

## Summary of Public Returns to the Colorado Conservation Easement Tax Credit Program

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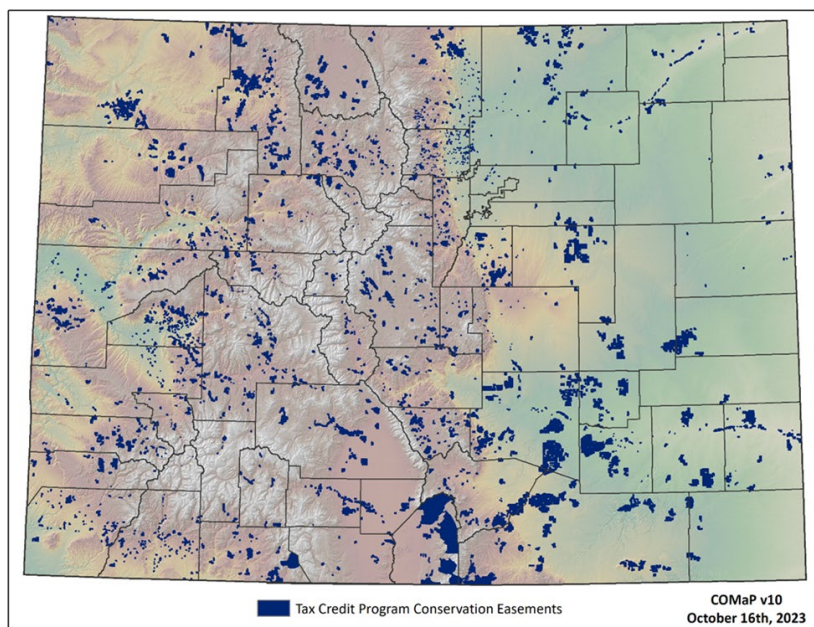
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- Colorado has invested substantially in voluntary adoption of conservation easements. One of the state's principal efforts, the Conservation Easement Tax Credit program, includes about 2.3 million acres (3.4%) of Colorado's lands.
- More than one third of private lands enrolled in the program are grasslands, with more than one-quarter in shrub or scrub land, about 14% in evergreen forest and 9% in deciduous forest ecosystems. In addition, the tax credit program has enrolled 17% of the state's wetlands and 9% of it is used for haying ground.
- We estimate total cumulative public benefits of conservation easement credits to Colorado taxpayers is between \$35 and \$57 billion, translating to \$31 and \$49 of public benefit associated with every dollar invested in the CE tax credit program. If this value were captured in market transactions it would represent about 9-15% of state GDP.

The state of Colorado has invested substantial financial resources assisting state agencies, local governments, and private nonprofit land trusts in the voluntary adoption of conservation easements from willing landowners. Conservation easements are voluntary agreements that are legally enforceable made between private landowners and nonprofit land trusts or government bodies to safeguard certain conservation values of a property. This includes protecting habitat for fish and wildlife, maintaining working farms and ranches, preserving scenic views, and ensuring spaces for outdoor education and recreational activities. One of the state's principal efforts to incentivize the

conveyance of conservation easements is the Conservation Easement Tax Credit program and the ecological and economic benefits to the public from this program are the focus of this report.



**Figure 1: Lands protected by the Colorado conservation easement tax credit program,**

To assess the ecological benefits, we calculated the acreage or miles of conserved lands that overlapped with mapped conservation values of priority to the State of Colorado using a benefits-transfer approach across 13 ecosystem types. The analysis translates over 2.3 million acres of private lands protected since 2000 by conservation easement tax credits into 13 ecosystem types, then ecosystem service categories, and finally ecosystem service values (Figure 1). More than one third of private lands enrolled in the program are grasslands, followed by more than one-quarter in shrub or scrub land, about 14% in evergreen forest and 9% in deciduous forest ecosystems. The tax credit program has enrolled 17% of the state’s wetlands and 9% of its hay ground. Benefit transfer estimates from the literature indicate that the state’s wetlands generate the greatest public value per acre.

Although 3.4% of Colorado lands are under protection of conservation easements supported by the tax credit program, some 13% of Colorado’s gold medal streams are within 250 meters of conserved working landscapes that are protected. More generally, investments in conservation easements have disproportionately favored ecologically important lands. More than 200,000 acres of private lands essential to the health of sage grouse and more than 1 million acres of seasonal ranges for elk and mule deer have been protected by the tax credit program and the landowners that manage them.

We estimate total cumulative public benefits of conservation easement credits to Colorado taxpayers is between \$35 and \$57 billion, or about \$20 thousand per acre conserved (Table 1).

| <b>Table 1: Public value of private lands conservation due to the Colorado conservation easement tax credit program</b> |                               |                               |                                |                  |                      |                   |
|-------------------------------------------------------------------------------------------------------------------------|-------------------------------|-------------------------------|--------------------------------|------------------|----------------------|-------------------|
| <b>Ecosystem Service (ES)</b>                                                                                           | <b>Low value ecosystem/ac</b> | <b>Avg value ecosystem/ac</b> | <b>High value ecosystem/ac</b> | <b>Low total</b> | <b>Average total</b> | <b>High total</b> |
| <b>(\$2022)</b>                                                                                                         |                               |                               |                                | <b>(‘000)</b>    |                      |                   |
| <b>Emergent Herbaceous Wetlands</b>                                                                                     | 6,492                         | 7,053                         | 7,614                          | 6,252,017        | 6,792,731            | 7,333,445         |
| <b>Woody Wetlands</b>                                                                                                   | 5,728                         | 6,619                         | 7,511                          | 3,178,122        | 3,673,051            | 4,167,975         |
| <b>Developed, Low Intensity</b>                                                                                         | 3,997                         | 5,905                         | 7,814                          | 166,433          | 245,888              | 325,349           |
| <b>Developed, Open Space</b>                                                                                            | 3,997                         | 5,905                         | 7,814                          | 750,020          | 1,108,080            | 1,466,141         |
| <b>Deciduous Forest</b>                                                                                                 | 3,522                         | 3,587                         | 3,651                          | 8,459,751        | 8,615,181            | 8,770,636         |
| <b>Open Water</b>                                                                                                       | 3,130                         | 3,267                         | 3,403                          | 187,331          | 195,528              | 203,727           |
| <b>Cultivated Crops</b>                                                                                                 | 635                           | 3,048                         | 5,462                          | 758,379          | 3,641,888            | 6,525,409         |
| <b>Evergreen Forest</b>                                                                                                 | 1,491                         | 1,748                         | 2,005                          | 6,358,303        | 7,456,726            | 8,555,192         |
| <b>Mixed Forest</b>                                                                                                     | 1,311                         | 1,381                         | 1,451                          | 322,202          | 339,436              | 356,670           |
| <b>Grassland/Herbaceous</b>                                                                                             | 774                           | 1,078                         | 1,381                          | 8,537,466        | 11,882,889           | 15,228,310        |
| <b>Hay/Pasture</b>                                                                                                      | 573                           | 575                           | 576                            | 483,335          | 485,049              | 486,298           |
| <b>Shrub/Scrub</b>                                                                                                      | 2.53                          | 222                           | 442                            | 18,956           | 1,665,152            | 3,311,348         |
| <b>Barren Land</b>                                                                                                      | 1.37                          | 1.37                          | 1.37                           | 170              | 170                  | 170               |
|                                                                                                                         | Total benefits                |                               |                                | 35,472,485       | 46,101,769           | 56,730,665        |
|                                                                                                                         | Total costs                   |                               |                                | (1,156,149)      | (1,156,149)          | (1,156,149)       |
|                                                                                                                         | Net benefit                   |                               |                                | 34,316,336       | 44,945,620           | 55,574,516        |
|                                                                                                                         | B/C ratio                     |                               |                                | 31               | 40                   | 49                |
|                                                                                                                         | Benefits/acre conserved       |                               |                                | 15,485           | 20,126               | 24,766            |
|                                                                                                                         | Costs/acre conserved          |                               |                                | (505)            | (505)                | (505)             |
|                                                                                                                         | Net benefits/acre conserved   |                               |                                | 14,981           | 19,621               | 24,261            |

This translates to between \$31 and \$49 of public benefits associated with every dollar invested in the tax credit program using conservative assumptions. For perspective, this is about 9-15% of state GDP. The public value of conservation easements in Colorado is driven by the protection and stewardship of our forests, wetlands, and grasslands. Using a 2% discount rate and our average benefit estimation yields a present value of some \$217 billion of extending benefits for an additional 5 years and \$2.3 trillion in perpetuity. For a greater range and interpretation of public benefits estimates, we direct you to the full report. These estimates may appear large, but due to the cumulative effects of investments made over two decades and the extension into perpetuity of these benefits, the estimates are appropriately scaled.

Conservation efforts on private and working lands target ecologically important areas, provide a significant economic stimulus to the Colorado economy, and tangible benefits to its residents. We find the public benefits of the tax credit program exceed the costs to Colorado taxpayers by good measure and is therefore a good investment of taxpayer dollars. The cost of making such investments is lower now than it will be in the future.

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