

Mapping Ecosystem Markets in the United States

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ECOSYSTEM MARKETPLACE

Forest Trends works to conserve forests and other ecosystems through the creation and wide adoption of a broad range of environmental finance, markets and other payment and incentive mechanisms.

Our Ecosystem Marketplace initiative is the leading global source of information on environmental finance, markets, and payments for ecosystem services.



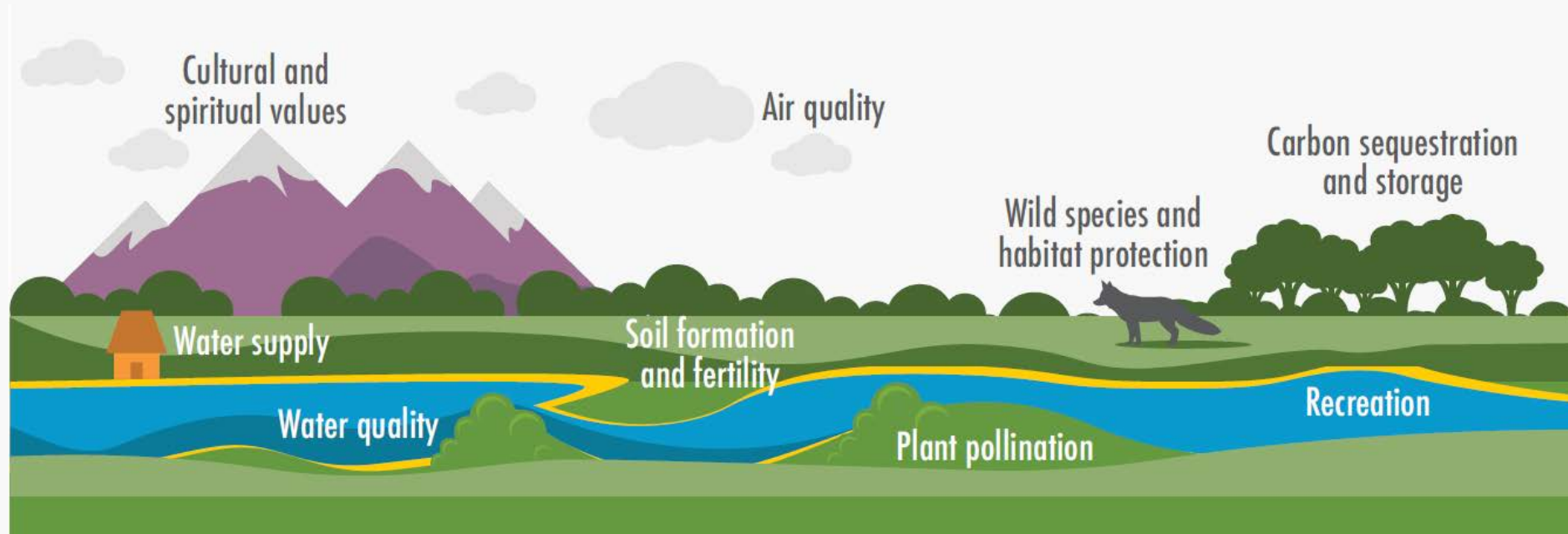
ABOUT ECOSYSTEM MARKETS

Society depends on healthy ecosystems for clean water, clean air, food, timber, and many other ecosystem services.

But these necessities are typically undervalued or not valued in our economic system.

Market-based mechanisms that attach economic value to ecosystem services can generate financing for sustainable management and long-term conservation of nature.

Ecosystem services provided by healthy landscapes



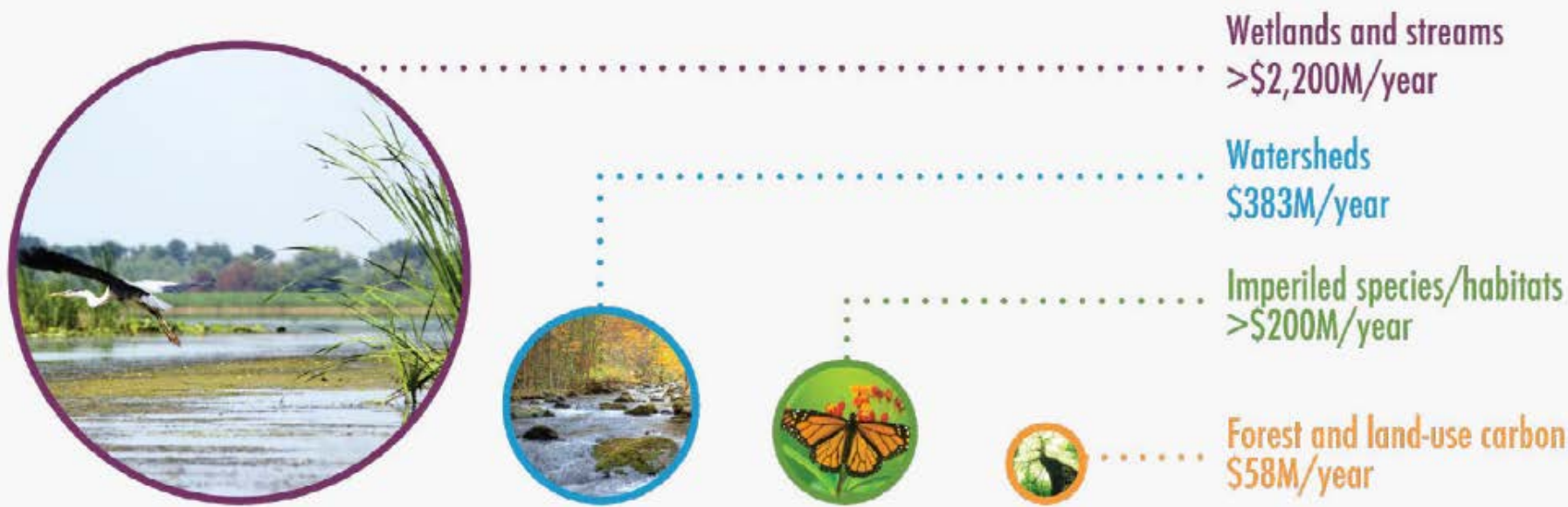
Source: Forest Trends' Ecosystem Marketplace.

ABOUT ECOSYSTEM MARKETS

Markets range from transactions in which individual beneficiaries of ecosystem services contract directly with providers of those services to sophisticated formal markets for buying and selling ecosystem services.

The best-developed ecosystem markets in the US are for wetland/stream conservation, watershed services, imperiled species/habitats conservation, and forest carbon.

Major ecosystem markets in the United States, by estimated annual value



Source: Forest Trends' Ecosystem Marketplace.

THE ECOSYSTEM MARKETS MAP DATA

Within these broad asset types, we find a diverse array of market-based mechanisms.

Mechanisms included in the geodatabase



WETLANDS AND STREAMS

Compensatory mitigation markets for wetland and stream habitat



WATERSHED SERVICES

Water quality trading markets

Water rights acquisitions/leasing for environmental flows

Groundwater mitigation markets

Water funds and direct payments

Public subsidies for watershed protection



IMPERILED SPECIES AND HABITATS

Compensatory mitigation markets for endangered species habitat

Voluntary markets for candidate species habitat



FOREST AND LAND-USE CARBON

Compliance carbon offset markets

Voluntary carbon offset markets

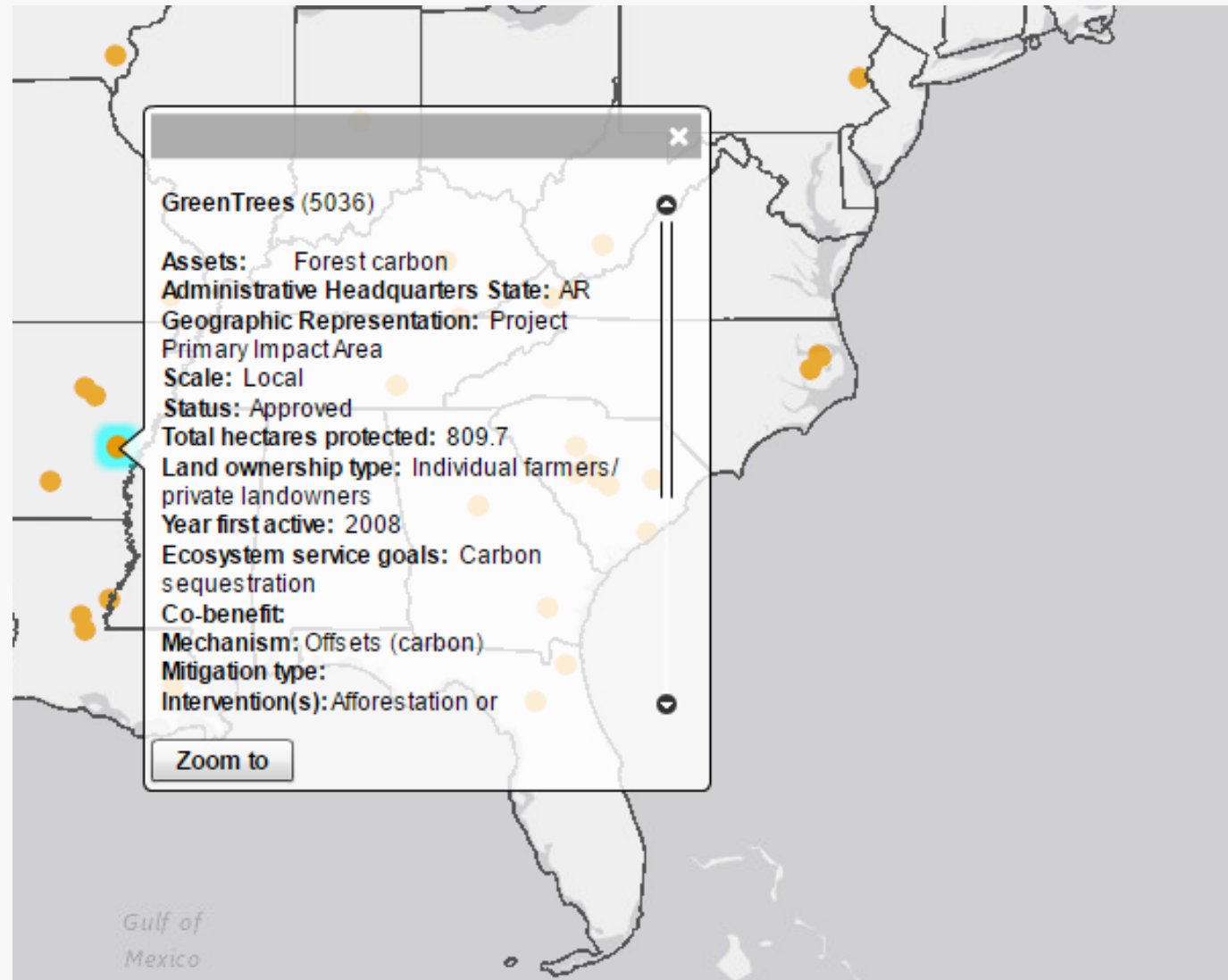
THE ECOSYSTEM MARKETS MAP DATA

Initiatives are tracked at two levels: the **market** and **project level**, with point and polygon data available for each.

Data about individual initiatives is also available to explore on EnviroAtlas or for download, including status, drivers, developer, conservation interventions, co-benefits, standards used, and more.

Finally, for the first time we're offering **enabling conditions** data in spatial form, mapping policy, regulations, and guidance supporting ecosystem markets.

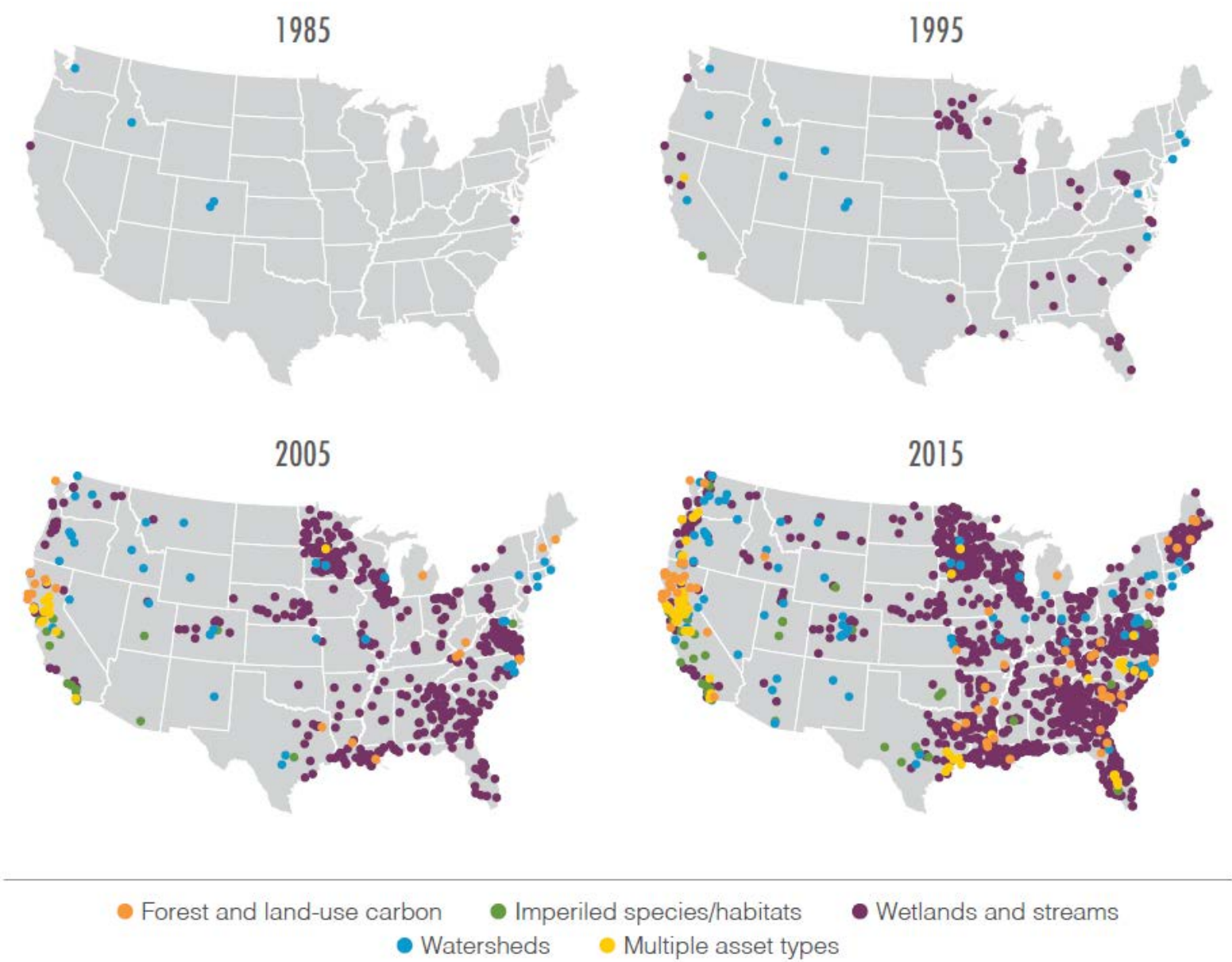
Example: Project attribute data included in EnviroAtlas



WHERE ARE ECOSYSTEM MARKETS? HOW FAST ARE THEY GROWING?

Market activity has grown rapidly in recent decades in the United States, from just a handful of initiatives to more than 2,400 today.

Growth in ecosystem markets initiatives in the United States, 1985-2015

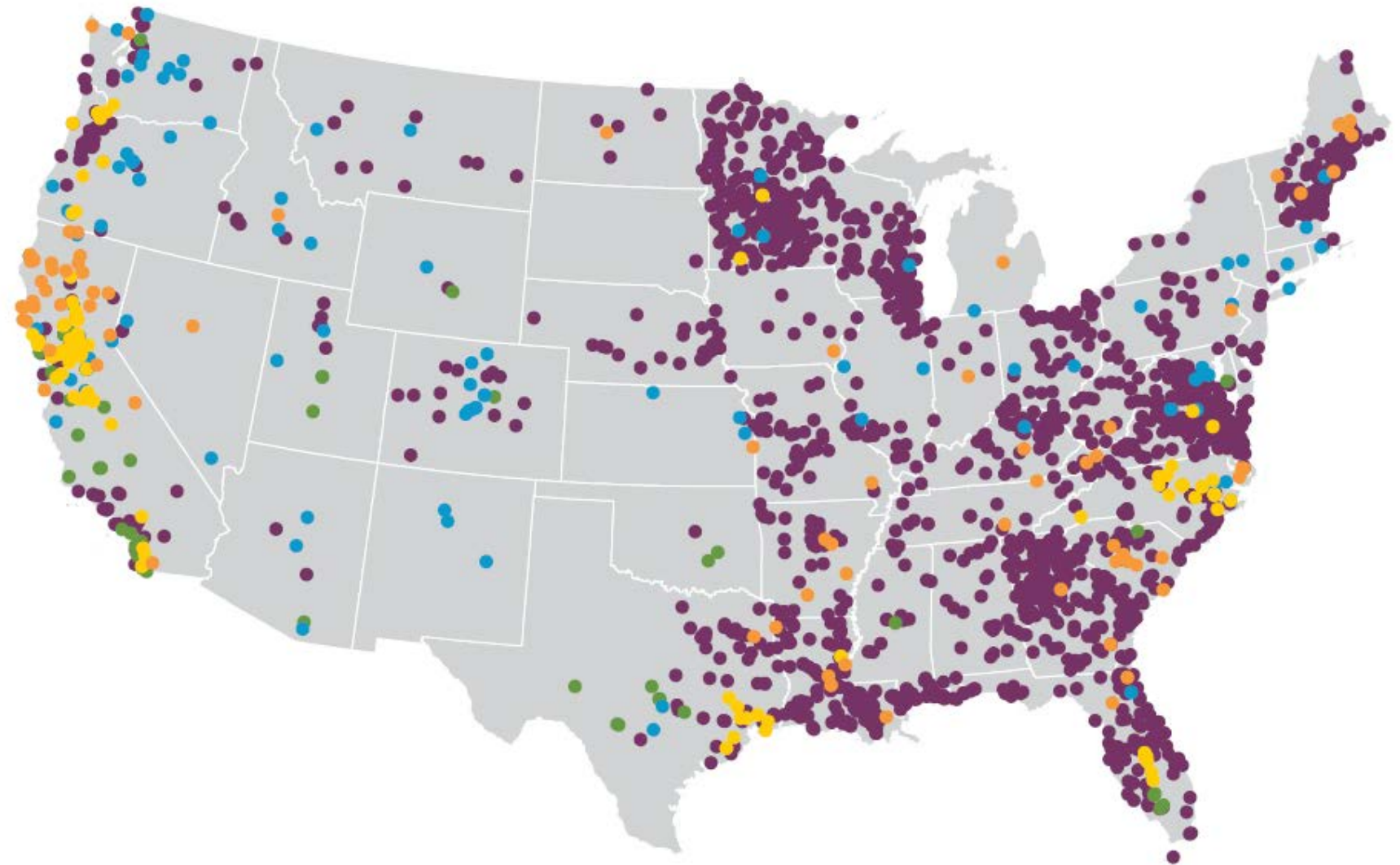


WHERE ARE NEW INITIATIVES EMERGING?

New growth tends to cluster in areas where demand and regulatory support is strongest.

In 2015, California, Minnesota, the Mid-Atlantic states, Georgia, and Florida all had a high number of projects in development.

Status of ecosystem service initiatives in the United States by asset type



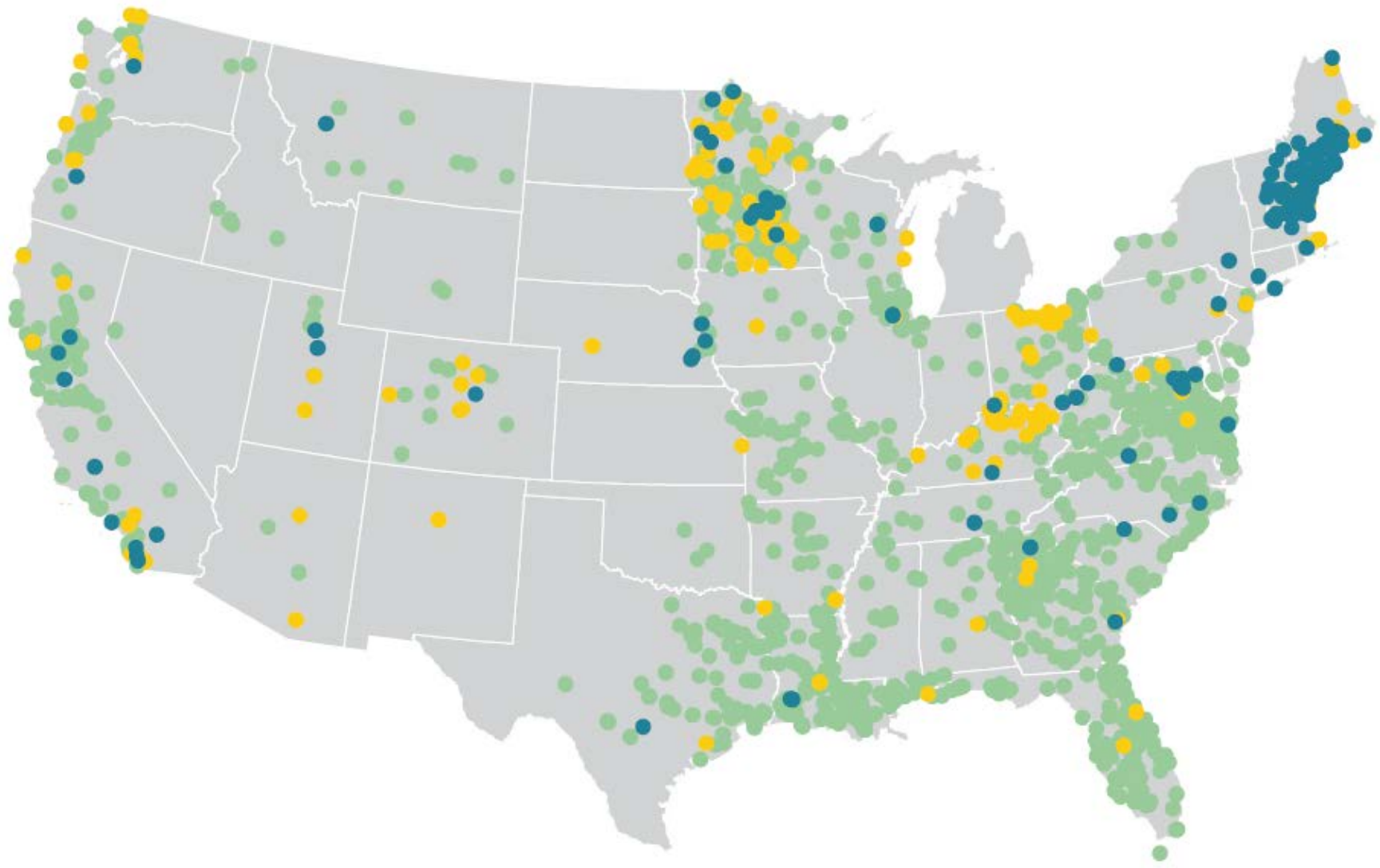
● Forest and land-use carbon (81) ● Imperiled species/habitats (76) ● Wetlands and streams (1,973)
● Watersheds (97) ● Multiple asset types (113)

WHO'S BEHIND THESE PROJECTS?

The largest number of projects are located on privately owned land. These projects are mainly commercial wetland and stream mitigation banks.

However, hundreds of initiatives also channel funding to publicly owned lands or coordinate management across multiple land ownership types.

Ecosystem service initiatives by land ownership type



Land ownership type

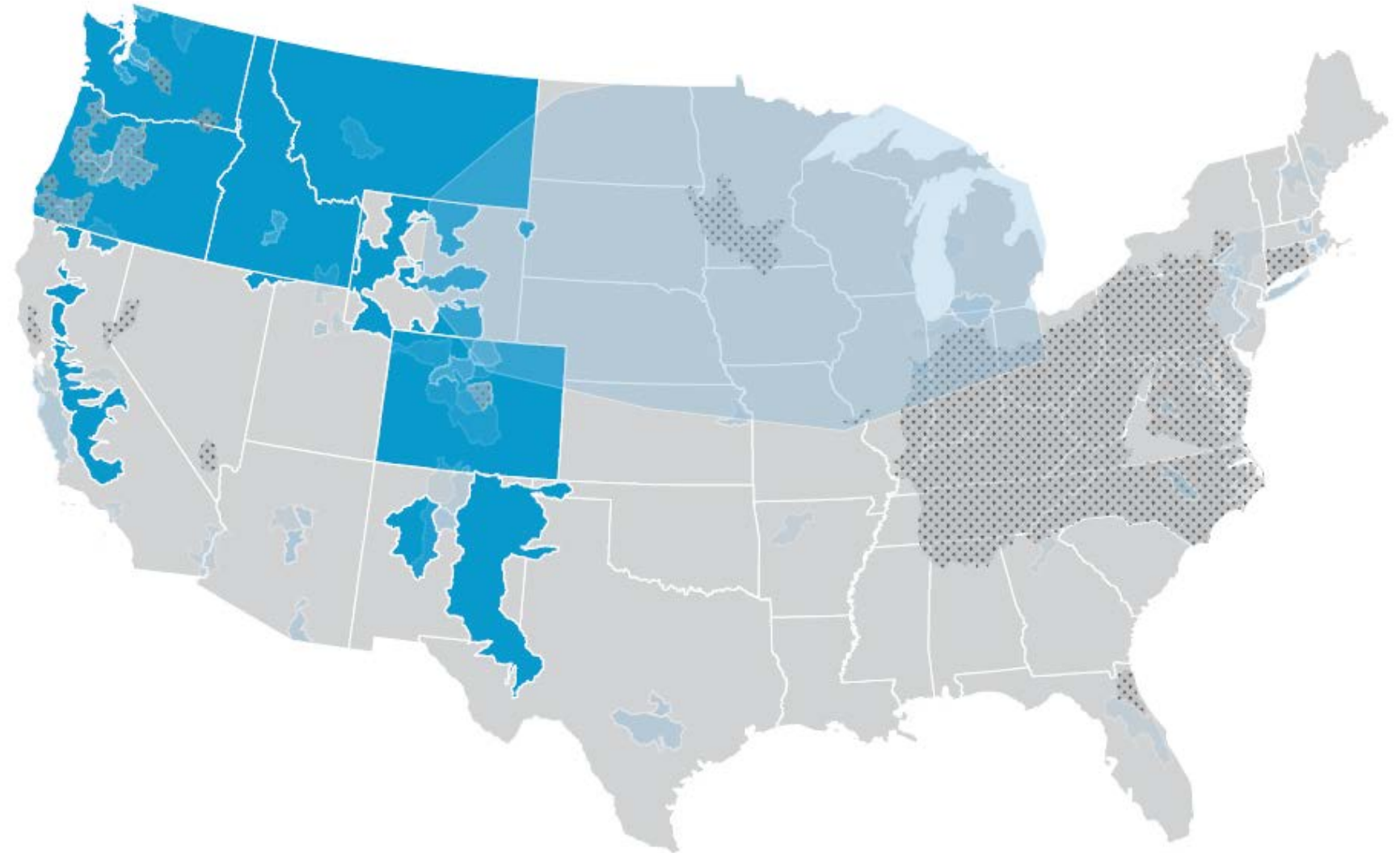
- Public (180)
- Private (1,496)
- Combination public/private (176)

HOW DO MARKETS WORK?

The way markets are designed also varies.

For example, watershed markets can use as the unit of exchange a standardized credit (**Trading and Offsets**), a water right (**Instream buybacks**), or a unit more flexibly defined according to project context (**Payments for Watershed Services**), as shown in this map.

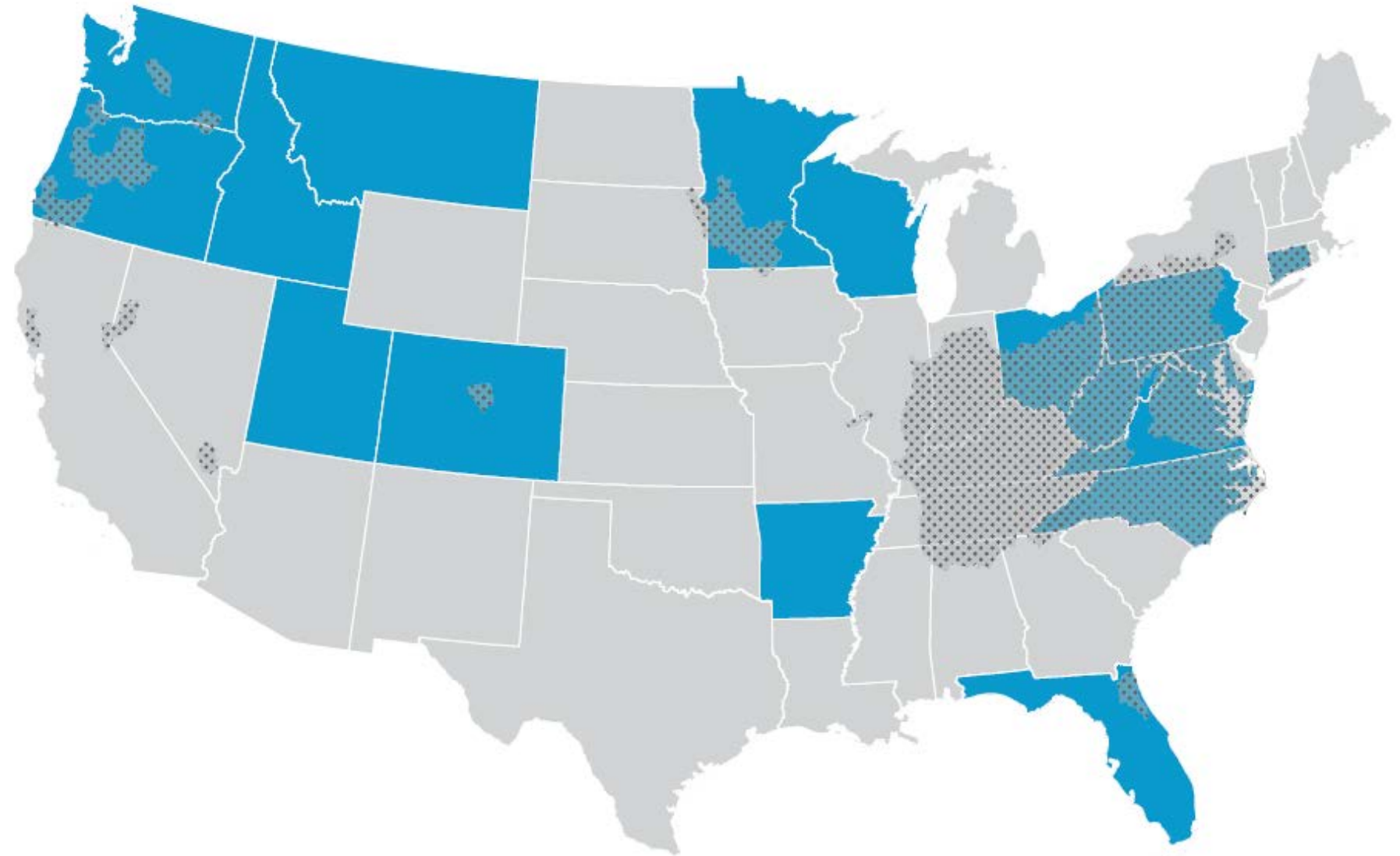
Watershed markets by mechanism type



■ Instream buybacks (23) ■ Payment for watershed services (44) ■ Trading & offsets (29)

State-level policy supports for water quality trading can include regulatory drivers that accept water quality credits as a compliance option, enabling policies specifically enabling or establishing water quality trading mechanisms, or non-binding regulatory guidance.

Water quality trading markets and policies in the United States



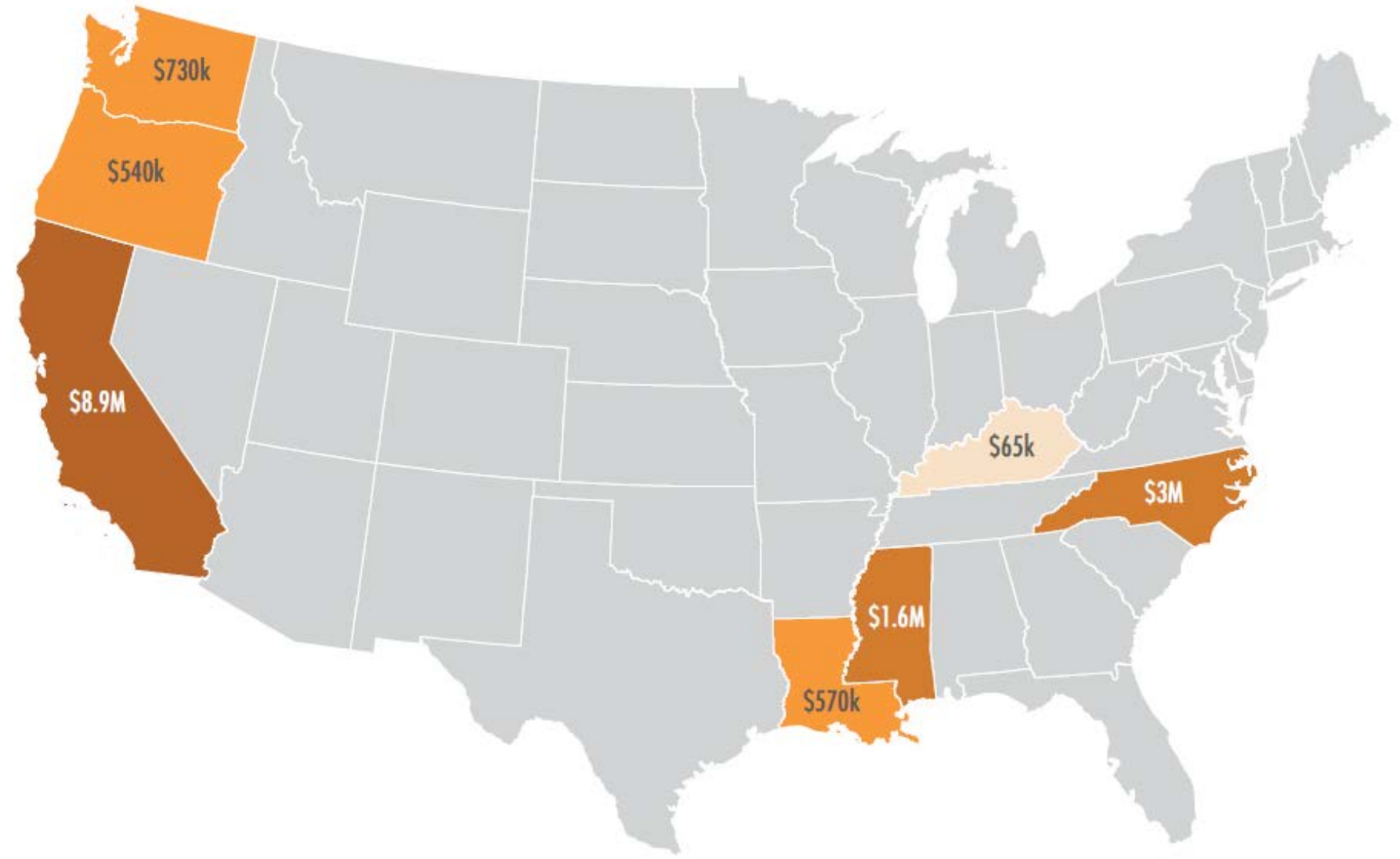
■ State-scale trading/offset policy ■ Watershed markets utilizing trading/offset mechanisms

HOW MUCH MONEY IS BEING DELIVERED FOR CONSERVATION?

Market activity is not evenly distributed across the country.

Forest carbon project development occurs where policy drivers exist (such as California's cap-and-trade program), where there is a high level of high-carbon forest coverage or where there are enterprising project developers.

Cumulative historical value of forest carbon markets transactions by state, 2008-2014



● \$1–\$75k ● \$75k–\$500k ● \$500k–\$1M ● \$1M–\$5M ● \$5M–\$10M ● No data reported

Source: Forest Trends' Ecosystem Marketplace.

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