

Research excellence supporting a sustainable ocean

PML Research Impact Approach



**Jenny Lockett, Head of Integrated, Research,
Impact and Support Services**

Dawn Ashby, Senior Communications Officer



Introduction to Plymouth Marine Laboratory (PML)

About PML

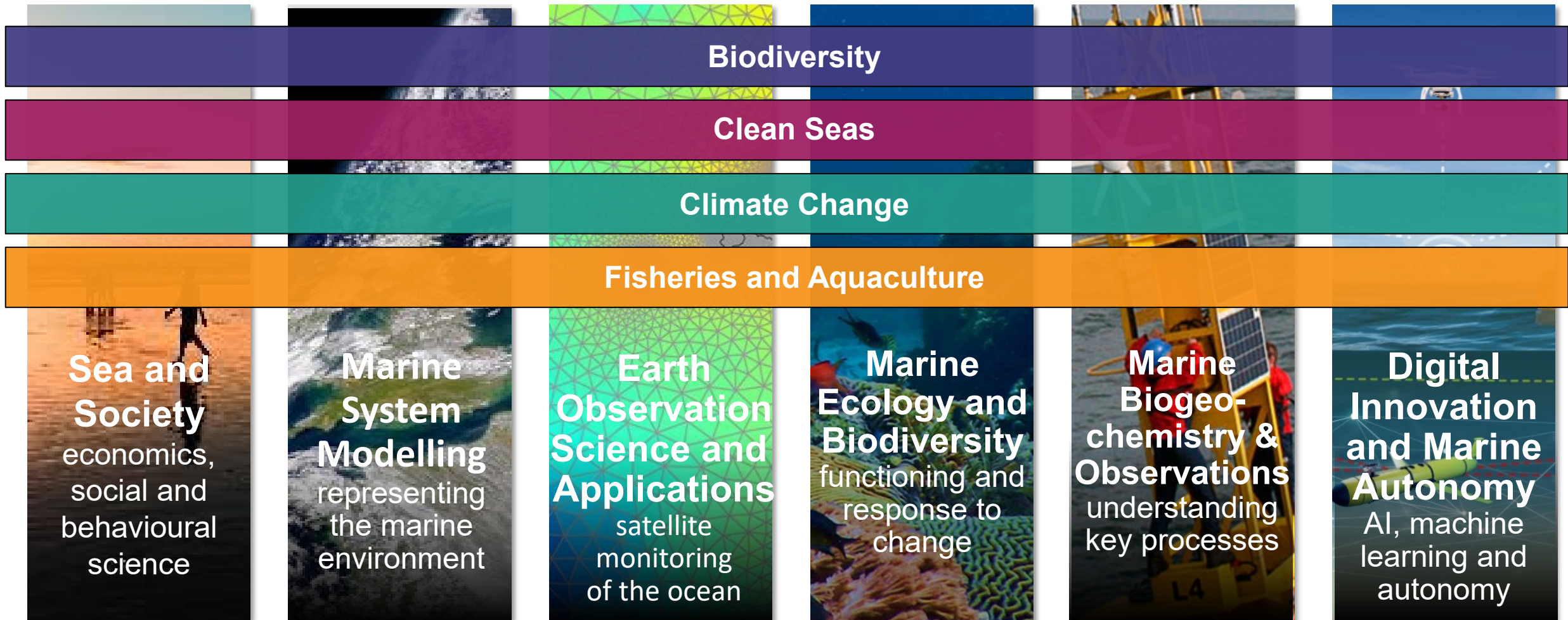
- Award-winning, **independent research provider** – at the forefront of marine research for c.50 years
- **c.160 employees** based in Plymouth but with national and international projects everywhere from the Arctic to the South Pacific.
- **Multi-disciplinary** research & **state-of-the-art** facilities to understand how the ocean works and interacts with society



Generating and applying the knowledge,
evidence and capability needed to build
a more equitable, sustainable and responsible
relationship between society and our ocean, mutually
benefiting both people and nature.



Science areas and Science to Impact Challenge Areas (StICs)



Impact team achievements

From serendipity to strategy to core focus

Pre-2017: PML impactful but this relied largely on chance, supported by our interdisciplinary approach and presence at international events

2017: Growing interest in impact and use of approaches, underpinned by need to develop case studies for NERC-REF evaluation (2020)

2020: Creation of Impact Plan – sits alongside Science Plan

2025: Science, Technology and Impact Strategy – impact embedded in science strategy and challenges become central focus.

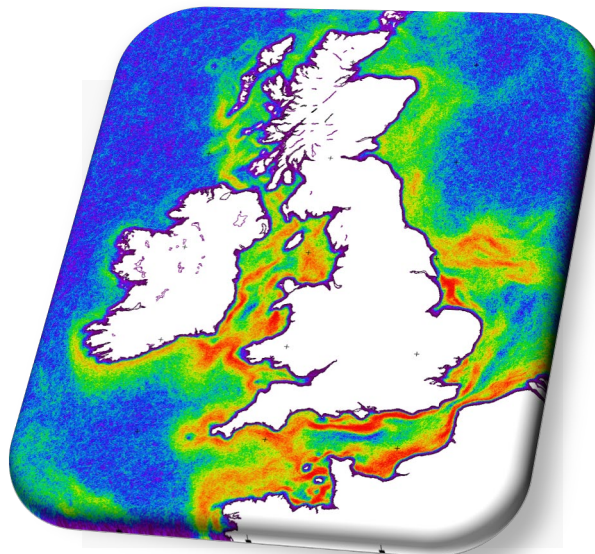
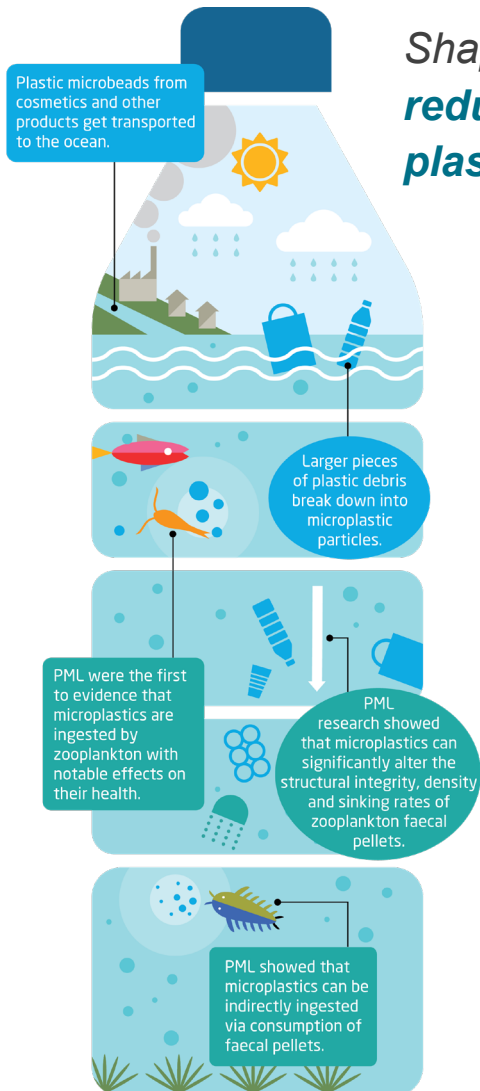
Demonstrated by our new future strapline:

“Delivering the Marine Science, Technology and **Impact** we need for a Healthy Future Ocean, **benefiting** People and Nature”



Impact case study examples

Shaping policy and reducing marine plastic pollution



Satellite-derived **ocean front maps** inform the designation of national and international areas for marine protection

Ocean acidification: ensuring national and international decision makers understand this global threat to set targets and inform international agreements



Valuing marine ecosystem benefits to inform policy and management approaches and provide evidence for the designation of protected areas

NERC Evaluation results

Research Centre	4*	3*	2*	1*
Plymouth Marine Laboratory	42%	58%		
National Centre for Earth Observation	33%	61%	6%	
National Centre for Atmospheric Science	28%	66%	6%	
British Antarctic Survey	27%	44%	27%	2%
National Oceanography Centre	17%	64%	19%	
UK Centre for Ecology & Hydrology	12%	64%	21%	3%

Scores awarded by independent panels using REF2020 methodology:

- 4* - outstanding impact
- 3* - very considerable impact
- 2* - considerable impact
- 1* - recognised but modest impact

“Considerable and some outstanding impact national and internationally on governments, business and public attitudes.

‘..well explained pathways from activity to impact and convincing evidence of the impacts’

Panel feedback to PML

Impact Plan conception – key drivers

The development of PML's Research Impact Plan was driven by several key insights and challenges identified during development of case studies for the NERC REF.

Learn from process of developing impact case studies

- Retrospective approach was time consuming
- Evidence had been lost
- Missed opportunities to showcase impact in PML research outputs

Ensure impact opportunities are not missed

- Identified incidences where PML's research could have had an impact but fell short
- Not just having impact but maximising breadth and significance

Ensure understanding of impact across organisation

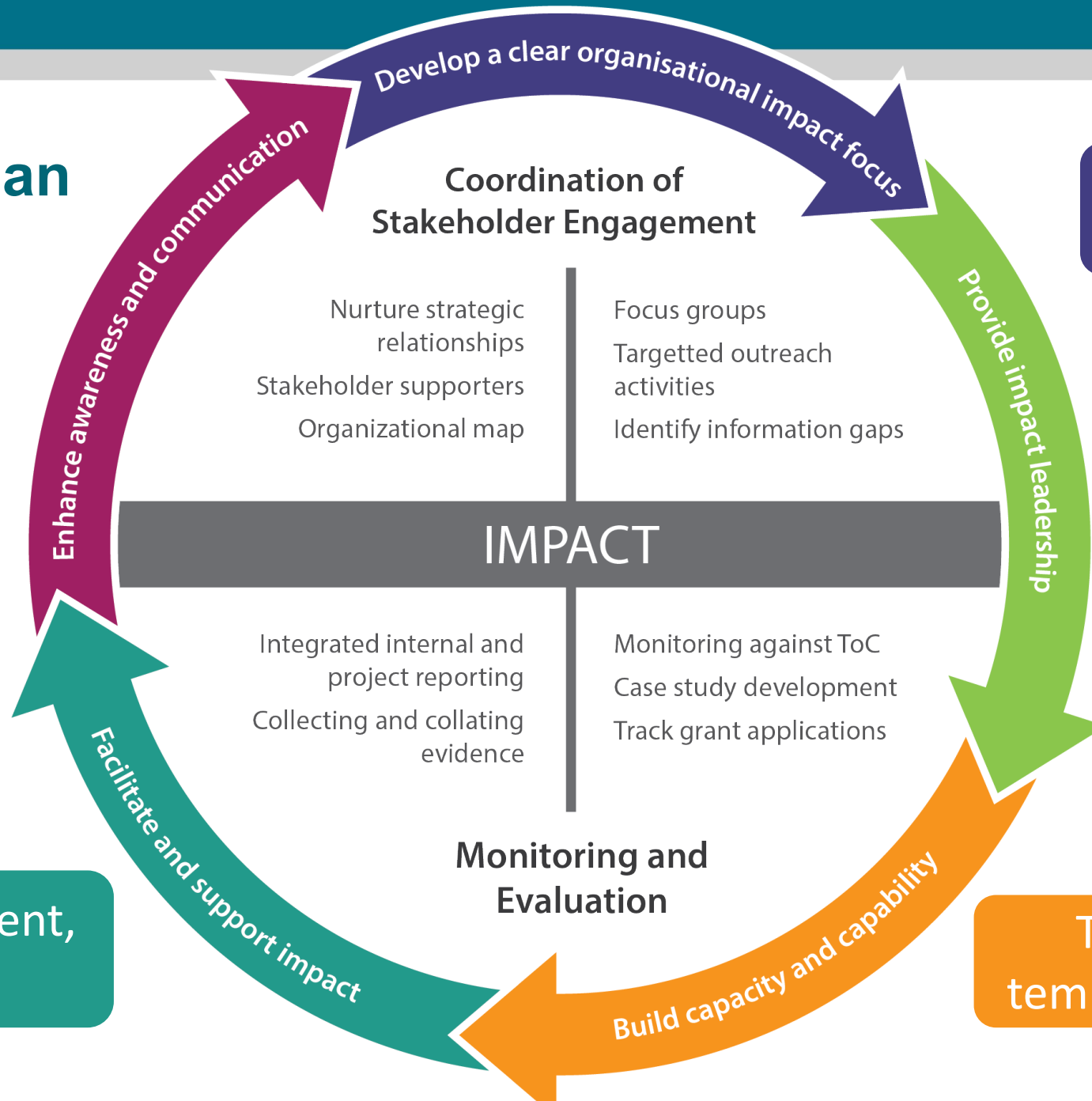
- Understand current level of knowledge / awareness
- Identify training needs
- Develop a strategic approach



PML Impact Plan 2021-2025

Regular updates,
impact narratives

Proposal development,
project support



Part of our vision
and structure

Recognised and
rewarded,
dedicated staff

Training, tools,
templates and guides

Build capacity and capability

Facilitate and support impact

PML Research Impact Plan 2020-2025

“Out of over 60 strategies I reviewed from around the world, this & one other was at the top of the pile in terms of best practice”



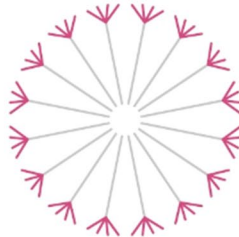
Prof Mark Reed
Fast Track to Impact

Reed, M.S., Gent, S., Seballos, F., Glass, J., Hansda, R. and Fischer-Møller, M. 2022. ‘How can impact strategies be developed that better support universities to address twenty-first-century challenges?’ Research for All doi: 10.14324/RFA.06.1.24.

Research for All

RESEARCH FOR ALL
UCLPRESS

Article



Fast Track Impact
Episode 17: How to write an impact strategy

00:00
41:53
1x

Mark Reed | 5/26/2022

Mark interviews Saskia Gent (Insights for Impact) and Jennifer Locket and Dawn Ashby (Plymouth Marine Laboratory) to learn from research that reviewed over 70 impact strategies from around the world. The research suggested there are just two types of impact strategy to choose from - enabling impact and achieving impact strategies. Mark discusses the paper with Saskia before interviewing Jen and Dawn about how they developed their strategy, which features as an example of good practice in the paper. Read the pre-print of the paper: <https://www.fasttrackimpact.com/impactstrategies>

Mark, Saskia, Jen and Dawn are running a free training workshop based on the paper and the PML case study on 27th June - book your place here: <https://www.eventbrite.co.uk/e/how-to-write-an-impact-strategy-tickets-233733472107>

Five key tips for success

1. Establish organisational buy-in
2. Build internal relationships
3. Plan, plan, plan and adapt
4. Monitor and evaluate
5. Nurture external collaborations

**These are the core elements we deliver
under on a day-to-day basis**

1. Establish organisational buy-in

Build impact into the fabric of the organisation

- We have always worked closely with senior management who (thankfully) value impact
- Provided clear focus and structure e.g. impact plan
- Ensured impact recognised in internal rewards: promotion, bonuses, awards etc.
- Built trust in our expertise and commitment (not just impact but management, comms etc.)
- Contributed to high-level meetings and strategy development
- This has underpinned the development of an impact culture



Make it easy and accessible to staff

- Provided inhouse training
 - Stakeholder mapping
 - Impact planning
 - Monitoring and evaluation
- External offer e.g. UN Ocean Decade Committee
- Created internal resources
 - Templates
 - Guides
 - links
- Staff feel more confident in incorporating impact into their work
- Not about adding to workload but changing the way they approach research

Research Impact

Delivering research that benefits society and the environment is core to PML's ethos. Everyone can play a role in achieving impact and realising the potential of our research. There are tools and techniques that complement academic activities to help us consider and plan for impact from an early stage. The IRISS group are available to support impact planning and tracking.

Our approach is described in the PML Research Impact Plan 2020–2025.

Tools, resources and guidance are available to support scientists in generating and evidencing impact. Many of these tools are described in more detail through the categories below with links to further information. **This is a PML resource to support our scientists to achieve impact - please do not share the content externally.**

[PML Research Impact Plan](#)

Resource categories



What is research impact?



Engage with Stakeholders



Track evidence of impact



Develop an Impact Plan



Develop Skills



Writing a case study



Inform Policy



Integrate impact into proposals



Find out how we report impact



Report potential impact



Connect with colleagues on impact themes

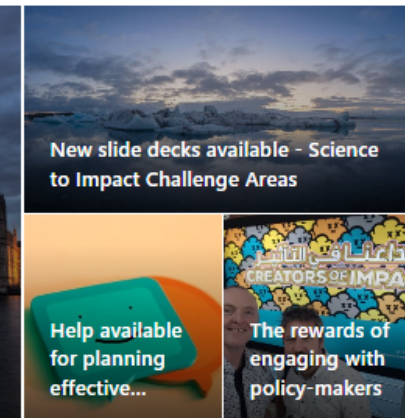


Get advice / support / provide feedback

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Key contacts



Jennifer Lockett
Head of IRISS



Dawn Ashby
Communications Officer



Jessica Heard
Research & Impact Services Manager



Luz Rodriguez-Vargas
Research & Impact Services Officer



AE Aquila Erskine
Research & Impact Services Officer

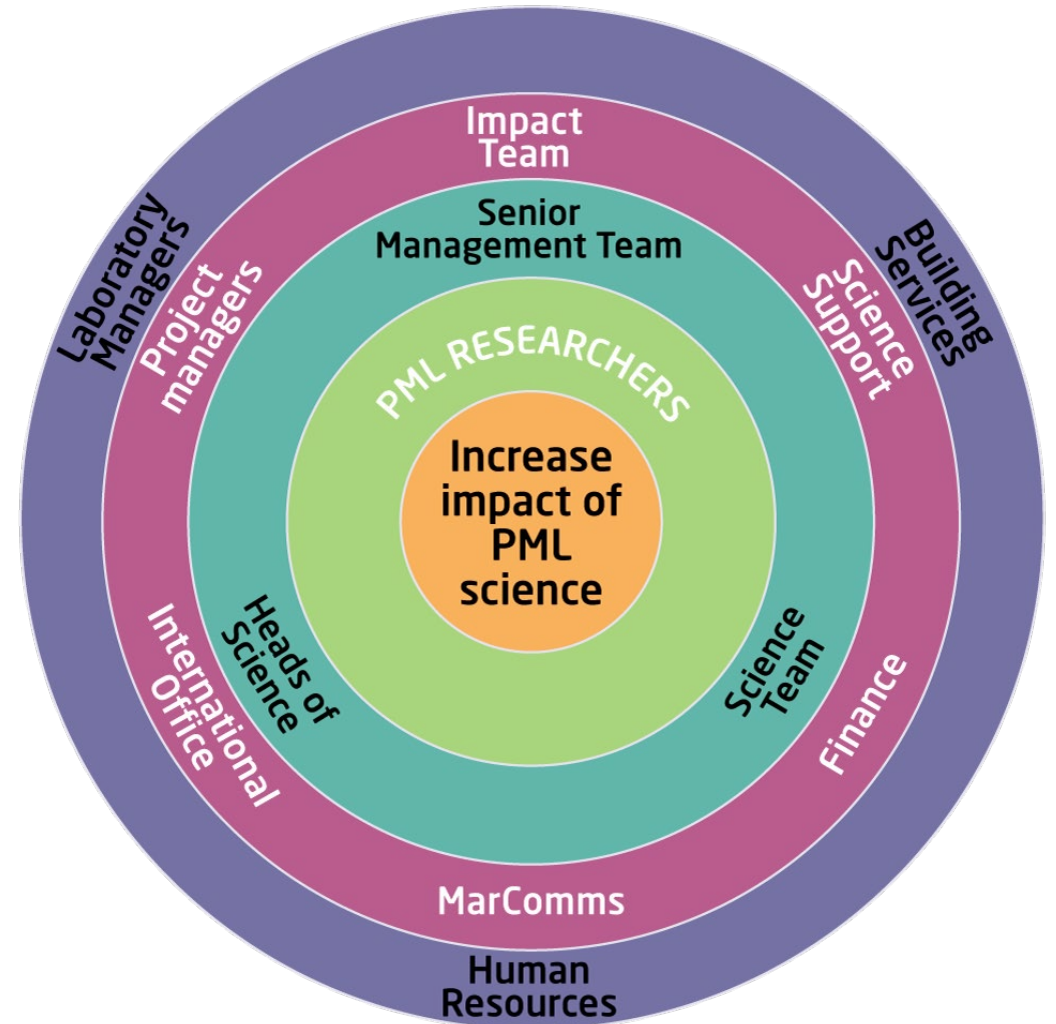


Elin Meek
Research & Impact Services Officer

2. Build internal relationships

Build links across the organisation

- We can't do it on our own!
- Ensure teams are visible and accessible within organisation
- Coordinate interdisciplinary discussions and opportunities for collaboration e.g. monthly topic-based meetings with cake, open to all
- Embed impact champions in science areas that have specialist knowledge of key challenge areas
- Provide expertise and support
- Ask questions e.g. how can this be used?
- Fostered a collaborative environment where impact is everyone's responsibility

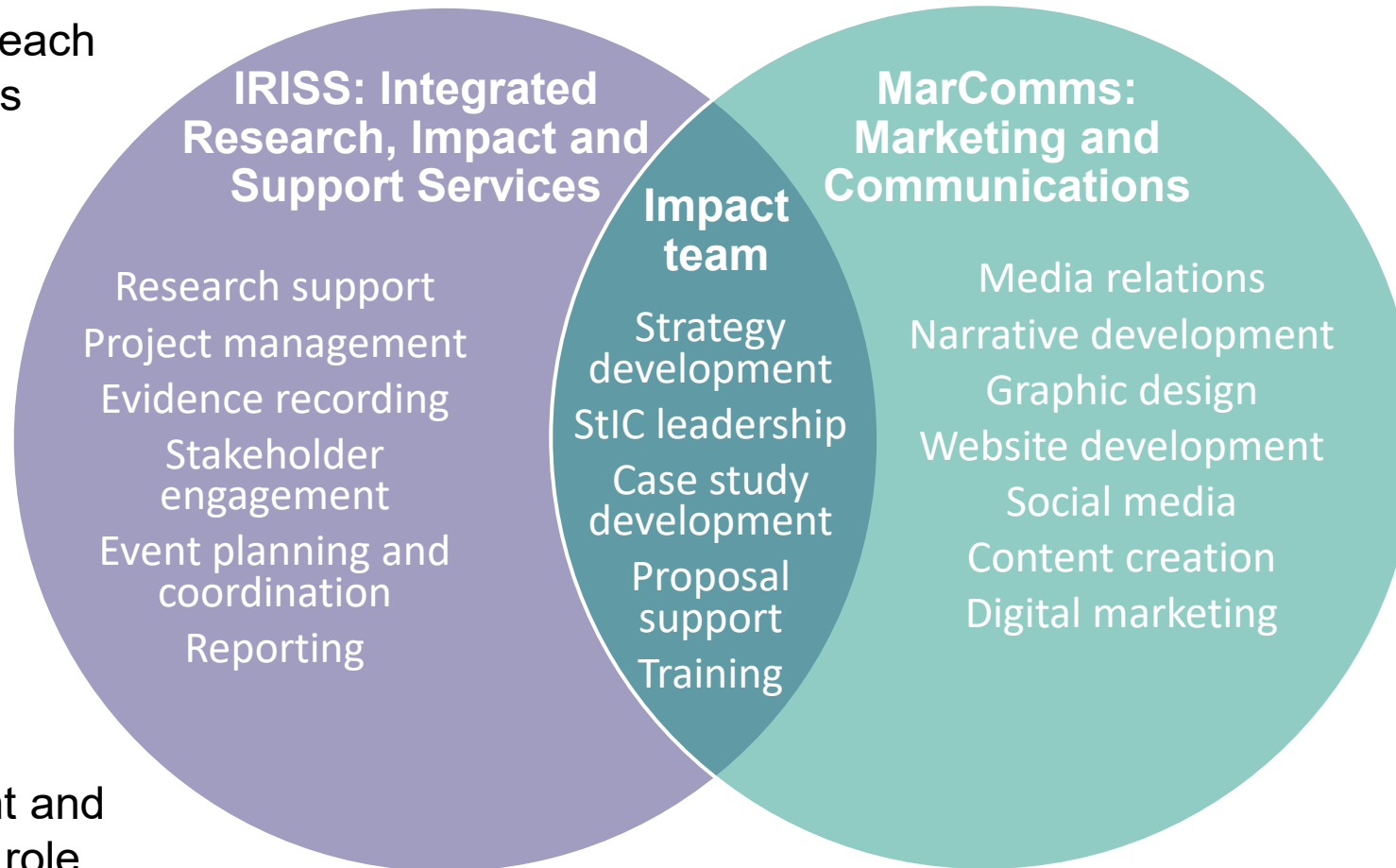


Ensure core teams work well together

Be clear on roles of each group and individuals

Groups meet quarterly to ensure cross-over

Project management and impact coordination role combined in projects



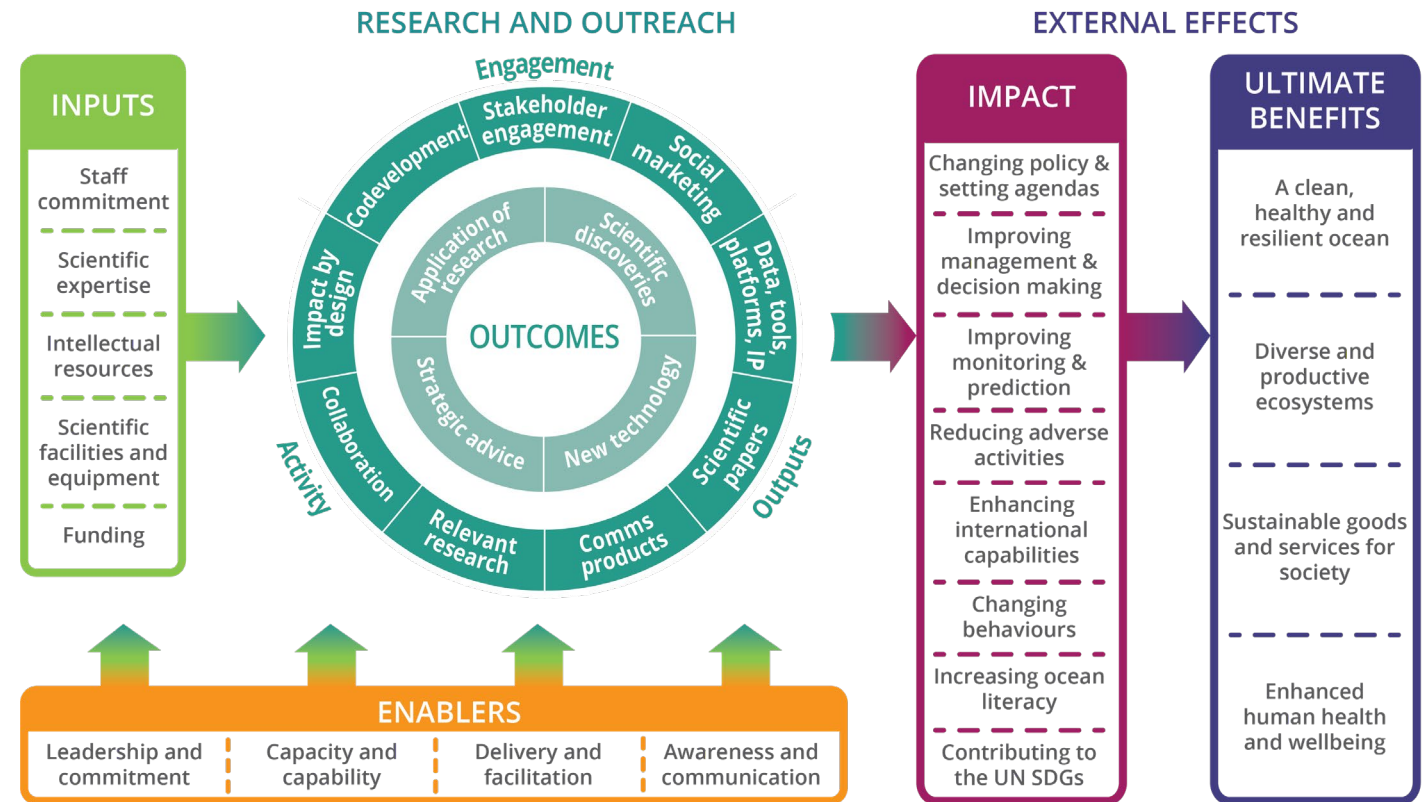
Offices next door to each other / lots of cross over with members of IRISS and MarComms

Involvement of International Office to enhance global impact

3. Plan, plan, plan and adapt

Plan for impact

- Start with the impact we want to have (not the science)
- By strategically thinking about the impact from the beginning we can increase the likelihood of realising it
- Use impact planning tools such as Theory of Change
- Codevelop with research users



PML Theory of Change: an example of a high-level aspirational plan. They can be constructed at different levels of detail.

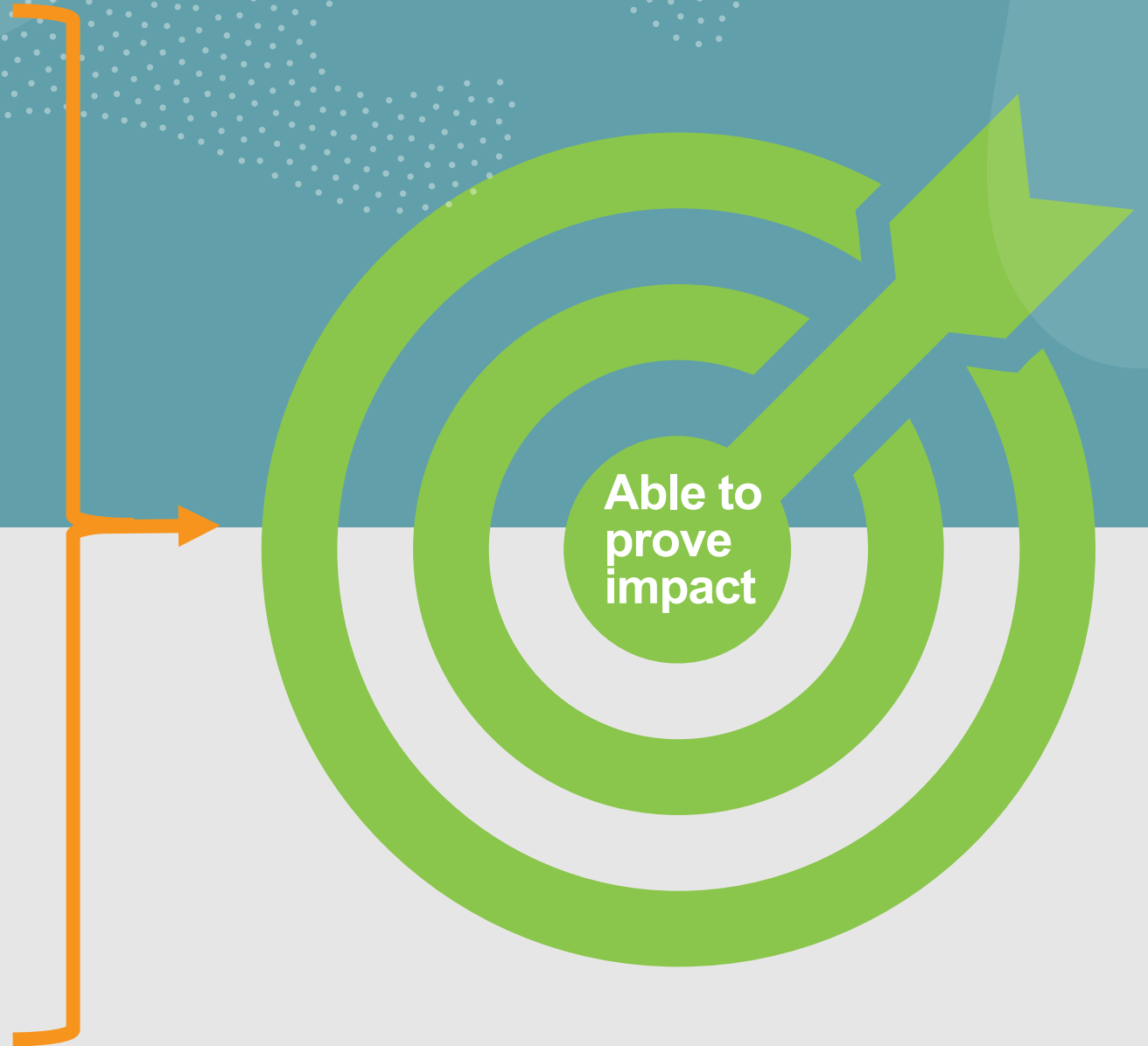
Impact Planning

Impact planning can **increase the likelihood of realising impact.**



Impact Monitoring

By planning our impact approach, we can plan how we will monitor and **actively seek evidence of impact** and the pathway to it.



Plan for monitoring impact and collecting evidence

- Plan how will collect evidence of impact and pathway to it
- Use Monitoring, Evaluation and Accountability and Learning (MEAL) plans
- Identify the indicators of change and the means to gather evidence
- Actively seek evidence e.g. surveys, impact interviews
- Plan how will demonstrate significance and breadth of impact (REF criteria)

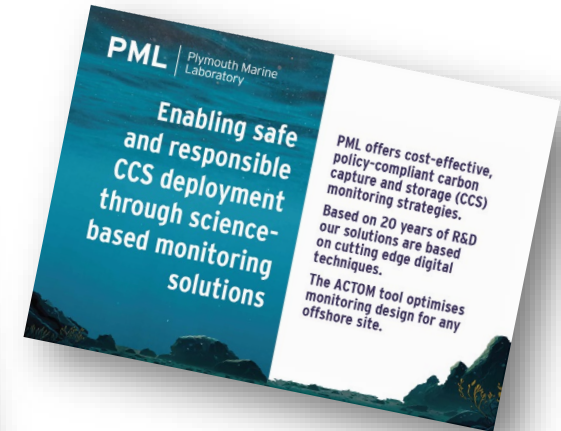
Impact Goals	Indicators	Assumptions / risks	Sources / target group(s) / Evidence needed / M&E tools to be used	ACTIONS
<i>what 'changes' does your project / activity aim to achieve?</i>	<i>How can we measure change?</i>	<i>Are you making presumptions on availability of indicators?</i>	<i>Where will information come from?</i>	
Improved water quality	Levels of pollution (reports) decreased Shellfish contamination reduced	EA have to monitor – can we get data? Cefas and FSA monitor – can we get data?	EA website / contact Cefas / FSA water catchment ratings online	Check web sites Cefas reports
Reduced littering	Behaviour change	Education campaign will change behaviour	Local community	Survey

Plan for communicating

- Have a clear purpose!
- Consider the audience from outset
- Include a clear call to action
- What do we want them to do / what is the application of the research?
- Target effort on impact ready cases

Examples

- Research briefs: 4 page summaries of research areas
- Individually tailored messages
- Accompanying business cards/postcards for distribution at events



Communication materials aimed at CCS site managers.

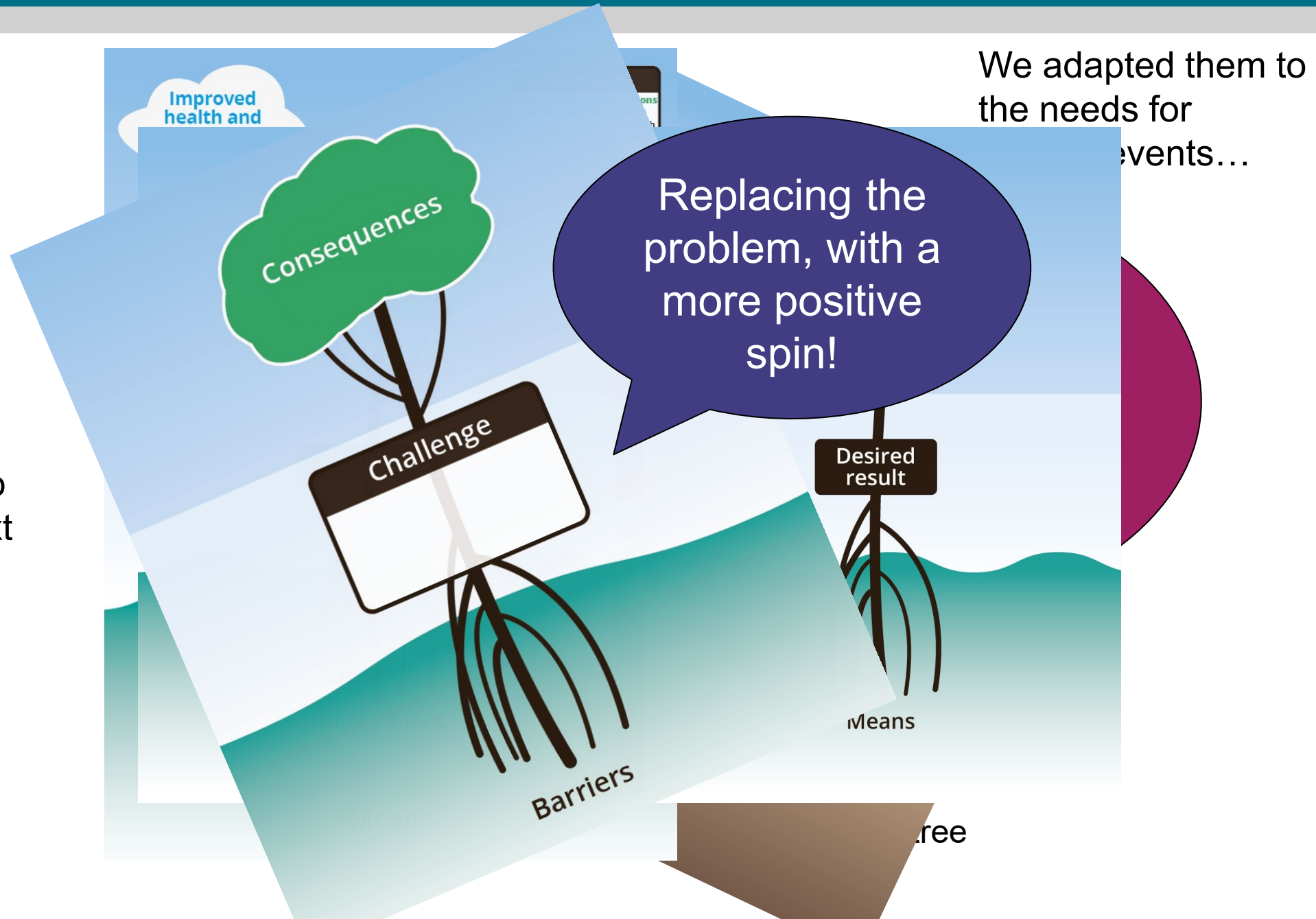
Plan for engagement

Working with research users requires tailored approaches and creative thinking

We tailor approaches to the purpose and context

Example:

Started with a classic problem and objective tree, although with a marine mangrove feel!



Example: Pirate ships!

The utopian tropical island – what would the situation look like in an ideal world?

What does the situation look like now? What are the strengths, identify any gaps in knowledge.

How do we sail our ship to attain our vision?
What are the barriers and opportunities? Who will we need to engage to do what activities, what outputs are needed?



4. Monitor and evaluate impact

Real time impact monitoring and evidence recording

- Actively collect evidence of impact pathways
- Demonstrate material contribution
- Capture evidence before lost
- Includes Researchfish and EU reporting criteria

DELIVERY RECORDING: Please use this tab to record details of any outcomes (applications / uses of outputs / knowledge generated by the project by an external party)									
WHO USED AND HOW?					WHY IS THIS IMPORTANT?		EVIDENCE OF USE		
Date	Where used	Knowledge / output(s) applied (link to engagements / outputs on previous tabs)	By who	Purpose	Potential impact (link to impact on next tab and impact chain)	Reflections / observations	Relevant references	Relevant Links	Follow-up actions
19/02/2021	Impact assessment for new bylaw		IFCA	New bylaw to limit trawling	Need to check significance of use of Ana's paper				Check significance of use of Ana's paper in Sussex bylaw IA
Nov-21	ROADMAP TO INTEGRATE CLEAN OFFSHORE RENEWABLE ENERGY INTO CLIMATE-SMART MARINE SPATIAL PLANNING	Ana contributed based on Bright spots paper	UN	high-level UN report	Need to follow up		Email from Martha Selwyn (selwyn@unglobalcompact.org) stating 'extremely useful comments. Really helpful and we will take most of them up and expand on the areas you suggest. I will also add your name to the acknowledgements.		Impact of UN report
06/09/2022	European MSP Platform	Ana's et al. publication on bright spots	EU	Dissemination of publications	Provides access to climate-smart MSP information and potential usage of MSPACE			Link to the publication	
Oct-22	The Scientific Advisory Board of the eMSP NBSR project online workshop	Check with Ana - Ana talked about MSPACE usefulness for climate-resilient MSP	eMSP NBSR project	Mentoring on climate change and MSP	Check with Ana - presenting MSPACE as a tool for climate-resilient MSP				
31/01/2023	Sustainable Inshore Fisheries Trust	Ana's work in the Orkneys relating to the destination of kelp carbon	Charles Millar	Inform the future roll-out of Blue Carbon HPMA's in Scotland.	Check with Ana - Kelp carbon usage as part of HPMA's planning in Scotland				Check with Ana the outcomes of the zoom meeting - Ask if they used Ana's information and check if it was used on the policy
01/09/2023	The EuroMarine Open Science Day and General Assembly Meeting	Ana's knowledge on blue carbon and climate-resilient marine conservation.	EuroMarine - Emma Bello Gomez	Provide for the discussion on how the marine research community can contribute to identify and address the Scientific Knowledge Gaps to tackle the global ocean challenges	Check with Ana - presenting MSPACE as a tool for climate-resilient marine conservation		Email thread		Check with Ana on the reactions from the presentation

Feedback – testimonials for use in future case studies
author | what does it corroborate | references | links

5. Nurture external relationships

External collaborations are key

- For research to have an impact it must be used by someone else
- Engaging research users from an early stage and codesigning proposals and outputs increases the likelihood of application
- Build trust and credibility
- Provide opportunities for collaboration
 - Codevelopment workshops
 - Impact events
 - Visits to PML & secondments to research user organisations
 - Non-academic conferences and events
- Be responsive to their needs
 - Requests for information
 - Inquiries / consultations - policy



Just Added!

Thursday, 18 July

Research Impact spotlight: Plymouth Sound and the Tamar Catchment

Codeveloping project concepts to meet the research needs of Plymouth Sound and the Tamar Catchment



By Jen Lockett

Follow

General Admission - 1 +
Free ⓘ

Reserve a spot

Take a tailored approach

- Who needs to know?
- How can they use the research output?
- Where does it fit within their work / policies / processes?
- What is the hook?

Example: Artificial Light at Night (ALAN)

Significant impacts: for human health, bats, insect decline etc. and marine environment

Compounded by advent of LEDs: can penetrate deep into coastal waters (>40 metres beneath the surface)

Our aim: reduce light pollution



Marine impact of ALAN examples

- Disrupts the reproductive cycle of corals
- Disrupts behaviour and biological function of plankton species
- Reducing reproductive success of fish
- Altering predator-prey dynamics

Example actions - ALAN



Global organisation advocating for dark skies – working together to raise awareness of marine impacts and co-create criteria for ‘marine dark sky reserves’



Intergovernmental treaty to take action to conserve turtles – Provided maps overlaying ALAN with turtle nesting sites to identify hotspots. Presented to Scientific Committee. Aiming to inform future management plans.

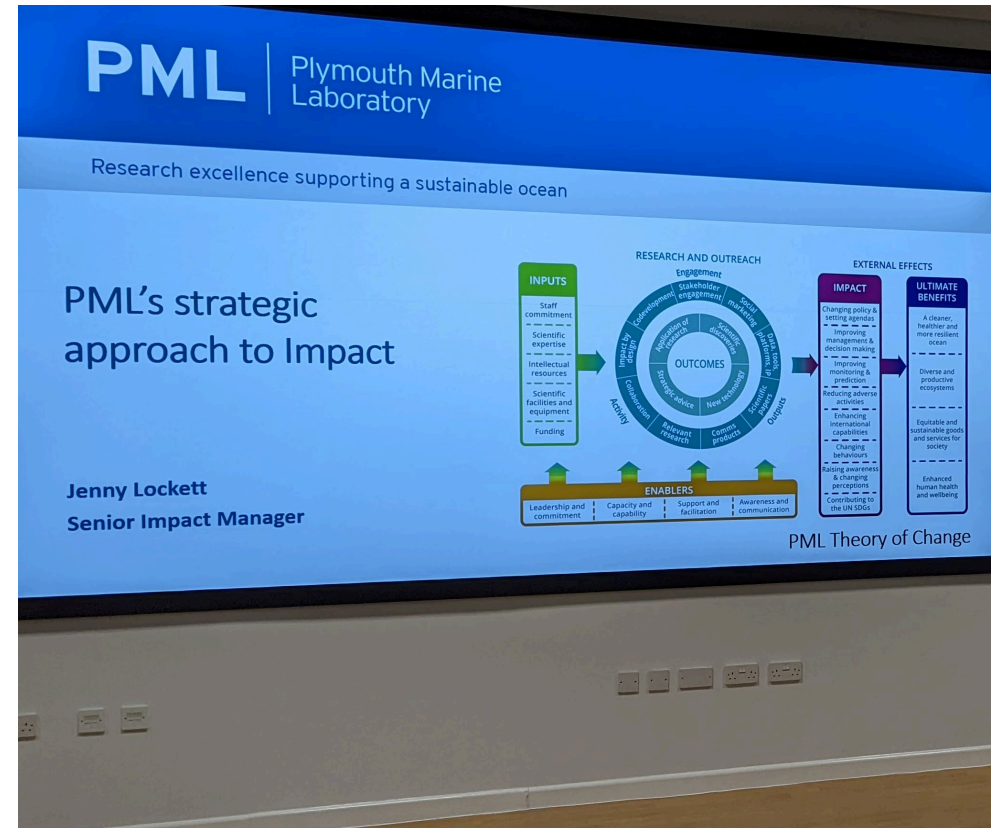


International accreditation for beaches, marinas and boats - Update award criteria to include measures to minimise light pollution on Blue Flag sites

Reflections and looking forward

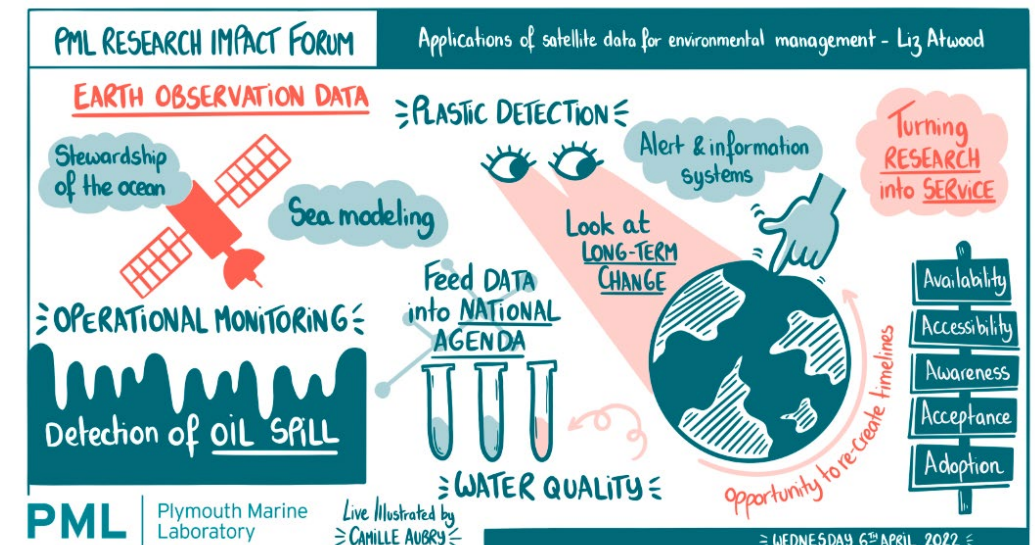
Reflections

- The size and scale of the organisation has meant we were able to embed new approaches relatively quickly
- Whole-organization approach key
- Embedding impact in fabric of organisation
- Commitment from senior management has been essential
- Dedicated staff time to impact



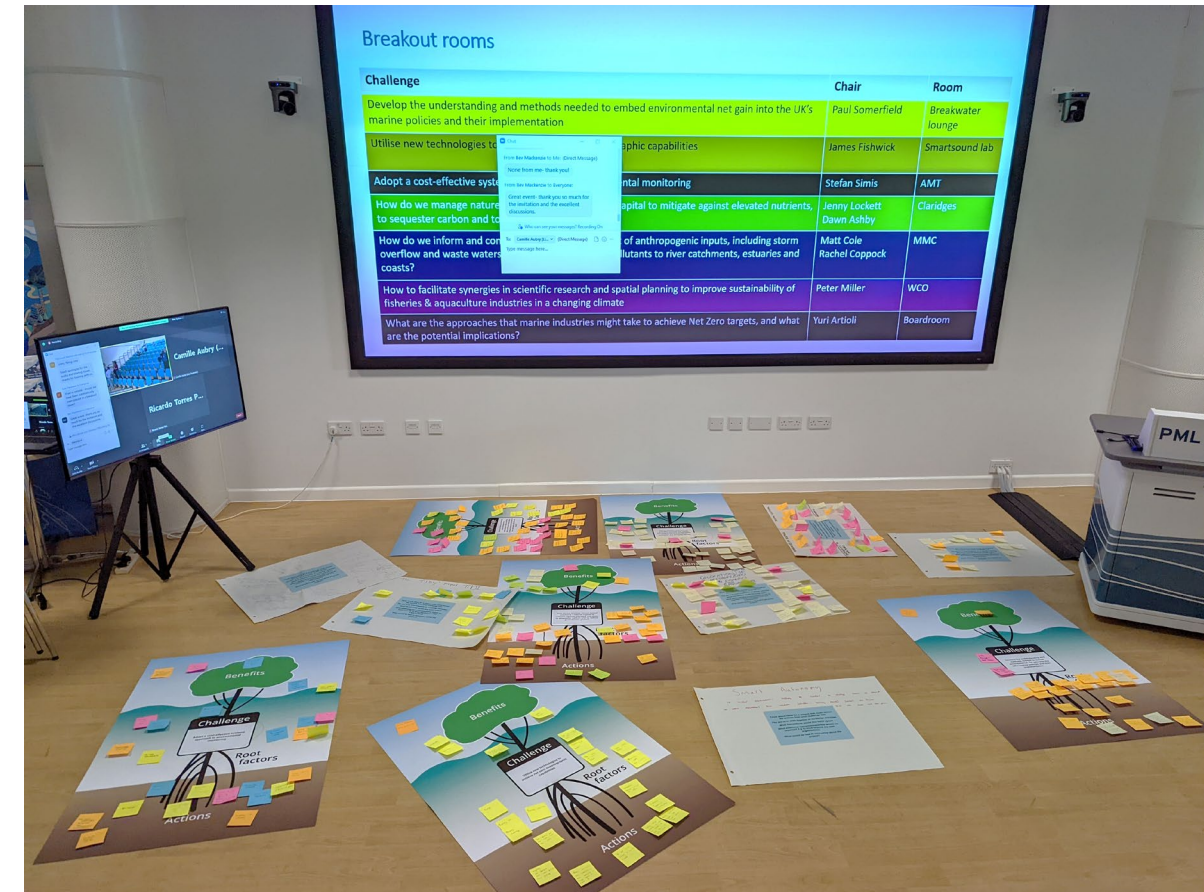
Reflections: Communication is key

- None of this would be possible without strong, effective communication both internally and externally
- We have put a lot of effort into how we communicate and engage people in our impact plan and approaches internally
- Raising awareness of research externally in a targeted and considered way is key to ensuring it resonates with research users
- Not about one team but all of us



What's next

- Build on training offer, internally and externally
- Continue to seek external funding dedicated for impact
- Develop relationships
- Testing and refining our methodology for challenge-led workshops
- NERC - REF 2026



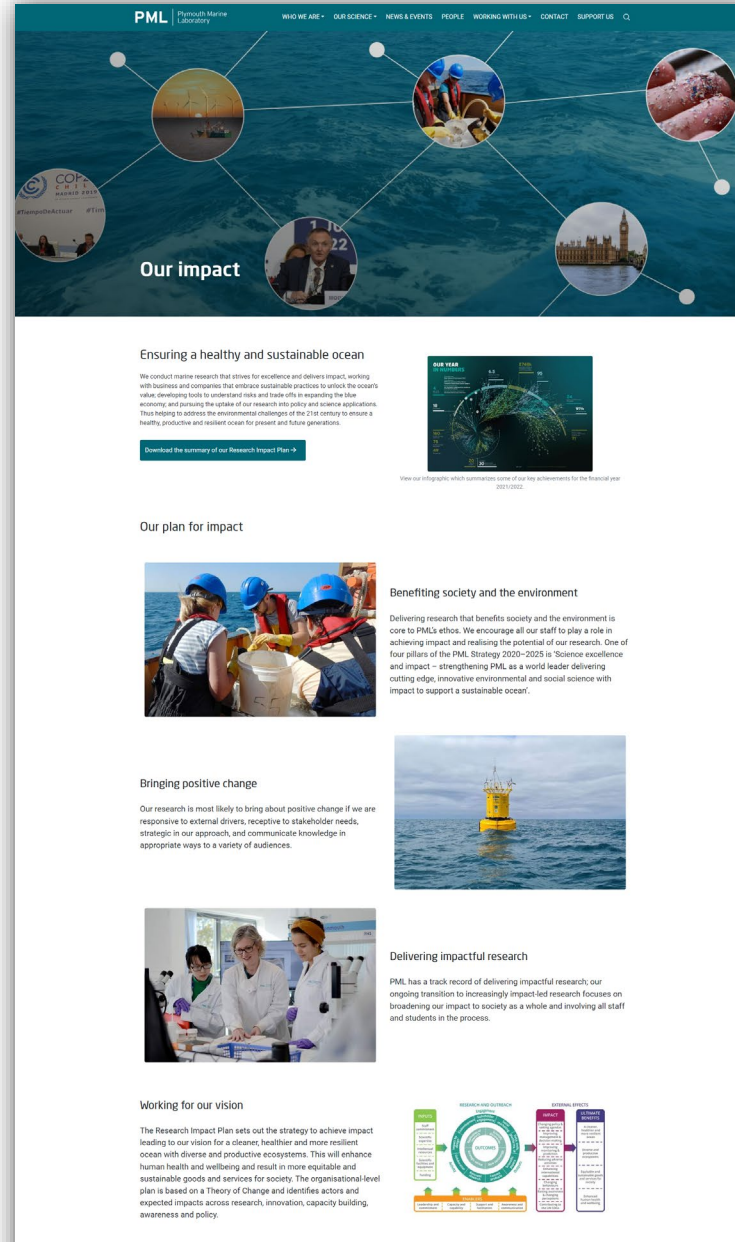
Further information

www.pml.ac.uk/impact

- Summary of impact plan
- Case studies

Get in touch

Email: impact@pml.ac.uk
(sends to both Jen and Dawn)



PML Plymouth Marine Laboratory

WHO WE ARE • OUR SCIENCE • NEWS & EVENTS • PEOPLE • WORKING WITH US • CONTACT • SUPPORT US

Our impact

Ensuring a healthy and sustainable ocean

We conduct marine research that strives for excellence and delivers impact, working with business and companies that embrace sustainable practices to unlock the ocean's value, developing tools to understand risks and trade-offs regarding the blue economy, and pursuing the uptake of our research into policy and science applications. This helping to address the environmental challenges of the 21st century to ensure a healthy, productive and resilient ocean for present and future generations.

[Download the summary of our Research Impact Plan](#)

[View our infographic, which summarises some of our key achievements for the financial year 2021/2022](#)

Our plan for impact

Benefiting society and the environment

Delivering research that benefits society and the environment is core to PML's ethos. We encourage all our staff to play a role in achieving impact and realising the potential of our research. One of four pillars of the PML Strategy 2020-2025 is 'Science excellence and impact' - strengthening PML as a world leader delivering cutting edge, innovative environmental and social science with impact to support a sustainable ocean.

Bringing positive change

Our research is most likely to bring about positive change if we are responsive to external drivers, receptive to stakeholder needs, strategic in our approach, and communicate knowledge in appropriate ways to a variety of audiences.

Delivering impactful research

PML has a track record of delivering impactful research; our ongoing transition to increasingly impact-led research focuses on broadening our impact to society as a whole and involving all staff and students in the process.

Working for our vision

The Research Impact Plan sets out the strategy to achieve impact leading to our vision for a cleaner, healthier and more resilient ocean with diverse and productive ecosystems. This will enhance human health and wellbeing and result in more equitable and sustainable goods and services for society. The organisational-level plan is based on a Theory of Change and identifies actors and expected impacts across research, innovation, capacity building, awareness and policy.

RESEARCH AND INNOVATION

EXTERNAL EFFECTS

Impact case studies

The story of PML's impact is told through a series of impact case studies, which describe and evidence how our science made a material contribution to a particular impact and how that led to benefits for society and the environment. As well as using these narratives to share and celebrate PML's achievements, they are independently evaluated every 5-6 years in a national process led by Natural Environment Research Council (NERC), part of UK Research and Innovation (UKRI). The process mimics the national Research Excellence Framework (REF) evaluation of UK universities.

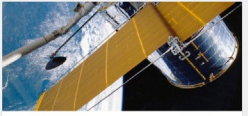
In the most recent evaluation in 2020, PML received the highest impact scores of all UK Research and Innovation research centres evaluated. The assessment reviewed 4 case studies which were all deemed to be outstanding or have very considerable reach and significance. The panel found that PML's impact had "Considerable and some outstanding impact nationally and internationally on governments, business and public attitudes. They also commented that the case studies contained "...well explained pathways from activity to impact and convincing evidence of the impacts"



Shaping policy and reducing marine plastic pollution

Plastic debris is a widespread and persistent pollutant in the marine environment, which poses a considerable risk to marine organisms and has economic repercussions for society. PML was the first organisation to identify that microplastics are damaging zooplankton, the most numerous animals on Earth and a key link in aquatic food chains.

[View or download case study](#)



Satellite-derived ocean front maps inform designation of MPAs

Our oceans face multiple stressors due to climate change, overexploitation and pollution. Area-based conservation approaches are used throughout the world but do not always protect highly mobile marine fauna, such as basking sharks and turtles. PML has provided a means to address this challenge by using satellite.

[View or download case study](#)



Putting ocean acidification onto the international agenda

PML scientists have been at the forefront of developing the science of ocean acidification and pivotal in placing the issue surrounding the science frontiers onto the international agenda. PML first identified ocean acidification as a problem as part of a better review on the potential impact of increased carbon dioxide in the marine environment in 2004, this was followed by contribution to a Royal.

[View or download case study](#)



Valuing the marine environment for better management

The marine environment supports human wellbeing and economic growth, yet is subject to multiple pressures that reduce its ability to do so. In order to make informed management decisions a common currency is needed to assess and compare the value of benefits derived from the sea. PML researchers were the first to identify and systematically value these benefits and thus quantify their significance. These valuations enabled.

[View or download case study](#)

See our [success stories](#) page for how to help us continue to make a difference and develop solutions to environmental challenges.

Contact

Plymouth Marine Laboratory
Prospect Place
Plymouth
Devon
PL1 3DH
+44 (0)1752 633 100

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