



# “The Ecological Asset Value of Private Properties”



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## Introduction

The economic benefits of ecosystem services (and ecological assets) have been unappreciated in modern times.



But that changed in the 1990s. Economists discovered that ecosystem services are worth twice as much as annual GDP.

This showed that eco-services support all economic productivity and quality of life.

Different habitats support different combinations of plant and animal species contributing to local economies and quality of life.



For example, wetlands regulate floodwaters and they store water in underground aquifers for later use. They filter toxins from rainwater. They provide habitat for economically important wildlife and plants.

The measured monetary value of these eco-services is huge.

Protecting wetlands habitat has become a high priority as a result.

#### Ecosystem Services

- atmospheric gas regulation
- climate regulation
- disturbance regulation
- water regulation
- water supply
- soil formation
- soil maintenance
- biodiversity maintenance
- nutrient cycling
- waste treatment
- pollination
- pest control
- food production
- raw materials
- genetic library
- cultural



The diversity of habitats and species is important to economic productivity in every region worldwide.



Woodlands, grasslands and desert lands also provide valuable eco-services such as fertile soil, pollination, pest control and production of raw materials like timber.

Experienced policy makers understand the social and economic importance of conserving & restoring these lands.



Native biodiversity is well adapted to local climatic and topographic conditions. This helps optimize overall ecological and economic productivity.

## Mitigation Credits and Land Valuation

- These knowledgeable policy-makers have created compensatory mitigation programs to help landowners monetize property ecosystem services.
- These programs call for offsetting, mitigating or compensating development impacts to local ecological features.
- The programs establish wetland or conservation banks that earn mitigation credits for the landowner. These credits can be sold to developers who must offset their project's environmental impacts to comply with U.S. environmental regulations.
- The policies originated during the Ronald Reagan and George W. Bush years. Congress would have to rewrite the Clean Water Act and the Endangered Species Act to undo these policies. The likelihood of this occurring is very small.



- Monetizing eco-services creates a built-in business value for land conservation. This blends principles of free enterprise with public interest policy-making.
- Developing mitigation credits leads to bookable assets that are subject to familiar methods of pricing, purchasing, accounting and taxation.
- This new class of eco-assets boosts the inherent worth of land by expanding definitions of highest and best use of land – suggesting that land appraisal values should be updated.
- Properties that qualify for mitigation credits are of higher value than traditional real estate.



EASI offers specialized, proprietary methods to:

1. Locate high-value properties capable of generating ecological assets
2. Estimate fee simple eco-asset value based on a property's ability to generate mitigation credits, and the value of these credits in the marketplace
3. Estimate property mitigation credit revenue potential
4. Determine a property's updated appraised value\* following Appraisal Institute guidelines

\*Appraisals are conducted in partnership with Kidder Mathews (previously Colliers International). Appraised value stems from newly defined highest and best use determinations drawing on eco-asset valuation.





Example 1: A 355 acre horse ranch in California's **San Benito County** was purchased in 2014 for \$1400/acre.

EASI performed an eco-asset valuation, finding 5 species for which mitigation credit market value had been documented.

EASI estimated the bulk value of future mitigation credits to be \$9M.

The landowner had no experience with mitigation banking. Instead, he sold 300 acres to a local energy company needing mitigation land to offset proposed construction impacts.



The energy company paid \$4400/acre for the mitigation land, three times market value.



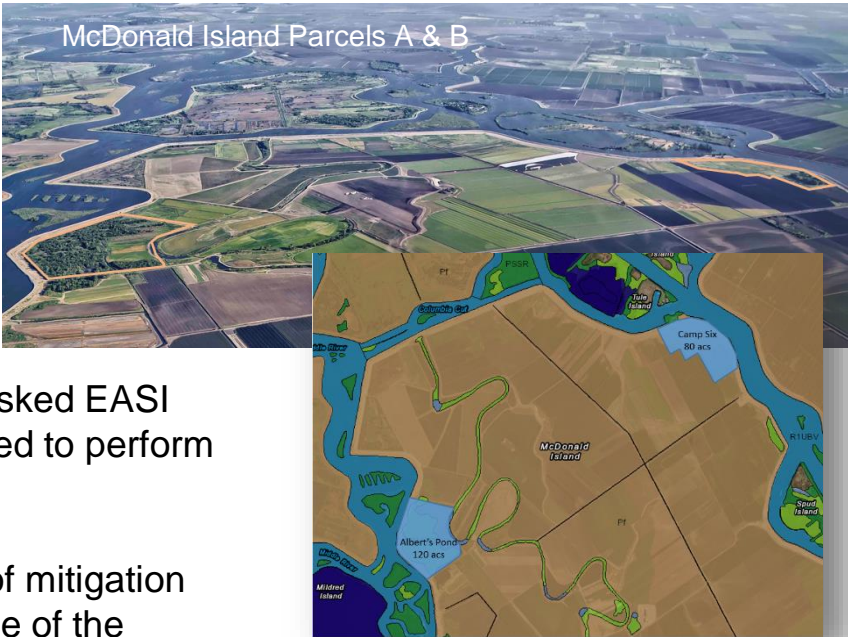
Example 2: In 2016, a California Reclamation District needed to mitigate for levee maintenance impacts at **McDonald Island** in the San Joaquin River.

The Rec District asked a local landowner to sell or donate 200 acres of potential mitigation land to help meet this obligation.

The landowner, unsure how to value the mitigation acres, asked EASI to conduct an eco-valuation. Colliers International was asked to perform a land appraisal once the eco-valuation was complete.

The appraisal showed a 24:1 ratio between the bulk value of mitigation credits and the market value of the 200 acres. The gift value of the property (subject to tax deductions) went from \$200K to \$4.9M.

(From the Colliers' report)



Final Value Conclusion:

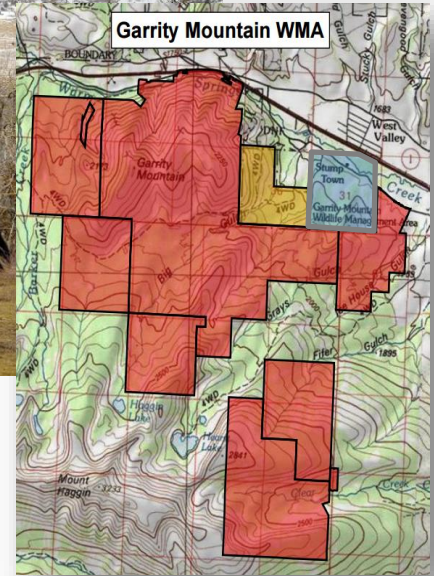
Subject Property Value Conclusion			
	Parcel A	Parcel B	Total
Market Value of Fee Land (Real Estate):	\$120,000	\$80,000	\$200,000
Bulk Value of Mitigation Credits (Intangible Value):	\$4,250,000	\$425,000	\$4,675,000
Total Market Value:	\$4,370,000	\$505,000	\$4,875,000

Example 3: A 620-acre property near **Anaconda, Montana** was purchased in 2015 for \$625K, or about \$1000 per acre.

In 2017 EASI estimated the property's bulk ecological asset value at \$14M for wetland and stream credits, equivalent to \$23,000 per acre, a 23:1 value ratio.

EASI also learned that the State of Montana wanted to acquire the property as a wildlife management area.

The landowner proposed a sale price based on 'foregone' eco-asset values instead of the much lower value of comparable rangeland.



Example 4: A 130-acre property in **Vancouver, Washington** was approved for wetland mitigation banking in 2015.

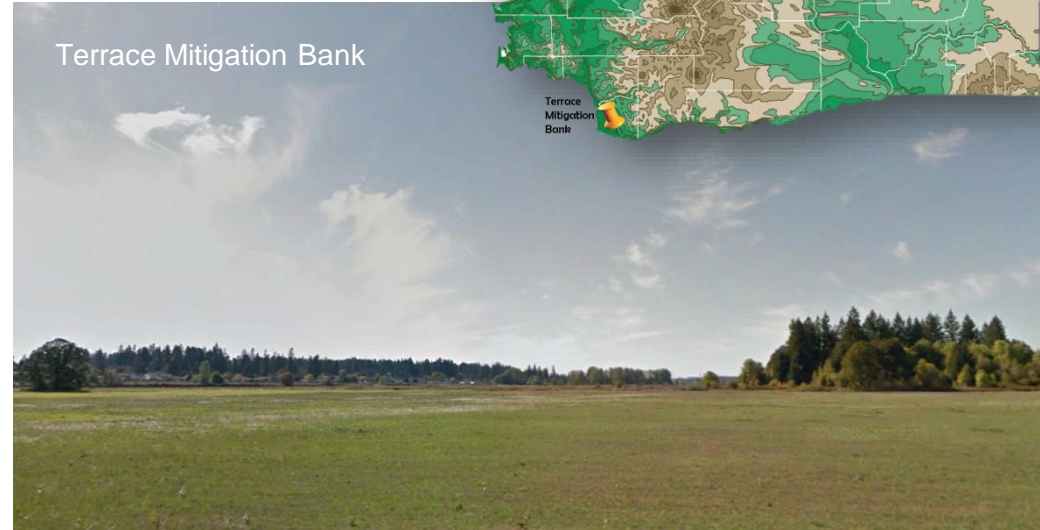
In 2017 the landowner approached Riverview Community Bank, a federally regulated lender, for a \$350K loan to cover mitigation bank construction costs.

He offered future mitigation credits as collateral for the loan.

The lender was unfamiliar with mitigation credit markets, so asked Colliers International to conduct an appraisal. Colliers turned to EASI to perform the eco-valuation.

EASI determined that the mitigation bank could generate \$13M of revenue from sale of wetland mitigation credits. Colliers included this number in their appraisal and report to Riverview Community Bank.

The landowner was granted his loan based on the demonstrated market value of mitigation credits.





Example 5: A 690-acre wetland property in **Madera County**, CA went on the market in 2016 for \$6M, or about \$8700 per acre.

In 2017 EASI estimated \$40+M in bulk or fee simple value for wetland credits alone, nearly \$60K per acre, a 7:1 value ratio.

Potential species credits were also identified as a secondary development option.

The property is currently available for sale as part of a family settlement.



Buttonwillow Slough



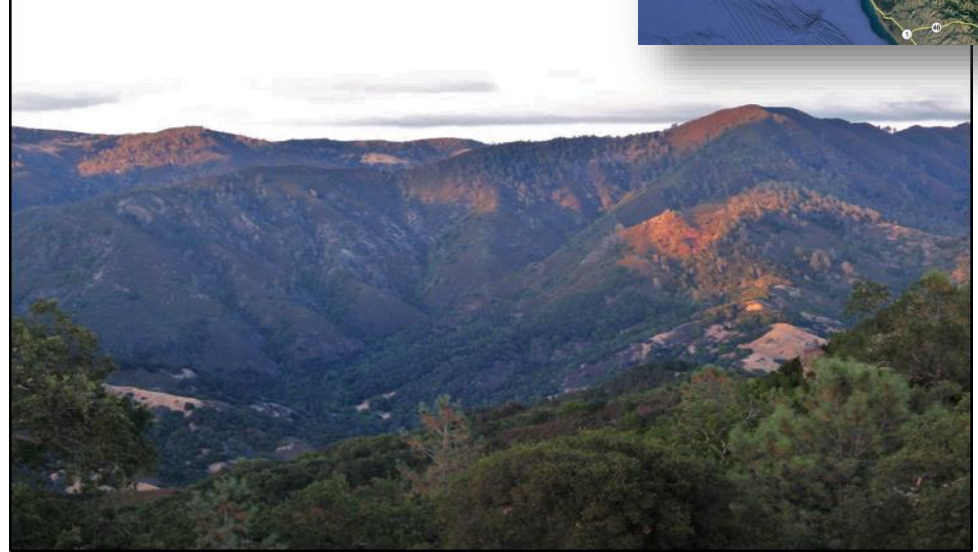
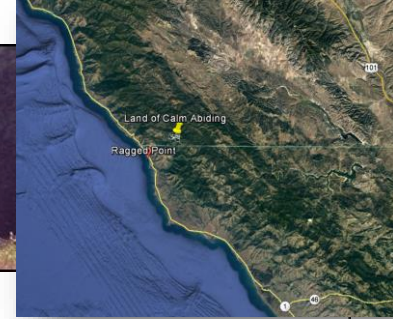
Example 6: A 485-acre meditation retreat center in **Monterey County, CA** wanted to find more conservation-oriented, economic uses for the property.

In 2017 EASI estimated \$4M in bulk value for wetland credits and \$20M for species/habitat credits.

Mitigation bank development costs were also studied leading to a predicted ROI of 4.5:1.

The property exists in an area with essentially zero competition from other mit-credit sellers.

Demand for mitigation credits will come from local city, county and state agencies as well as industry operating in the Central Coast region.





Example 7: A 390-acre farm in **Yolo County**, CA wanted to diversify its sustainability-oriented agricultural operations.

In 2017 EASI estimated \$2M in bulk value for wetland credits and \$2.5M for species/habitat credits on 100 acres of the farm.

Ecological restoration costs and costs to set up a conservation easement endowment fund led to a total development cost of about \$1.3M, holding down project ROI to 1.4:1.

EASI suggested reducing predicted costs thru competitive bidding. ROI would grow to 2.3:1.

Other project flex points were identified to increase ROI, allowing the landowner to scenario plan future development options.





Example 8: A 2300 acre property in **Umatilla County, Oregon** considered opportunities to build the only mitigation bank in the eastern part of the state.

In 2017 EASI estimated the bulk value of wetland credits to be \$30.2M in on 355 acres, or \$85,000 per acre.

Ecological restoration costs and costs to set up a mitigation bank endowment fund led to a total development cost of about \$5M. That cost, and uncertain demand for mit-credits in eastern Oregon caused project ROI to drop to 0.6:1.

However, by deferring high cost restoration to later development phases, and by securing Letters of Interest from prospective buyers, ROI could grow to 2.6:1.

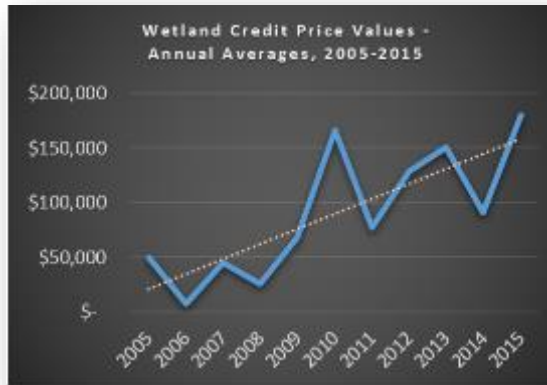
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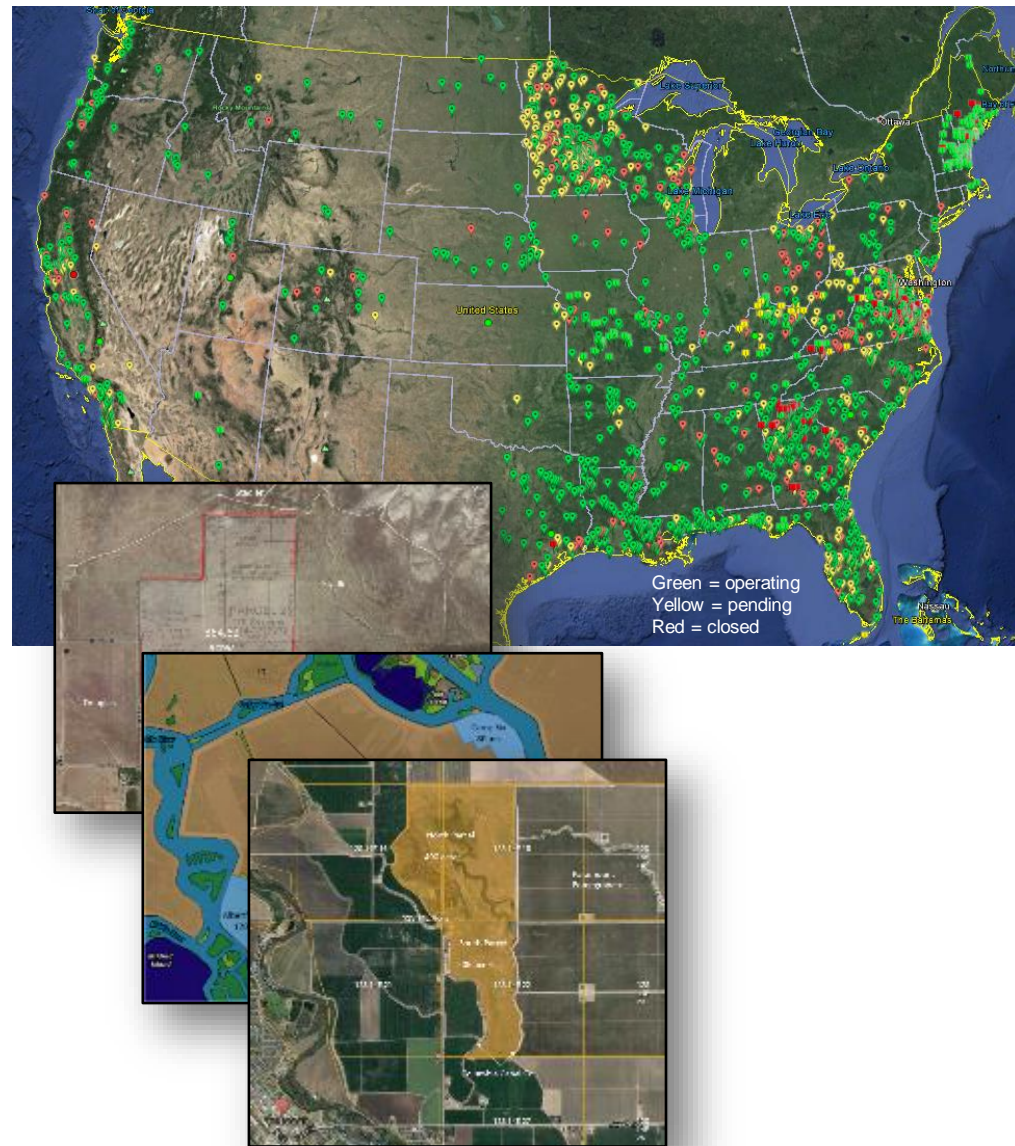
These are real world examples, not speculation.

They apply to farms and ranches and industry properties across the U.S.

The 1500 mitigation banks in the US have produced about \$100 billion in assets.



Ten year national wetland credit value trend



The net effect of this business has been to slowly drive a new approach to rural land valuation

On average, mitigation credits are elevating the market value of rural lands by 2x-4x – 200-400%

Eco-assets are like other embedded natural resources such as water, minerals, or oil & gas

They are subject to the same resource development and land valuation considerations

The value of these assets is rarely considered during property appraisal or sale





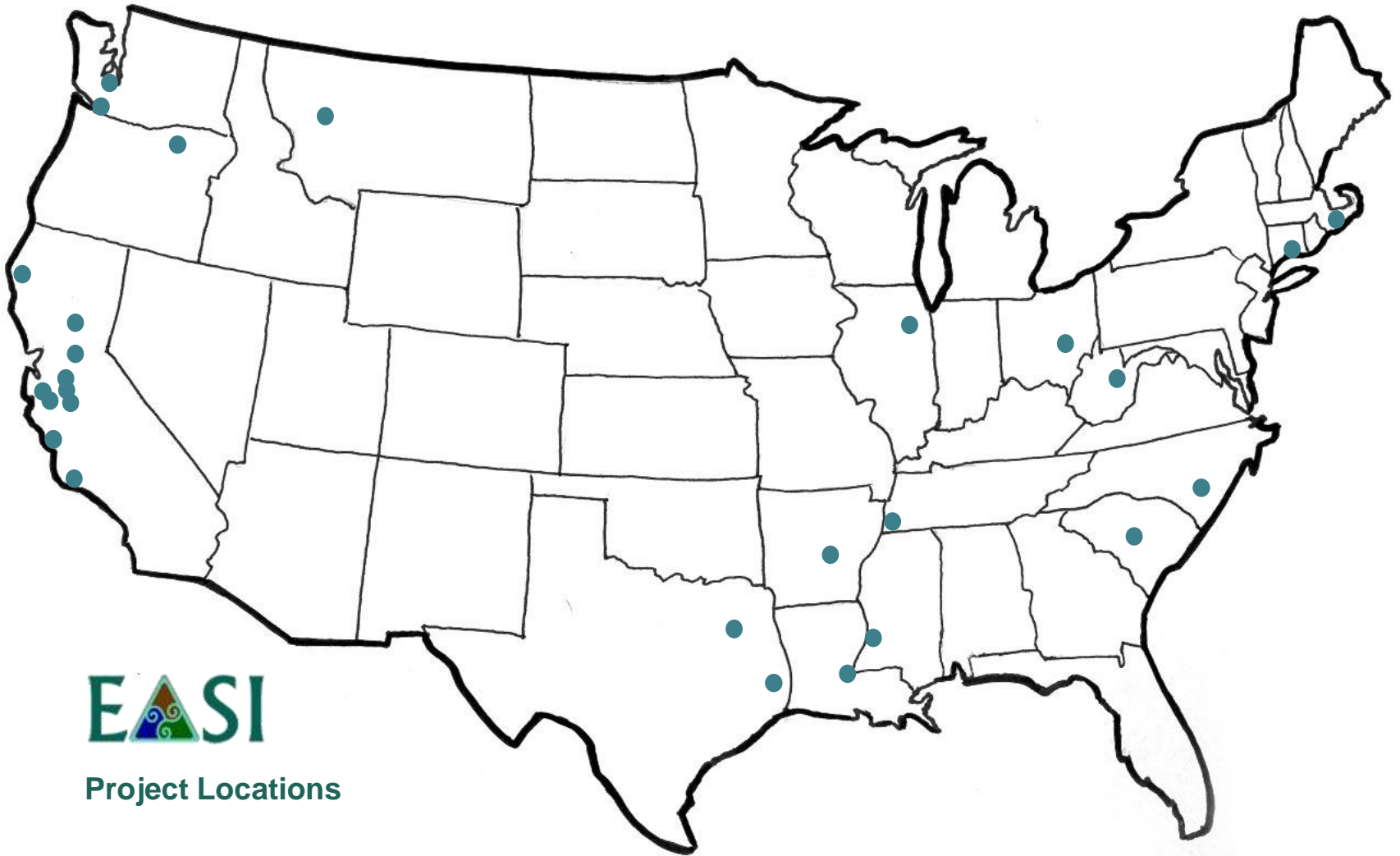
EASI is the foremost expert on mitigation credit values and market dynamics in the U.S. EASI offers:

- the proprietary Mitigation Credit Price Report (MCPR)
- the comprehensive Mitigation Credit Availability Report (MCAR)
- the comprehensive Mitigation Bank Siting Methodology
- experience with thirty-plus eco-asset valuation projects from 1995 to present, including the first widely referenced project for Allegheny Power Company reported by the Washington Post in January, 2002
- experience with industry landowners as well as private farms & ranches
- professional publications on social media and in the academic press
- advisory experience with for the U.S. Appraisal Institute
- advisory experience US EPA, Department of Agriculture, Department of Interior, Army Corps of Engineers, McKinsey & Company and Ecosystem Marketplace, the online mitigation industry clearinghouse.



William Coleman  
Founder/CEO  
EASI





Project Locations

# Contact EASI today for more information about the eco-asset value of your land

EASI can help you

- identify acreage with high eco-asset potential
- conduct eco-asset market value assessments
- convert eco-asset values to mitigation credit revenues

EASI can also support updated land appraisals for purposes of bargain sale or §1031 exchange

Or EASI can recruit investors to help capitalize mitigation bank development

*We are looking for landowners who are interested in the same.*

For more information:

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