

WEBINAR

State of Biodiversity Mitigation 2017

Markets and Compensation for Global
Infrastructure Development

December 11, 2017

PANELISTS

Genevieve Bennett, Forest Trends' Ecosystem Marketplace

George Kelly, RES

Julia Baker, Balfour Beatty



Ecosystem Marketplace
A FOREST TRENDS INITIATIVE



STATE OF BIODIVERSITY MITIGATION 2017

Markets and Compensation for
Global Infrastructure Development

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ABOUT FOREST TRENDS' ECOSYSTEM MARKETPLACE

EcoMarketplace @EcoMarketplace
TWEETS 5,213 FOLLOWING 825 FOLLOWERS 3,778 LIKES 584 LISTS 1

EcoMarketplace Retweeted
Forest Trends @foresttrendsorg · Dec 9
#DYK there are over 2,400 market initiatives restoring healthy landscapes in the US? Hundreds more in the pipeline
ow.ly/FvVZ306YRdv

Map 3. Status of Ecosystem Service Initiatives in the United States by Asset Type

Forest Project Inventory | Featured Project

I NEED HELP! + ADD A NEW PROJECT

Keyword
[Operational & Pipeline] Proj. Stage
[All Project Types] Proj. Type
[Any] Seeking
[All Markets] Market
[All Countries] Country

Ecosystem Marketplace
A FOREST TRENDS INITIATIVE

HOME NEWS & ARTICLES OUR PUBLICATIONS MARKETWATCH LIBRARY & TOOLS DIRECTORY NEWSLETTERS EVENTS ABOUT US

TOP STORY

Thursday Webinar to Explore Relationship Between Tenure And Deforestation
We all know that poverty drives deforestation and that you can slow deforestation by strengthening tenure for indigenous people and supporting community forestry. We may, however, all be wrong, according to research that says strengthening land tenure is a double-edged sword. [Go To Article]

New Report!
Sharing the Stage:
State of the Voluntary Carbon Markets 2014
Read more about our findings...
Download the exec. summary...

FOREST HOMEPAGE
State of the Forest Carbon Markets 2013
WATER HOMEPAGE
Charting New Waters
BIO DIVERSITY HOMEPAGE
State of Biodiversity Markets

TODAY'S NEWS
Lesa gets World Bank grant to protect forests
Green gain takes off
Nespresso pledges €330m to become 'carbon neutral' by 2020
How do we save the world's vanishing old-growth forests? - Study
U.N. draft report lists unchecked emissions' risks
If you have allergies or asthma, talk to your doctor about cap and trade

Supply Change:
Tracking Corporate Commitments to Deforestation-free Supply Chains, 2016

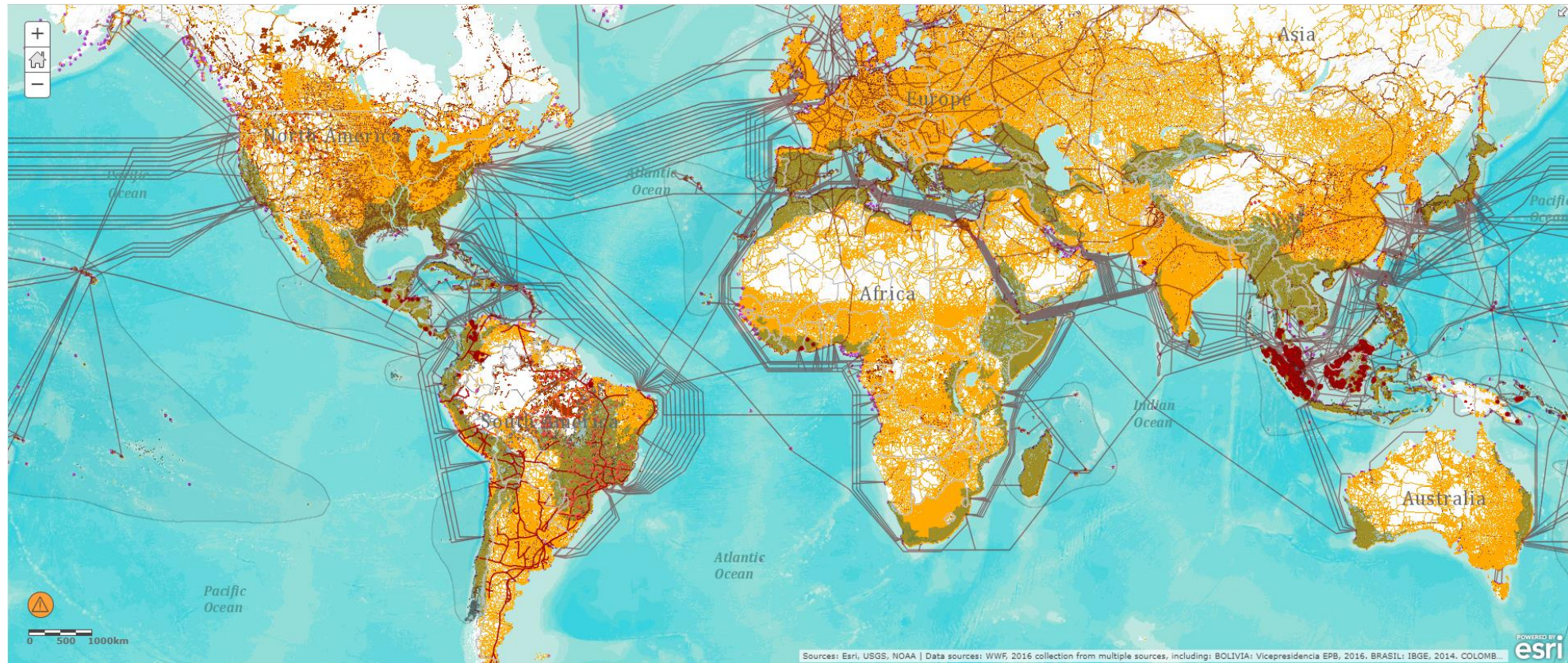
AN ATLAS OF ECOSYSTEM MARKETS IN THE UNITED STATES

View from the Understory
State of Forest Carbon Finance 2016

Featured Sponsors: althelia, ecosphere, NewForests

WWW.ECOSYSTEMMARKETPLACE.COM

BIODIVERSITY & INFRASTRUCTURE



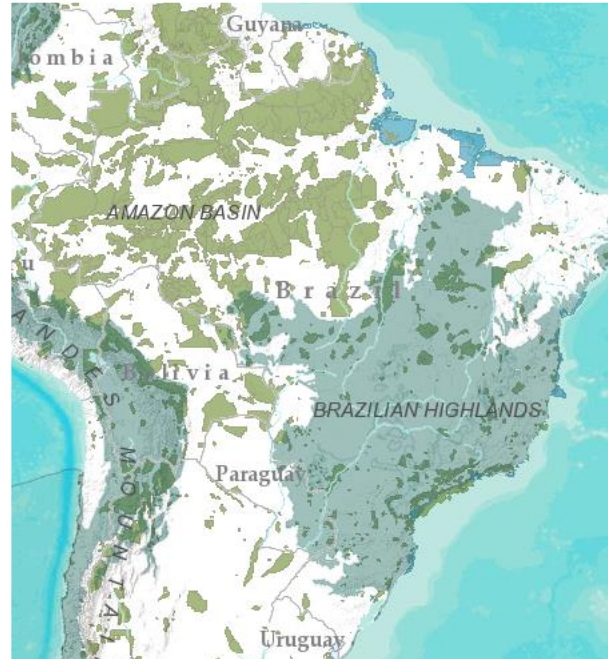
BIODIVERSITY & INFRASTRUCTURE



■ Biodiversity hotspot

Sources: Esri, USGS, OAA, IUCN and UNEP-WCMC, WRI Global Forest Watch, WWF, CIESIN, DeLorme, US NPS

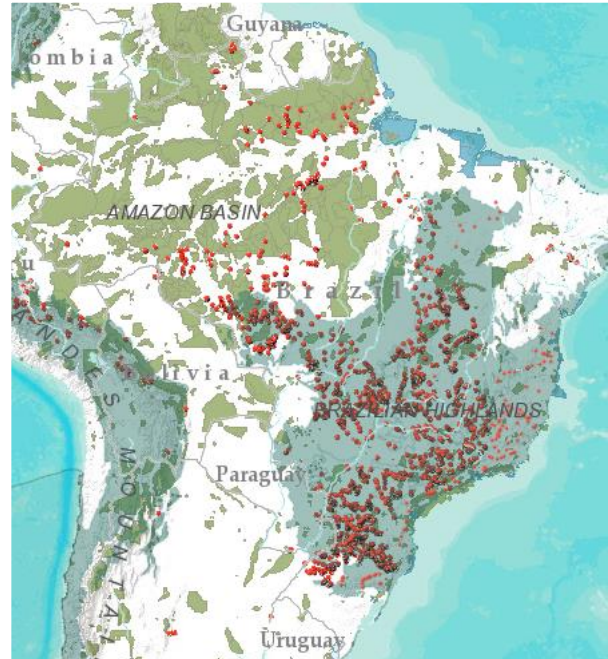
BIODIVERSITY & INFRASTRUCTURE



- Biodiversity hotspot
- Protected area

Sources: Esri, USGS, OAA, IUCN and UNEP-WCMC, WRI Global Forest Watch, WWF, CIESIN, DeLorme, US NPS

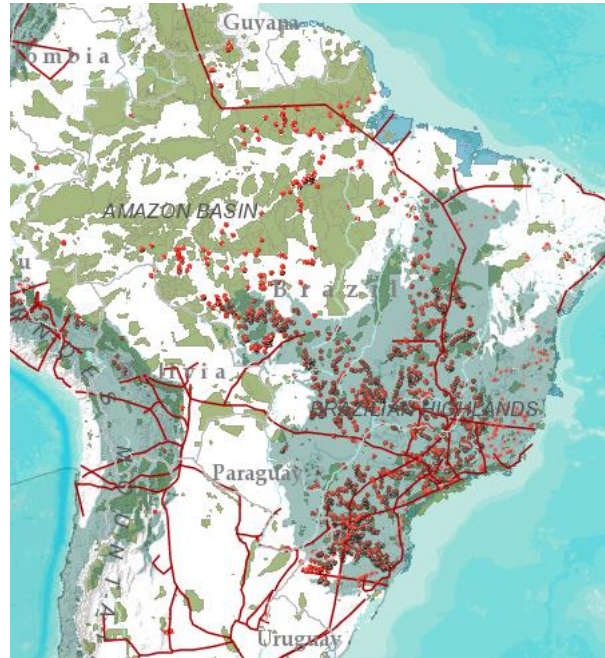
BIODIVERSITY & INFRASTRUCTURE



- Biodiversity hotspot
- Protected area
- Major dams (planned + existing)

Sources: Esri, USGS, OAA, IUCN and UNEP-WCMC, WRI Global Forest Watch, WWF, CIESIN, DeLorme, US NPS

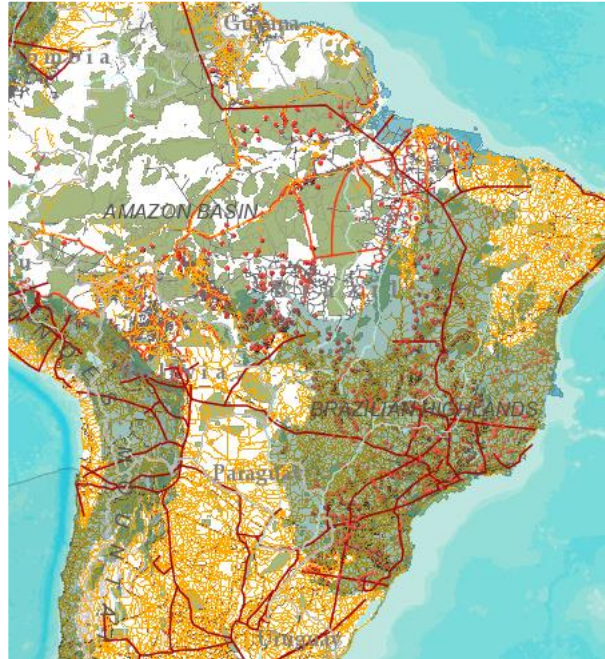
BIODIVERSITY & INFRASTRUCTURE



- Biodiversity hotspot
- Protected area
- Major dams (planned + existing)
- Oil & gas pipelines (planned + existing)

Sources: Esri, USGS, OAA, IUCN and UNEP-WCMC, WRI Global Forest Watch, WWF, CIESIN, DeLorme, US NPS

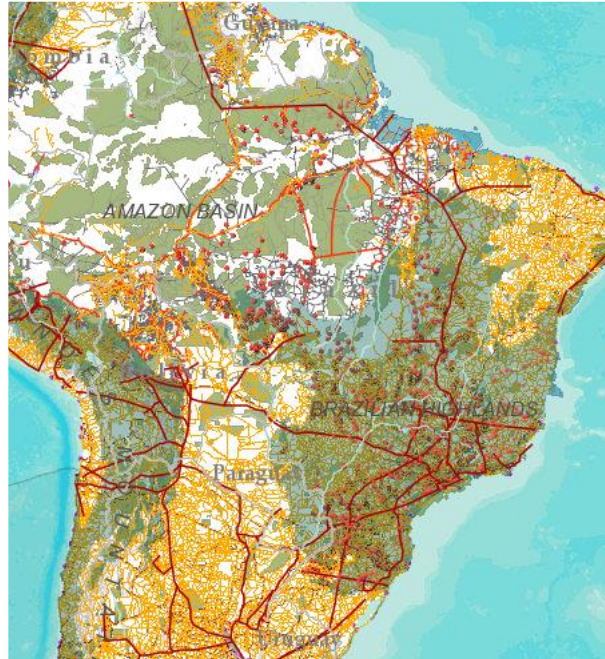
BIODIVERSITY & INFRASTRUCTURE



- Biodiversity hotspot
- Protected area
- Major dams (planned + existing)
- Oil & gas pipelines (planned + existing)
- Roads & Railways

Sources: Esri, USGS, OAA, IUCN and UNEP-WCMC, WRI Global Forest Watch, WWF, CIESIN, DeLorme, US NPS

THE LIMITS OF TRADITIONAL CONSERVATION TOOLS



- Biodiversity hotspot
- Protected area
- Major dams (planned + existing)
- Oil & gas pipelines (planned + existing)
- Roads & Railways
- Power lines
- Ports

Sources: Esri, USGS, OAA, IUCN and UNEP-WCMC, WRI Global Forest Watch, WWF, CIESIN, DeLorme, US NPS

BIODIVERSITY & INFRASTRUCTURE

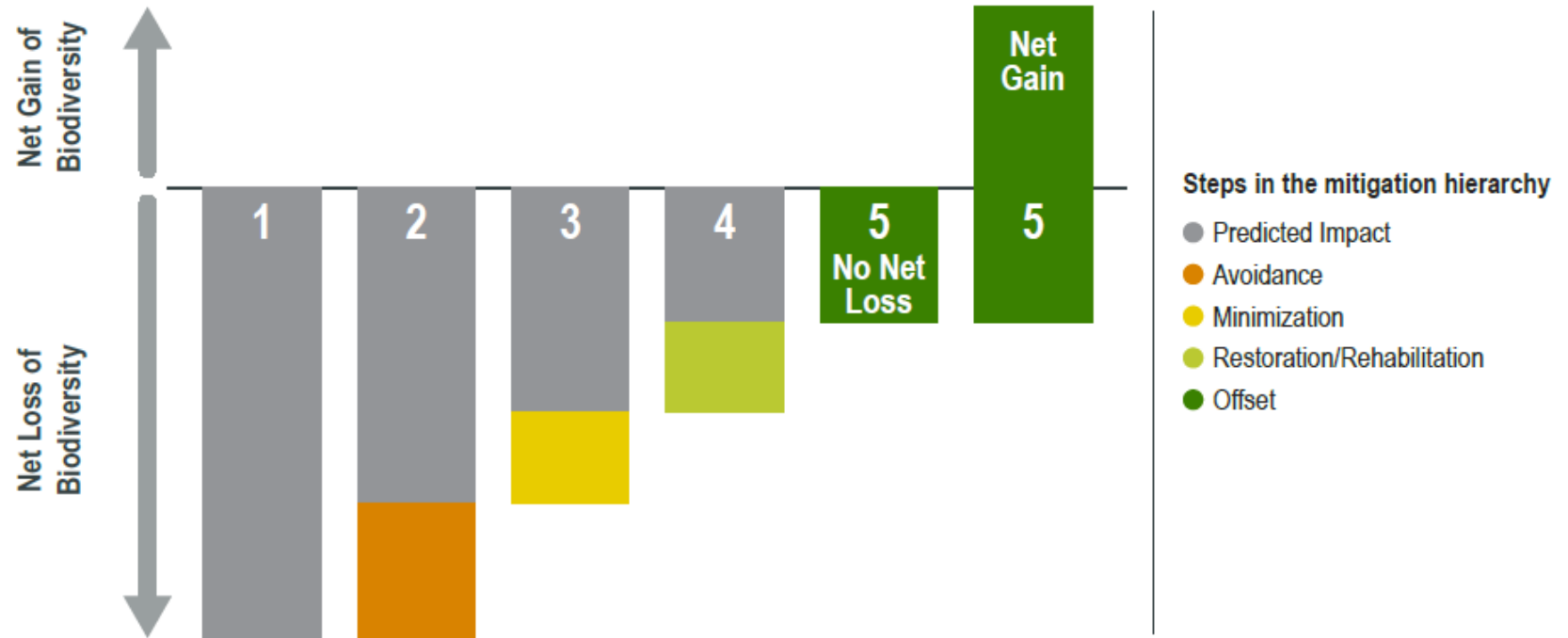


- Biodiversity hotspot
- Protected area
- Major dams (planned + existing)
- Oil & gas pipelines (planned + existing)
- Roads & Railways
- Power lines
- Ports
- Mining concessions

Sources: Esri, USGS, OAA, IUCN and UNEP-WCMC, WRI Global Forest Watch, WWF, CIESIN, DeLorme, US NPS

BIODIVERSITY STRATEGIES

The Mitigation Hierarchy Concept



BIODIVERSITY STRATEGIES

Compensatory
Mitigation
Mechanisms
Tracked in this
Report



THE BBOP PRINCIPLES: INTERNATIONAL BEST PRACTICE FOR OFFSETS

1. Adherence to the mitigation hierarchy
2. Limits to what can be offset
3. Landscape context
4. No net loss
5. Additional conservation outcomes
6. Stakeholder participation
7. Equity
8. Long-term outcomes
9. Transparency
10. Science and traditional knowledge

<http://bbop.forest-trends.org/pages/guidelines>



REPORT METHODOLOGY

- Data was collected through three methods:
 1. A survey disseminated online during April and May 2017 to program administrators, project developers, and other market actors;
 2. Personal communications via semi-structured phone and email interviews;
 3. Desk research investigating program reports, donor reports and databases, academic journal articles, project registries, and other primary and secondary sources.
- Transparency was a constant challenge
- We report actual transactions except for the US where price/volume data was robust enough nationally to estimate overall annual value (see report methodology)
- We protect confidentiality of our survey respondents by only reporting average/aggregate numbers where we have 3+ data points



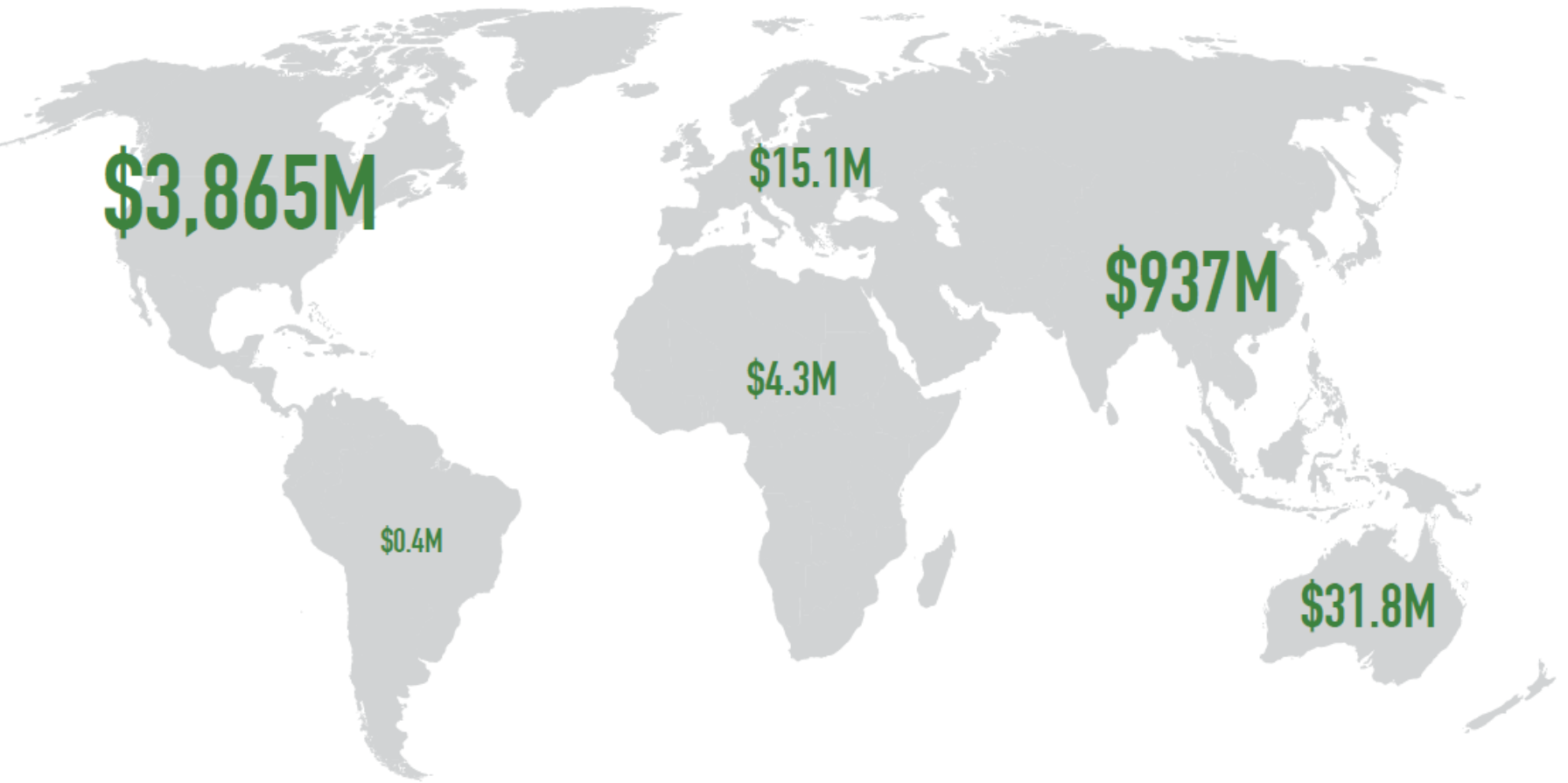
33 COUNTRIES HAVE POLICIES ON THE BOOKS

Compliance Offsets
and Compensation:
Countries with
Active Programs,
2016








\$4.8 BILLION IN TRANSACTIONS IN 2016

Compliance Offsets
and Compensation:
Value Transacted by
Region, 2016



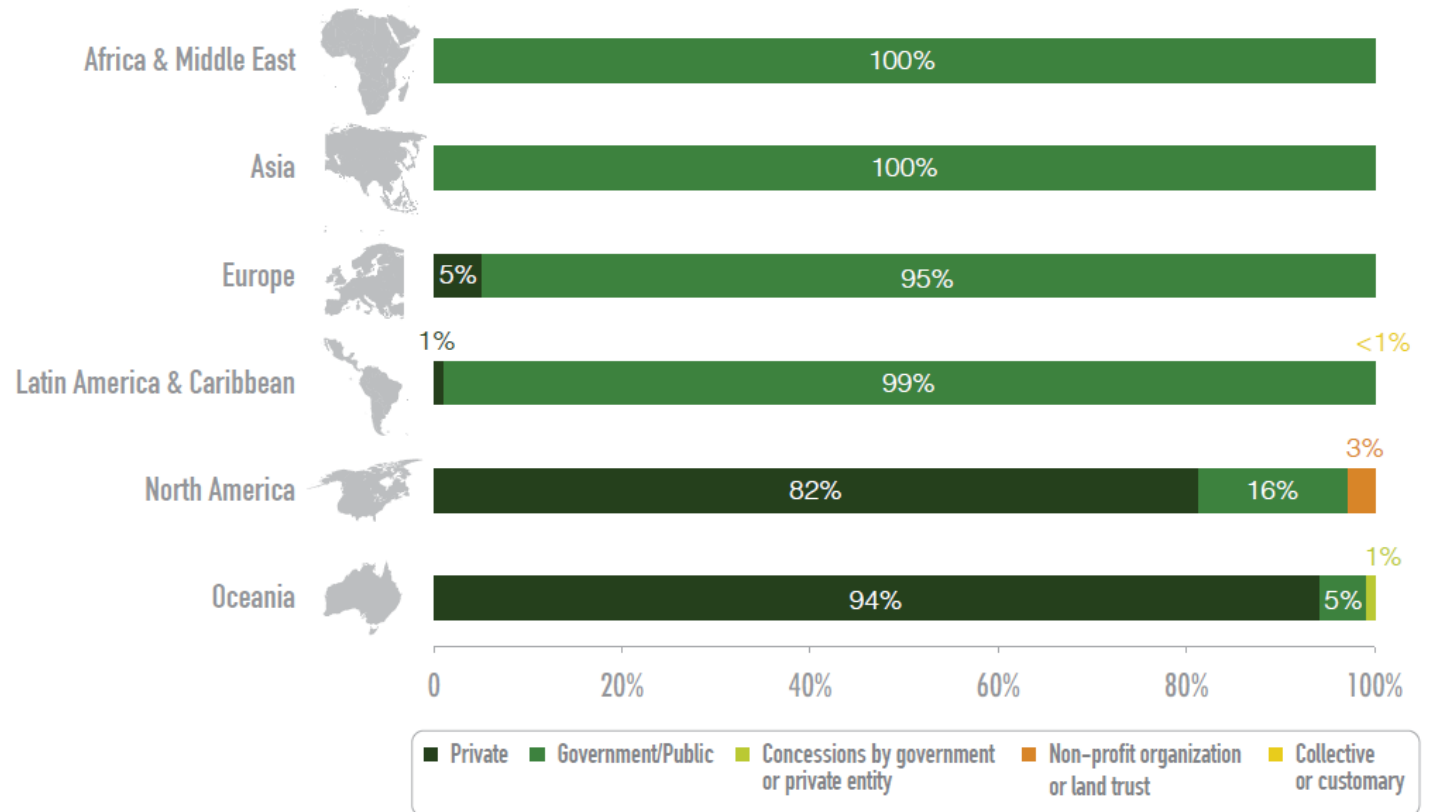
COMPLIANCE BUYERS: INFRASTRUCTURE SECTORS DRIVE GLOBAL DEMAND

Compliance Offsets
and Compensation:
Top Five Buyers by
Land Area
Transacted, 2016

	 Transportation and Shipping (Public Sector)	 Property/Real Estate Development (Commercial and Residential)	 Energy Distribution and Generation	 Energy Development and Extraction	 Mining and Materials
Total Land Area Transacted in 2016	11,310 ha	5,997 ha	2,071 ha	723 ha	632 ha
Median Transaction Size in 2016	0.2 ha	0.4 ha	0.2 ha	0.2 ha	9.9 ha
Average Transaction Size in 2016	65 ha	7 ha	6,298 ha	98,111 ha	489 ha

MITIGATION SUPPORTS BOTH PUBLIC LANDS CONSERVATION AND PRIVATE ENTREPRENEURSHIP

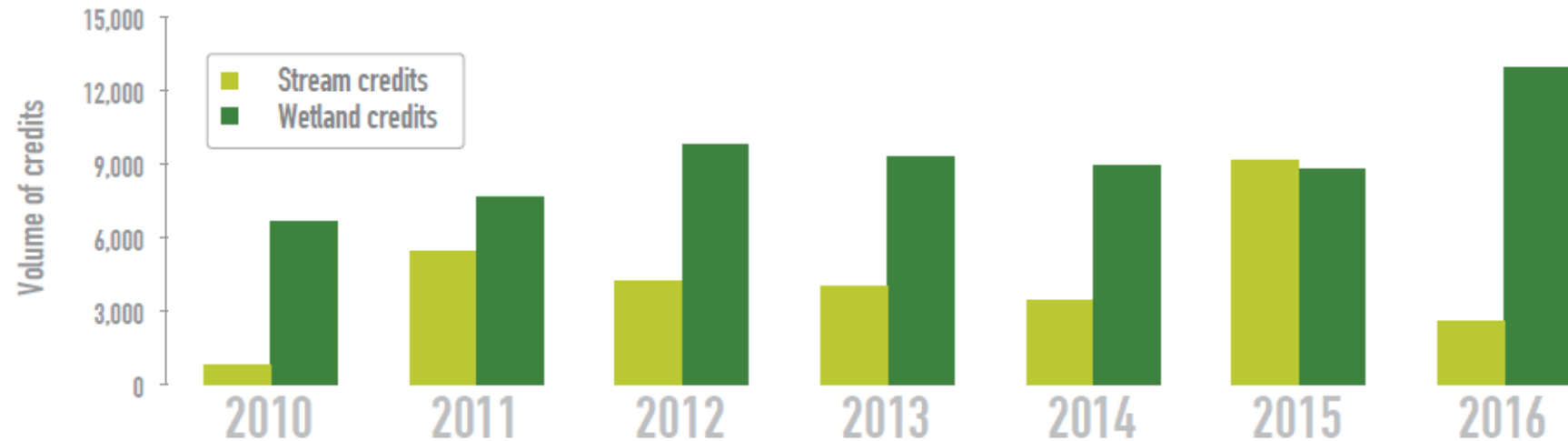
Compliance Offsets and Compensation: Share of Cumulative Land Area by Land Ownership within Region, 2016



Notes: Excludes Oyu Tolgoi project in Mongolia. Totals may not add up to 100% due to rounding.

US WETLAND BANKING SECTOR MAIN SOURCE OF TRANSACTIONS – ESTIMATED \$3.8B/YEAR

Major Mitigation
Banking Markets:
US Aquatic
Resources
Compensatory
Mitigation



COMPENSATION FUNDS TAKE IN \$1.2B/YEAR, BUT ARE SLOW TO SPEND IT

Region	Number of Active Programs	Fund Revenues Received in 2016	Fund Balance as of End of 2016	Cumulative Project Area Reported
Africa & Middle East	5	\$4.1M	\$4.1M	9k ha
Asia	2	\$935.3M	\$6,635.0M	708k ha
Europe	11	\$8.7M	\$155.3M	n/a
Latin America & Caribbean	6	\$0.4M	\$49.8M	762k ha
North America	70	\$251.2M	\$163.0M	48k ha
Oceania	9	\$16.3M	\$58.8M	3k ha
Total	103	\$1.2B	\$7.1B	1.5M ha

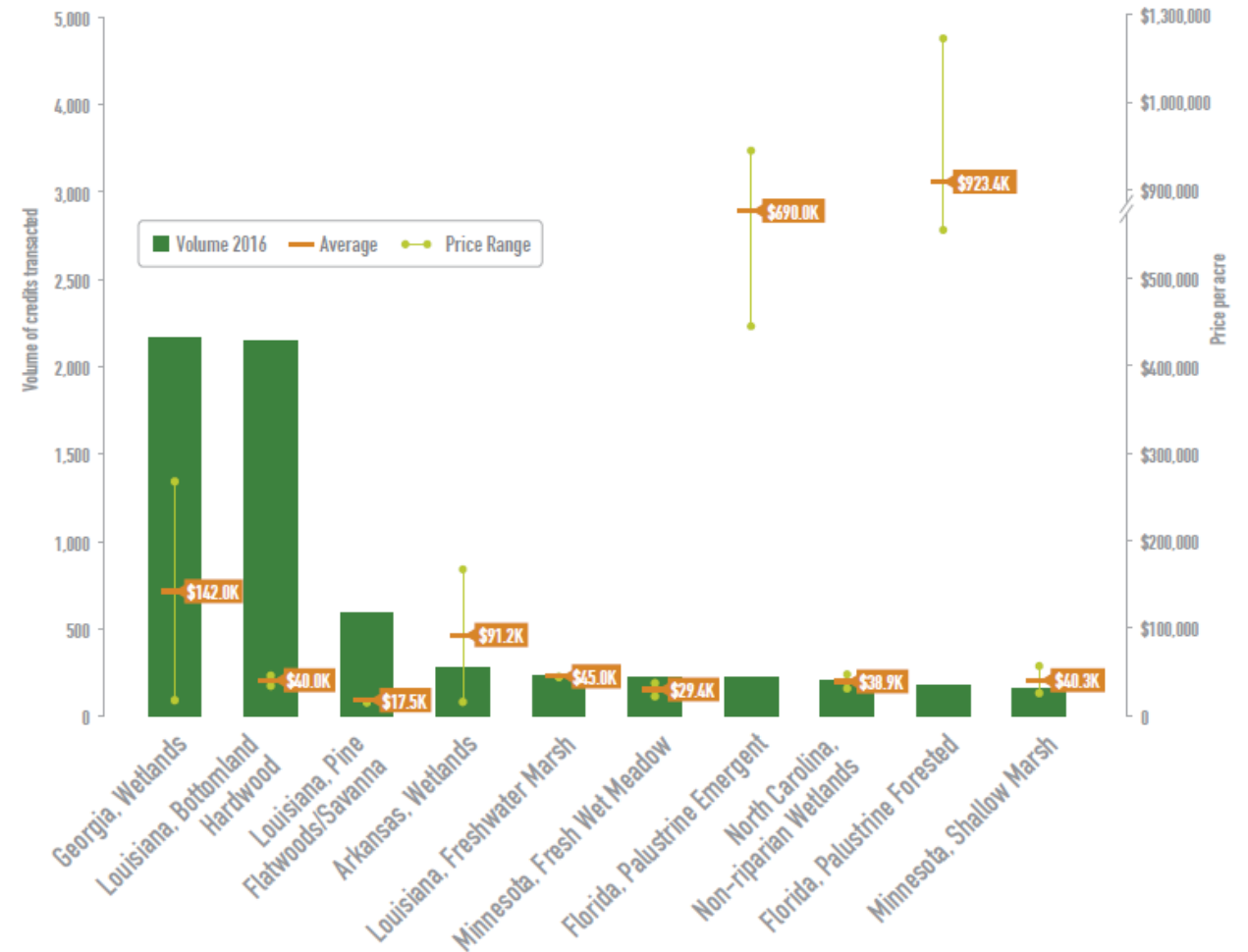


MITIGATION CREDIT PRICES

Transacted Volume and Price per Credit for Top Wetland Credit Classifications in the United States, 2016

See the full report for average credit prices for:

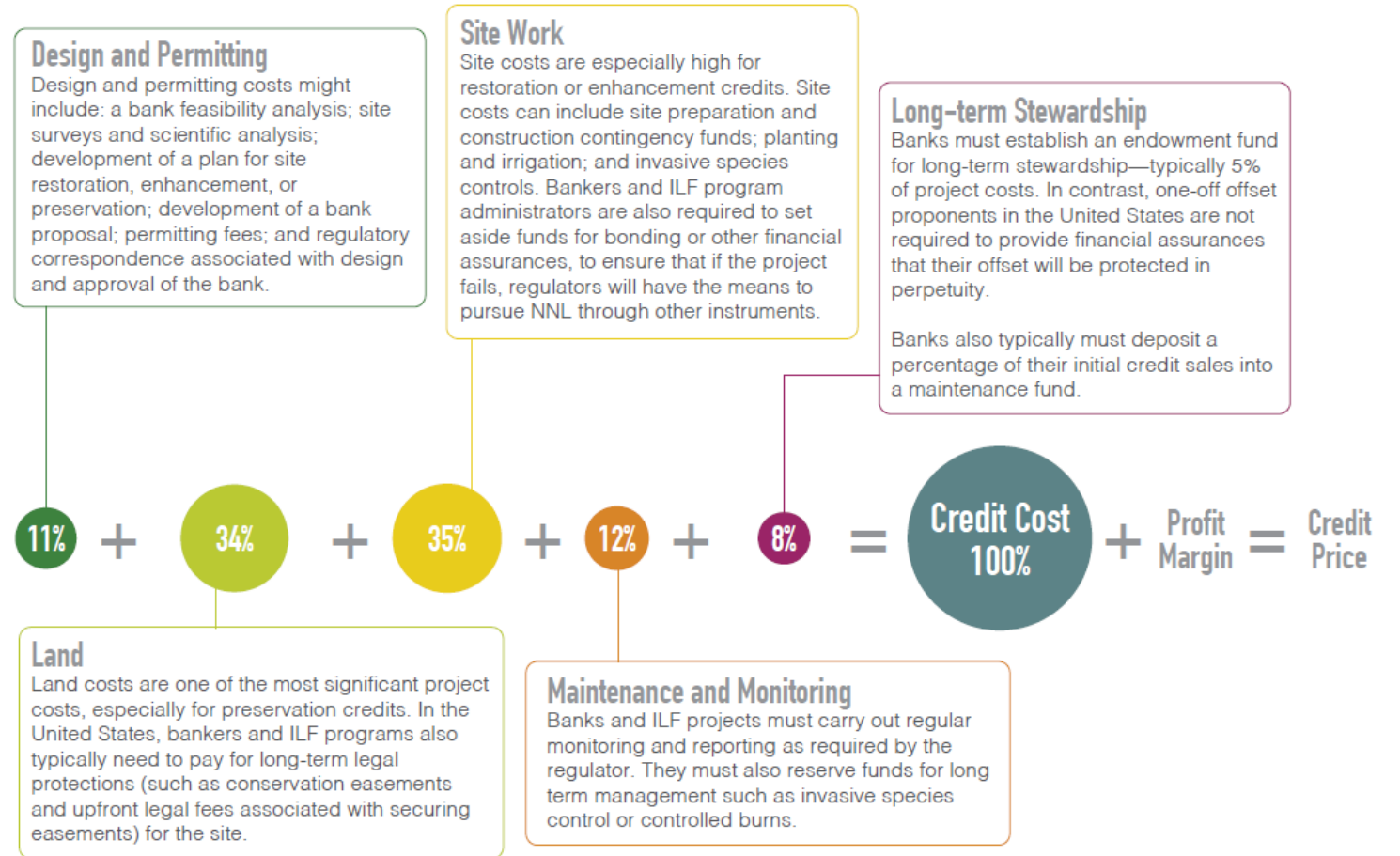
- US Conservation Banking
- New South Wales Biobanking
- Queensland Environmental Offsets
- Victoria Native Vegetation Offsets
- Kingborough (Tasmania) Environmental Offsets
- Melbourne (Victoria) Strategic Assessment Habitat Compensation



Notes: Not shown in this figure are credit classifications for which Ecosystem Marketplace had fewer than three price points for 2016 transactions.

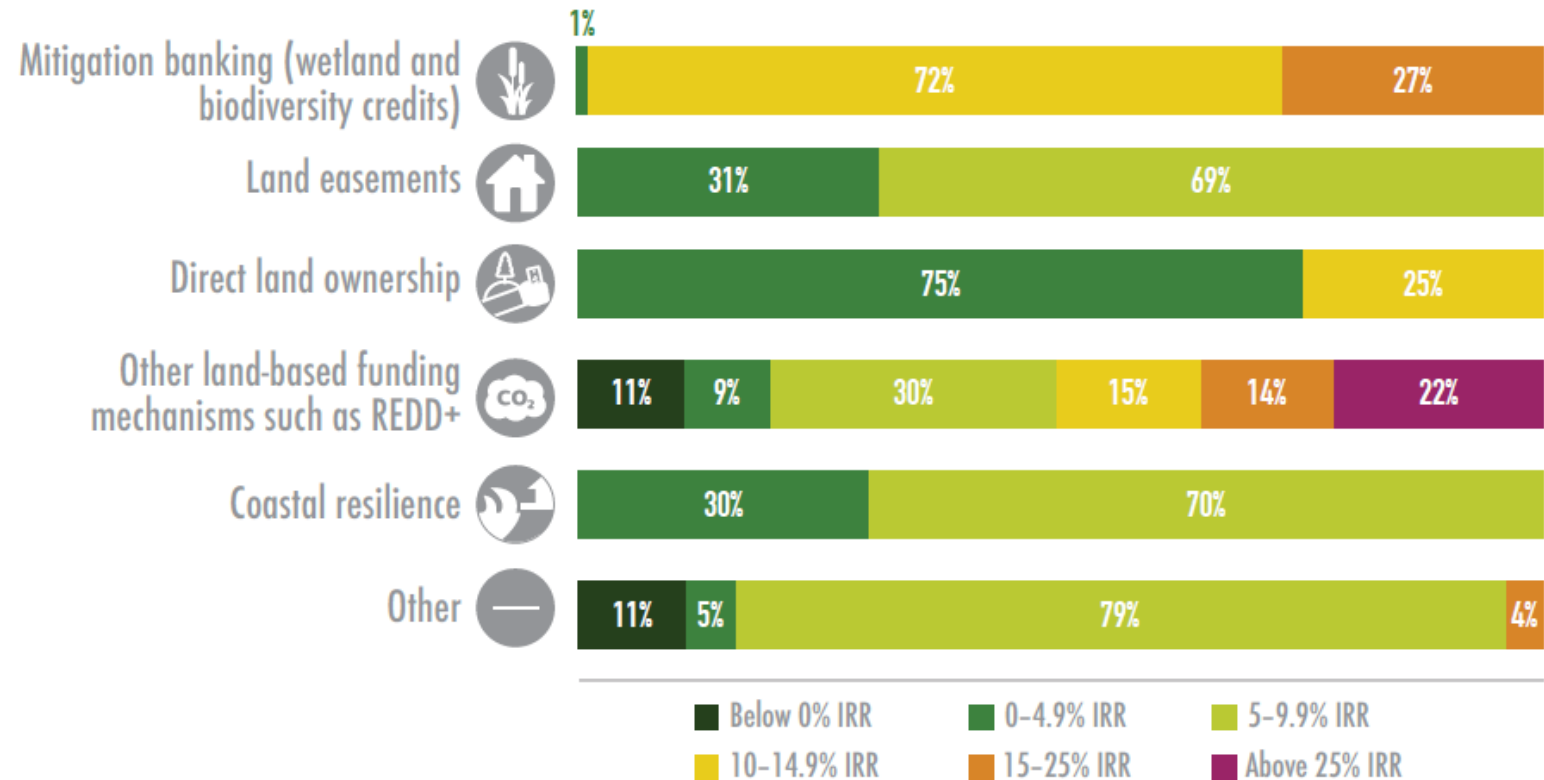
WHAT'S BEHIND A CREDIT PRICE?

Average Reported Share of Overall Project Costs by Credit Development Stage, Mitigation Bank and In-Lieu Fee Credits in the United States



MITIGATION BANK INVESTORS EXPECT 10-25% IRR

Projected Internal Rate of Return for Mitigation Banking and Other Habitat Conservation Commitments



Source: Hamrick 2016.

Notes: Based on response by 35 organizations reporting on \$504M in investments in habitat conservation.

MITIGATION BANK IRR OUTPERFORMS OTHER HABITAT CONSERVATION INVESTMENTS

	Below expectations (underperformed)	Met expectations (performed as expected)	Exceeded expectations (outperformed)	Too early to tell
Mitigation Banking Investments	13%	67%	20%	-
Habitat Conservation Investments Overall	17%	64%	5%	14%

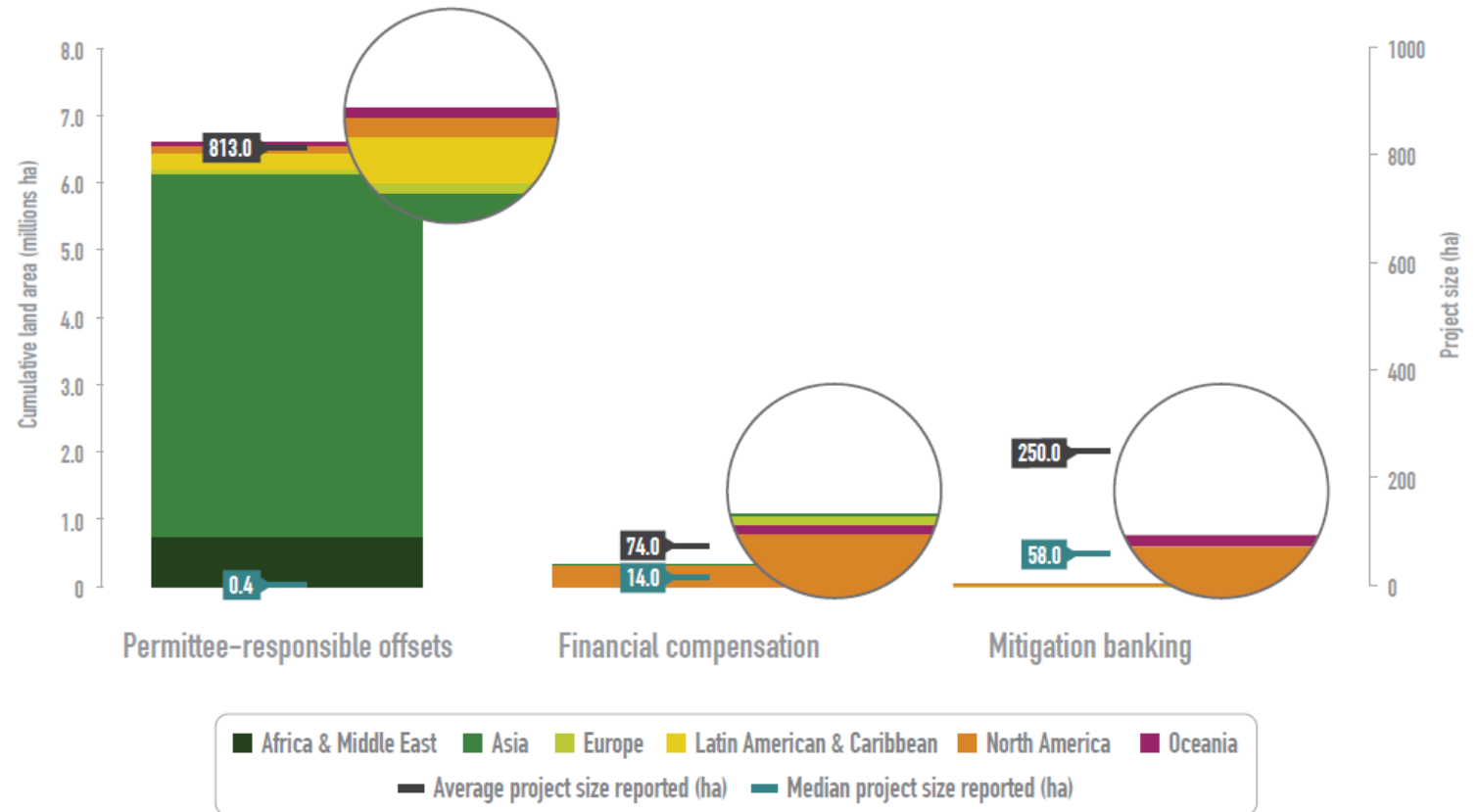
Performance of Mitigation Banking Investments and Overall Habitat Conservation Investments Relative to Expectations: Share of Total Capital Committed, 2009-2015

Notes: This table was developed based on the source dataset (unpublished) for Hamrick 2016. These results are as reported by investors in the Ecosystem Marketplace survey. We did not collect or verify actual returns.

PERMITTEE-RESPONSIBLE OFFSETS: THE “DARK MATTER” OF THE MITIGATION UNIVERSE

Compliance Offsets and Compensation: Cumulative Land Area by Mitigation Type and Region, 1990-2016

Notes: Data on permittee-responsible offsets land area for wetland and stream compensatory mitigation in the United States could not be obtained for the years prior to 2012. Thus “cumulative” figures only reflect the 2012-2016 period for this subset of the data. Data includes the Oyu Tolgoi project, a massive permittee-responsible offset located in Mongolia.



GLOBAL OUTLOOK

- New policies emerging in countries all of the world, but unclear whether they are successful in achieving No Net Loss/Net Gain objectives or resulting in compensatory mitigation
- No Net Loss Roadmap: New tool guiding
- Efforts to improve tracking and transparency are promising but uneven
- No Net Loss requirements from lending institutions (International Finance Corporation Performance Standard 6; Equator Principles) driving small but significant share of new demand, especially for infrastructure projects in developing countries



MORE IN THE FULL REPORT

- Biodiversity mitigation: the basics
- Policy design around the world
- Project design: management approaches and habitats
- Regional sections: key developments in policy, market, and project development
- Barriers to scaling up private investment in mitigation
- Case studies



|THANK YOU!

DOWNLOAD THE REPORT and EXECUTIVE SUMMARY

<http://forest-trends.org/releases/p/sobm2017>

GET IN TOUCH

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