey results (see also Chapter 2 and 3).

Four Open Space Values:

- Conserve working farms and ranches
- Create regional open space and trail areas
- Enhance and create urban open space and trail systems
- Protect natural resources and wildlife habitats

Collecting and Evaluating Data

The project team evaluated over fifty natural resource, agricultural, real estate, and demographic GIS datasets for availability, reliability, completeness, and accuracy, then organized them around the four open space types. To be included in the model, the datasets needed to provide coverage for the project area – defined as Larimer County and the Town of Windsor's Growth Management Area in Weld County. All data sources used in creating the opportunity maps are included in Appendix C.

Determining Criteria and Weights

Depending on local priorities and landscape characteristics, certain open space types have greater influence on planning and conservation strategies. The model uses relative criteria weights or ranking in a weighted sum computation to give emphasis to certain criteria over others. The partners weighed each of the criteria according to its importance in achieving the open space goals, which were defined using the results from the 2012 survey of County residents as well as input received at a county-wide "Open Space Summit" attended by the study's Advisory Board and citizen open space boards from the project partners that have them.. Also, the partners have the ability to continually alter weights and criteria to reflect current visions and needs. Appendix C displays the metadata and assumptions used in the model.
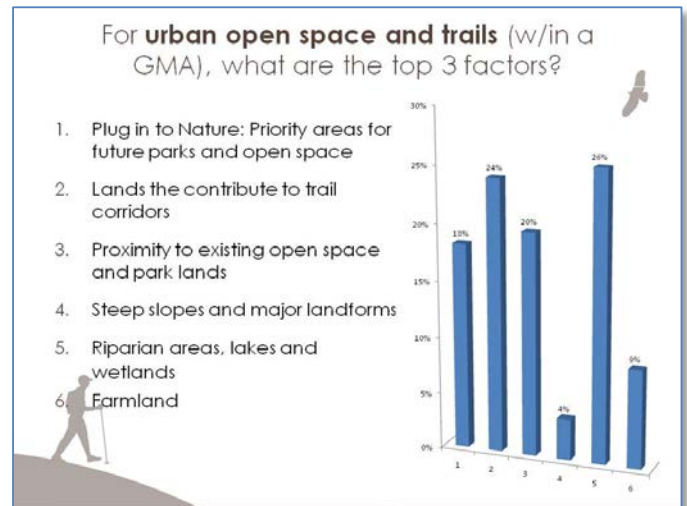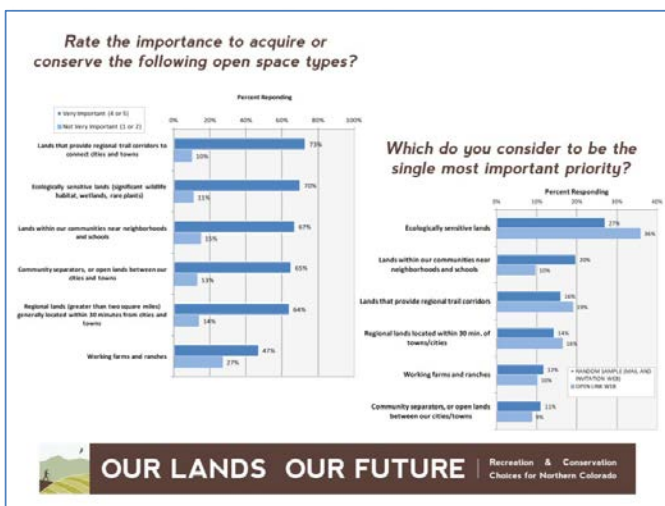

Figure 6.2 Survey Results (left) and Weighting Exercise (right). The Advisory Board used the public survey results from Chapter 2 to weight the model inputs based on the community's values and their importance in open space protection.

OUR LANDS – OUR FUTURE

Running Open Space Model and Filters

Model results highlight the region's assets or opportunity areas where public desires for land conservation can be achieved most effectively. Traditional models overlay resources to identify localized areas of interest, as shown in the inset example in Figure 6.3. The Our Lands – Our Future decision support system goes one step further, defining contiguous opportunities that also take into account resource proximity. As seen in the diagram, this method provides a more connected method of open space planning. The system focuses on protecting multiple resources, their local and regional connectivity, and a mosaic of habitats and recreation experiences.

Evaluating Shared Visions and Values with Online Mapping and Modeling Tools

The model criteria, weighting, and opportunity area results were reviewed by the Advisory Boards at a second Open Space Summit and then featured in a regional event in Loveland, several local presentations, and in press releases. For transparency and easy access, The Trust for Public Land created an interactive mapping website so that the public could explore the open space opportunity areas. The website contains an open space weighting tool allowing users to assign levels of importance to each open space type, then combine these goals to create a composite map based on personal or more localized open space priorities. The website interface includes slider bars that the user can move to the desired weighting of various factors. By clicking "Create Maps from Weights" the model highlights locations with the "highest potential" conservation benefit. The displayed map results provide customized perspectives for each user, and are not the sole determinant of the partner agency conservation priorities. Appendix B contains a full training guide for the use of the website.
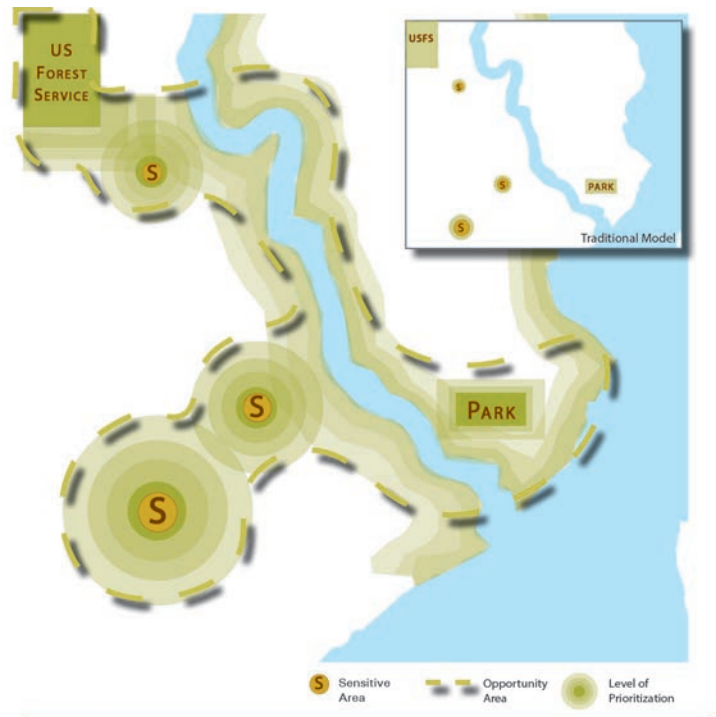

Figure 6.3 Open Space Proximity Model. Geographic proximity and connectivity was considered between certain criteria. As shown in this example, the model identifies undeveloped lands between existing public open space and natural resource areas.
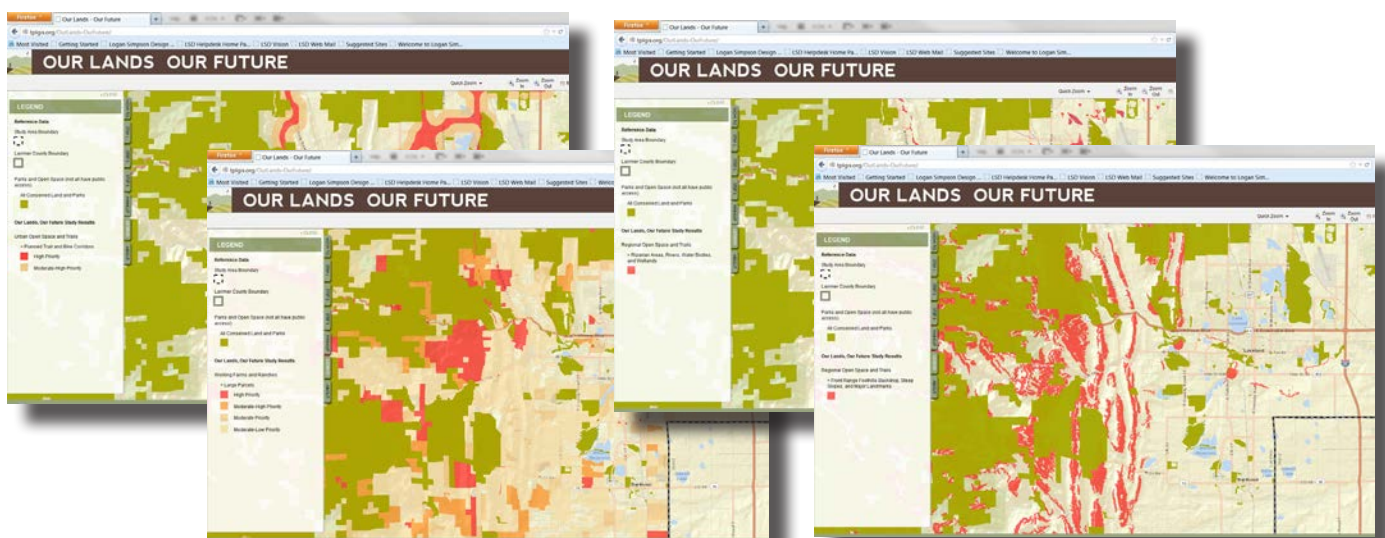

Figure 6.4 Interactive Mapping Website. On the http://tplgis.org/OurLands-OurFuture/ interactive mapping website, users can add or change open space data to explore current conditions; learn about four types of open space values in Larimer County; create their own open space weighting experiment for a particular area; and share their comments with the project team or others.

Explore the Interactive GIS Mapping Website - http://tplgis.org/OurLands-OurFuture/

The purpose of the mapping site is to show where willing property owners have voluntarily conserved open space today and to gauge values for voluntary conservation opportunities for in the future. On the interactive map, users can turn data layers off and on and zoom in to understand current conditions, learn about different types of open space values and their respective model results, experiment with open space type preferences, and share those preferences with the project team. There are three basic steps to getting the most out of the mapping site, each with their own tab.

On the mapping site, users can:

- **Step 1a Add or change open space data to explore current conditions on the interactive map.** The site is pre-loaded with current conditions data such as boundaries and places, water, roads, parks and open space, and growth and risks. Users can explore the four open space types by clicking on the layers within each category, and use the "Identify" tool to view information about specific features. The GIS data or a list of the data sources used in the map can also be downloaded to a local computer by clicking on their respective links.
- **Step 1b Learn about four types of open space values in Larimer County.** The landscape characteristics that identify high value land for each open space type can be displayed. The combined characteristics for each open space type are displayed on a spectrum of yellow to red, with red highlighting the opportunity with the highest likelihood of containing the values for a particular open space type.
- **Step 2 Determine what matters to you, by running an open space weighting experiment for a particular area.** The mapping website allows users set their own weightings and combine all four model results together into one map. Using slider bars, users can assign importance levels for each open space type and combine these goals to create a composite map. On the Step 2 tab at the left of the map, users can move the open space type slider bars to reflect the types of conservation according to their own preference, or exclude an open space type from the weighting experiment. The darker red colors indicate greater opportunities for conserving locations with multiple values. Multiple experiments can be explored by changing the weighting and clicking "Create Maps from Weights." The site allows users to share their preferred scenario with the project team by email. The custom map shows areas with the greatest opportunity as dark red.
- **Step 3 Share your comments with the project team or others.** Comments can be in the form a preferred scenario weights (which appear in a self-populating email upon clicking the email link), or a PDF map can be created and printed for sharing. Graphics and text can optionally be added to custom maps.

Additional help and training on how to use the mapping site can be found in Appendix B: Online Mapping Training Guide, or at http://tplgis.org/OurLands-OurFuture/Downloads/Training_Guide.pdf

OPEN SPACE OPPORTUNITY MAPS

Opportunity maps are based on existing public information and are not intended for use in a regulatory context. Rather they identify a collective vision for each open space type and opportunities for project partners to work with willing landowners on voluntary land conservation. The County and municipalities can use the opportunity maps in developing subsequent local master plans and implementation strategies.

While the maps show many areas that have conservation potential, it is unrealistic to suppose that all of these lands would be conserved. Financial resources are limited and any transaction would only occur with willing landowners. The most intense red and orange colors represent the high value lands that serve to meet the open space goals, not lands specifically targeted for conservation.

OUR LANDS – OUR FUTURE

WORKING FARM & RANCH OPPORTUNITIES

The following criteria were considered when creating this map:

- Outside of City Limits
- Prime Farmland
- Development Pressure
- Large Parcels
- Centennial Farms
- Connected Value to Public Open Space and Other Protected Land
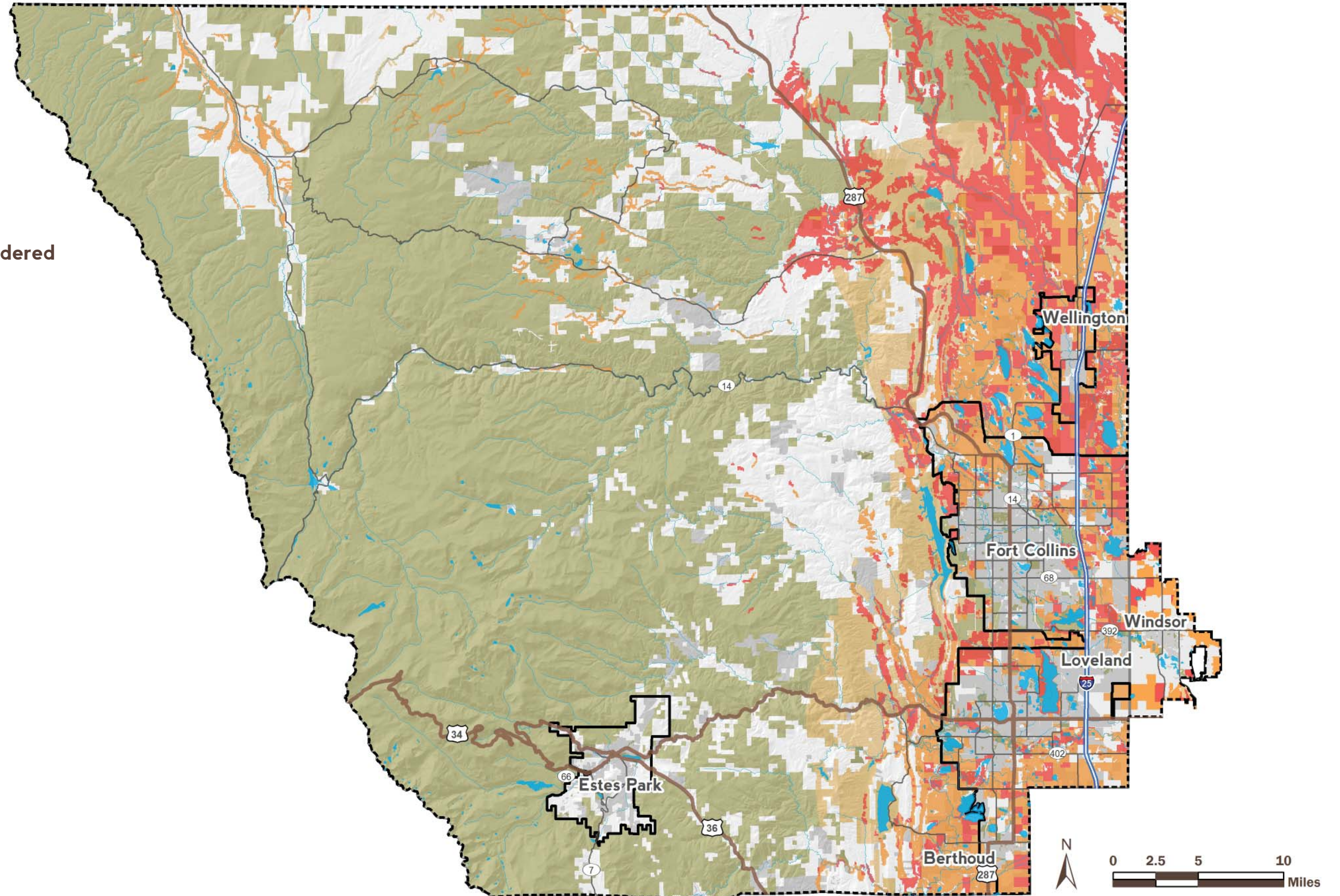
Working Farms & Ranches Area Opportunities

- Growth Management Area
- All Conserved Lands and Parks
- Developed Land
- Water Bodies
- Moderate
- Moderate to High
- High

Figure 6.5 Working & Farm Ranch Opportunities

This map is based on existing public information and is not intended for use in a regulatory context. Rather it identifies opportunities for project partners to work with willing landowners on voluntary land conservation

WORKING FARM & RANCH OPPORTUNITIES

The following criteria were considered when creating this map:

- Outside of City Limits
- Prime Farmland
- Development Pressure
- Large Parcels
- Centennial Farms
- Connected Value to Public Open Space and Other Protected Land

Working Farms & Ranches Area Opportunities

- Growth Management Area
- All Conserved Lands and Parks
- Developed Land
- Water Bodies
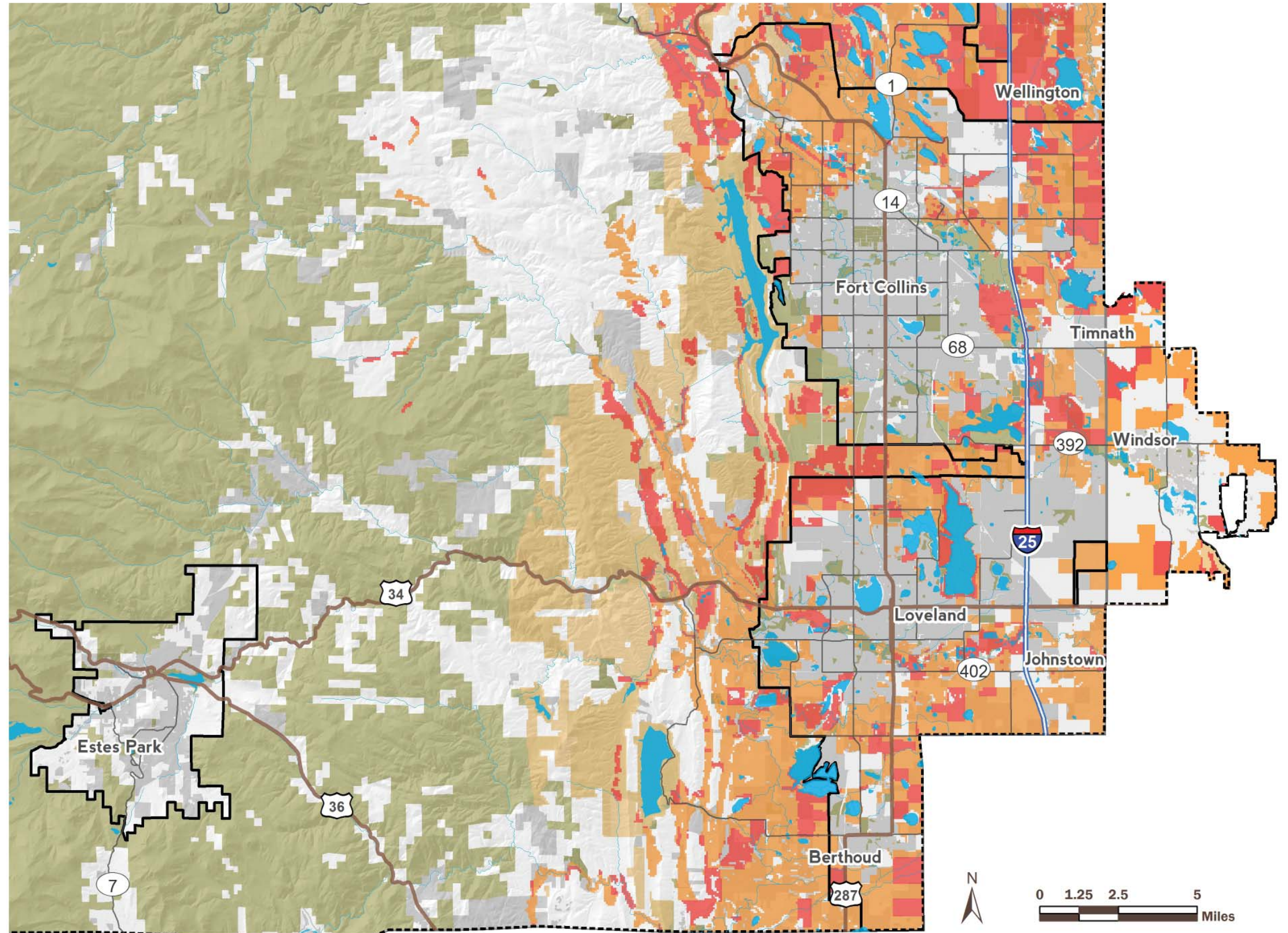- Moderate
- Moderate to High
- High

Figure 6.6 Working & Farm Ranch Opportunities
This map is based on existing public information and is not intended for use in a regulatory context. Rather it identifies opportunities for project partners to work with willing landowners on voluntary land conservation

OUR LANDS - OUR FUTURE

NATURAL RESOURCE & WILDLIFE AREA OPPORTUNITIES

The following criteria were considered when creating this map:
- Critical Wildlife Habitat Areas
- Riparian Areas, Rivers, Water Bodies, and Wetlands
- Potential Conservation Areas
- Vacant Parcels
- Adjacency to Public Open Space and Other Protected Land

Natural Resources & Wildlife Area Opportunities

- Growth Management Area
- All Conserved Lands and Parks
- Developed Land
- Water Bodies
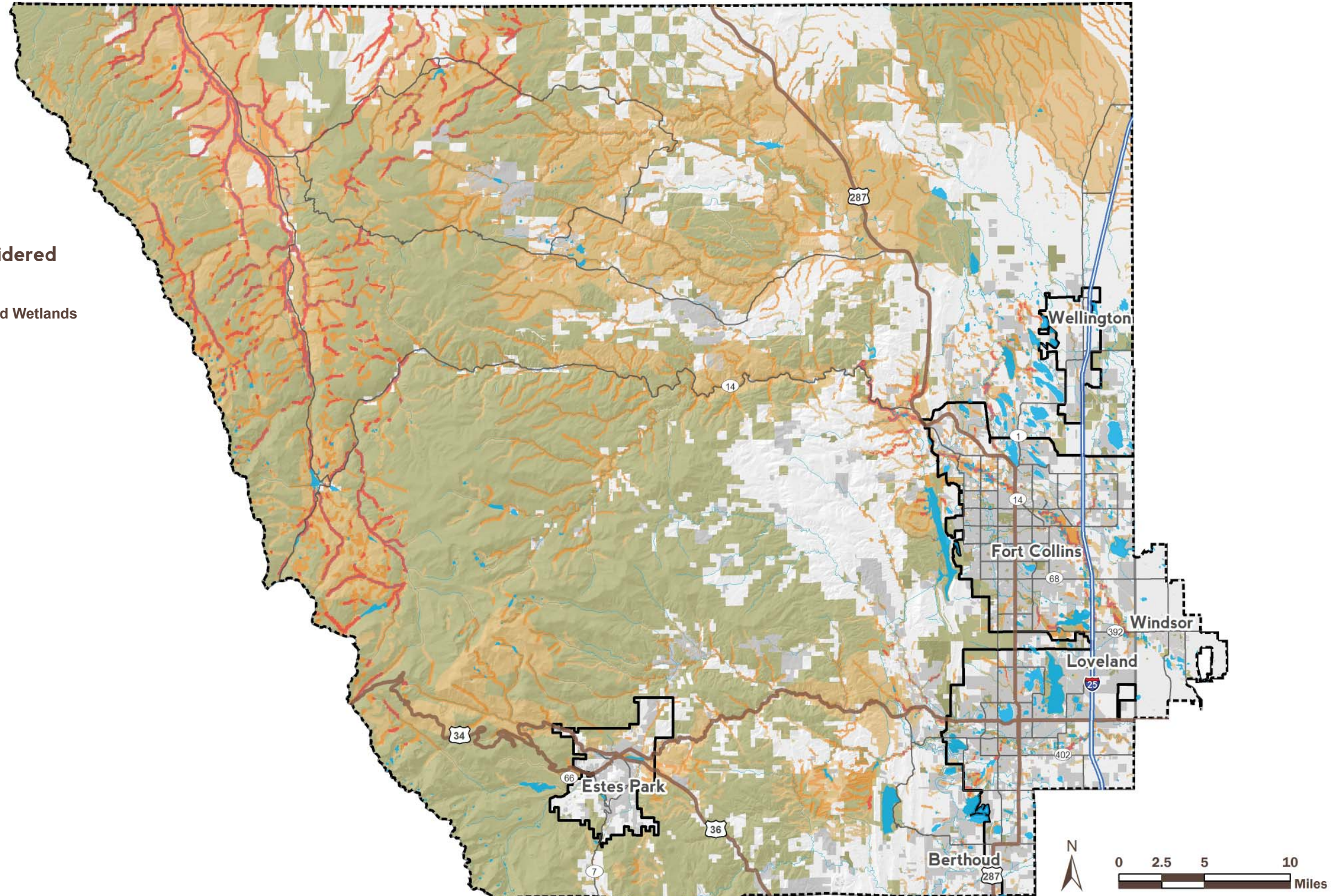- Moderate
- Moderate to High
- High

Figure 6.7 Natural Resource & Wildlife Area Opportunities
This map is based on existing public information and is not intended for use in a regulatory context. Rather it identifies opportunities for project partners to work with willing landowners on voluntary land conservation

NATURAL RESOURCE & WILDLIFE AREA OPPORTUNITIES

The following criteria were considered when creating this map:

- Critical Wildlife Habitat Areas
- Riparian Areas, Rivers, Water Bodies, and Wetlands
- Potential Conservation Areas
- Vacant Parcels
- Adjacency to Public Open Space and Other Protected Land

Natural Resources & Wildlife Area Opportunities

- Growth Management Area
- All Conserved Lands and Parks
- Developed Land
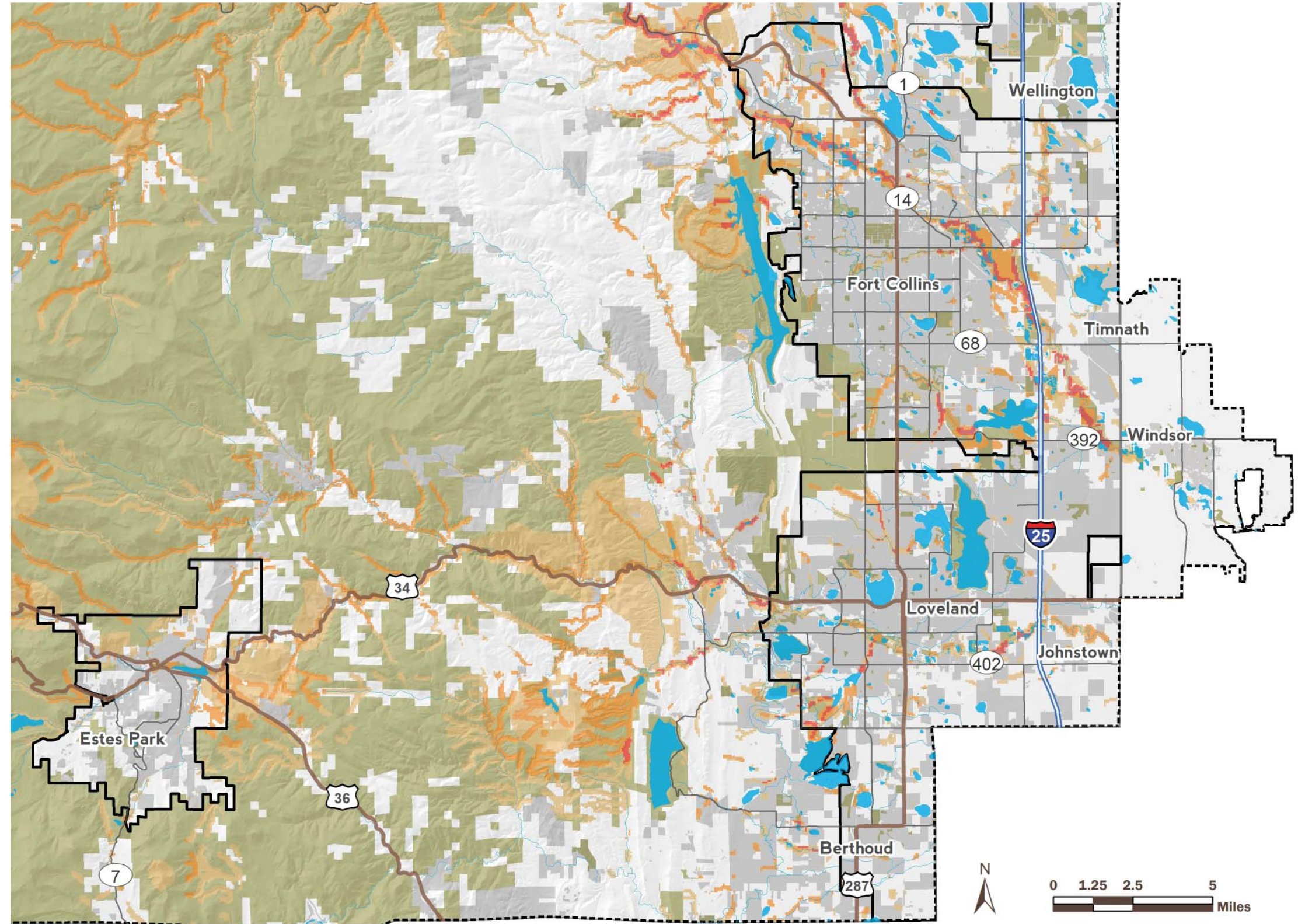- Water Bodies
- Moderate
- Moderate to High
- High

Figure 6.8 Natural Resource & Wildlife Area Opportunities

This map is based on existing public information and is not intended for use in a regulatory context. Rather it identifies opportunities for project partners to work with willing landowners on voluntary land conservation

OUR LANDS - OUR FUTURE

REGIONAL OPEN SPACE & TRAILS OPPORTUNITIES

The following criteria were considered when creating this map:

- Outside of Growth Management Areas
- Potential Conservation Areas
- Adjacency to Public Open Space and Other Protected Land
- Planned Trail and Bike Corridors
- Front Range Foothills Backdrop, Steep Slopes, and Major Landmarks
- Riparian Areas, Rivers, Water Bodies, and Wetlands
- Large Parcels
- Heritage Sites and Overland Trail corridor

Regional Open Space Area Opportunities

- Growth Management Area
- All Conserved Lands and Parks
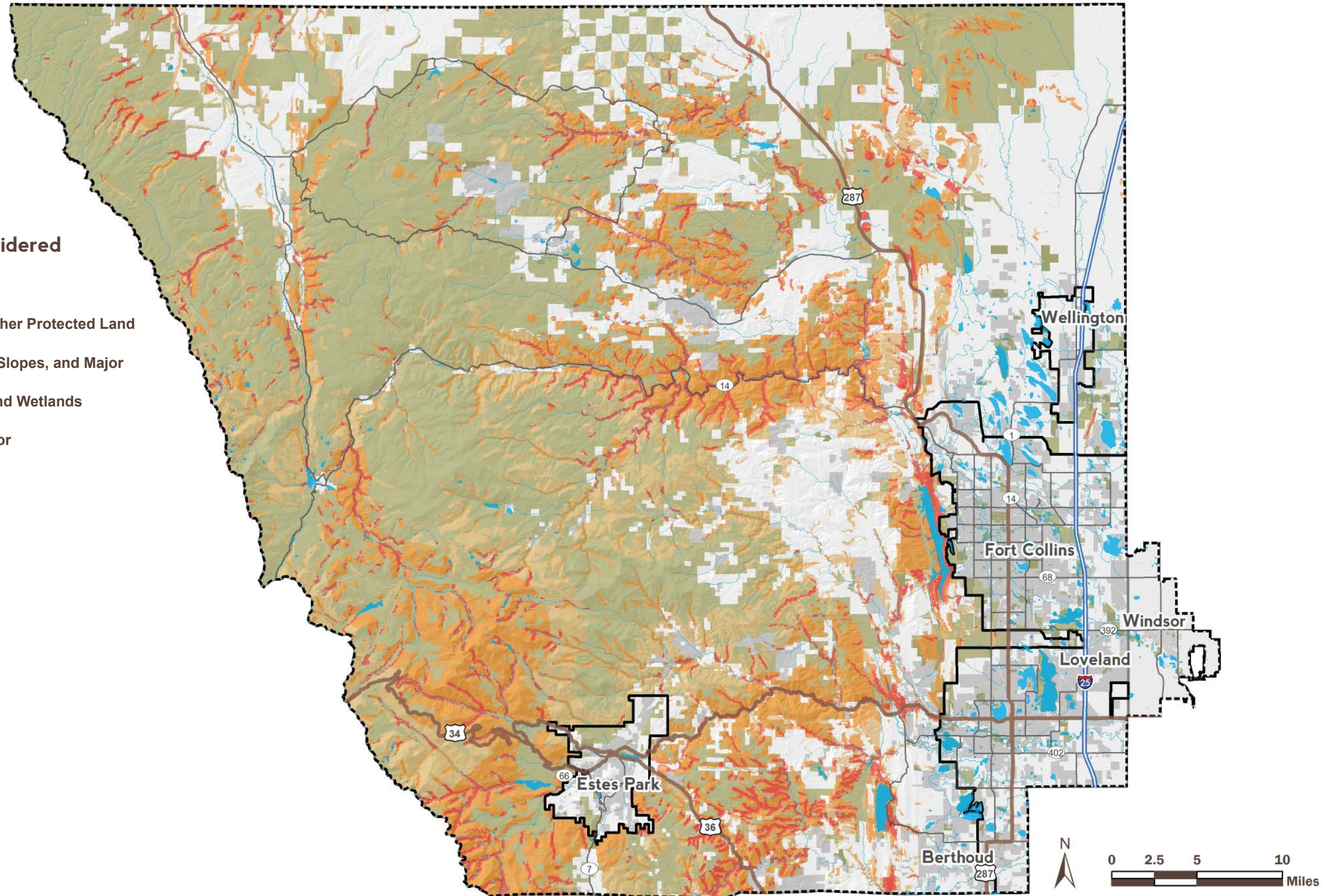- Developed Land
- Water Bodies
- Moderate
- Moderate to High
- High

Figure 6.9 Regional Open Space & Trails Opportunities.
This map is based on existing public information and is not intended for use in a regulatory context. Rather it identifies opportunities for project partners to work with willing landowners on voluntary land conservation

REGIONAL OPEN SPACE & TRAILS OPPORTUNITIES

The following criteria were considered when creating this map:

- Outside of Growth Management Areas
- Potential Conservation Areas
- Adjacency to Public Open Space and Other Protected Land
- Planned Trail and Bike Corridors
- Front Range Foothills Backdrop, Steep Slopes, and Major Landmarks
- Riparian Areas, Rivers, Water Bodies, and Wetlands
- Large Parcels
- Heritage Sites and Overland Trail corridor

Regional Open Space Area Opportunities

- Growth Management Area
- All Conserved Lands and Parks
- Developed Land
- Water Bodies
- Moderate
- Moderate to High
- High

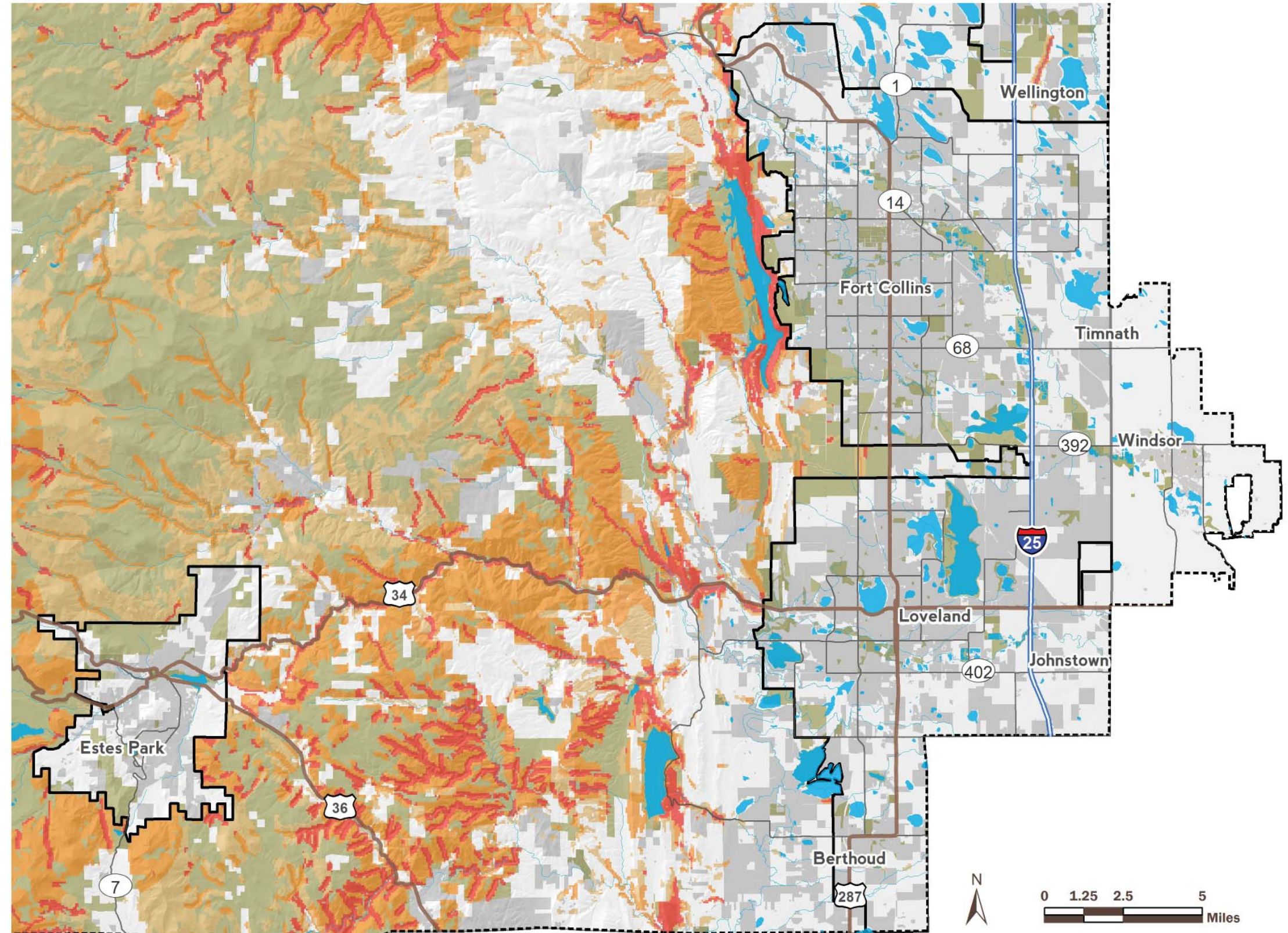Figure 6.10 Regional Open Space & Trails Opportunities
This map is based on existing public information and is not intended for use in a regulatory context. Rather it identifies opportunities for project partners to work with willing landowners on voluntary land conservation

OUR LANDS - OUR FUTURE

URBAN OPEN SPACE & TRAILS OPPORTUNITIES

The following criteria were considered when creating this map:

- Inside of Growth Management Areas
- Riparian Areas, Rivers, Water Bodies, and Wetlands
- Planned Trail and Bike Corridors
- Adjacency to Public Open Space and Other Protected Land
- Underserved Areas
- Natural Landcover (unpaved areas)

Urban Open Space Area Opportunities

- Growth Management Area
- All Conserved Lands and Parks
- Developed Land
- Water Bodies
- Moderate
- Moderate to High
- High

Figure 6.11 Urban Open Space & Trails Opportunities

This map is based on existing public information and is not intended for use in a regulatory context. Rather it identifies opportunities for project partners to work with willing landowners on voluntary land conservation

URBAN OPEN SPACE & TRAILS OPPORTUNITIES

The following criteria were considered when creating this map:

- Inside of Growth Management Areas
- Riparian Areas, Rivers, Water Bodies, and Wetlands
- Planned Trail and Bike Corridors
- Adjacency to Public Open Space and Other Protected Land
- Underserved Areas
- Natural Landcover (unpaved areas)

Urban Open Space Area Opportunities

- Growth Management Area
- All Conserved Lands and Parks
- Developed Land
- Water Bodies
- Moderate
- Moderate to High
- High

Figure 6.12 Urban Open Space & Trails Opportunities
This map is based on existing public information and is not intended for use in a regulatory context. Rather it identifies opportunities for project partners to work with willing landowners on voluntary land conservation

OUR LANDS - OUR FUTURE

Gap Analysis
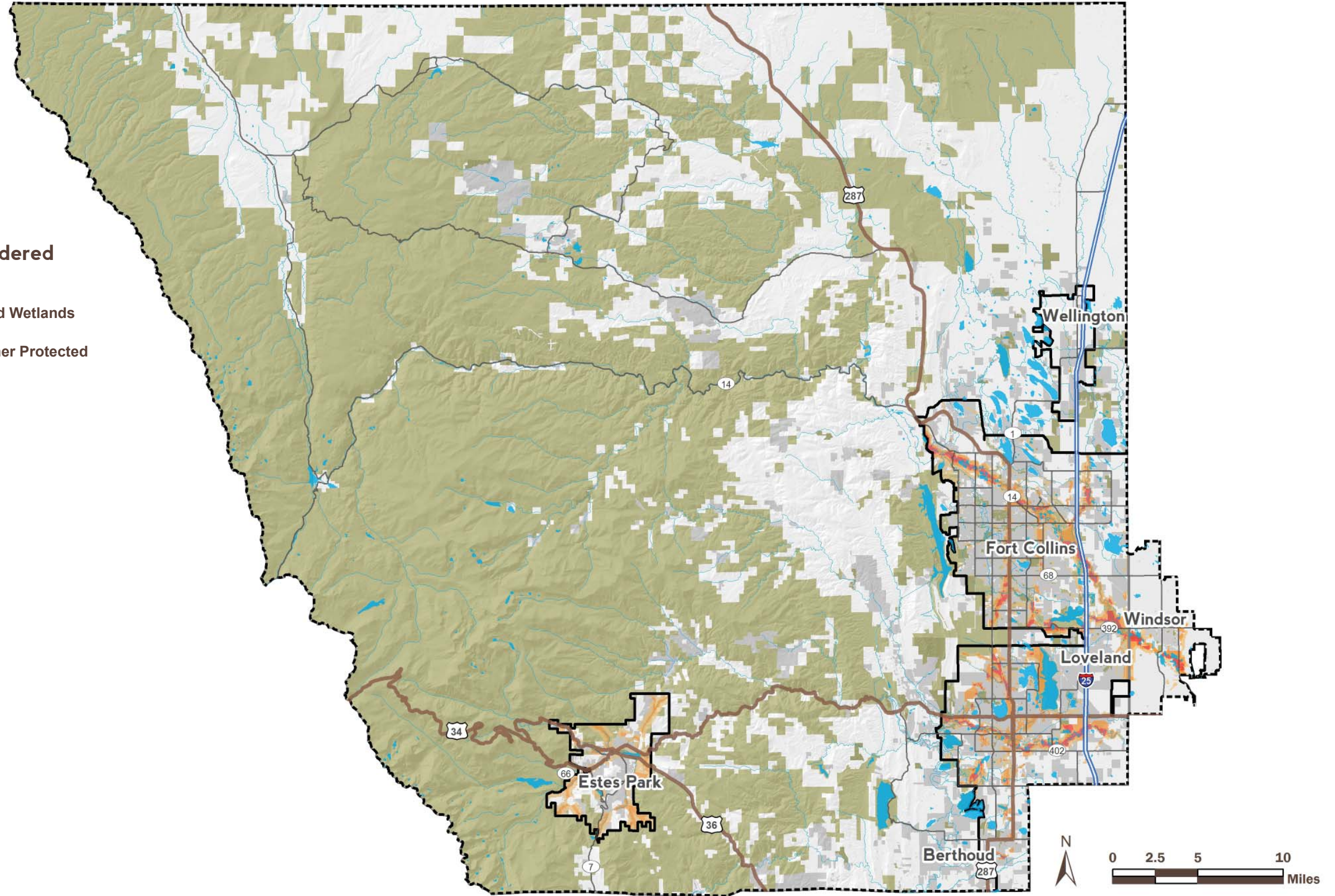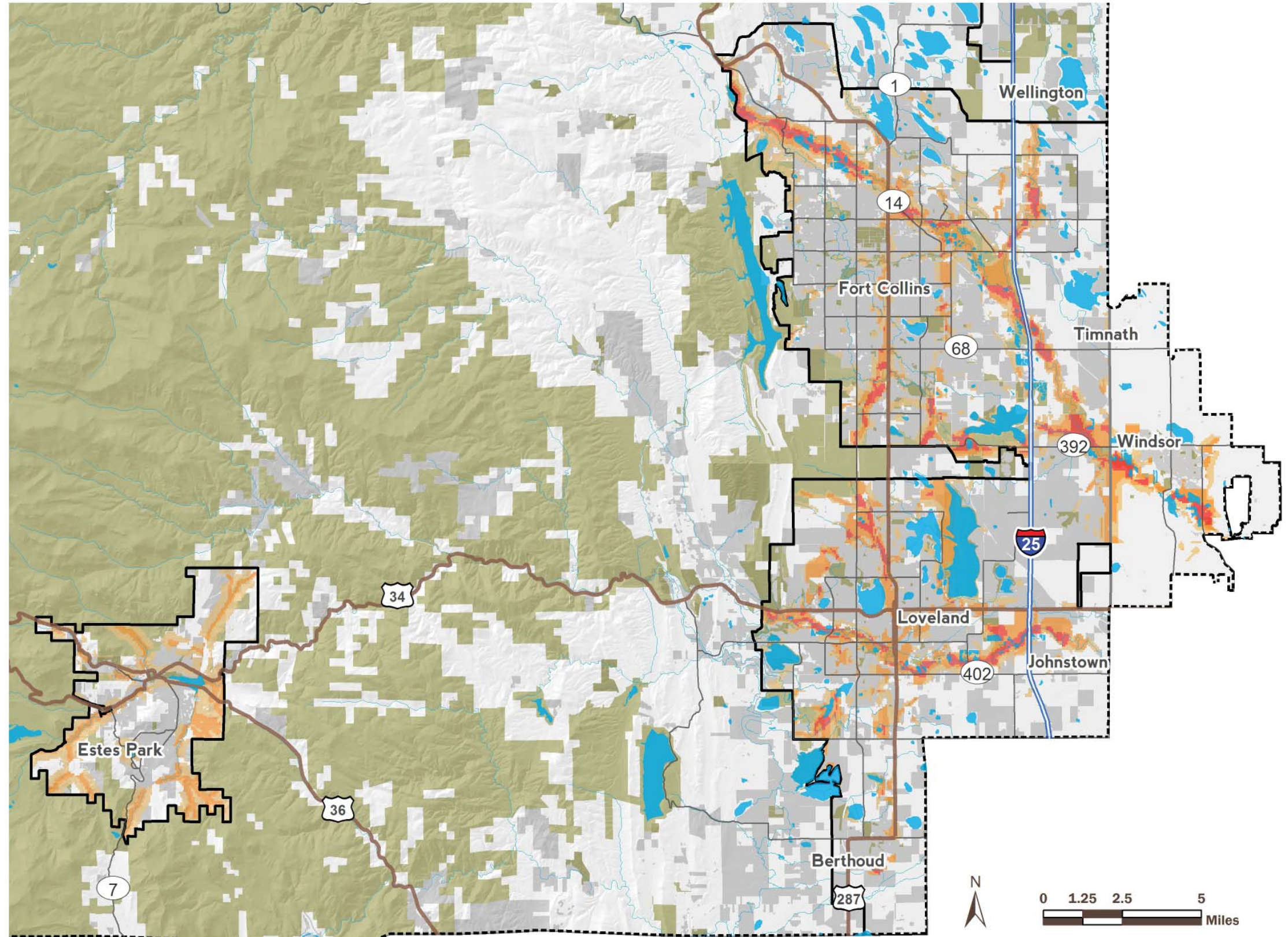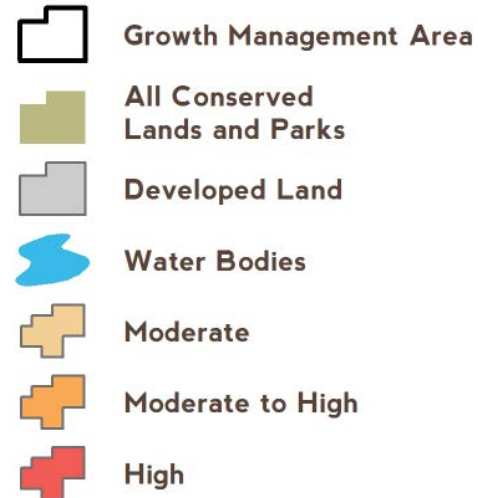
The moderate and high scores (orange and red colors) on each opportunity map are the highest value acres for each open space goal. The amount of identified high value acres was compared to what is currently conserved (excluding federal and state lands[1]) in order to measure progress towards achieving the open space goals.

As shown in Table 6.1, the percentage of highest value area conserved varies substantially for each of the four open space types. The greatest gap in conservation occurs with working farms and ranches and urban open spaces and trails which have 86% and 78% respectively of the high priority areas not currently under some form of conservation. Natural resource and wildlife areas have the next highest gap in conservation at 73% unprotected followed by regional open space and trails at 67% unprotected.

| Table 6.1: Gap Analysis of High Value Lands			
Open Space Type	Total High Value Acres	All Unconserved High Value Acres	Locally Conserved High Value Acres*	Percent of High Value, Unconserved Private Land*
Working Farms & Ranches	371,820	261,993	73,023	78%
Urban Open Space & Trails	44,960	34,364	5,441	86%
Regional Open Space & Trails	488,691	77,429	37,684	67%
Natural Resource & Wildlife Areas	538,873	164,428	61,326	73%
*Excluding Federal and State lands				

Conservation Gaps in High Value Lands (in acres)
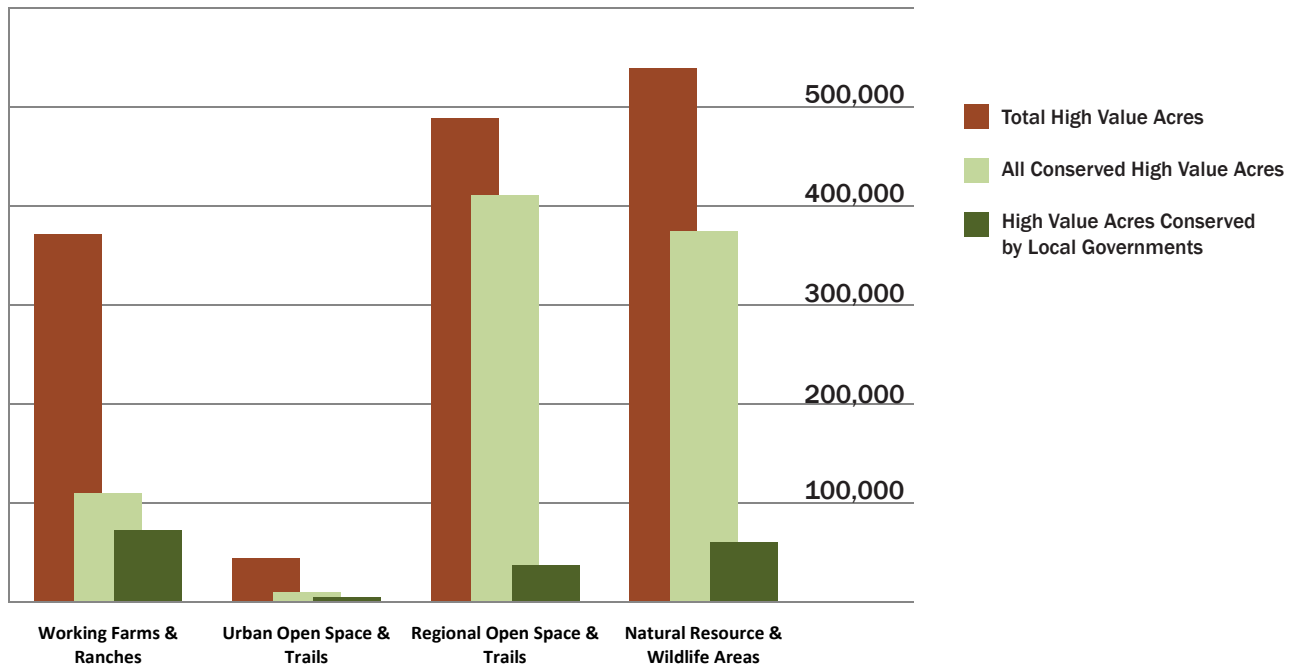
Figure 6.13 Conservation Gaps in High Value Lands

Composite Opportunity Maps

Customizable composite maps available at http://tplgis.org/OurLands-OurFuture/ bring together the individual opportunity maps to highlight areas where multiple goals can be accomplished in the same place. Partners can use the composite maps to identify where to leverage funding to achieve several conservation objectives and community values in a single transaction.

To illustrate, the 2013 follow-up survey asked respondents to prioritize the four open space goals (see Chapter 2 and Appendix A). It found that regional open space and trails was considered the most important, followed by natural resource and wildlife areas, urban open space and trails, and then working farms and ranches. On Step 2 - Determine What Matters to You – of the website, this ranking can be entered on the slider bars to create a composite map reflecting these relative priorities. The resulting map is shown as Figure 6.13 and reflects one possible focus for future conservation efforts in Larimer County: a focus on river and potential trail corridors as well as several clusters in locations such as the Bellvue vicinity.
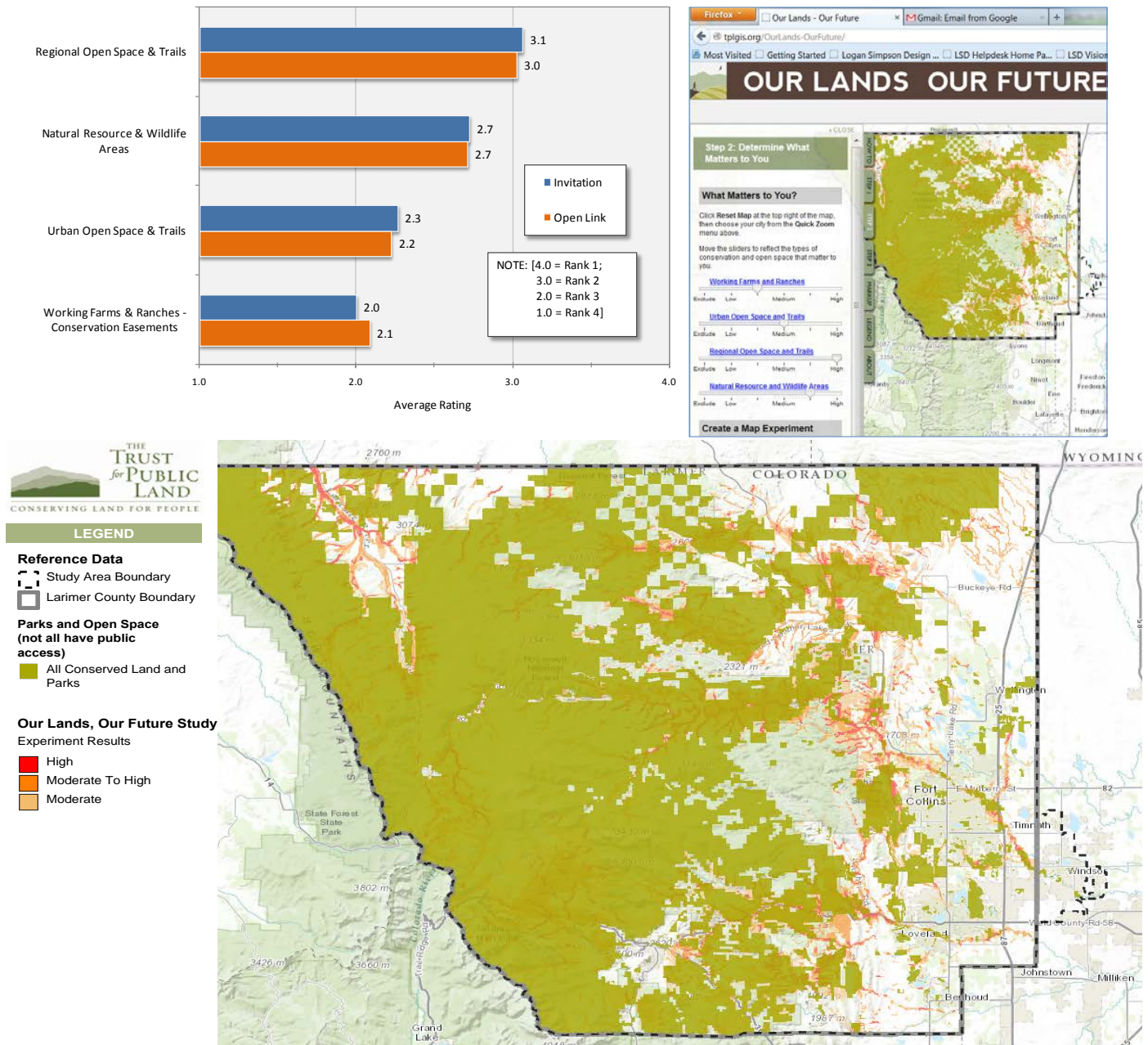
Figure 6.13   Composite Opportunity Map. Customizable composite maps, or experiments, can be generated at http://tplgis.org/OurLands-OurFuture/ by moving the slider bars to represent unique priorities. This map identifies the highest value acres (in red and orange) for first regional open space and trails, followed by natural resource and wildlife areas, urban open space and trails, and lastly working farms and ranches.

OUR LANDS – OUR FUTURE

OUR FUTURE CHOICES

Opportunity maps provide four visions, each for a unique yet complementary resource. Combining the opportunity maps according to individual and collective values is one way to display all values that provides the maximum community benefit for our communities' residents. While the balance between these values varies across jurisdictions, the maps and the composite mapping tool provide a flexible framework for local conservation, one that can be adapted to each jurisdiction's unique needs and preferences. Local government master plans – especially those being updated in 2013 and 2014 by Larimer County, Loveland, Fort Collins and Berthoud with others soon to follow – will save taxpayers time and effort by using the overall or jurisdiction specific survey results, land management tools, financial analyses, and opportunity maps as a starting point for their planning efforts.

Hundreds of private landowners throughout the County have trusted local governments and conservation programs by selling or dedicating their land, whole or in part, to the greater good: to the ecosystem, to their communities and to the next generation. Hundreds of thousands more contribute a portion of their earnings every day – through sales taxes - to continue to protect and strengthen our quality of life.

The future for our lands is just that: our collective willingness to conserve land through funding local conservation efforts, applying the best science-based land management practices, and honoring the voluntary land conservation by private land owners, and efficient management of our current assets. Our combined expertise and commitment toward these shared values will continue to build on our collective success toward preserving our land heritage.

Our Lands, Our Future: Recreation & Conservation Choices for Northern Colorado

INVENTORY	VISION & VALUES	ANALYSIS	TOOLS
• Collective Missions • GIS Data Collection • Create Regional Property Database	• Branding / Project Website • Public Involvement Program • Public Preference Survey • Follow Up Survey • Local Presentations and Outreach • Regional Events	• Economic Benefits of Land Conservation and Recreation • GIS Open Space Models • Protected Land Report Card • Needs Assessment	• Financial Acquisition & Stewardship Model • Survey of Funding Sources • Mapping Website with Feedback Tools

Local Parks, Recreation, Open Space & Trails Master Plans

ALTERNATIVES	GOALS & POLICIES	IMPLEMENTATION STRATEGIES	DRAFT & FINAL MASTER PLANS
• Local Mission • Local Opportunities / Constraints • Priority Areas: Agriculture, Natural Resource Areas, Urban/Regional Areas, Trail Corridors • Levels of Service	• Land Conservation • Stewardship • Passive Recreation • Education • Level of Service • Definitions and Standards	• Local Financial Stewardship Analysis • Funding Tools • Partnerships • Project Prioritization • Program Organization and Procedures	• Public Review of Draft Plan • Local Adoption of Final Plan

Figure 6.14 The study results and composite open space maps from the Our Future - Our Lands are not recommended as policy. Instead, Federal, state, and local governments, non-profit conservation organizations, and citizens should use this study's tools and resources in future master planning.

CHAPTER ENDNOTES

1   This analysis does not include US Forest Service and other Federal lands that are predominantly located in the western two-thirds of the County and generally more than 30 minutes from population centers. As determined through the surveys, the public's greatest concern focuses on "lands that provide regional trail corridors to connect our cities and towns" and "lands within our communities" – that is, the Front Range where undeveloped land is threatened by urban expansion. In areas where development pressure is high, open lands have a higher value to most people.

OUR LANDS – OUR FUTURE