

DEEP WATER PILOT

Putting People First in Ocean
Conservation organisation.

FISH N' FINS
MONTSERRAT

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Study by *Vera Wade*

Illustrated by *Danny Codd*

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As one of thirteen professionals worldwide selected to contribute to low-cost deep-sea underwater camera and environmental sensor Maka Niu co-design and testing, we are pleased to share our perspectives at Fish 'N Fins Inc., on this innovative project. The Deepwater Project emphasizes collaboration, community engagement, and equitable design, aiming to provide accessible and cost-effective solutions for deep-sea exploration.

Funding support: Marine Conservation Action Fund (MCAF), New England Aquarium, for enabling time and space to develop and write this deep-sea zine. All interpretations and any errors are the author's own.

DEEP WATER: MONTSERRAT

By Veta Wade – Fish 'N Fins Inc.

Montserrat is a small island with deep water. Within 1.5 miles of shore, the sea drops beyond 200 meters.

For generations, this space has been fished, feared, and rarely seen.

Project Deepwater is changing that. Using low-cost technology, local knowledge, and community leadership to explore the deep sea with the people who depend on it.





MONTSERRAT

-100m -200m -300m -400m -500m -600m -700m -800m -900m

ACCESSING THE DEEP

0 5km

EXCLUSIVE ECONOMIC ZONE

EXCLUSIVE ECONOMIC ZONE

-919m
SEA MOUNT

Community-driven,
low-cost, non-invasive
ocean monitoring video
and lighting system

-  PREVIOUS MAKA NIU* DEPLOYMENT SITE
-  FUTURE MAKA NIU DEPLOYMENT SITE

-196m

-485m

-679m

-645m

-386m

-598m

-507m

-659m

-222m

-510m

-549m

SIXGILL SHARK

A near-threatened
shark that prefers
the ocean floor

-517m

-668m

Underwater
mountains that
play a vital role
for deep-sea
ecosystems and
contain high
biodiversity

-637m
SEA MOUNT

See more: <https://www.aquafishnfins.com/>

WHO AM I? WHY THIS MATTERS

ISLAND CHILD TO OCEAN ADVOCATE

My name is Veta Wade.

I'm Montserratian. A mother. A conservation leader, without a traditional science degree.



Growing up here, I didn't know how to swim. Neither did my parents. I didn't know corals were animals. Or that endangered turtles returned to our beaches year after year.

That knowledge wasn't accessible to us, and that absence shaped how we related to the sea.

Today, I work to change that story.

To bring our community into ocean discovery, not leave us watching from the shore.

GALLERY

IN THE FIELD



DEEP FRAGILE POWERFUL

AN ISLAND SHAPED BY FIRE AND SEA

Montserrat's ocean is unique.

A narrow shelf drops fast into deep water — rich fishing grounds, largely unexplored.

Our marine ecosystems carry the scars of disaster:

- volcanic eruptions
- ash and sediment runoff
- hurricanes and climate shocks



Fishers tell us visibility once reached 40 meters.

Now, after heavy rains, it can drop to 1 meter.

We know things are changing.

But without tools, data, or capacity, we can't protect what we can't see.

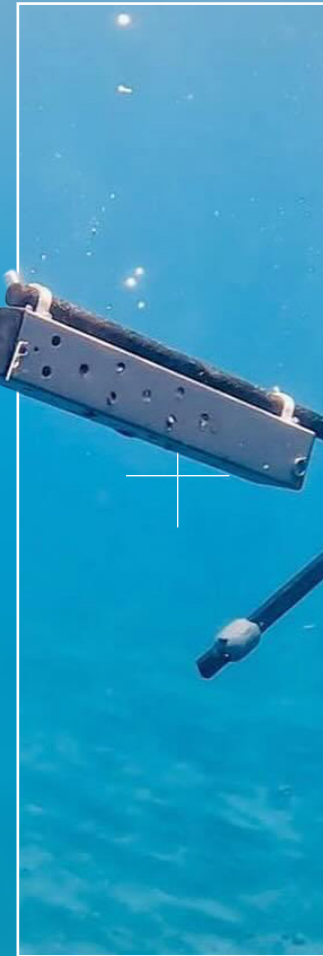
PROJECT DEEPWATER & MAKANIU

SMALL DEVICE. BIG SHIFT.

At the heart of Project Deepwater is Maka Niu: a low-cost, open-source deep-sea camera and sensor.



What it can do:



- Reach depths of 1,500 m
- Capture HD video
- Record temperature & pressure
- Upload data near-real time
- Cost a fraction of traditional systems
- ~\$2,900 vs \$40,000+ alternatives

Designed with engineers.
Tested with fishers.
Deployed from local boats.
This isn't about flashy tech.
It's about access, ownership,
and equity in ocean science.

FOOTAGE

MAKA NIU

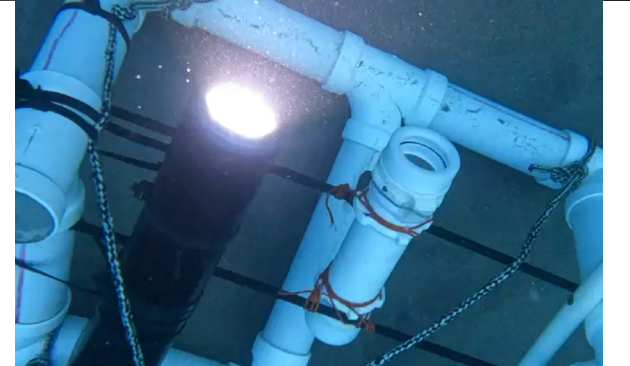
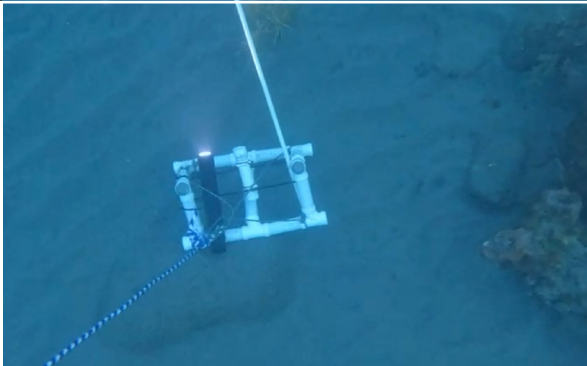
FISH SCHOOL



MAKA NIU
DEPLOYMENT



MAKA NIU RIG
UNDERWATER



CHALLENGES & CO-DESIGN

WHAT WE LEARNED — THE HARD WAY

Working in deep water is not easy.

Working safely is non-negotiable.

We faced:

- Unstable vessels
- Heavy lander
- Technical failures
- Lost eDNA samples
- Grief after losing an experienced fisher



THE INVISIBLE COSTS OF LOCALLY-BASED CONSERVATION

| | |
|--|--|
|  <p>DEEP PERSISTENCE Leading the way as an agent of change within a community.</p> |  <p>SAFETY CONCERNS Feeling vulnerable, unable to respond quickly without a boat. Unspoken sense of responsibility for lives+livelihoods.</p> |
|  <p>ETHICS, OPTICS, AND PARTNERSHIPS Creating a space for due diligence and initial vetting in contracts and partnerships.</p> |  <p>ECO-ANXIETY Loss of Future Aspirations (anxiety, guilt, and grief)</p> |
|  <p>CAREGIVER CAREER BALANCING FOR THE "SANDWICH GENERATION" Simultaneously caring for kids and aging parents.</p> |  <p>FEELING LIKE AN "OUTSIDER" OR "THREAT" Credentials, motives, and integrity face scrutiny, while those with resources, money, and power receive the support, value, and trust that we diligently strive to earn.</p> |
|  <p>RECOGNIZING YOUR VALUE How to Request Professional Fees + Understanding the Range of Rates</p> |  <p>NAVIGATING INTRINSIC BIASES AND RACISM Distract and a tendency to prioritize certain ecosystems or species can marginalize the value of biodiversity within local communities.</p> |
|  <p>EXPECTATIONS INSPIRING COMMUNITY TO BREAK STEREOTYPES Mentorship, leveraging social media, and advocating for change.</p> |  <p>POST TRAUMATIC SLAVE SYNDROME (PTSS) The ongoing impact of slavery and systematic racism on mental health and social dynamics - Dr. Joy DeGruy</p> |
|  <p>EMPATHY FATIGUE Emotional exhaustion from repeated exposure to others' suffering and trauma.</p> |  <p>AVOIDING BURNOUT AND OVERWHELM Experiencing the burden of responsibility while struggling to prioritize their own well-being.</p> |

These moments reshaped our priorities.

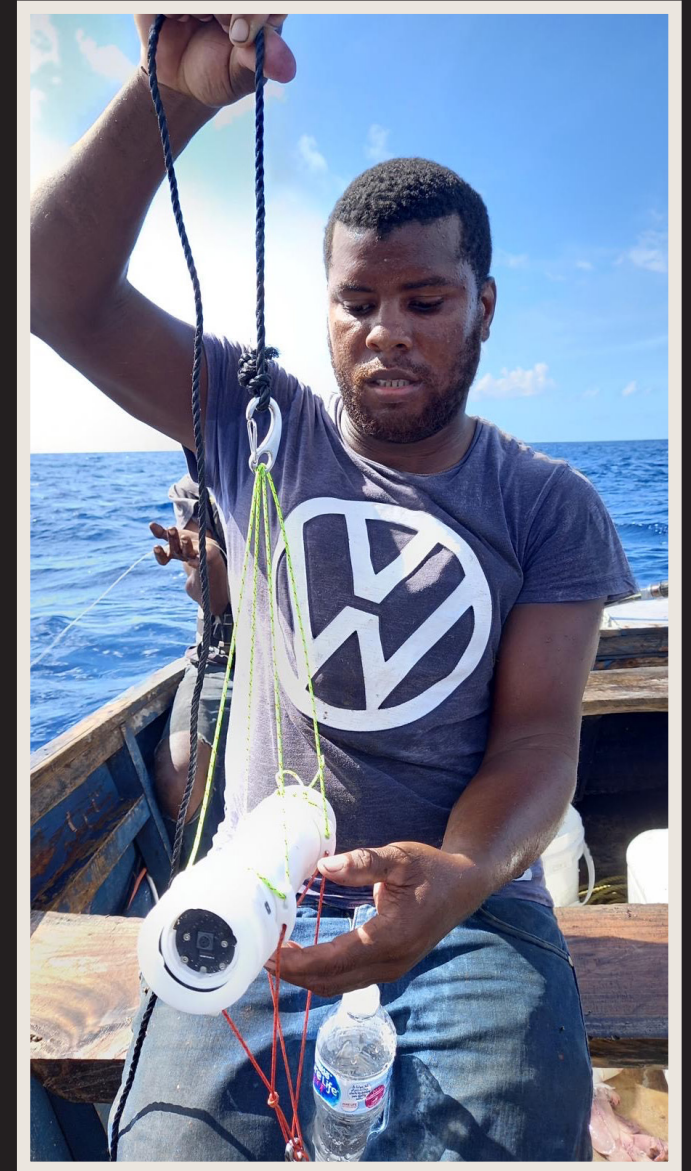
Through co-design, local fishers helped:

- Redesign landers
- Improve deployment methods
- Troubleshoot equipment
- Train youth leaders

Knowledge flows both ways. and safety must always come first.

GALLERY

IN THE FIELD



LOOKING FORWARD

THE DEEP SEA BELONGS TO US TOO

Project Deepwater is more than a pilot.
It's a blueprint.

For:

- Community-led monitoring
- STEAM education
- Youth leadership
- A fair blue economy



Low-cost tools like
Maka Niu can help
Small Island States:

- Generate their own data
- Protect their resource
- Shape global ocean knowledge

But only if people are
centred.

Only if local leadership
is trusted.

Only if partnerships are
built in solidarity, not
charity.

Montserrat is rising
again.

And this time, we're
taking the deep sea
with us.

GALLERY

IN THE FIELD



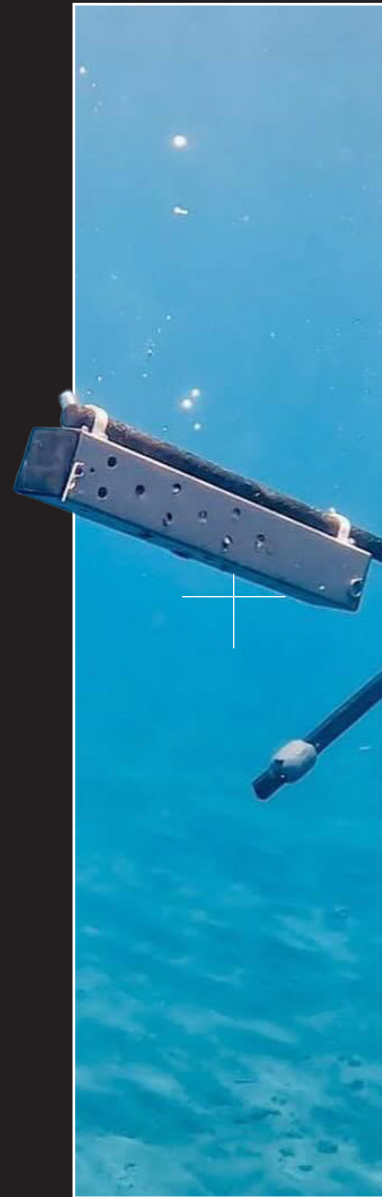
When Maka Niu works like a dream and you first see the DEEP!

📍 ISLAND OF MONTSERRAT

PROJECT DEEPWATER REPORT



Scan this code to sign up for access to the full technical report that underpins this zine, including methods, data visuals, and detailed findings.



The report has been reviewed through a combined process that brings together international deep-sea science expertise, environmental policy insight, and local fishing knowledge.

This approach aims to ensure the work is scientifically robust while being grounded in coastal communities' lived experiences and priorities, and in their efforts to understand, document, and care for the deep waters in their own backyard – an epistemology that reflects emerging best practice in ocean and human-health research, especially for Small Island States.



Veta Wade is a passionate ocean researcher, and advocate for regenerative ocean stewardship and an equitable blue economy in the Caribbean.

Read the Full Report:



As one of the co-authors of the World Bank funded, Global Industrial and Technological Trends in the Blue Economy & Policies to Promote Growth in the Caribbean, Veta emphasizes the importance of empowering local communities to engage in innovation and responsible management of natural resources.