Veta Wade - Montserrat

Final Report on Deep Reef Data Collection DPL00095

25th, July 2025

Introduction

It's taken me nine months, to get to the final report write up, and 4 months late to submit this final report. Since my last report, I was hoping someone from the Darwin Local would respond to my request for an opportunity to have a virtual meeting and check in on our wellbeing or what might've been the next best step on this project. Having a advisor, one of our most experienced and equipped fishers, and mentors dissappear at sea was something we would've appreciated have a discussion about. But there was no such support, in fact it wasn't until July 2025 until we got communication moving again that encouraged me to look beyond the challenges and limited support system to focus on the successes and lessons learned.

An overview of what we know about Montserrat's Deep Sea. I've combined data points from UK Hydrographic Office 2024, E/V Nautilus Cruise , Montserrat 2013 and their results of sonar multibeam surveys which we obtained from Ocean Exploration Trust. Data was requested and shared with me. I inturn shared with the Fish 'N Fins Inc. repository. I've also ensured that the Montserrat Volcano Observatory and Government of Montserrat, GIS Unit received this information as well.

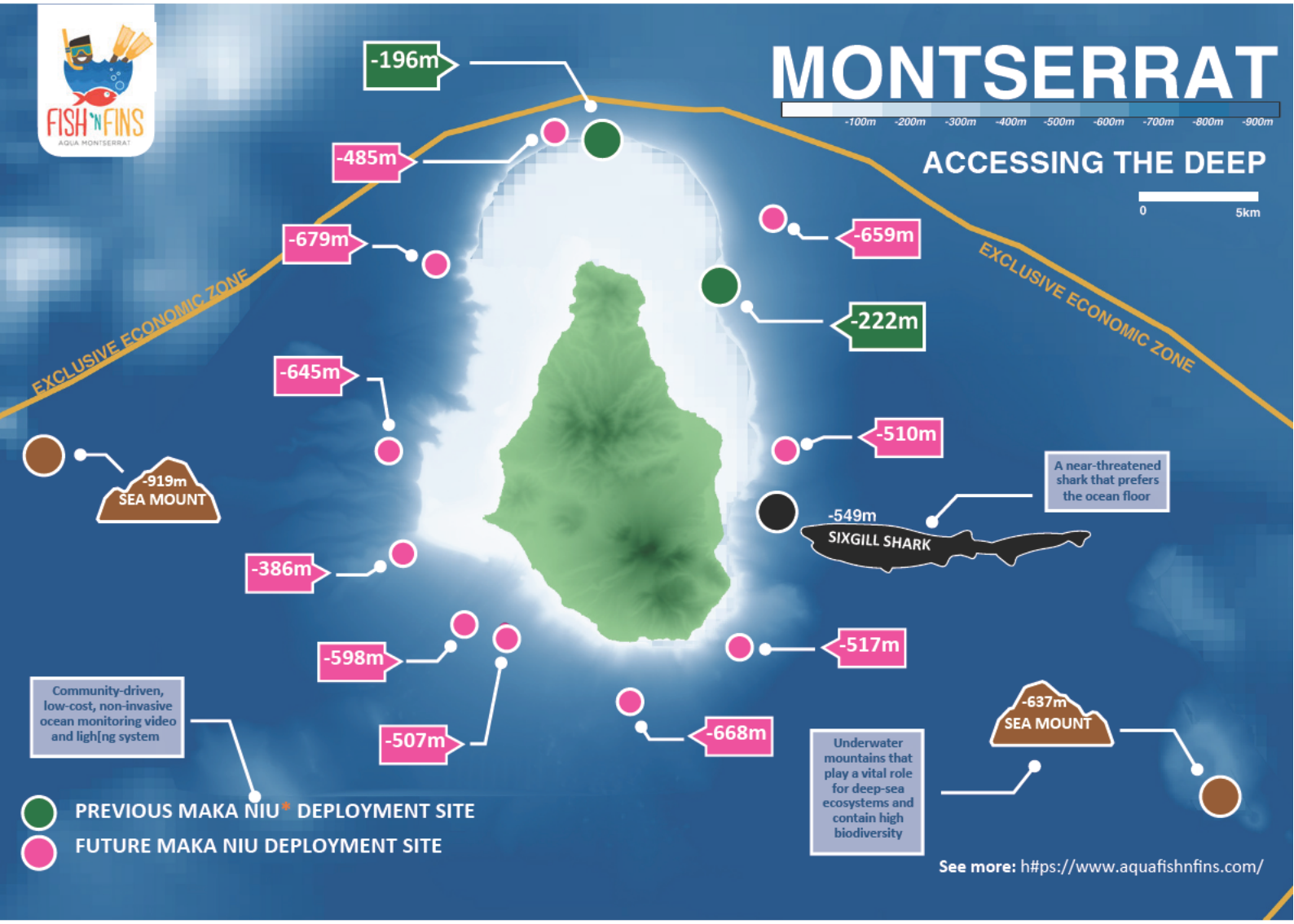

Fig 1. Map by Veta Wade and Fish 'N Fins Inc. shows compilation of Deepsea bathymetry, survey sample points for the deep reef Maka Niu BRUVS survey sites selected.

This final report main takeaway is the **unintentional social results**. We set out to collect data on Montserrat's deep reefs, 30 years after volcanic activity began on the island. But what this Darwin Local grant has allowed us to begin to unpack is the invisuble costs of doing locally-led, community-based ocean conservation work. It highlighted to us how hyperfocused science is on biodiversity and achievement of exploration but the often overlook areas of human costs and labour go unseen.

Progress Ongoing...

Since our last report:

- **Project Overview :** Successfully analysed project data and it's position in Montserrat's redevelopment context. Also, opened up the discussions on rethinking capacity support and barriers to effective mobilization of a diverse group of local residents to engage in community science and stewardship of their blue backyard.

- **Education and Outreach :** Successfully presented this project overview to an audience of over 200+ locals, and visiting scientists at the Soufrière Hills Volcano Conference : Turning Magma into Momentum.

Photo credit: Veta Wade. Cover page, Presentation: Rethinking Capacity Support: The Case of Ocean Conservation in Montserrat. Project DEEPWATER

- **Raising Awareness of Deep-Sea Science.** We have ran mini workshop for kids to learn about the Maka Niu systems and to understand more about deep sea science. Myself and research assistants are scheduled to participation in another community event, on August 18-22, 2025 at the Fish 'N Fins Clubhouse, in collaboration with the Montserrat Tourism Authority. Such community event have been effective in raising awareness of deep-sea science. Future Collaboration with Darwin Local for STEM Club curriculum, exhibition resources, and building our a storytelling toolkit will enhance the visibility of the project, and Montserrat's deep marine ecosystem.

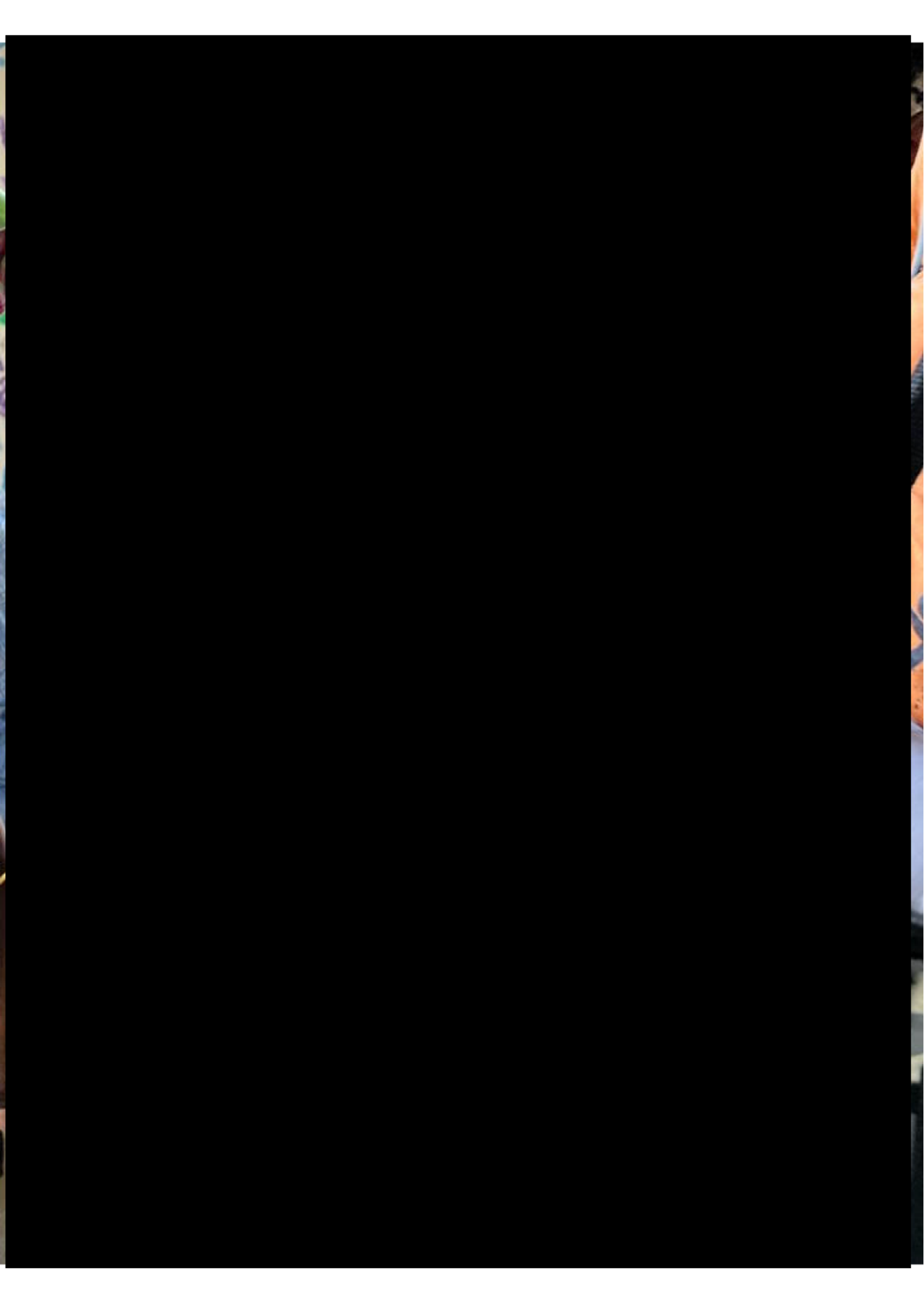

Photo credit: Veta Wade. Veta introduces a group of Primary Schoolers to the Super Powers of Maka Niu.

Despite our setbacks, this ongoing work highlights the project's ongoing commitment to safety, capacity building, technological innovation, community engagement, team well-being, and advocacy for community-based, locally-led marine conservation. Further investments in continuing the project and ill continue to enhance the project's effectiveness and outreach. I'm keen to package the knowledge and insights in audiobooks, podcasts, white papers and consultancy services for the international education, research and commercial markets.

Incomplete Deliverables:

- **Make Niu Deployments x10:**
  - Deployment of Maka Niu on Deep Sea sites faced severe challenges, with the dissapearance of a main team member lost at sea, and the associated loss of morale and apprehension about continuing the project amongst the remaining team members.

Progress despite the Challenges

  - **Visual Data Analysis:** We established partnerships with organizations like Ocean Vision AI, and Ocean Discovery League to leverage AI for data analysis, and have conducted visual data analysis and testing of Open AI with our deepsea data set.
  - **Analysis of Visual Data and Reporting:** We proceeded to analyse and report on visual data and did desk research on the most significant and recent data obtained of Montserrat's deepsea.
  - **Sharing Best Practices:** We have shared key learnings and recommendations in capacity support based on our case study and ongoing efforts to local community members and volunteer network. We believe if the right finance and support vessell or workboat is made available Montserratians have the tools, technical support and will needed to collect deepsea data.
  - **Sea Trials:** Maka Niu DeepSea Sea Trials were done, nearshore with a team of fishers, youth and supported by ocean engineer of Ocean Discovery League, Kylie Pasternak.

Challenges and Considerations:

- Barriers to full community engagement have been identified, including time constraints (when people are struggling, as a significant number of people are in Montserrat, they think about how to get money and solutions now, not about the impact of this work in 30 years), lack of interest (out of sight out of mind mentality) , and infrastructure limitations, particularly concerning the availability of a safe harbour and suitable workboats for research purposes. Addressing these barriers will be crucial for future engagement and project success.

The Invisible Costs Revealed

Challenges encountered documented in the attached infographics to highlight my experiences as a Darwin Fellow and Darwin Local Grantee. The unintended results of this project led me to reimagine the work of a conservation professional in a small territory like Montserrat.

My hope for the future of Darwin Local is that it:

- Prioritizes greater investment in **essential infrastructure**
- Offers **unrestricted, trust-based funding** to foster development
- Embraces **lived experience** as a form of leadership
- Looks beyond the programming and seeks to support the **wellbeing of people** doing the work.

Fig 2: Infographic by Veta Wade. The invisible Costs of Community, Based, Locally-Led Marine Conservation

In reflecting on my experience, I identified key solutions to address the barriers to community-based,locally-led conservation. Many individuals face unique challenges, and I hope that Darwin Local will continue to provide essential support for those on the front lines of biodiversity loss and climate change. My infographics aim to illustrate these challenges and propose actionable strategies to empower those affected.

Fig 3: Infographic by Veta Wade. A Philanthrophic Pledge to Support Community Based Organisations and Individuals doing the heavy work.

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Project Successes

We have helped to push science forward!

- Helped train AI-powered identification systems (species and environmental data) at Ocean Vision AI - Fathomnet.
- Our work contributed to the Ocean Vision AI database of annotated underwater images for AI applications and has so much potential to transform underwater visual data analysis. It's got the incredible potential for science communication, and even outreach in small islands like ours in the Caribbean.
- We present a model for innovation in citizen science and blue tech.
- We've added Montserrat's ocean visualization inventory
- Strengthened network for deep-sea science and exploration via our collaboration with Ocean Discovery League.
- We've continued to advocate for education and awareness building around marine megafauna and deep-sea ecosystems in blue economy opportunities for (R&D)
- We've began to develop STEM focused curriculum development around the DEEPWATER Project.
- Our idea of including EPIRBs in the fishers sea safety toolkit, is being adopted by Fisheries and Ocean Governance Unit. *We are uncertain whether this was directly due to us raising concerns about fisher safety and publicky reaching out to our regional fisher family to enquire about their best practices.*

- Developed Risk Assesssment for Kayak Deployments of Maka Niu Baited Remote Underwater Video Stations.
- I've stayed connected with Fisher Nicolas Psihoyos from Antigua and Barbuda, shared technical advice on deep sea camera housing, lighting and purchase sources. Nico has continued his own deep sea camera and exploring the deep in search of the commercially valuable Caribbean Red Lobsters, in depth of 1000m .
- Researched a database of underwater camera and vehicles on the market (ROV, AUVs ,ASVs)

Where we go next...

Concern about sea safety and feasibility of the project without a access to a well-eqipped workboat weighed heavy on my mind. I later decided not to pursue the deep sea deployments, and allow myself and team time to grief the loss of our friend and colleague, and recover as needed,

I still believe it is worthwhile to create a survey for marine scientists and explorers collaborating with artisanal fishers to assess the best practices in participatory science research at sea. This initiative could lead to the development of a safety protocol for myself, my team, and our partners in Montserrat. Given the emotional toll of the risks linked to my deep sea data collection, this effort would aid in restoring security and mitigating any perceived or actual risks.

Option 2: Shift to Workshops and Surveys

- **Immediate Focus on Workshops:**
  - We will focus on organizing data analytics and stewardship workshops
- **Local Youth Engagement:**
  - Organize a mini workshop aimed at local youth to provide technical support and maintenance training for the Maka Niu system, facilitated by Kyle Pasternak from Ocean Discovery League.
- **Workshop Development**
  - Focused on strategy, vision, and reflection for early career professionals.

Time and Space allowed for Rethinking: How to Sustain Myself Going Forward ...

Mental Wellbeing in tough project circumstances.

  - I spent time to reflect, write more, and be more creative. The result was to create a Playbook for reflecting on what it means to be a good ally.

My aim is to sustain my research and help support the wellbeing of youth leaders who may be grappling with sense of community, around their sense of place, whether it be their first speaking engagement, first publication or project . I'm working to create comfortable space that recognises the invisible costs of doing work at the nexxus of ocean and climate action - without need to pause or transition, but simply be oneself. My workshops are detailed on my website www.vetawade.com

Conclusion

Despite the significant challenges, we remain committed to the goals of our project and believe that overcoming these obstacles will ultimately lead to a stronger framework for community-based and long-term marine megafauna monitoring in Montserrat. We appreciate your continued support and look forward to working together in the future.

Veta Wade

Project Leader - Montserrat Marine Megafauna Project