EARTH ECONOMICS

We quantify and value the benefits nature provides to people, communities, and organizations, fostering effective decisions that prioritize the wellbeing of people and nature.

We envision a future where the wellbeing of people and the natural world are central to all economic decision making

Our Partners

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Government

FEMA

FOREST SERVICE

USDA

Conservation

The Nature Conservancy

Environmental Defense Fund

Audubon

Land Trust Alliance
Together, conserving the places you love

Indigenous Communities

NEZ PERCE TRIBE TREATY OF 1855

Great Lakes Indian Fish & Wildlife Commission

SEC WEPEMCÚL'ECW RESTORATION AND STEWARDSHIP SOCIETY

Private Sector

Pachama

Deloitte.

Agriculture Capital

The Private Sector

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- Companies exploring impact and dependencies on nature
- Financial mechanisms based on avoided costs
- BTM fills a niche
- Economic analysis used qualitatively

TNFD Taskforce on Nature-related Financial Disclosures

NATURAL CAPITAL COALITION

FOREST RESILIENCE BOND

Goals of Analysis

- Communicate the integrity of the Avahoula project for buyers in the Voluntary Carbon Market (VCM)
- Demonstrate that return to forested wetland is more viable than less-resilient cropland long term in this area
- Illustrate all additional benefits associated with afforestation and reforestation (i.e., better water quality, community advantages, flood retention, etc.)

The Avahoula Site

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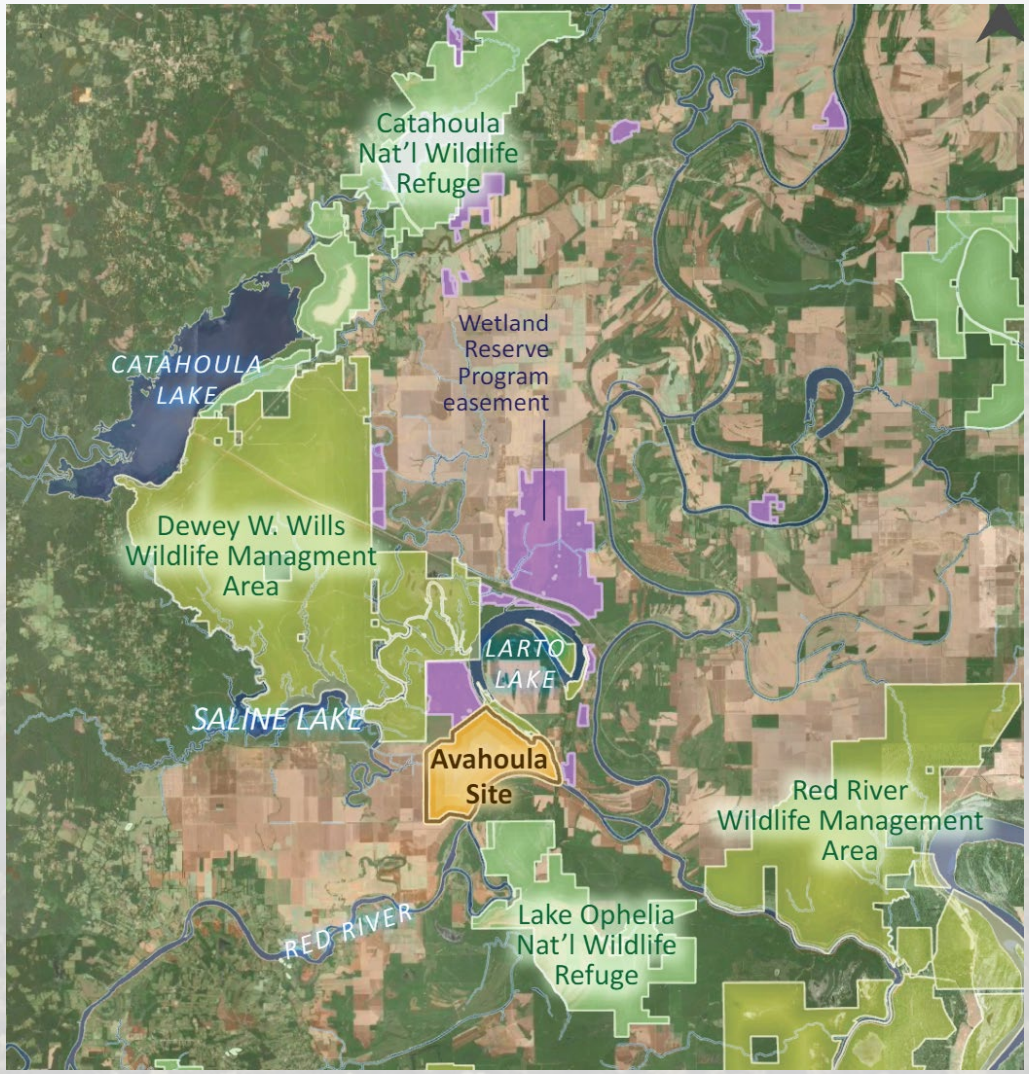
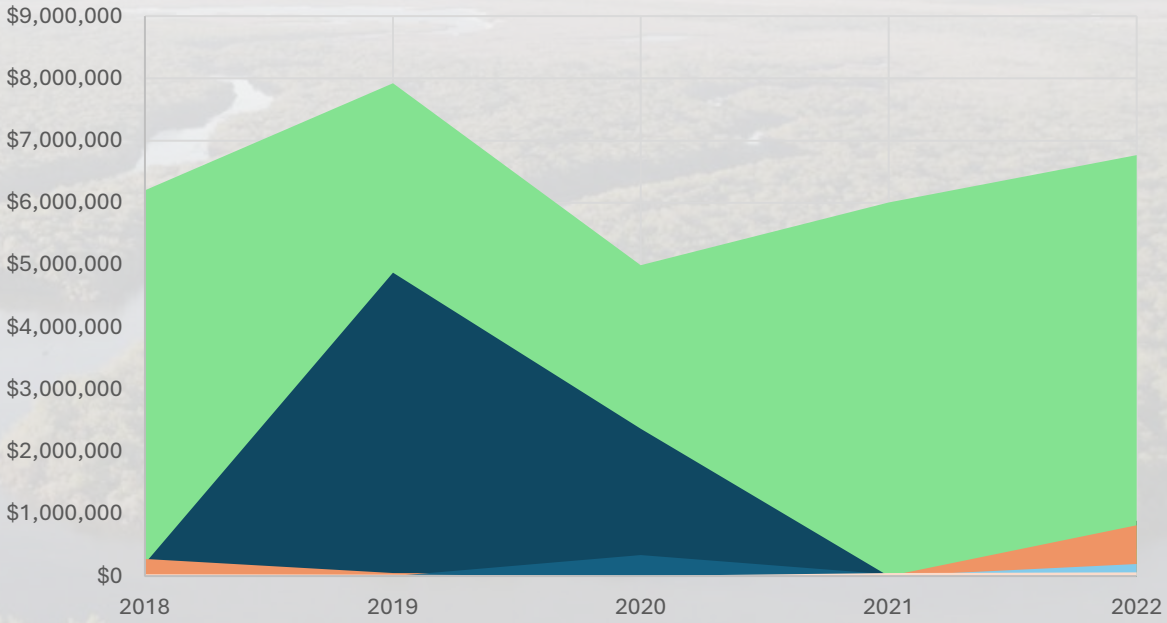
- Louisiana, Lower Mississippi Alluvial Valley
- Connects protected land
- Currently used for ag
- Plant 3.5 million native trees
- Develop moist soil areas
- Allow seasonal flooding



Pre-restoration Conditions

- In 2022, Louisiana farmers claimed over $172 million in indemnities
- Catahoula was the second-highest parish in reported losses in crop value (2018-2022)
- Excess moisture or precipitation and flooding
- Taxpayer subsidize $269,000



Indemnities in Catahoula Parish by Reported Cause of Loss (USD 2022). Source: USDA

Pre-restoration Conditions

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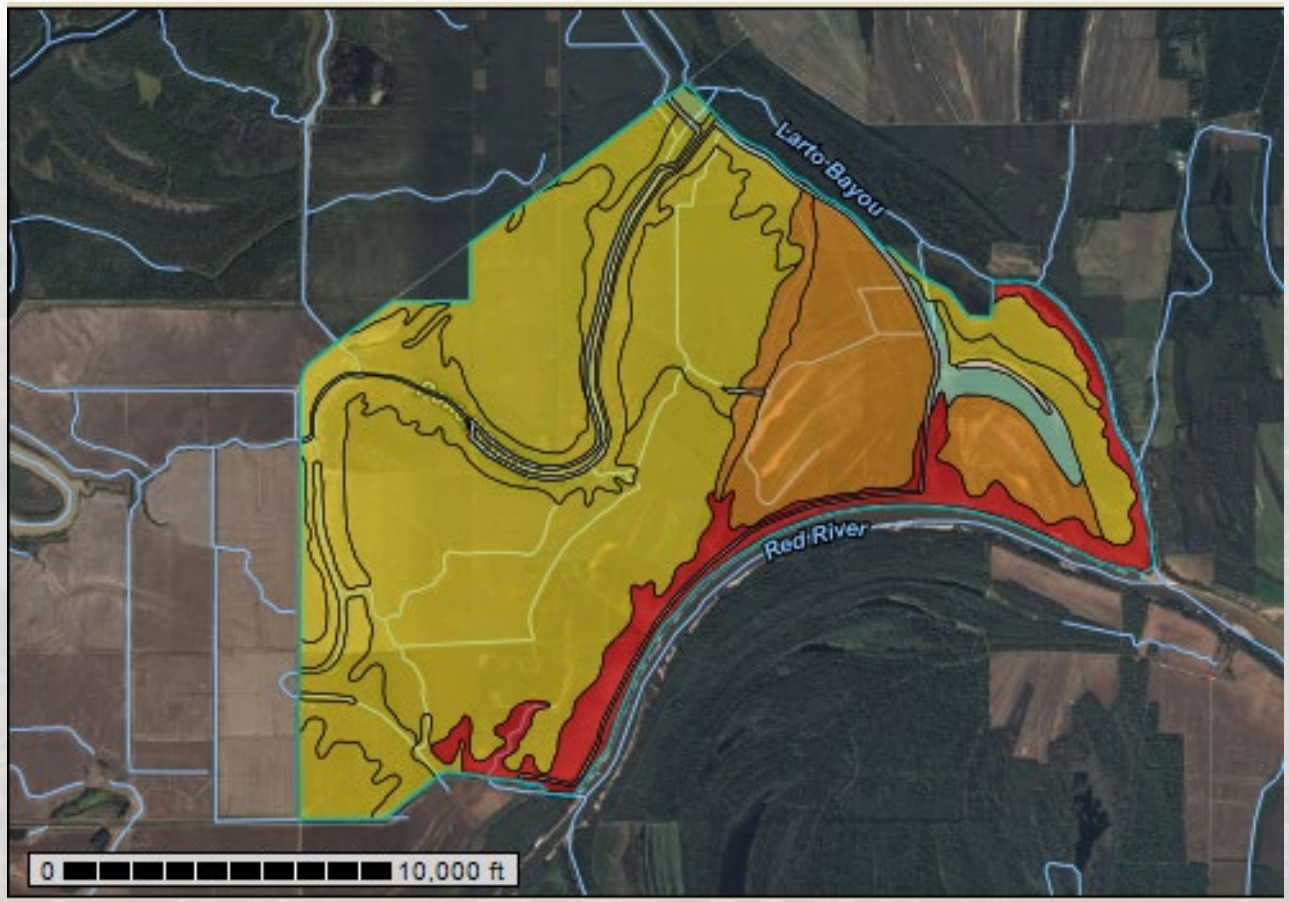
Soil Rating Polygons

- Capability Class - I
- Capability Class - II
- Capability Class - III
- Capability Class - IV
- Capability Class - V
- Capability Class - VI
- Capability Class - VII
- Capability Class - VIII
- Not rated or not available



Ecosystem Services Valuation

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- Based on conversion of 6,395 acres of cropland to forested wetlands
- Majority of studies used were from Louisiana or the South East

Ecosystem Service	Pre-Project		Post-Project		Difference	
	Min	Max	Min	Max	Min	Max
Air Quality	$236	$559	$18,723	$44,381	$18,487	$43,822
Aquifer Recharge	$6	$47	$459	$3,735	$453	$3,688
Biological Control	$169	$169	$13,400	$13,400	$13,231	$13,231
Cultural Value	$256,404	$431,700	$20,354,310	$34,270,014	$20,097,907	$33,838,314
Disaster Risk Reduction	$86,575	$596,582	$6,872,677	$47,358,962	$6,786,102	$46,762,380
Habitat	$218,665	$278,849	$17,358,496	$22,136,063	$17,139,831	$21,857,214
Pollination	$20,097	$20,097	$1,595,406	$1,595,406	$1,575,309	$1,575,309
Water Supply	$12,391	$12,391	$853,656	$853,656	$841,266	$841,266
Water Quality	-$2,992,431	-$2,992,431	$3,842,208	$3,842,208	$6,834,639	$6,834,639

Habitat Carrying Capacity - Waterfowl

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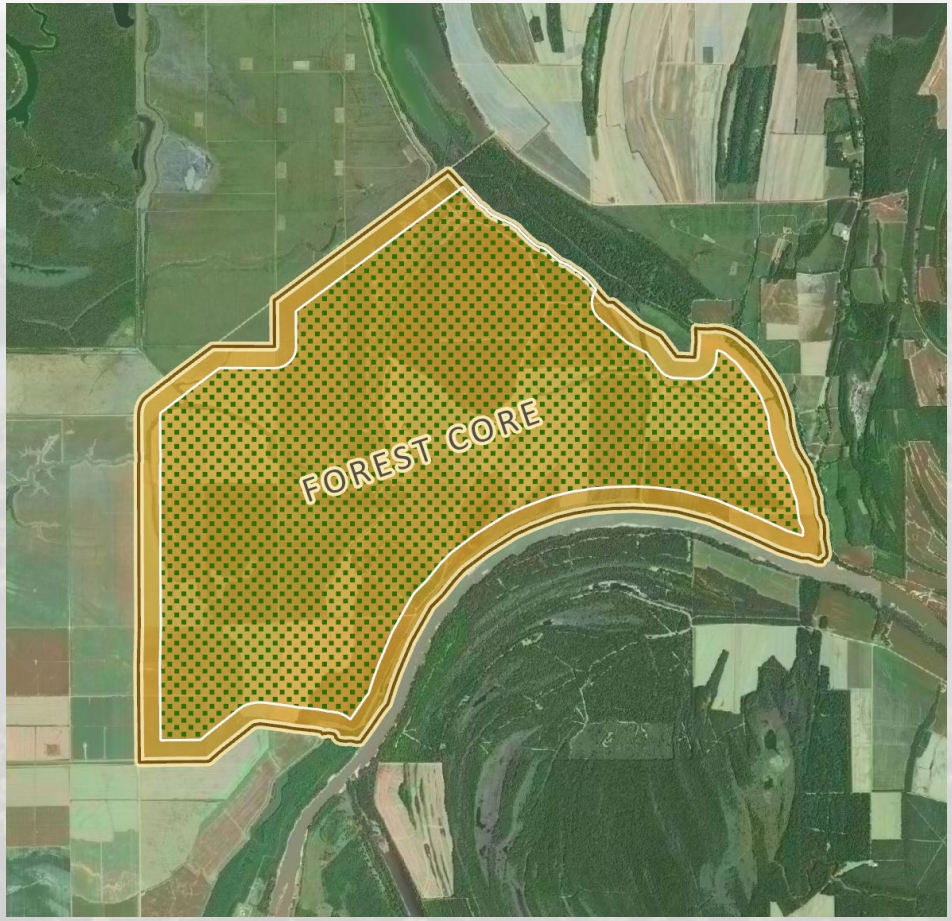
Conversion from harvested crops to red oak, moist soil units, and appropriate hydrologic management supports 12,235 - 23,017 additional waterfowl

Habitat/crop type	Food (lbs/ac)	TME (kcal/g)	DEDs/acre	Acres	DEDs	Waterfowl
Soybean (harvested)	54	2.65	36	5,115	184,147	1,674*
Cotton (harvested)	NA	NA	NA	1,279	0	0
Seasonal Flooded Row Crop Total						1,674*
Bottomland hardwood, 60% red oak	103	2.76	250	1,000	250,000	2,273
Moist Soil wetland	103	2.47	1,686	6,50	1,095,900	9,963
Seasonal Partial Flooding Total						12,235
Bottomland hardwood, 60% red oak	116	2.76	250	5,744	1,436,000	13,055
Moist Soil wetland	535	2.47	1,686	6,50	1,095,900	9,963
Seasonal Complete Flooding Total						23,017

Habitat Carrying Capacity - Birds

- Landbirds require forest core to nest, defined as over 250 meters from forest edge
- Twelve species that did not achieve their target population goals within existing forest habitat
- In total, 6,105 landbirds from currently under-supported species benefit



Recreational Value

- Bagging an additional duck ranges from $15 to $106 per duck
- $9,000 to $122,000 in post-restoration value to waterfowl hunters.
- Birdwatching - increase in consumer surplus is $9.47 per additional bird in the population
- $174,000 to $276,000 to birdwatchers

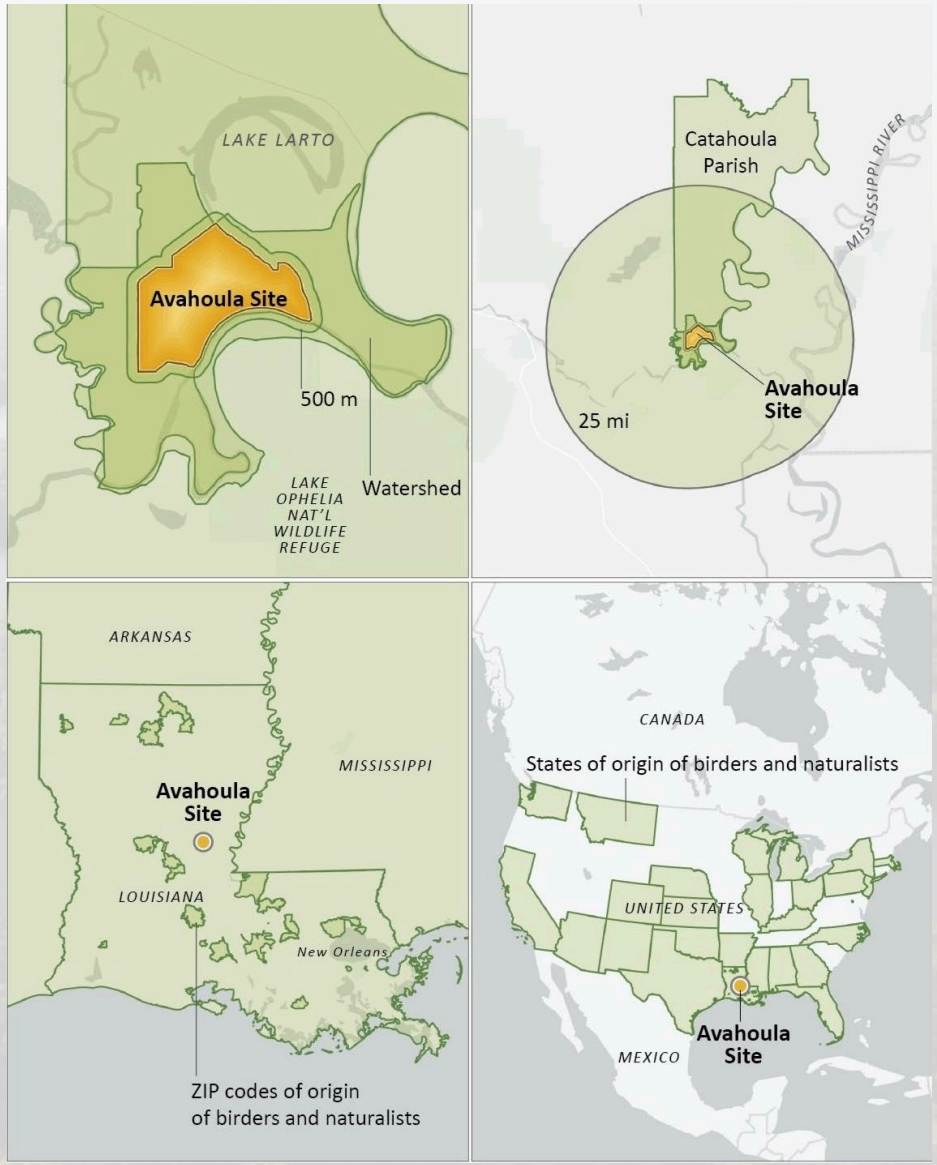
Beneficiary Mapping

15 Landowners
in 3,355 acres surrounding the project site

67K Residents
local to the area

3.7K Water Users
downstream in the watershed

46K Tourist Visits
to the area



Avahoula's Value

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Pachama

Project impacts by the numbers

- 840K tons of carbon sequestered over 40 years.
- $2.7 billion provided for new and permanently protected ecosystem services.
- $170 million in climate resilience benefits generated.
- 67,000+ Louisiana residents benefit from Avahoula's impacts.
- 12k-23K migratory waterfowl are supported annually by the restoration of food sources.
- $80 million in new ecosystem services created every year.
- $180k–$400k provided annually for improved recreational experiences.