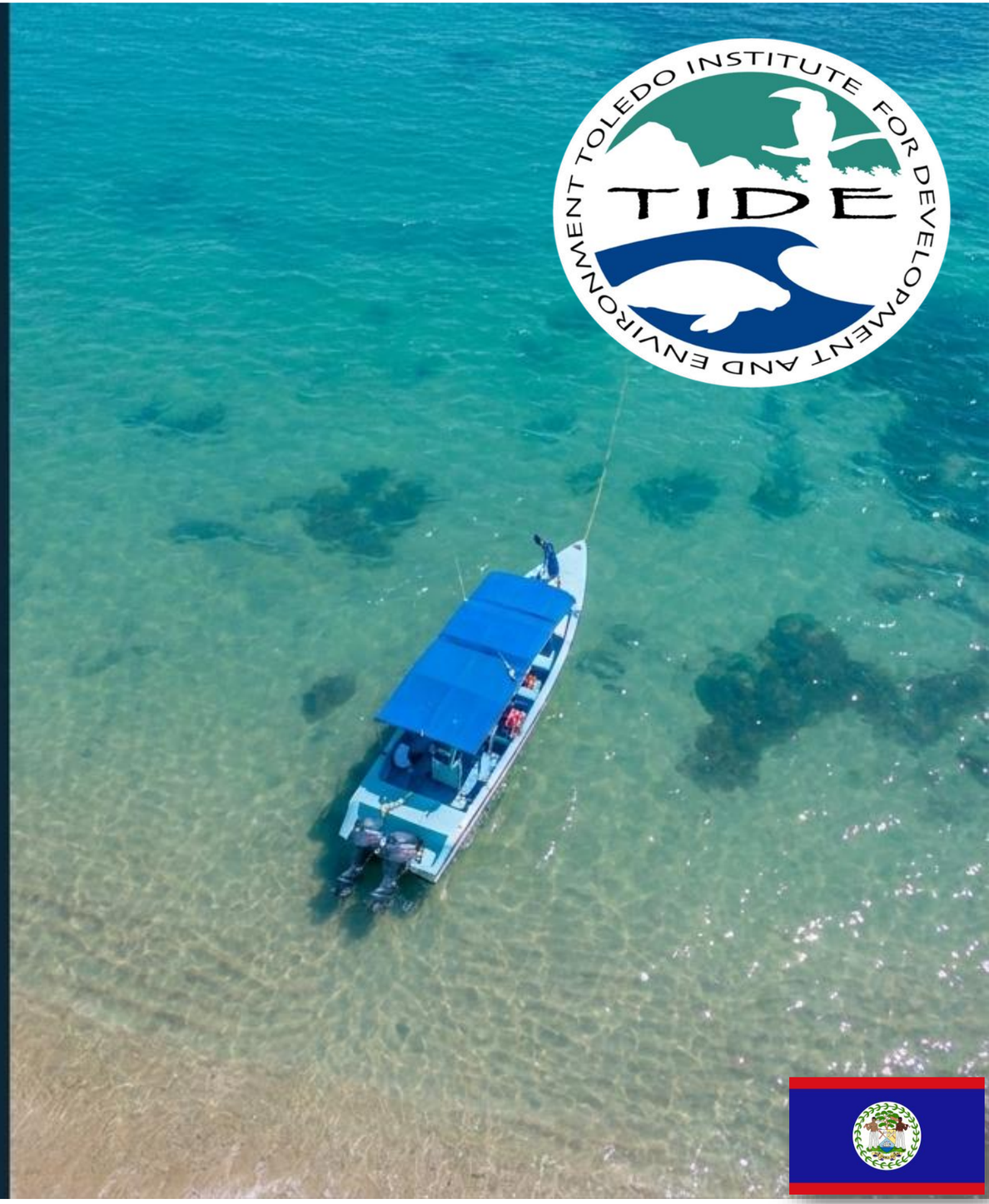
Generating Sustainable Financing from an MPA Business Venture

The TIDE STEM Programme Blueprint

Grenada Blue Economy and Partnerships Building for MPA Managers Workshop | October 21–23, 2026

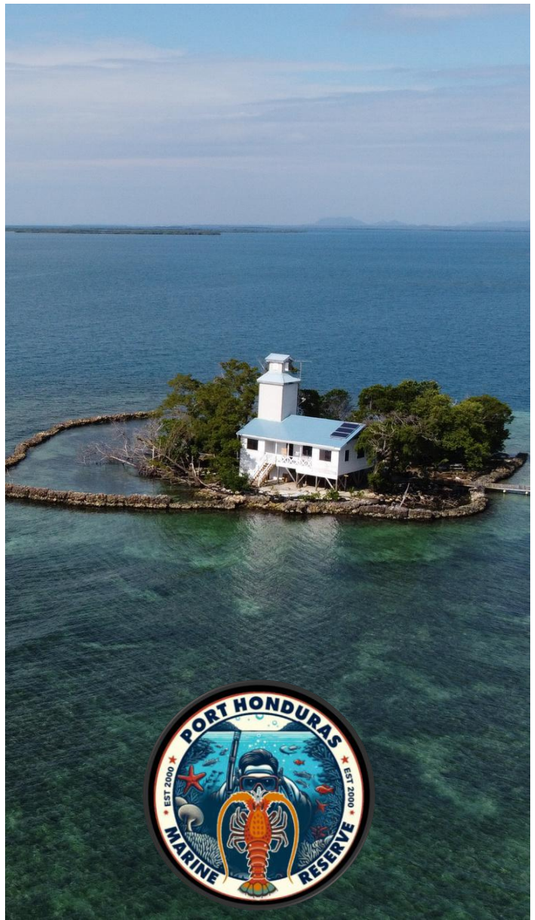
Education Tourism **Strategic Partnerships**

OPEN Business Model

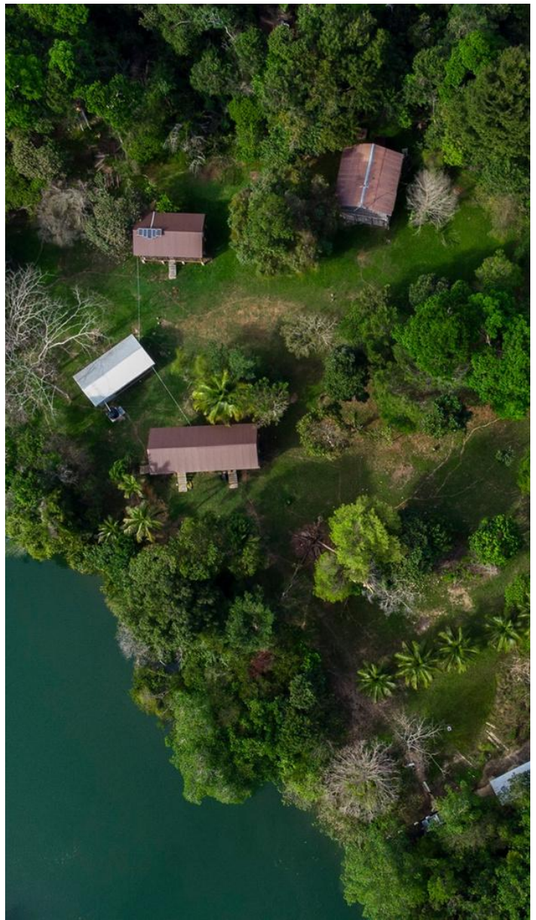


PROTECTED AREAS MANAGED BY TIDE

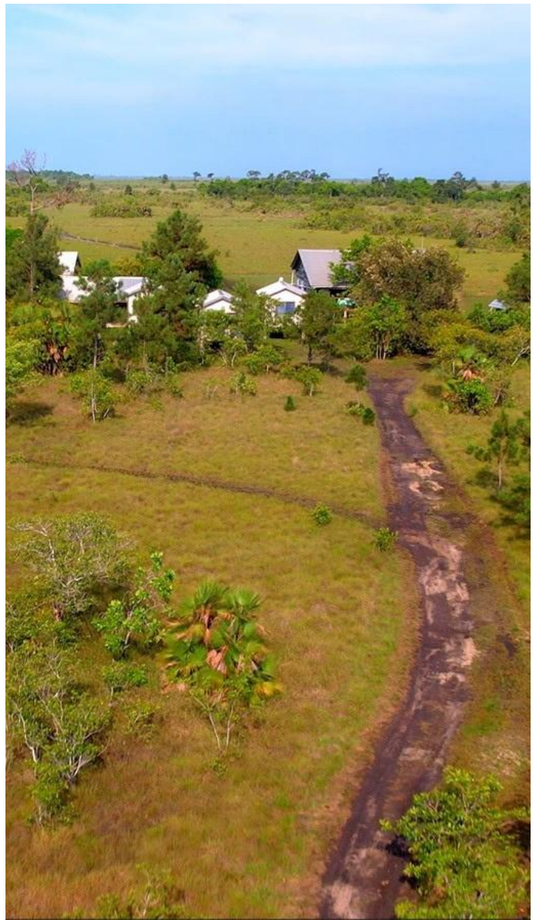
Port Honduras Marine Reserve



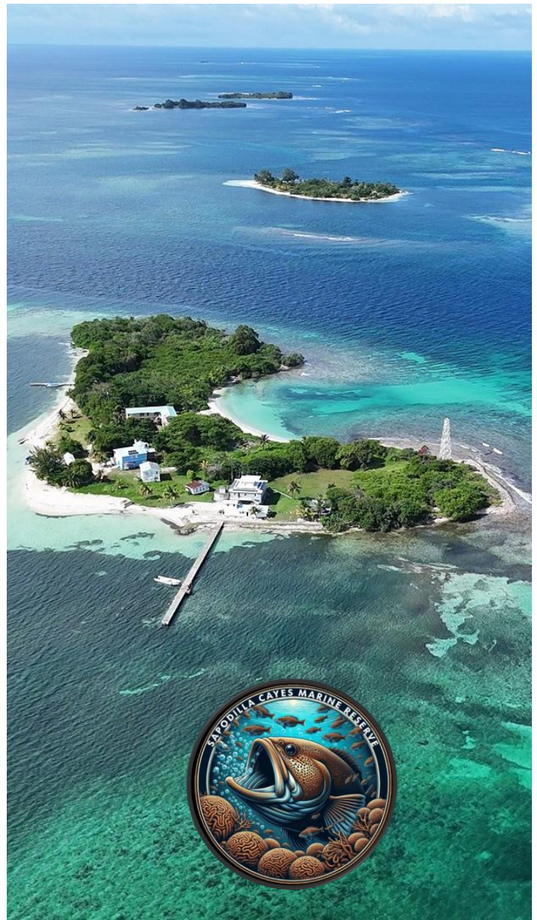
TIDE Private Protected Lands

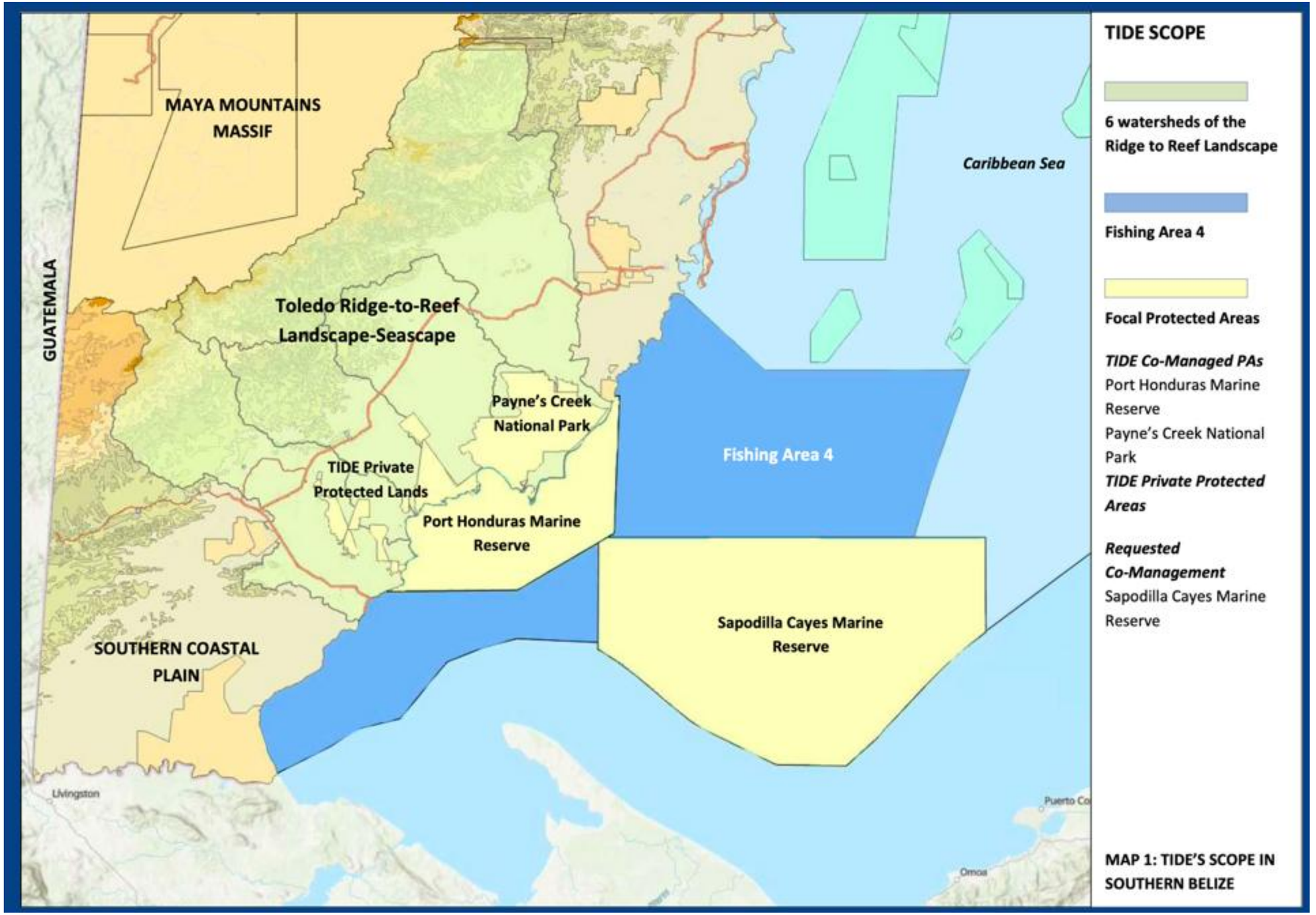


Payne's Creek National Park

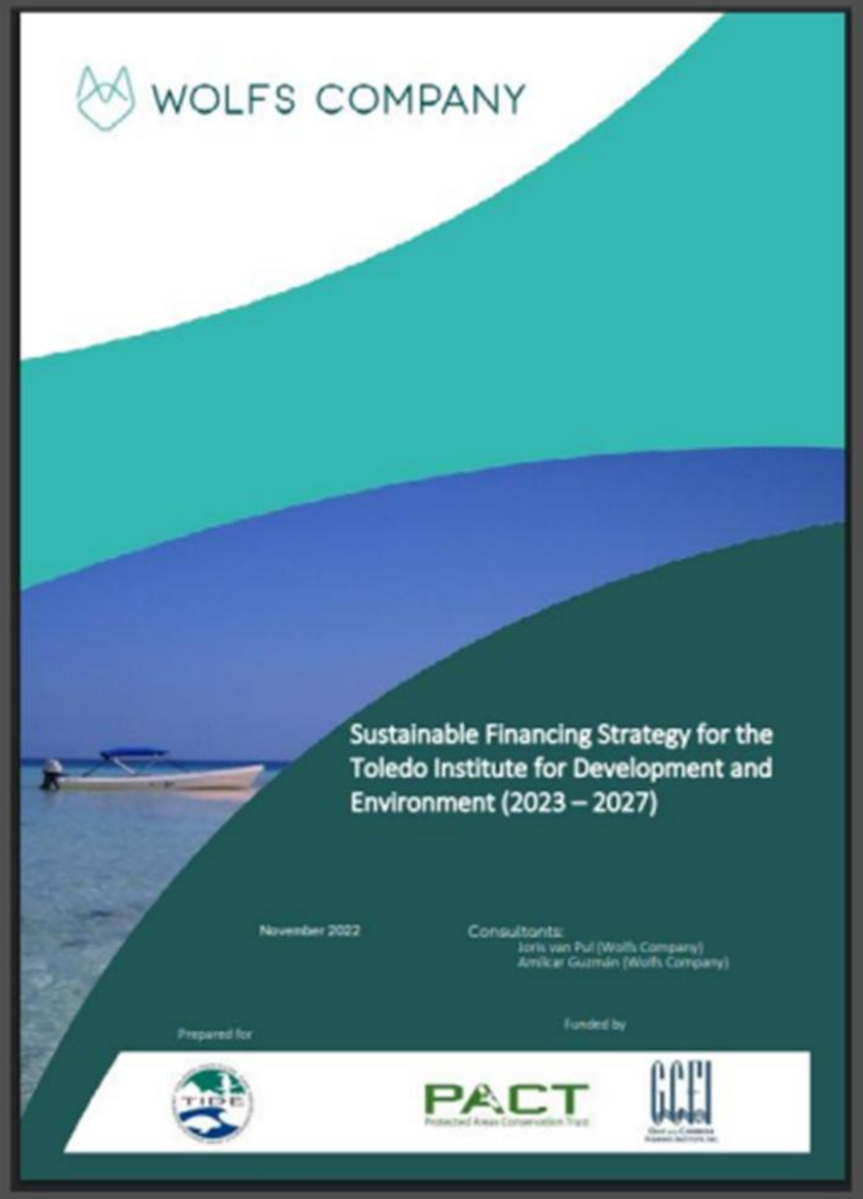


Sapodilla Cayes Marine Reserve





MAP 1: TIDE'S SCOPE IN SOUTHERN BELIZE



Strategic Area	Financing opportunities
Securing existing financing opportunities	○ *Funding from national public-private partnerships (e.g. related to a prospective PfP or government Blue Bond)* ○ *Tourism and education business model (strengthening)* ○ *Specialized training and advisory services (e.g. fire fighter training and fire management advice)*
Accessing new financing opportunities	○ *Partnerships for program development* ○ *Carbon projects (with biodiversity credit component)*

TIDE TOURS

Eco-tour operator based in Punta Gorda, Belize

Established in 1999

Subsidiary of Toledo Institute for Development and Environment (TIDE)

Where every adventure supports communities and conservation




Port Honduras Marine Reserve Rules and Regulations
Prohibited Species
Sports Fishing Regulations
Did You Know?
General PHMR Regulations
Conch Regulations
Unprocessed Conch
Partially processed conch
Market Clean Conch
Conch Fillet
Lobster Regulations
THE MENTOR'S TRUST AWARD
Indora Sho
TRUSTED TRAILBLAZER AWARD
Edwin Cabrera
BORN EXPLORER AWARD
Edward Bochub
THE SHE-RO OF TOURS AWARD
Twana Sho-Chub
THE FEARLESS EXPLORER AWARD
Suana Chocs
PORT HONDURAS MARINE RESERVE
TIDE



From Funding Constraints to Commercial Assets

The Challenge



Restricted Grants

Grants fund approved projects, but core salaries, administration, and continuity between cycles remain vulnerable.

The Asset



The Asset

Port Honduras s **(PHMR).** An authentic living classroom where complex coastal ecosystems (mangroves, seagrass) and conservation management become tangible.

The Opportunity



STEM Education Tourism

Connecting existing conservation knowledge knowledge with international university demand for structured, field-based learning.

Gemini Notebook

Operational Scale: Dual Delivery & Capacity

01 Faculty-Led Programmes

University professors lead academic instruction; TIDE coordinates field logistics, local partners, and protected-area access.



02 In-House STEM Programmes

TIDE offers catalogue-based programmes adapted to institutional learning objectives.



Executive KPI Dashboard

1–18 Days
Programme duration flexibility

40 Students
Demonstrated group capacity

On-Site
Protected-area accommodation

Gemini Notebook

Product Development: Translating Activities to Academics

Curriculum-aligned modules

Practical university marketing tools

Pathways to deeper academic partnerships.

Marketable Academic Products

The STEM Programme Catalogue

A product-development and marketing tool that translates conservation work into a structured menu of experiences.



Raw Field Activities

Routine patrols, biological monitoring, and community outreach visits.

Business Model Canvas

Designed by:	Designed by:	Date:	Version:
TIDE TOURS Belize	Oliver Joseph Garay	January 14, 2025	1

Key Partners

Transportation providers (boat charters and boat operators).

Local communities and cultural groups.

Hotels and lodges.

NGO partners.

Local and international universities.

International study abroad and travel agencies

Key Activities

Delivery of structured and guided environmental tours.

Specialized training and capacity building for tour guides.

Development of educational and experiential programs.

Tour logistics coordination and management.

Destination marketing and promotion

Key Resources

Trained and specialized local tour guides

Access to four protected areas (two marine and two terrestrial)

Two accommodation facilities suitable for hosting large groups

Access to tour boats and buses

On-staff logistics specialist (Tourism Officer)

Value Propositions

A unique business model that directly supports community development and conservation efforts.

Exclusive access to key natural scenic, including four protected areas (two marine and two terrestrial).

Diverse cultural offerings, with five distinct cultural experiences available.

Ownership and management of some environmentally sensitive protected areas, allowing guests to be fully immersed in nature.

A wide variety of programs and tours that can be customized to suit different interests, group sizes, and budgets.

Customer Relationships

Preferential rates and incentives for repeat clients.

Tailor-made guided tours and educational programs.

Direct email and WhatsApp communication for tour requirements and safety briefings.

24-hour logistical support before and during the program implementation.

Channels

TIDE Tours official website

Social media platforms (Facebook and Instagram)

WhatsApp Business for direct communication and bookings

Referrals and promotions through partner hotels, lodges and the local BTIA Visitor Center

Customer Segments

International study abroad program providers (e.g., Education First, WorldStrides)

University student groups (e.g., University of Alabama, Drake University)

Service learning and volunteer groups (e.g., POO).

International eco-tourists.

Domestic tourists.

Birding and wildlife enthusiasts and naturalists.

Cost Structure

Outsourced transportation costs (land and sea)

Procurement and replacement of tour equipment

International marketing and promotional expenses

Equipment and property maintenance costs

Business registration, licensing, and insurance fees

Tour guide wages and staff salaries

Revenue Streams

Study abroad and educational tour programs

Day tours (per-person activity fees)

Merchandise sales

Van and transportation charters

Accommodation income (Big Falls Retreat and Payna's Creek Retreat)

Equipment rentals (e.g., snorkeling gear, kayaks)

Curator Note: Original 2025 framework capturing the initial transition to a partnership-dependent network.

PORT HONDURAS MARINE RESERVE



Extracting the Operational DNA

Partnership-led model

TIDE contracts local operators, guides, and NGOs rather than competing with them.

Differentiated education product

Study abroad STEM experiences connect academic objectives with community learning.

03 A focused income engine

Management reports that study abroad STEM generates approximately 92% of TIDE Tours annual income.

04 Flexible conservation financing

Available unrestricted net proceeds can help address operational gaps and support education, outreach and conservation.

Focused income engine

Establishing study abroad STEM as the dominant revenue stream requiring disciplined service quality.

Flexible financing

Translating network efficiency into potential unrestricted net proceeds for conservation.



SAPODILLA CAYES MARINE RESERVE

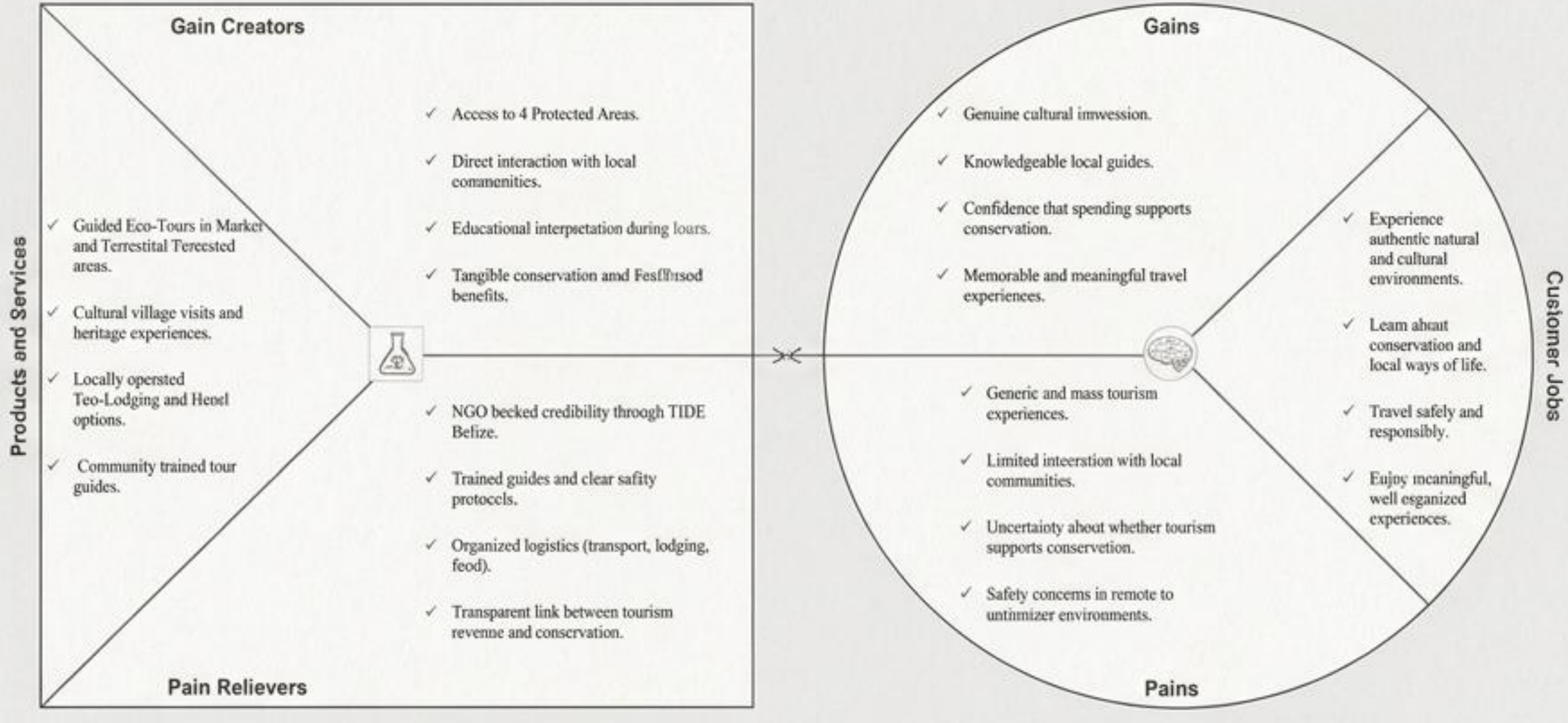







Value Proposition Canvas

Designed by:	Designed by:	Date:	Version:
TIDE TOURS Existing Value Proposition	Oliver Joseph Garay	January 23th, 2026	1



Value Proposition	TIDE Tours Belize provides real, community based eco-tourism experiences that give visitors access to protected areas and local cultures, while also supporting conservation and local jobs.
Customer Segment	Eco-Tourists and Culturally Motivated Travelers.

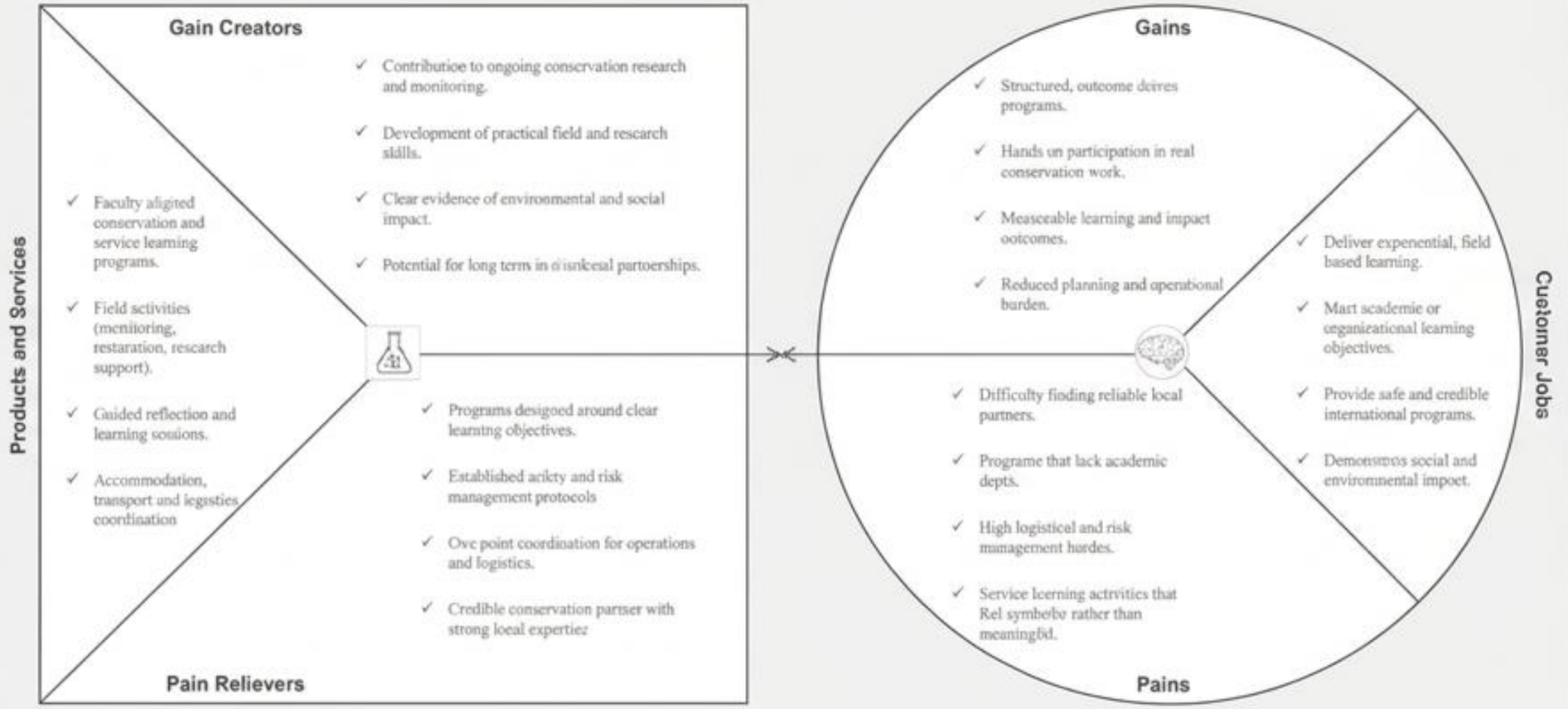
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Curator Note: The historical ecotourism baseline targeting nature travelers seeking authentic, unstructured experiences.


SAPODILLA CAYES MARINE RESERVE

Value Proposition Canvas

Designed for:	Designed by:	Date:	Version:
TIDE TOURS New Value Proposition	Oliver Joseph Garay	January 23rd, 2026	2



Value Proposition	TIDE Tours Belize offers structured conservation and service learning programs for universities and organizations. These programs combine academic goals, hands on fieldwork, and clear environmental and social benefits.
Customer Segment	Universities, Study Abroad Programs and NGOs.

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Curator Note: The academic pivot targeting universities with explicit learning objectives, risk management needs, and curriculum alignment.


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TIDE

The Strategic Intellectual Leap

The Historical Baseline	The STEM Pivot
Customer Focus: Authentic sightseeing and cultural immersion.	**Customer Focus:** Academic outcomes, field research, and demonstrable conservation engagement.
Business Model: One-off visits and repeated individual client acquisition.	**Business Model:** Multi-year academic relationships supported by the STEM Catalogue.

The shift is from selling a sightseeing activity to helping a university deliver a guaranteed educational outcome.

Gemini Notebook



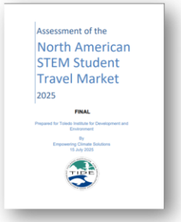
Evolution of Academic Client Relationships



National Science Teachers Association

Market Assessment:

NSTA Conference Trends in STEM Education



1. Role of AI in Science Education
2. Field-based, place-based STEM teaching
3. Sustainability and climate focus in curriculum, action oriented
4. Equity and culturally relevant context for STEM
5. Integration of activities with Next Generation Science Standards (NGSS)

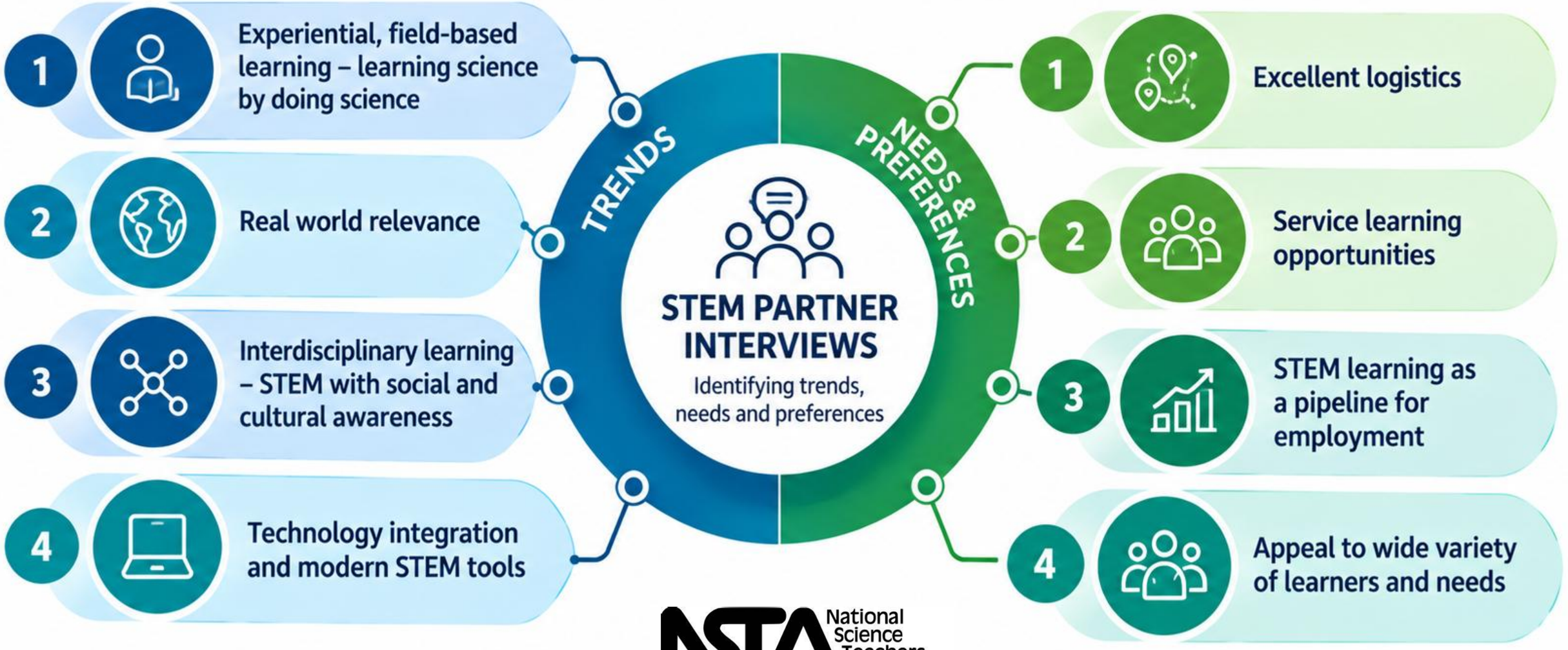
10 KEY TRENDS

SHAPING STEM EDUCATION AT NSTA

6. Importance of engineering and design thinking
7. Interdisciplinary and cross-curricular learning
8. Data literacy and participatory science models
9. Student agency and activism
10. Flexible, Modular Program Structures



Market Assessment: STEM Partner Interviews to Identify Trends, Needs, and Preferences



NSTA National Science Teachers Association

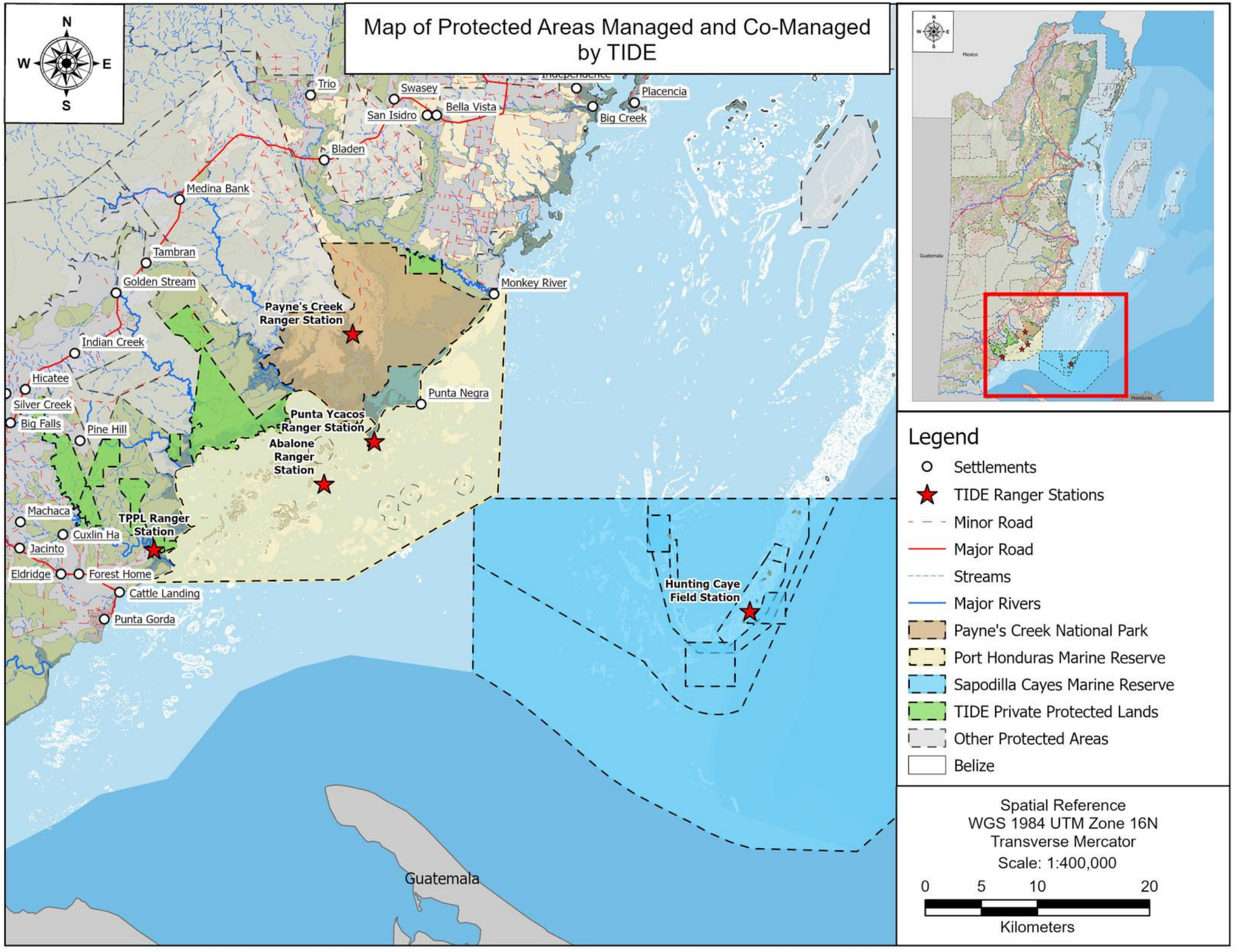
Welcome to TIDE Tours STEM Programs

Purpose-Built Environmental Learning in Southern Belize





Immersive learning that inspires
stewardship, connection, and action.


Map of Protected Areas Managed and Co-Managed by TIDE
N
W
E
S
Trio
Swasey
San Isidro
Bella Vista
Placencia
Big Creek
Bladen
Medina Bank
Tambran
Golden Stream
Monkey River
Payne's Creek Ranger Station
Indian Creek
Hicatee
Silver Creek
Big Falls
Pine Hill
Punta Negra
Punta Ycacos Ranger Station
Abalone Ranger Station
Machaca
TPPL Ranger Station
Cuxlin Ha
Jacinto
Eldridge
Forest Home
Cattle Landing
Punta Gorda
Hunting Caye Field Station
Guatemala
Mexico
Guatemala
Honduras
Legend
Settlements
TIDE Ranger Stations
Minor Road
Major Road
Streams
Major Rivers
Payne's Creek National Park
Port Honduras Marine Reserve
Sapodilla Cayes Marine Reserve
TIDE Private Protected Lands
Other Protected Areas
Belize
Spatial Reference
WGS 1984 UTM Zone 16N
Transverse Mercator
Scale: 1:400,000
0
5
10
20
Kilometers

Birds of Belize

Focuses on the diverse avian species and their habitats.

Mangroves: Guardians of the Coast

Emphasizes the ecological importance of mangrove ecosystem.



Roots of Renewal

Aims to restore and conserve Belize's forest ecosystems.

Sea Turtles of Southern Belize

Studies and protects the endangered sea turtle populations.

Snorkels and Science

Combines snorkeling with marine research and monitoring.

Five Programs. One Mission:



d Learning

Accommodatio

Well-Planned Accommod

A variety of accommodations are avai

Beya Suites



- Capacity: 10 Single -20 Double
- Location: Punta Gorda, Toledo

Rio Grande Retreat (TPPL)



- Capacity: 22
- Location: TIDE Private Protected Lands, Toledo

D Grand Charlton



- Capacity: 56
- Location: Cattle L
  Toledo

Hickatee Cottages



- Capacity: 16
- Location: Punta Gorda, Toledo

Tanager Lodge



- Capacity: 9 units - 18
- Location: Big Falls Village, Toledo

Copal



urtles of Southern

search. Conservation Action. Cultural Perspectives.

nts walking the beaches of southern Belize, uncovering sea turtle mysteries through authentic field
es of Southern Belize blends ecological research, conservation action, and cultural perspectives
ve, inquiry-based learning.

s-on beach
ions to habitat
ion and cross-cultural
g, students explore the
tory of sea turtles—from
tomy and life cycles to
reats, conservation strategies,
nd cultural significance.



COMMUNITY IMPACT

This immersive study abroad experience combines academic rigor with meaningful conservation impact, leaving students with a deeper understanding of why sea turtles matter—and how people can be part of protecting them.

"TIDE is very good at logistics, especially with big groups."
- Professor Michael Steinberg, University of

Guided by experienced instructors and local conservation practitioners,

Real Impact !

Help solve the "ADULTHOOD GAP". Collect critical field data to help researchers

Active monitoring Students logged patrol hours and identify nests, directly

ns from ruins to farms

sive community and environmental add-ons



Add-Ons

Authentic, hands-on moments that leave a lasting impact.

Extend your program with a diverse range of immersive community and environmental add-ons

Punta Gorda Market



Experience local life at this lively seaside market filled with fresh produce, street food, crafts, and friendly vendors.

Lubaantun



Visit one of southern Belize's largest Maya sites, known for its unique rounded stone structures and rich ancient history.

Fajina Craft Center



Watch Maya women weave traditional textiles, try weaving yourself, and support local artisans preserving cultural traditions.

Maya city
carved stone
stunning hilltop
hern Belize.

aya Experience



Step into real Maya daily life with tortilla making, cacao preparation, traditional music, and a home-cooked cultural

Eladio's Cacao Farm



Discover how cacao is grown and turned into chocolate, from harvesting fresh pods to grinding beans the Maya way.

Home Of Indigenous Arts of Belize



Learn Maya and Indigenous crafts through hands-on workshops, storytelling, music, and artisan demonstrations in Punta Gorda.

Andrea's Chocolate Adventure



Create chocolate from bean to bar, enjoy ceremonial cacao, and support women-led farming and sustainable livelihoods.

Butterfly EcoPark



Walk through a peaceful butterfly house and gardens while learning about pollination, native plants, and conservation in southern Belize.

Blue Creek Cave



Explore a sacred Maya cave where crystal-clear water flows from the earth, with guided jungle walks and optional cave swimming.

Columbia Source River



Hike to the pristine spring where the Columbia River begins, learning about watersheds, wildlife, and traditional Maya plant knowledge.

Rio Blanco Waterfall



Relax and swim beneath beautiful waterfalls surrounded by limestone boulders,

Big Falls Extreme Adventures



Enjoy ziplining over the Rio Grande, jungle river tubing, swimming, and wildlife spotting

Port Honduras Marine Reserve



Snorkel vibrant reefs and seagrass beds alongside marine rangers while learning about reef


TIDE TOURS
BELIZE
Education First


RIDGE TO REEF EXPEDITIONS
BELIZE
TOLEDO INSTITUTE FOR DEVELOPMENT AND ENVIRONMENT
TIDE

The Ridge-to-Reef Journey

May 23–June 19, 2027 | 28 Days | EMES/ENEC/BIOL 385



Stage 1: Big Falls

Forest ecology and Maya culture.



Stage 2: Coastal/Marine

Coastal habitats, watershed, and water-quality monitoring (PCNP + PHMR).



Stage 3: Punta Gorda

Laboratory methods and coral identification.



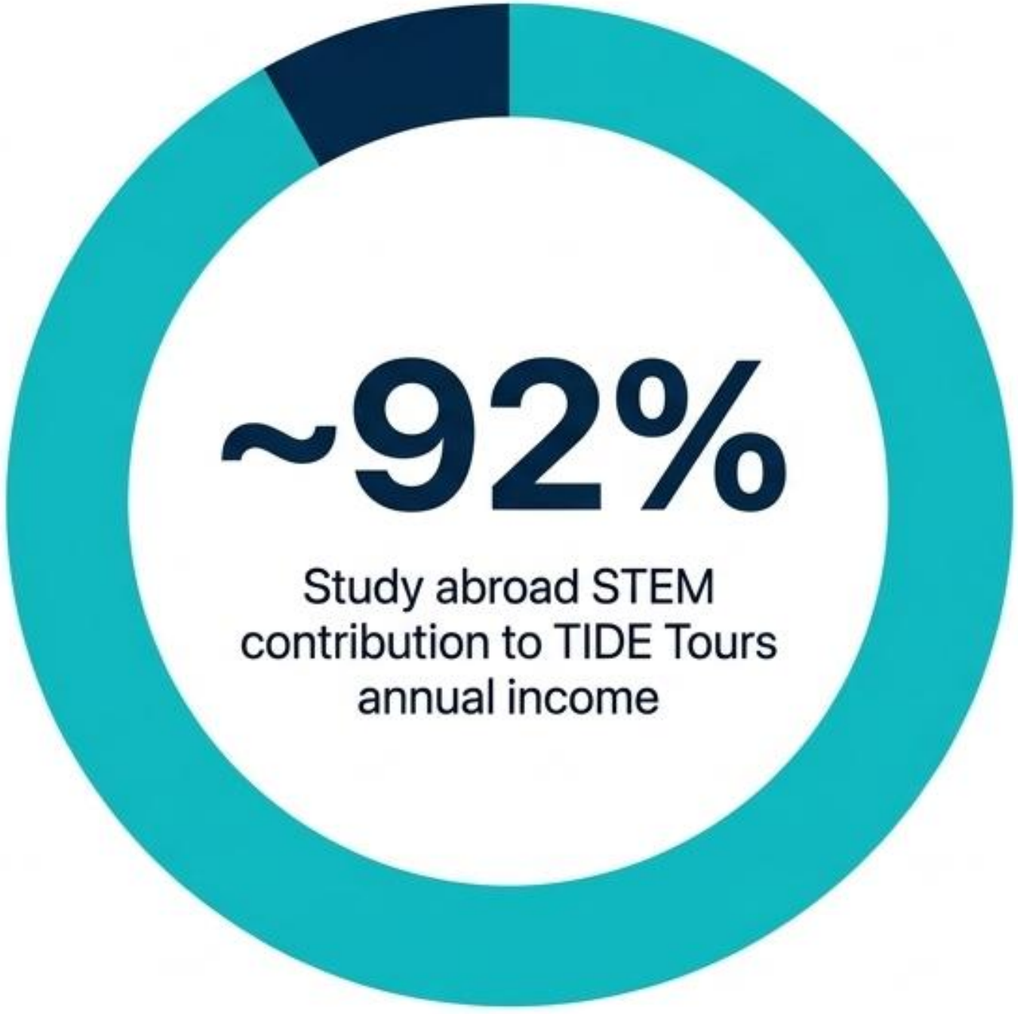
Stage 4: Sapodilla Cayes

Immersive coral reef field research.

Caveat: Details reflect a proposed 2027 UNC Chapel Hill programme; formal accreditation and contract status require confirmation before public circulation.

Gemini Notebook

Commercial Performance Core



Highest Margin

Based on internal business plans, this line drives the highest reported profit margin among TIDE Tours initiatives.

Concentration Risk

Heavy reliance on one revenue stream necessitates aggressive market diversification and retention strategies.

Caveat: Financial figures are management-reported estimates. Gross revenue does not equal unrestricted profit.

Gemini Notebook


The OPEN Business Model Ecosystem
We compete internationally.
We collaborate locally.
International Demand
TIDE
Toledo Institute for Development and Environment
Belize Hub
Protected-area access, conservation expertise, one-point coordination.
Local NGOs
Tourism Businesses
Community Guides
We do not own every asset.
We compete internationally to capture demand,
and collaborate locally to deliver it.
Gemini Notebook

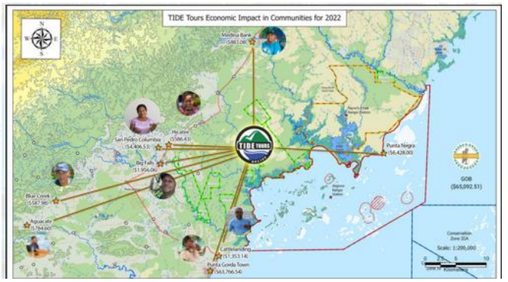

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BELIKIN
ULTRA

The Mechanics of Conservation Funding

Gross International STEM Programme Fees

Programme Delivery Costs

Fair Payments to Local Vendors

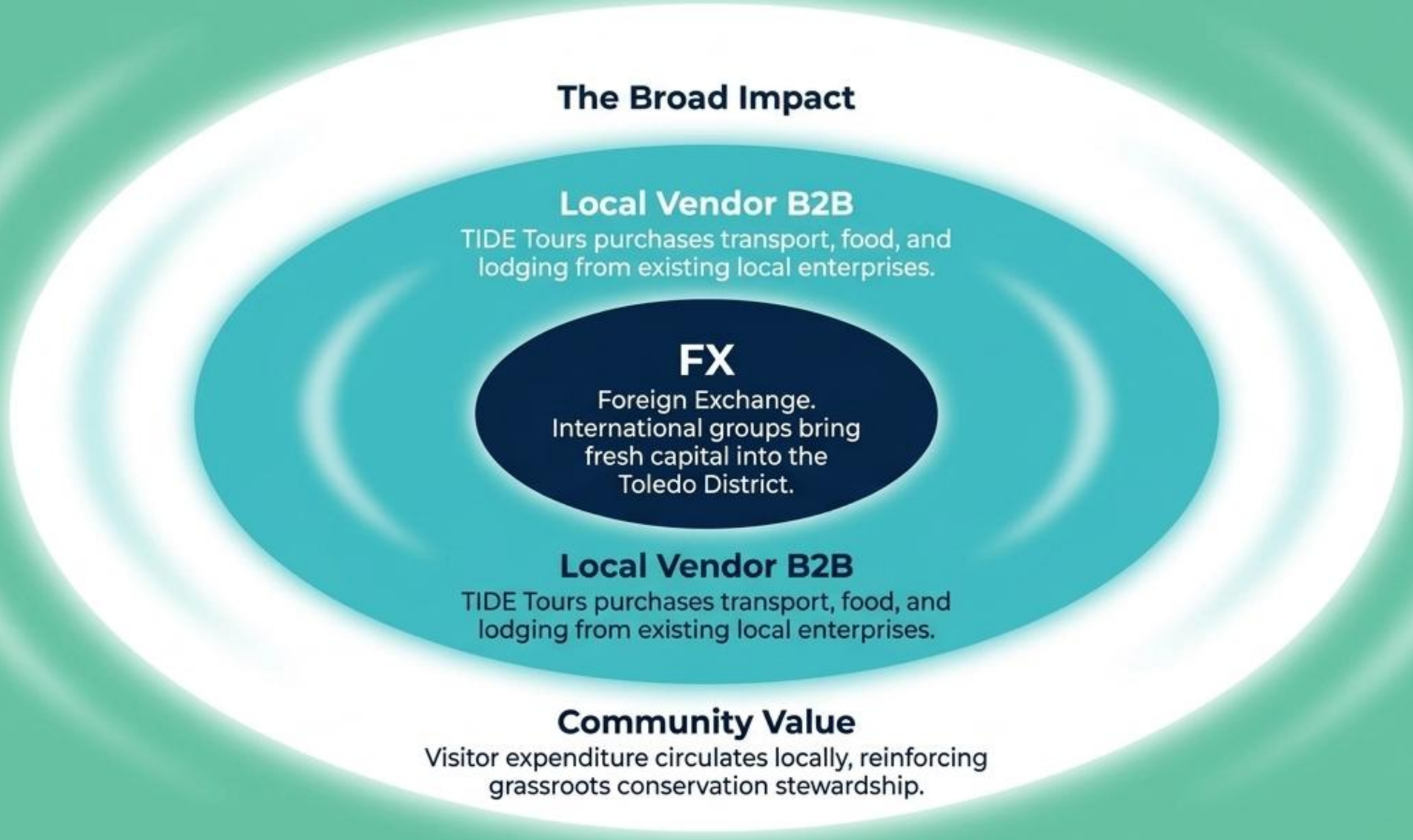


Available Unrestricted Net Proceeds

Subject to governance, unrestricted proceeds provide flexible resilience for core salaries, boat maintenance, and community outreach outside rigid grant cycles.

Gemini Notebook

The Macroeconomic Ripple Effect



Disclaimer: Economic multiplier effect is a qualitative mechanism; no specific numerical multiplier has been modeled.

Gemini Notebook

What to expect in the field

Welcome to Toledo, Belize, Central America



acCOMODATIONS

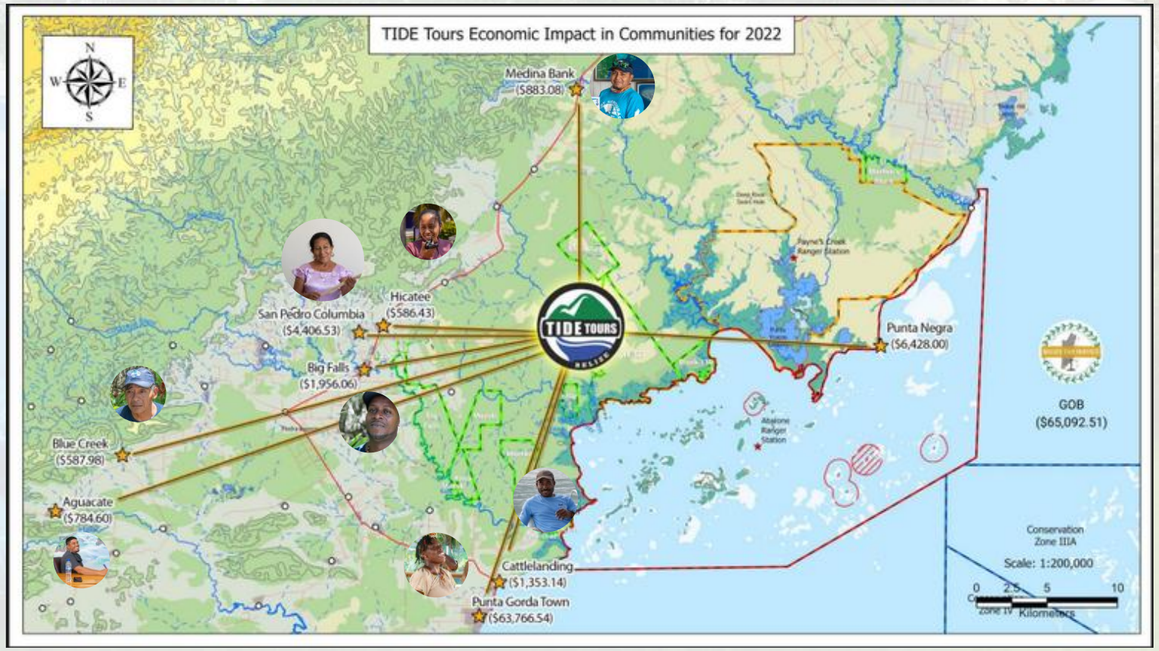




Safety

- Clear safety protocols and risk management plans
- Appropriate staff-to-student ratios
- Group size limits by activity
- Flexible contingency planning (Plan A / Plan B)
- Dietary needs and food accommodations handled in advance

Five different Cultures



Five Programs. Four Protected Areas. One Mission:
Immersive Field Learning Experiences in Southern Belize

Community Benefit





COMMUNITY DEVELOPMENT

- **Partnered with BTB for a Matching Grant Program**

- The Six Groups :

1. Local Market Vendors
2. Garifuna
3. East Indian
4. Creole
5. Maya
6. Mestizo



Culinary &
Cultural Presentation
Aspects















Regional Academic Integration

Case Example: UWI-CERMES Field Engagement



Field learning at TIDE Belize.

Marine Protected Area (TIDE)

University (UWI-CERMES)

Insight:
Regional university connections create platforms for field learning, curriculum collaboration, and trust-building.

Strategic Note:

Exploratory academic visits are the crucial first step in the partnership pipeline, though they must be carefully converted into designed, contracted programmes.

Gemini Notebook

Operational Reality: Viability vs. Vulnerability

The Viability Engine (What makes it work)

Market



Clear, curriculum-led value proposition.

Delivery



Lean, asset-light partner network.

Finance



Strict cost and margin discipline.

The Threat Landscape (Risks & Safeguards)

Shocks



Travel demand drops, university budget cuts.

Operations



Complex safeguarding, emergency logistics in remote MPAs.

Ethics



Maintaining transparent NGO-subsidiary governance and environmental carrying capacity.

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The Blueprint: Transferable Lessons for Caribbean MPAs

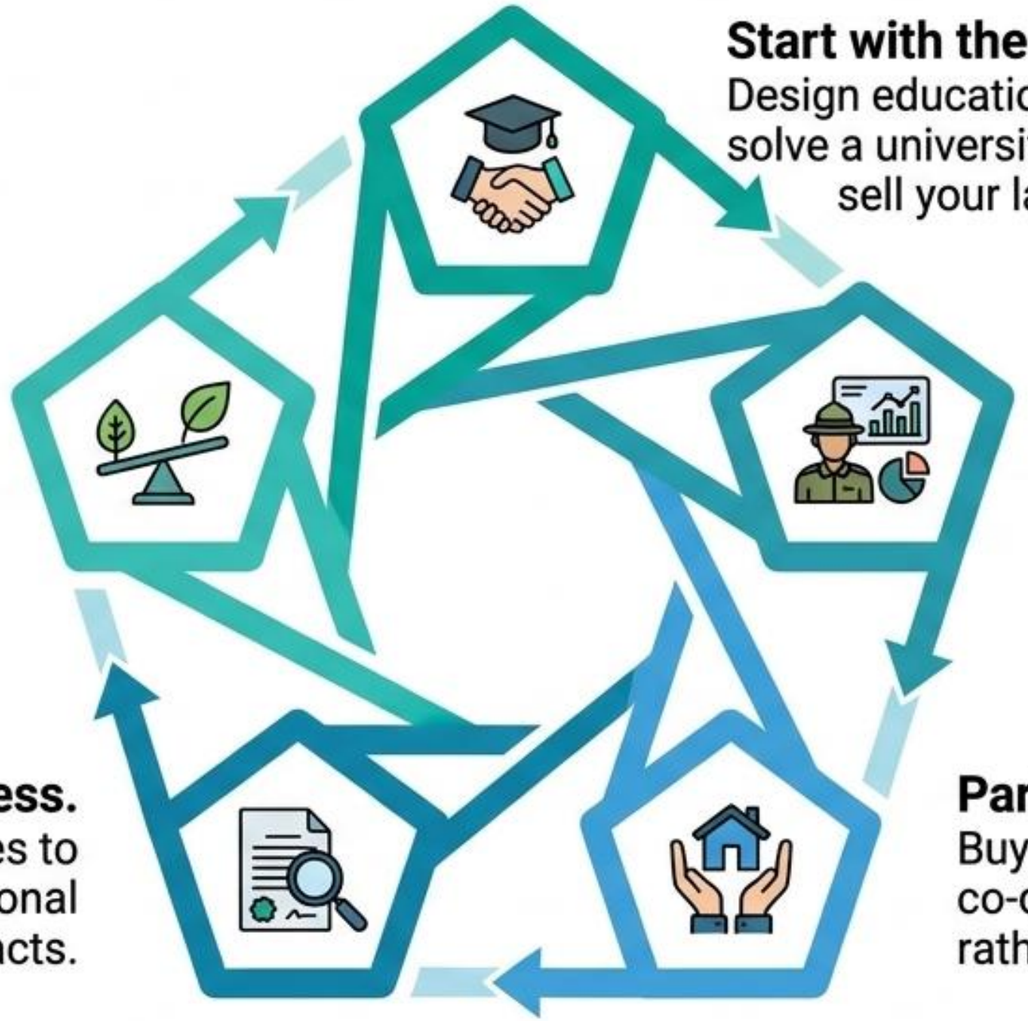
Start with the Customer.
Design educational experiences that solve a university's problem, don't just sell your landscape.

Translate Existing Assets.
Turn current monitoring programs and ranger patrols into structured learning modules.

Partner Locally.
Buy from local businesses and co-design NGO tourism circuits rather than competing.

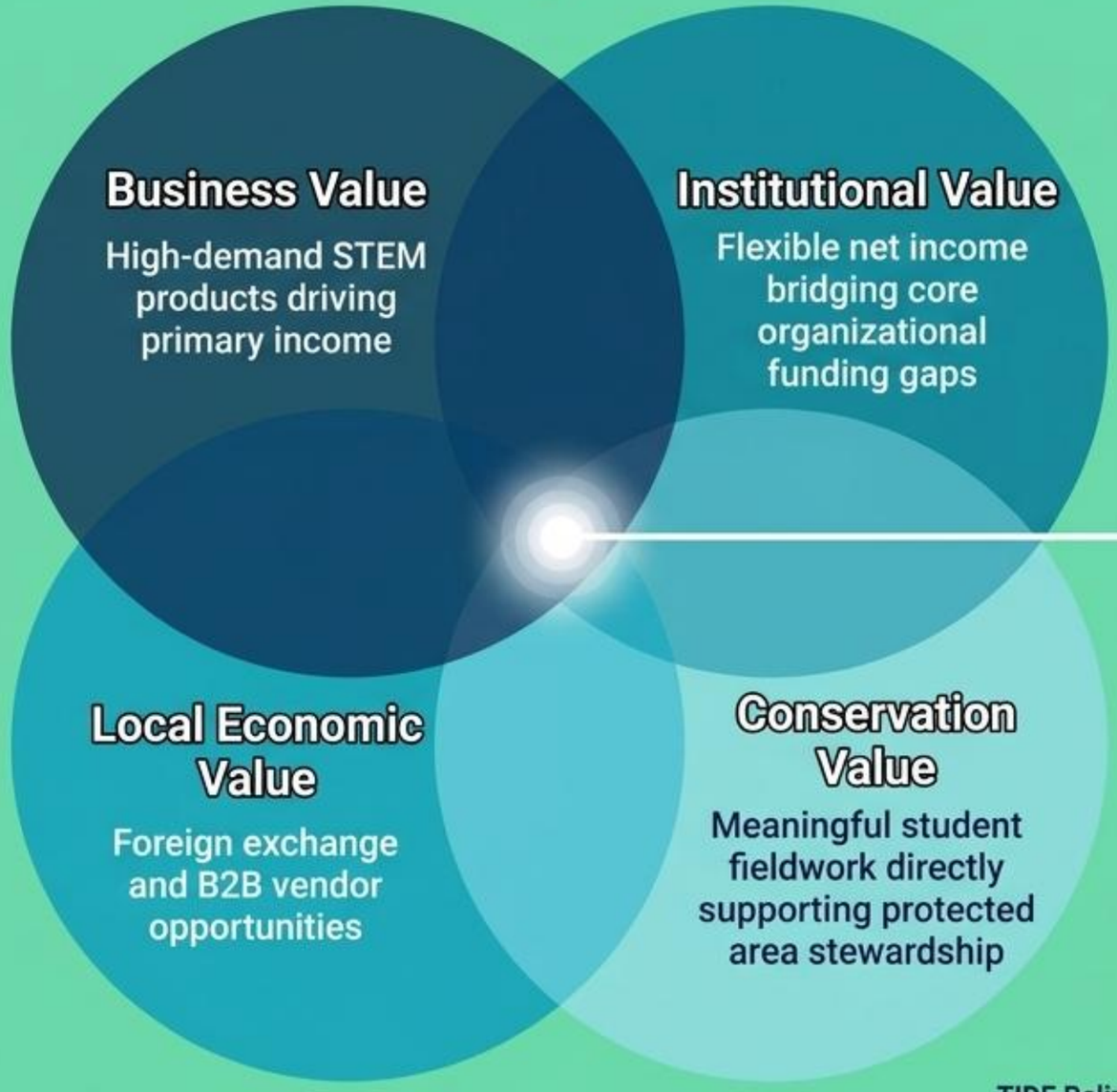
Build Repeat Business.
Utilize STEM catalogues to secure multi-year institutional contracts.

Track Full Value.
Measure profit margins, local purchasing impact, and conservation outcomes simultaneously.



Gemini Notebook

Synthesis: The Interdependence of Value



These values are not siloed; they trigger and reinforce one another. This is the Blue Economy realized.

Gemini Notebook


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TIDE
TIDE TOURS
BELIZE

WE COMPETE INTERNATIONALLY.
WE COLLABORATE LOCALLY.
WE REINVEST IN CONSERVATION.

TIDE Belize | MPAConnect | SusGren





