

natural asset ensurance

investable nature-based infrastructure for colorado river basin resilience

already live protocol – not a concept

natural asset ensurance, by BASIN natural capital, closes the gap between nature's intrinsic and financial value—transforming how we value and fund ecosystems. built on real-asset fundamentals, the model applies property based finance to ensure natural capital and make nature investable across the colorado river basin.

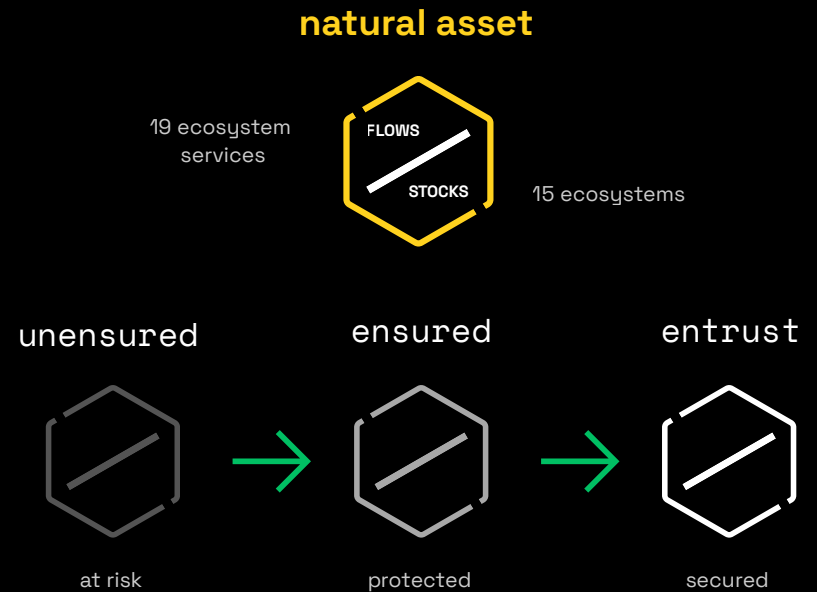
unlike insurance, which reacts after loss, ensurance safeguards and uplifts natural assets before they're gone—converting risk reduction from a cost into an investment. it issues tradable, yield-bearing certificates that fund restoration, regeneration, and permanent protection, aligning ecological and financial value from day one.

through a member-owned blended-finance protocol, two types of investors operate in one system: risk & dependency investors fund value, while real-asset & yield investors finance cost. together they earn returns as premiums flow in, proceeds flow out, and natural assets move from at risk → ensured → entrust.

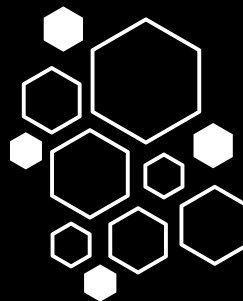
each investment drives measurable outcomes—climate resilience through improved drought preparedness, wildfire mitigation, and basin-wide water security; ecosystem protection and restoration; and inclusive wealth through locally rooted initiatives with global appeal.

the system is live and operational today, validated through the natural cap rate and mrv metrics, and adaptive to scale across geographies.

ensuring the stocks & flows of natural capital



protocol



member owned blended finance

accounts

place, purpose, people

currencies

fungible, indirect funding

proceeds

perpetual value flows

certificates

semi-fungible, direct funding

BASIN
natural capital

reducing risk & ensuring resilience

in the colorado river basin

yield across scale

bespoke portfolios of living systems and natural infrastructure let investors engage at any scale or mandate.

in exchange for tradable yield bearing certificates, financial capital — in fiat or stablecoins — funds member accounts and natural assets via publicly verifiable flows.

member accounts

each member account — an ensurance agent — has a unique onchain name and address (e.g. .basin or .syndicate). stewards, groups or ai operate these accounts to hold, send and grow value.

every account represents a place, purpose, or people mandate, defining its role and impact. accounts link capital to natural assets with transparent tracking of ecological and financial outcomes — compounding resilience across the colorado river basin.



place

point or polygon

natural asset · project · watershed · bioregion



purpose

cause or impact

ecosystem · ecosystem service · species



people

person or group

organization · company · agent · individual

colorado basin accounts

restoration & remediation

reviving degraded lands, waterways, and ecological function

upper-animas-mining-restoration.syndicate

marble-wetlands-preserve.avlt · 285%

0001.natural-asset · 410%

inland-wetlands.ensurance

rivers-lakes.ensurance

deserts.ensurance

protection & permanence

securing headwaters, forests & biodiversity strongholds for long-term resilience

colorado-headwaters-protection.syndicate

high-colorado-beaver-habitat.syndicate

existence-legacy.ensurance

coffman-ranch.avlt · 64%

three-meadows-ranch.avlt · 33%

temperate-forests.ensurance

yampa-river.basin

green-river.basin

adaptation & urban systems

deploying nature-based infrastructure for heat, drought & flood adaptation

urban-heat.syndicate

cultivated-developed.ensurance

clean-water.ensurance

recreation-experiences.ensurance

gila-river.basin

colorado-river.basin

regeneration & resilience

restoring natural capital & rural economies for climate stability & water security

climate-stability.ensurance

healthy-soils.ensurance

pollination.ensurance

water-abundance.ensurance

risk-resilience.ensurance

aquifer-recharge.syndicate

grasslands.ensurance



COLORADO BASIN → SUB-BASINS → SYNDICATES → NATURAL ASSETS ← NATURAL CAPITAL ← GROUPS

real value, real yield

from undervalued land to perpetual returns

real assets → natural assets

land is properly valued through the natural cap rate: ecosystem service value ÷ real-asset cost. policies align real asset value & nature value, creating exposure to mispriced real estate & undervalued natural capital.

ensurers

financial & real-asset investors, including catalytic or PRI, supply capital, earning yield as premiums flow. land acts as security until policy maturity, when the natural asset enters permanent protection.

risk & dependency members fund value; real-asset & income investors finance cost—both earning auditable returns as premiums flow in & proceeds flow out, generating holistic, ecological, and financial yield.

policies

general insurance — fungible, indirect funding via nature-based currencies that finance projects & circulate liquidity.

specific insurance — semi-fungible, direct funding through certificates for individual natural assets. issued on value, priced on cost, linking ecological performance to financial return. outcomes verified through 200+ ecological indicators and MRV.

proceeds & participation

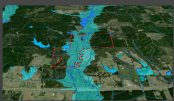
premiums funded by ecosystem service beneficiaries and resilience payors drive yield to ensurers; protocol proceeds distribute returns to all members—keeping capital in motion to ensure, restore, and entrust natural assets across the colorado river basin.

current barriers

the legacy system undervalues nature & lacks both market & policy-driven demand, leaving funding & projects trapped in a chicken-and-egg loop.

despite being **fully built & operational**, scaling adoption remains the challenge. early traction shows demand, but broader uptake requires catalytic participation & aligned capital to demonstrate the mechanisms & scale institutional investment.

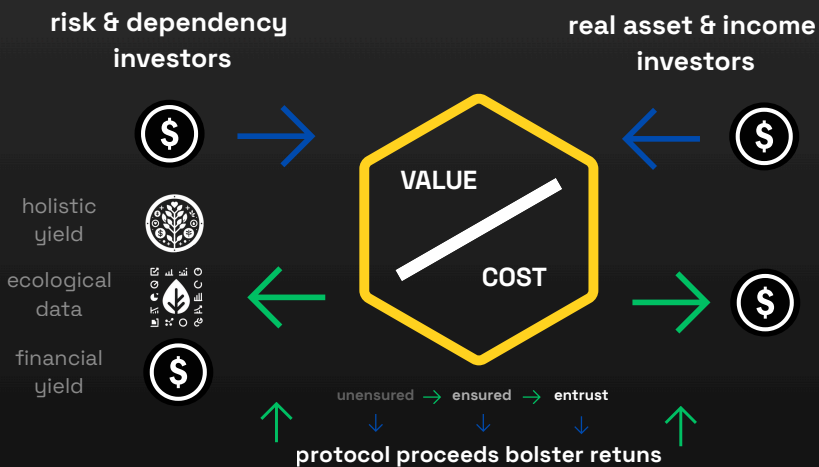
natural asset valuation & yield



	beaver riparian	highland forest	forested wetland	coastal estuary
natural cap rate	766%	281%	493%	131%
value/cost	\$6.1m/\$798k	\$15m/\$5.3m	\$1.4m/\$294k	\$709k/\$540k
flows	clean water pollinaition water abundance	pollination erosion control water quality	water quality resilience habitat	resilience habitat erosion control
stocks	inland wetlands riparian temperate forest	temperate forests inland wetlands rivers & lakes	inland wetlands temperate forest	coastal system

dynamic investment paths

risk & dependency investors fund value; real asset & income investors finance cost. both earn verified returns as premiums flow in and proceeds flow out.



yield & return profiles

	price	face	spread	upside	yield	irr
beaver riparian	\$0.13	\$1.00	87%	7.6X	764%	9%
highland forest	\$0.35	\$1.00	65%	2.8X	283%	11%
forested wetland	\$0.21	\$1.00	79%	4.8X	476%	4%
coastal estuary	\$0.76	\$1.00	24%	1.3X	131%	6%

appendix

natural asset

a natural asset is a legally defined real asset, or ecological polygon, whose ecological stocks and flows can be measured, valued, and ensured.

the stocks & flows of natural capital methodology

the “stocks” and “flows” of natural capital were established through a comparative synthesis of leading global frameworks for land cover, ecosystem classification, and ecosystem service valuation. over 75 primary sources were reviewed, including iucn get 2.0, esvd, fema, seea ea, cices, encore, and tnfd. from this crosswalk, 15 ecosystem “stocks” and 19 ecosystem service “flows” emerged as the most consistent and applicable across environmental, economic, and disclosure systems—forming the standardized foundation for BASIN’s natural capital accounting and valuation.

stocks

cultivated & developed
urban open space
rural open space
rivers & lakes
inland wetlands
tropical forests
temperate forests
boreal forests
coastal systems
grasslands
shrublands
polar & alpine
desert
subterranean
marine systems

flows

raw materials
food
energy
water abundance
healthy soils
medicinal & genetic
climate stability
clean air
clean water
risk resilience
pollination
erosion control
pest & disease control
habitat
recreation & experiences
research & learning
aesthetic & sensory
art & inspiration
existence & legacy

protocol stats as of october 2025

groups	28
accounts	1,899
currencies	201
policies	21
certificates	44,290
holders	2000+
proceeds nodes	18

natural assets

underwritten	19
esv value	\$43m
real assets value	\$21m
backlog	100+
ensured	0
entrust	0

current barriers

the realvalue of natural capital framework

the realvalue framework expresses the relationship between ecological stocks and flows in monetary terms, establishing a unified standard for valuing nature alongside traditional real assets. built through a crosswalk of over 100 valuation methods and more than 15 foundational frameworks—including esvd, seea ea, cices, tnfd, encore, invest, and fema—realvalue integrates economic, financial, and ecological perspectives into a single accounting system. by translating ecosystem extent, characteristics, and condition into both public goods and anthropocentric values, realvalue defines the “higher and better use” of real assets: to reflect their full natural capital yield, not just their market price.

natural capitalization rate

the natural cap rate expresses the relationship between the annual ecosystem service value (flows) and the underlying real asset cost (stocks). it serves as an indicator of value based on ecosystem condition relative to cost, enabling comparison across natural assets and real estate markets. as a simple ratio—flows ÷ stocks—it translates ecological health and productivity into a measurable financial metric, revealing how undervalued a natural asset is relative to the market value/price/cost.

ecological indicators & metrics (mrv)

basin references over 200 ecological indicators and metrics drawn from leading systems including cices, jrc, seea ecosystem condition, seed biocomplexity, ebvs, eii, msa, eecs, sbei, swiss re bes, ipbes, and ecv. these indicators measure ecosystem condition, integrity, biodiversity, and climate function, forming the scientific foundation that links ecological performance to financial value within the realvalue framework.

team & community

BASIN natural capital is the founding catalyst behind the ensurance protocol — a multidisciplinary collaboration spanning ecology, economics, design, law, real estate, finance, and art. what began as basin’s core team is now an open network of stewards and investors — from scientists and architects to ecologists, artists, and entrepreneurs — working across sectors to ensure nature’s value and resilience.

license

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image credit

colorado river basin map by pythonmaps (dr. adam symington), used under creative commons license.

natural asset
ENSURANCE

⚡ reduced risk · increased resilience · greater well-being ⚡

BASIN
natural capital