

Alternative methods for substantiating payments for conservation easements in Colorado:

Report summary

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- Conservation easements can be valued based on the expected estimated value of lost opportunity the landowner is suffering to convey the easement or the expected estimated value of the benefits to society from the ecosystem services protected or nurtured by the easement.
- A spreadsheet-based tool to investigate the approaches covered in this report is found [here](#) and the full report is found [here](#).
- We investigate three ways to evaluate opportunity cost: 1) Appraisal (status quo), 2) Geographic Area Rate Caps (GARC), and 3) Average Assessed Land Value (AALV).
- We describe three means to evaluate the public benefits: 1) Scores based on a conservation index, 2) benefit transfer and 3) selected enhancement practices under CSP.
- We also discuss Total Economic Valuation and hybrid approaches including the creation of a conservation easement clearinghouse or marketplace and propensity score valuation as possible alternatives.
- Benefit transfer estimated payments are higher than opportunity cost and on the three other benefits-based approaches demonstrating a positive return on investment to Colorado taxpayers.
- Landowners with low land use conversion pressure will benefit from the public benefits approach relative to an opportunity cost approach.
- Landowners with high conversion pressure would be better suited to opportunity cost approaches for the valuation of their easement.
- Benefits-based calculations are broadly in line with opportunity cost-based calculations having a similar estimated effect on hypothetical parcel payments.
- Benefits-based approaches protect directly the ecosystem services valued by the public while opportunity cost approaches may not.
- An alternative method for substantiating payments for conservation easements would incentivize a more diverse portfolio of conserved land and potentially improve the efficiency of the program.
- An alternative approach could conserve our valuable private working lands while maintaining fiscal control over the size of the conservation easement program.

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Colorado House Bill 19-1264 calls for the director of the Division of Conservation to investigate “an alternative method to the appraisal process set forth in section 39-22-522 (3.3) to establish the amount of tax credits for which a qualified conservation easement contribution would be eligible.” We proceed systematically, first focusing on the status quo and then investigating other programs and mechanisms for valuing the conservation of private lands. Potential alternative approaches for valuing conservation easements are developed and evaluated based on their likely effects on public and private stakeholders.

Conservation easements can be valued from two perspectives:

1. The expected estimated value of lost opportunity the landowner is suffering to convey the easement; or
2. The expected estimated value of the benefits to society from the ecosystem services protected or nurtured by the easement.

An opportunity cost approach is the difference in market value of the parcel with versus without the easement. It does not address or consider the public benefits of the easement beyond the four federal and state eligibility requirements. The market value of the easement is influenced by several factors including:

- Restrictions on surface development and the development pressure of the parcel.
- Restrictions placed on the sale of water rights associated with the parcel.
- Restrictions in energy and mineral rights associated with the parcel.

We have three ways to evaluate the opportunity cost of the lost market value from a conservation easement: 1) Appraisal (status quo), 2) Geographic Area Rate Caps (GARC), and 3) Average Assessed Land Value (AALV). We simulate the expected payments for three hypothetical 1,000-acre parcels representing low, average and high lost market value due to the easement under the status quo appraisal and GARC methods net the expected landowner costs. We expect the AALV to approach the value derived by the appraisal method without the appraisal costs. However, we do not have an actual example of this approach to be confident of this assertion.

Geographic Area Rate Cap (GARC) has the advantage of reducing the transactions costs of an appraisal-based approach while retaining the opportunity cost valuation as the underlying compensation philosophy. A GARC sets value limits based on an analysis of comparable transactions within a geographic location. The rate reflects an average opportunity cost for the market area. Adjusted Assessed Land Valuation (AALV) uses an assessment-based system to analyze the development value of an easement. Statistical analysis of the difference between the market value and the assessed value provides a consistent and reliable estimate of market value.

To facilitate meaningful comparisons across scenarios we look at the following payment mechanisms for each of the opportunity cost-based compensation scenarios: 1) The current valuation approach where compensation is set at 75% of the first \$100,000 and 50% of the remaining value (Payment Mechanism 1, PM1); 2) Compensation set at 75% of the easement value (including the first \$100K) (PM2); 3) Compensation set at 90% of the easement value (PM3).

Hypothetical 1000 Acre Parcel: Payment by Market Pressure, Valuation Method, and Payment Mechanism, USD2020									
	Low			Average			High		
	PM 1	PM2	PM3	PM 1	PM2	PM3	PM 1	PM2	PM3
Status Quo	344,850	521,275	642,130	517,500	780,250	952,900	690,150	1,039,225	1,263,670
GARC	315,000	466,500	572,400	537,000	799,500	972,000	1,132,000	1,692,000	2,043,000
AALV	364,850	541,275	662,130	537,500	800,250	972,900	710,150	1,059,225	1,283,670

In our simulation, the AALV approach is strictly preferred across all hypothetical land types to the status quo because the AALV approach calculates the same value as the appraisal approach without the appraisal cost. The GARC approach yields the highest easement payment of the three mechanisms for highly valued parcels. For average parcels the estimated payment varies by only 2-3% across mechanisms, but 14% for low value parcels, and a substantial 62% for highly valued parcels. Our hypothetical parcel, at 1,000 acres, is near the average parcel size for land in conservation easement in Colorado of 1,100 to 1,200 acres. Landowners who have smaller parcels than the average would see an even greater benefit of the AALV approach as the appraisal cost is spread over fewer acres, so this method would likely be preferred by landowners to the status quo across Colorado’s diverse agricultural operations.

Alternatively, a parcel could be evaluated based on the public environmental value the land provides; The public benefits generated by the working landscape drive the easement payment. The IRS conservation purposes test outlined in Section 170h of the internal revenue code lists conservation factors admissible to qualify for tax credits. Although they currently are used only to provide a threshold for eligibility, they align well with conservation easement valuation that includes public benefits. The IRS conservation test, defines four conservation factors for public benefit purposes (26 U.S. Code 170):

- The preservation of land areas for outdoor recreation;
- The protection of natural habitat of fish, wildlife, plants or similar ecosystems;
- The preservation of open space;
- The preservation of an historically important land area or a certified historic structure.

We adapt the CRP Environmental Benefits Index (EBI) to the specific objectives of Colorado’s conservation easement programs using the IRS conservation test to create the Colorado Conservation Benefits Index (CCBI). We identify five categories of importance (i.e., natural habitat, open landscapes, historic designation, access and education) and 17 factors that contribute evaluating the categories. Parcels can be scored out of 17 (0 or 1 for each factor), or 51 (0,1,2,3 for each factor), and/or differentially weighted across the five categories of evaluation. Payments follow on a (weighted or unweighted) per point basis. Alternatively, the score card can provide a basis for facilitating a benefits transfer approach to compensation.

We describe three means to evaluate the public benefits from parcels: Scores based on a conservation index, benefit transfer and selected enhancement practices under CSP. We mention total economic valuation (TEV) as an alternative but will not estimate it. All are alternative valuation approaches as the status quo does not take public benefits into explicit account.

The benefit transfer methodology yields the highest payments for all but the low category parcel where the Yes/No methodology yields the highest payment. Colorado taxpayers currently are receiving a positive return on their investment since benefit transfer tiered estimated payments are higher than those based on opportunity cost and on the three other benefits-based approaches. Payment values vary by the weighting schemes across all categories. If a Colorado Conservation Benefits Index (CCBI) is to be implemented care will need to be taken to evaluate which ecosystem services are most valued and to align the scoring system and weights to these values.

Hypothetical 1000-acre parcel: Payment by valuation method and score category of easement, USD2020			
	Low	Average	High
Yes/No (17-point scale)	954,000	1,271,000	1,549,000
High/Medium/Low (51-point scale)	683,000	1,319,000	1,911,000
Category Weights (100-point scale)	707,000	1,289,000	1,819,000
Benefit Transfer	793,305	1,596,858	2,589,513

Landowners in locations with low land use conversion pressure will benefit from an approach that values the public benefits provided relative to an opportunity cost approach. Valuing public environmental benefits could entice landowners who have high environmental amenities but low land use conversion pressure to engage in conservation easement programs. Landowners in locations with high conversion pressure or who are interested in taking advantage of tax incentives would be better suited using the more traditional opportunity cost approach for the valuation of their easement. A TEV approach would benefit lands with high environmental amenities but would be a more costly method to capture the public environmental benefits provided by the land.

The Conservation Stewardship Program (CSP) could serve as a model for an alternative that supports the environmental value of the land through the implementation of best management practices, or 'pay for performance.' Payments increase with the conservation resulting from the management practices:

- Low - This property is in the lowest CSP tier with the minimum payment of \$1,500 per year per operation. On our hypothetical operation this would translate to \$1.50 per acre-yr.
- Average - Adoption of several best management practices to receive the average CSP conservation practice payment of \$18,000 per operation-yr, or \$18 per acre-yr
- High - Adoption of a forest-related best management practices bundle including forest stand improvements to benefit wildlife habitat and soil quality, etc to receive the maximum payment of \$40,000 per operation-yr, or \$40 per acre-yr on our hypothetical operation.

Perhaps the simplest means to combine private opportunity cost and public benefit approaches would be to create a conservation easement market or exchange wherein organizations representing the public interest negotiate directly with the landowner for the value of the easement. Given the relatively small number of annual transactions, ideally, a regular auction hosted by the Department of Conservation bringing together willing buyers and sellers would increase the efficiency of these transactions. The most important difference between an open real estate market and the conservation easement exchange is that the buyers are acting in the public's interest, using public funds, and not in the private interest of an individual person or company.

Unbridled program expense is one of the principal concerns with benefits-based approaches. With these calculations we have shown that benefits-based calculations are broadly in line with opportunity cost-based calculations with high public benefits and high conversion pressure having a similar estimated effect on hypothetical parcel payments. Importantly, however, benefits-based approaches protect directly the ecosystem services valued by the public while opportunity cost approaches may not.

Adoption of an alternative method for substantiating payments for conservation easements would incentivize a more geographically and environmentally diverse portfolio of conserved land in the state and potentially improve the efficiency of the program. Colorado taxpayers and landowners would benefit from an alternative approach to conservation easements that valued both the opportunity costs of development as well as the public benefits from land conservation. Implementation of an alternative approach could allow Colorado to conserve our valuable working lands while maintaining fiscal control over the program.

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