Dr Abigail McQuatters-Gollop

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RESEARCH INTERESTS:

I am an interdisciplinary marine conservation ecologist and associate professor in marine conservation whose teaching and research focus on the generation of national and international impact through the integration of scientific results into the policy process. I use natural and social science skills and expertise to enable the sustainable use of our marine and coastal environments through science. My key areas of scientific interest are the separation of climate responses in biodiversity from those due to anthropogenic disturbances, ecosystem responses to the combined effects of direct pressures and climate change, and linking ecological changes to manageable human pressures. I actively create impact through science-policy knowledge exchange, working closely with policy makers at the UK, European and international levels, to deliver policy informed by the best available evidence. I lead the UK's and OSPAR's implementations of the UK Marine Strategy/Marine Strategy Framework Directive for pelagic habitats, which includes the coordination, development and implementation of pelagic indicators and environmental targets. I've also held two NERC Knowledge Exchange Fellowships and a Defra Chief Scientific Advisor's Systems Research Fellowship. I encourage my students to understand the practical policy process and how and why scientific research should be applied and used in a policy and conservation context.

PROFESSIONAL EXPERIENCE

Associate Professor of Marine Conservation University of Plymouth (2015-Present)

- Associate Head of School International (2022-Present)
- Honorary Fellow Plymouth Marine Laboratory
- Lecturer in Marine Conservation
- NERC Knowledge Exchange Fellow: Interpreting and targeting NERC-funded research outputs to inform and influence marine policy
- Leadership of Marine Strategy Framework Directive implementation for pelagic habitats for the UK and OSPAR
- Delivery of scientific advice to UK and international policy-makers
- Generation and publication of policy-relevant research
- REF Impact Case Study lead (3.5*)

Company director Ecosystem Approaches Limited (2019 – present)

- Environmental consultancy
- Spatial analysis
- Marine conservation and biodiversity advice
- Indicator development
- Systems thinking
- Science- policy communication
- Impact creation
- Social media communication

Science and Policy Research Fellow Sir Alister Hardy Foundation for Ocean Science (2010-2015)

- NERC Knowledge Exchange Fellow: Interpreting and targeting NERC-funded research outputs to inform and influence marine policy
- Delivery of scientific advice to UK and international policy-makers
- Generation and publication of policy-relevant research
- The securement of policy-relevant research and contract funding, from UK, EU and international bodies
- Leadership of Marine Strategy Framework Directive implementation for pelagic habitats for the UK and OSPAR
- SAHFOS PI on EU and INTERREG projects
- Coordination of SAHFOS Knowledge Exchange activities, including leading development of SAHFOS Knowledge
 Exchange strategy and line management of KE team

Associate Lecturer *Plymouth University* (2007-2015)

- Design and delivery of lectures and practicals for undergraduate and postgraduate students
- Dissertation supervision

Post Doctoral Research Fellow Sir Alister Hardy Foundation for Ocean Science (2008-2010)

- Coordination of ICES Historical Plankton Digitization Project
- Coordination of an FP7 project proposal
- Provision of scientific advice to UK and international policy-makers
- Plankton analysis
- SAHFOS PI on EU FP7 KnowSeas

Post Doctoral Research Fellow University of Plymouth (2007-2008)

- Coordination of a successful FP7 project proposal
- Provision of scientific advice to UK and international policy-makers

Research Assistant University of Plymouth (2004-2007)

- Provision of research and coordination support to FP6 project (ELME)
- Leadership of individual research programme
- Website development and maintenance

GIS Technician and Consultant C&C Solutions, Inc (2001-2002)

- Assisted with and managed GIS projects using ArcInfo, ArcView, and ArcGIS
- GIS analysis, project management and organisation, client relations, map design, and database implementation skills were utilized daily

Long-term Teaching Assistant Maritime and Science Technology Academy High School (1999-2001)

 Provision of regularly scheduled long-term teaching assignments at a competitive marine-themed magnet school, including formulation of lesson plans and assessment of students

Lab and Teaching Assistant *University of Miami Rosenstiel School of Marine and Atmospheric Science (RSMAS)* (1997–2000)

• Provision of lab, teaching and field support to researchers and staff at the Marine Geology and Geophysics Stable Isotope Laboratory and Department of Marine Affairs and Policy

EDUCATION AND QUALIFICATIONS

HSE Professional Scuba Diver (2023)

Fellow of the Higher Education Academy (2017)

PhD Phytoplankton as indicators for eutrophication in Europe's regional seas. University of Plymouth (2004 - 2008)

MA (Hons) Marine Affairs and Policy and GIS. University of Miami Rosenstiel School of Marine and Atmospheric Science (RSMAS) (2000 - 2001). Dissertation title "Stiltsville: Private ownership in a national park"

BA (Hons) Marine Affairs and Policy (major), Chemistry (minor), Geography and GIS (minor). University of Miami (1996 - 2000). Dissertation title "Anaerobic digestion in the Florida manatee *Trichechus manatus latirostris*"

EXTERNAL FUNDING

- £192,183 Defra: mNCEA: Pelagic Big Data and Policy
 - £16,604 NERC Exploring the Frontiers: Understanding trophic links between marine plankton to consumers to improve assessments of UK pelagic habitats
 - £2000 Defra: PitPaf Putting it together: Linking changes in plankton and fisheries
- £3,500 FCDO: A synthesis of West Indian marine biodiversity
 - £12,149 NERC: BRICS: Biology's Role In Ocean Carbon Storage
 - £10,000 Defra: mNCEA: Pelagic Big Data and Policy
 - £6400: Pico: The missing 80%: Incorporating nano- and pico-plankton into the assessment of pelagic habitats
- €182,689 EMFF: North East Atlantic project on biodiversity and eutrophication assessment integration and creation of effective measures (NEA-PANACEA)
 - £2,800 Defra: Next-level pelagic habitat analysis: Making use of improved data flows to Delve Deeper into Integrated UK Plankton Assessment (DDIPA)
 - £25,000 JNCC: Ocean acidification and the seabed: how do we detect early warning signals?
- 2020 £47,000 Defra Senior Policy Fellow Marine
 - £2,800 Defra: Developing and streamlining the Plankton Lifeform tool, analysis and interpretation system (PRADA)
 - £3500 JNCC: Producing an Ecosystem Services Management Guide: Managing Biodiversity and Ecosystem Services in Multi-Functional Landscapes in Peru.
- 2019 £61,000 Defra Senior Policy Fellow Marine
 - £5,000 Commonwealth Blue Charter Indicator briefing paper
- 2018 £1,600 Medin: Streamlining and Standardising Pelagic Data Flow to Support the MSFD
 - £3,000 Defra: Formulation of UK pelagic habitats monitoring options.
 - £188,151 EMFF: Increasing Confidence in Evaluating GES for Regional Assessments of Pelagic Habitats (ICEGRAPH)
 - £48,996 Defra: Increasing the Confidence in Determining GES for English Pelagic Habitats
- £70,000 NERC: Knowledge Exchange Fellowship: Plankton science for supporting the implementation of marine ecosystem-based management and conservation.
 - £15,000 Defra: Chairing of UK plankton expert group for Marine Strategy Framework Directive.
 - £8,000 Japan Society for the Promotion of Science Invited Fellowship: Identifying and overcoming challenges to integrating marine scientific research into the Japanese policy process
- 2016 £2,400 Defra: Assessment of UK plankton for Marine Strategy Framework Directive.

- £2,500 Plymouth University: Are Plymouth Sound phytoplankton in Good Environmental Status? Towards the assessment of biodiversity in a human-impacted conservation area.
- €146,000 EMFF: Applying an ecosystem approach to (sub) regional habitat assessments (EcApRHA).
 - £2000 NERC: Anniversary Ambassador.
- 2013 €76,000 INTERREG: Promoting effective governance of the Channel ecosystem (PEGASEAS).
 - £110,269 NERC: Knowledge Exchange Fellowship: Interpreting and targeting NERC-funded research outputs to inform and influence marine policy.
 - £8,000 Defra: MSFD Pelagic Habitats Indicator and Target Research and Development.
 - £10,225 Defra: MSFD Pelagic Habitats Expert Team leadership for UK and OSPAR
 - €10,000 EMODNET Biological Traits pilot project: Plankton Biological Traits.
- 2012 €100,000 EU European Marine Observation Data NETwork (EMODNET) Biology
 - £9,710 Defra: MSFD Pelagic Habitats Team Leadership for UK and OSPAR.
 - £5,220 Defra: R&D project to operationalise MSFD indicators and targets.
- £8,993 EMODNET Biology: Provision of CPR data products and maps.
 - £19,736 National Marine Biological and Analytical Quality Control Scheme (NMBAQC): Employment of the technical secretariat at SAHFOS.
- 2010 £116,610 INTERREG: Our shared sea: Mechanisms of ecosystem change in the Western Channel (Marinexus)
- £17,400 JNCC: A marine assessment and monitoring framework for application in UKMMAS and OSPAR for phytoplankton and zooplankton
- 2008 €133,774 FP7 Knowledge Based Sustainable Management for Europe's Seas (KnowSeas)
 - £3,014 FAO: Preparation of concise overview of harmful algal blooms & fishery product safety.
 - £1,800 Defra: Contribution to report highlighting UK marine biodiversity hotspots.
- £700 Women in Science, Engineering and Technology (SET): Securement of a travel grant to present PhD results at an international scientific conference (ASLO)

KEY PUBLICATIONS

- McQuatters-Gollop, A., Guérin, L., Arroyo, N.L., Aubert A., Artigas, L.F., Bedford, J., Corcoran, E., Dierschke, V., Elliott, S.A.M., Geelhoed, S.C.V., Gilles, A., González-Irusta, J.M., Haelters, J., Johansen, M., Le Loc'h, F., Lynam, C.P., Niquil, N., Meakins, B., Mitchell, I., Padegimas, B., Pesch, R., Preciado, I., Rombouts, I., Safi, G., Schmitt, P., Schückel, U., Serrano, A., Stebbing, P., De la Torriente, A., Vina-Herbon, C., (2022). Assessing the state of marine biodiversity in the Northeast Atlantic. Ecological Indicators, 141:109-148.
- McQuatters-Gollop, A., Atkinson, A., Aubert, A., Bedford, J., Best, M., Bresnan, E., Cook, K., Devlin, M., Gowen, R., Johns, D.G., Machairopoulou, M., Mellor, A., Ostle, C., Scherer, C. and Tett, P., (2019). Plankton lifeforms as a biodiversity indicator for regional-scale assessment of pelagic habitats for policy. Ecological Indicators, 101: 913-925.
- Capuzzo, E., Lynam, C.P., Stephens, D., Barry, J., Forster, R.M., Greenwood, N., **McQuatters-Gollop, A.**, Silva, T., van Leeuwen, S. M., and Engelhard, G.H., (2017). <u>A decline in primary production in the North Sea over 25 years, associated with reductions in zooplankton abundance and fish stock recruitment</u>. *Global Change Biology,* **doi: 10.1111/gcb.13916.**
- **McQuatters-Gollop, A.,** Johns, David G., Bresnan, E., Skinner, J., Rombouts, I., Stern, R.F., Aubert, A., Johansen, M., and Knights, A. (2017). <u>From microscope to management: the critical value of plankton taxonomy to marine policy and biodiversity conservation</u>. *Marine Policy*, **83:**1-10.
- McQuatters-Gollop, A., Edwards, M., Helaouët, P., Johns, D.G., Owens, N.J.P., Raitsos, D.E., Schroeder, D., Skinner, J., and Stern, R.F., (2015). The Continuous Plankton Recorder survey: how can long-term phytoplankton datasets deliver Good Environmental Status? Estuarine, Coastal and Shelf Science, 162:88-97.
- McQuatters-Gollop, A. (2012). <u>Challenges for implementing the Marine Strategy Framework Directive in a climate of macroecological change.</u> *Philosophical Transactions of the Royal Society,* **370:** 5636-5655.
- McQuatters-Gollop, A., Reid, P.C., Edwards, M., Burkill, P., Castellani, C., Batten, S., Gieskes, W., Beare, D., Bidigare, R., Head, E., Johnson, R., Kahru, M., Koslow, J. and Pena, M. (2011). Is there a decline in marine phytoplankton? *Nature* 472:E6-E7.

AWARDS, FELLOWSHIPS, AND ESTEEM

Honorary Fellow – Plymouth Marine Laboratory (2023- present)

Student and Staff Teaching and Representation (SSTAR) Awards (2021) Nominee: Inspirational Teacher of the Year Defra Senior Policy Fellow – Marine (2019-2021) To develop and apply a systems approach framework across Defra Marine.

NERC Knowledge Exchange Fellowship Plankton science for supporting the implementation of marine ecosystem-based management and conservation (2017)

Japan Society for the Promotion of Science Invited Fellowship To engage local policy makers with ocean acidification research (2017)

Michael Colebrook Memorial Award For outstanding external representation of SAHFOS and promotion of the CPR survey to stakeholders and policy makers (2015)

NERC Anniversary Ambassador (2015)

NERC Knowledge Exchange Fellowship Interpreting and targeting NERC-funded research outputs to inform and influence marine policy (2013)

Seavision UK My Maritime World Competition winner For inspiring future marine scientists ('From plankton to policy') (2013)

Challenger Society for Ocean Science Honorary Fellowship For achievement and promise in marine biology (2012)

Elsevier Top Cited Author Award For paper entitled 'How well do ecosystem indicators communicate the effects of anthropogenic eutrophication?' (2012)

Royal Society Science-Policy Pairing Scheme Paired with UK DECC for one year mentorship (2011-2012)

SAHFOS Contribution Award Recipient (2009, 2011)

Rho Rho Rho Marine Science Honours Society Member (1997-1999), Elected vice president (1999-2000)

University of Miami RSMAS Merit Fellowship Full tuition scholarship \$45,000 (2000-2001)

National Merit Scholar Tuition scholarship \$16,000 (1996 – 2000)

University of Miami Merit Scholar Half tuition scholarship \$60,000 (1996-2000)

University of Miami Dean's List Eligibility: Grade Point Average > 3.50 (1996, 1997, 2000)

University of Miami Provost's Honour Roll Eligibility: Grade Point Average > 3.75 (1998)

University of Miami Honors Students' Association Member (1996 -2000)

Phi Kappa Phi Honour Society America's most selective honours society, Eligibility: Grade Point Average in top 7.5% of my class (1999-2000)

MEMBERSHIP/LEADERSHIP

OSPAR's Intersessional Correspondence Group on Coordinated Biodiversity Assessment and Monitoring

Implementation Group Chair. Leading OSPAR's implementation of the Marine Strategy Framework Directive for pelagic habitats (2012 – present)

Defra/HBDSEG Marine Strategy Framework Directive Implementation Group Co-Chair. Co-leading implementation of the UK Marine Strategy for pelagic habitats (2011 – present)

Bright Tide Advisory Board member

EU JRC Pelagic Habitats group working on interpretation of MSFD Commission Decision (2021- present)

HBDSEG Healthy and Biologically Diverse Seas Evidence Group Pelagic habitat co-lead. (2009 – present)

University of Plymouth Sustainable Earth Institute Executive Committee (2019 – present)

State of Nature Steering Group (2017 – present)

Southwest Marine Ecosystems Steering Group (2021 – present)

Plankton and Policy Research Group PI (2015 – present)

British Ecological Society Member (2016 – present)

Marine Biological Association Member (2015 – present)

ICES Working Group on Biodiversity Science Member (2014 – present)

ICES Working Group on Common Ecosystem Reference Points Member (2018 – present)

Defra Network of Evidence Experts (2017 – present)

Fellow of the Higher Education Academy (2016 – present)

Defra Marine Ecosystem Health Working Group (2010 – 2016)

Defra Senior Policy Fellow – Marine (2019-2021) To develop and apply a systems approach framework across Defra Marine.

British Ecological Society Brexit Policy Working Group (2017 – 2020)

Challenger Society Marine Science and Policy Special Interest Group Co-founder and co-chair. (2015 –2018)

Celtic Seas Partnership Food Web Task Group Member (2014 – 2016)

Challenger Society for Marine Science Elected Council member-communications portfolio (2012 – 2016)

SCOR 137 Working Group on Global Coastal Phytoplankton Time-series (2010 – 2015)

Project Advisor - INTERREG ISECA (Information System on the Eutrophication of our Coastal Areas) (2012 – 2014)

University of Miami Marine Mammal Stranding Rescue Team (1996 – 2000)

PHD STUDENTS

Iman Ayesha-Joll (PI, University of Plymouth): Connectivity between pelagic and benthic habitats as an indicator of Good Environmental Status. Start October 2023.

Jessica Allen (Co-I, University of Plymouth): Greening of grey infrastructure: Building the evidence base for multifunctional coastal infrastructure. Start October 2023.

Matthew Faith (PI, University of Plymouth): Developing meaningful marine biodiversity indicators to support conservation. 2022-Present.

Lorna McKellar (Co-I, University of Bangor): Setting thresholds for good status in marine ecosystem management. 2022-Present.

Nata Tavonvunchai (Co-I, University of Plymouth): Blue Governance for Climate Change and Equity. 2021-Present.

Jacob Bedford (PI, University of Plymouth): An indicator approach to integrating historical and contemporary ecological datasets: a century of plankton change in the NE Atlantic. Completed 2018.

SELECTED KEYNOTE ENGAGEMENTS

Keynote address: "From evidence to policy: developing biodiversity indicators for marine conservation", Commemorative Symposium for the 33rd International Prize for Biology: Marine biology opens a frontier for the future, University of Tsukuba, Tsukuba, Japan, 2017.

Keynote address: "Brexit and the marine environment – a biodiversity perspective", British Ecological Society-Marine Biological Association: The UK Marine Environment After Brexit, London, UK, 2017.

Keynote address: "Delivering good environmental status: an ecosystem approach", Australian Marine Sciences Association, Geelong, Australia, 2015.

Keynote address: "Delivering the ecosystem approach – a European perspective", Marine Strategy Framework Directive (EU) and the Great Barrier Reef Long-Term Sustainability Plan (GBRWHA) workshop, hosted by the Great Barrier Reef Marine Park Authority and Australian Institute for Marine Science, Townsville, Australia, 2015.

Keynote address: "Pathways towards effective Channel governance", Pathways towards effective Channel governance launch event, House of Commons, UK Parliament, Westminster, London, 2014.

Keynote address: "The role of plankton time-series in managing our seas in a climate of macroecological change", PICES 2014 Annual Meeting: Toward a better understanding of the North Pacific: Reflecting on the past and steering for the future, Yeosu, Korea, 2014.

Keynote address: "Understanding planktonic systems: Update & links to MSFD", Coastal Futures, London, UK, 2014.

Keynote address: "Challenges for managing our seas in a climate of macroecological change". P/ICES Oceans of Change, Majorca, Spain, 2012.

Public debate: "Large-scale trends in ocean phytoplankton". McQuatters-Gollop, A., Worm, B. and Wernand, M. Plankton 2011: Biodiversity and Global Change, Plymouth, UK, 2011.

Keynote address: "Is there a decline in marine phytoplankton?", Plankton 2011: Biodiversity and Global Change, Plymouth, UK, 2011.

Keynote address: "Challenges for managing our seas in a climate of macroecological change: messages from the plankton", Prospectus for UK Marine Science for the Next 20 Years: A Joint Project by The Challenger Society for Marine Science and the UK Scientific Committee on Oceanic Research, Royal Society, London, UK, 2011.

Keynote presentation and panel discussion: "Implications of large-scale ecological change for managing UK seas", How can we manage our seas in the real world? Organized by Plymouth Marine Sciences Partnership in collaboration with the Marine Management Organisation, Plymouth, UK, 2011.

PROFESSIONAL ACTIVITIES

Invited policy appearances:

- Environment, Food, and Rural Affairs UK Fisheries Bill Inquiry, scientific witness. Palace of Westminster, UK Parliament (2018)
- Environmental Audit Committee Sustainable Seas Inquiry, scientific witness. Portcullis House, UK Parliament (2018)
- The science of managing UK fisheries, invited speaker. Portcullis House, UK Parliament (2018)
- Research, impact and the UK Parliament, invited speaker. Parliamentary Office for Science and Technology (2018)
- International policy decisions based on world-leading evidence, invited case study. House of Commons, UK Parliament (2017)

Convener:

Conference conceiver, developer, and co-convener:

The Environment after Brexit, British Ecological Society, UK (2017)

Challenger Society for Marine Science Conference (2012, 2014)

Prospectus for UK Marine Sustained Observations, The Royal Society, UK (2013)

Theme developer and convener:

"Applying and integrating marine biodiversity indicators and assessments to evaluate progress towards policy goals", MSEAS-2020: Marine Social-Ecological Systems, Yokohama, Japan (delayed from 2020)

"From science to evidence – innovative uses of biodiversity indicators for effective marine policy and conservation", International Marine Conservation Congress, Kuching, Malaysia (2018)

"What is a good pelagic habitat?", ICES Annual Science Conference, Riga, Latvia (2016)

"Marine science for society", Challenger Conference for Marine Science, Liverpool, UK (2016)

"Challenges and tools for managing marine and coastal resources", Challenger Conference for Marine Science, Plymouth, UK. (2014)

"Challenges and tools for managing marine and coastal resources", Challenger Conference for Marine Science: Ocean Challenges in the 21st Century, Norwich, UK (2012)

Session chair:

Promoting Effective Governance of the Channel Ecosystem, Caen, France. (2014)

Southwest Marine Ecosystems Conference 2014, Plymouth, UK (2014)

P/ICES Oceans of Change, Majorca, Spain (2012)

Editorial contributions:

Estuarine, Coastal, and Shelf Science Guest editor (2022-2023)

Marine Biodiversity Records Editorial board (2017 – 2019)

Special Issue, Philosophical Transactions of the Royal Society Guest editor. Prospectus for UK Marine Sustained Observations (2014)

Panels and debates:

Grant panel:

Japan Society for the Promotion of Science (2019 - 2023)

NERC Innovation Grants (2017)

NERC KE Fellowships (2016, 2018)

Public debate: "Large-scale trends in ocean phytoplankton". McQuatters-Gollop, A., Worm, B. and Wernand, M. Plankton 2011: Biodiversity and Global Change, Plymouth, UK (2011)

Discussion panel: "Where we need to be: what are the likely challenges?" McQuatters-Gollop, A., Spicer, J., Brownlee, C. and Barange, M. Plymouth Marine Science Partnership and the MMO: How can we manage our seas in the real world?" Plymouth, UK (2011)

Training:

2023 • First Aid at Work

- PADI Oxygen Administration
- PADI Rescue Diver
- HSE Professional Scuba
- 2020 Social Science for Conservation (Human Nature)
- Science media training (NERC-British Science Association)
- 2017 Impact training (NERC)
 - Internal examiners training (Plymouth University)
- 2016 Outdoor first aid
- 2015 Challenge of Science Leadership (Barefoot Learning)
 - Innovation training (NERC)
- 2013 Climate Change in the Media (Talk Action)
 - Effective Supervision (Plymouth University)
- 2009 Line Management Training (Carol Carpenter Training)
- 2008 FP6 Sesame Statistics Summer School (Highland Statistics)
 - CPR plankton taxonomic analysis (SAHFOS)

Media engagement highlights:

- BBC Radio 4: "In Our Time: Plankton" with Melvyn Bragg, BBC Radio 4, October 2023
 - "Five jellyfish species you may encounter more often in UK's warming seas", The Conversation, September 2023
- TEDx talk: The Breath-Giving Beauty of Bioluminescence
 - "Jellyfish alert: increased sightings signal dramatic changes in ocean food web due to climate change", The

Conversation, August 2022

• "Inside the world of tiny phytoplankton – microscopic algae that provide most of our oxygen", The Conversation, April 2021

Additional skills:

Science-policy communication: Active participant in science-policy knowledge exchange at the UK, European, and international scales. I excel at translating science into a format useful to policy-makers and at guiding scientists to apply their research to the policy process. I run the blog and website Plankton and Policy, which is followed by ICES, OSPAR, DG MARE and MBARI http://planktonpolicy.org/

SCUBA diving: I hold an HSE Professional Scuba Diver qualification. I am also a PADI Rescue-level SCUBA diver.

Data analysis: ArcGIS, R

Taxonomy: Trained in phyto and zooplankton identification and analysis.

Languages: I am an intermediate Spanish speaker and a beginner Japanese speaker.

PUBLICATIONS

The publication list is separated into four categories: Scientific papers in peer-reviewed journals (published), policy publications, book chapters, and conference presentations and posters. I have published >50 papers in international journals, one book chapter, and multiple high impact policy publications. My work has been cited >4000 times, my hindex=34 and my i10 index=50.

APPENDIX 1: PEER-REVIEWED SCIENTIFIC PUBLICATIONS

- Firth, L.B., Farnworth, M., Fraser, K.P.P. and **McQuatters-Gollop, A.**, (2023). <u>Make a difference: Choose artificial reefs over natural reefs to compensate for the environmental impacts of dive tourism</u>. *Science of the Total Environment*, 901: 165488. [IF] = 10.75
- Graves, C.A., Best, M., Atkinson, A., Bear, B., Bresnan, E., Holland, M., Johns, D.G., Machairopoulou, M., **McQuatters-Gollop, A.**, Mellor, A., Ostle, C., Paxman, K., Pitois, S., Tett, P. and Devlin, M., (2023). <u>At what scale should we assess the health of pelagic habitats? Trade-offs between small-scale manageable pressures and the need for regional upscaling</u>. *Ecological Indicators*, 154: 110571. [*IF*] = 6.26
- Holland, M.M., Louchart, A., Artigas, L.F., Ostle, C., Atkinson, A., Rombouts, I., Graves, C.A., Devlin, M., Heyden, B., Machairopoulou, M., Bresnan, E., Schilder, J., Jakobsen, H.H., Lloyd-Hartley, H., Tett, P., Best, M., Goberville, E. and McQuatters-Gollop, A., (2023). Major declines in NE Atlantic plankton contrast with more stable populations in the rapidly warming North Sea. Science of the Total Environment, 898: 165505. [IF] = 10.75
- Magliozzi, C., Palma, M., Druon, J.-N., Palialexis, A., **McQuatters-Gollop, A.**, Ioanna, V., Rafael, G.-Q., Elena, G., Birgit, H., Laura, B. and Felipe, A.L., (2023). <u>Status of pelagic habitats within the EU-Marine Strategy Framework Directive:</u>

 Proposals for improving consistency and representativeness of the assessment. Marine Policy, 148: 105467. [IF] = 4.32
- Giering, S.L.C., Culverhouse, P.F., Johns, D.G., **McQuatters-Gollop, A.** and Pitois, S.G., (2022). <u>Are plankton nets a thing of the past? An assessment of in situ imaging of zooplankton for large-scale ecosystem assessment and policy decision-making. *Frontiers in Marine Science*, 9. [IF] = 5.25</u>
- McQuatters-Gollop, A., Guérin, L., Arroyo, N.L., Aubert, A., Artigas, L.F., Bedford, J., Corcoran, E., Dierschke, V., Elliott, S.A.M., Geelhoed, S.C.V., Gilles, A., González-Irusta, J.M., Haelters, J., Johansen, M., Le Loc'h, F., Lynam, C.P., Niquil, N., Meakins, B., Mitchell, I., Padegimas, B., Pesch, R., Preciado, I., Rombouts, I., Safi, G., Schmitt, P., Schückel, U., Serrano, A., Stebbing, P., De la Torriente, A., Vina-Herbon, C., 2022. Assessing the state of marine biodiversity in the Northeast Atlantic. Ecological Indicators 141, 109148. [IF] = 6.26
- Smit, K.P., Van Niekerk, L., Harris, L.R., **McQuatters-Gollop, A.,** Shannon, L.J., Sink, K.J., (2022). <u>A Roadmap to Advance Marine and Coastal Monitoring, Biodiversity Assessment, and International Reporting: A Developing Nation Perspective</u>. *Frontiers in Marine Science* 9. 10.3389/fmars.2022.886373 [*IF*] = 5.25
- Karcher, D.B., Cvitanovic, C., van Putten, I.E., Colvin, R.M., Armitage, D., Aswani, S., Ballesteros, M., Ban, N.C., Barragán-Paladines, M.J., Bednarek, A., Bell, J.D., Brooks, C.M., Daw, T.M., de la Cruz-Modino, R., Francis, T.B., Fulton, E.A., Hobday, A.J., Holcer, D., Hudson, C., Jennerjahn, T.C., Kinney, A., Knol-Kauffman, M., Löf, M.F., Lopes, P.F.M., Mackelworth, P.C., McQuatters-Gollop, A., Muhl, E.-K., Neihapi, P., Pascual-Fernández, J.J., Posner, S.M., Runhaar, H., Sainsbury, K., Sander, G., Steenbergen, D.J., Tuda, P.M., Whiteman, E., Zhang, J., (2022). Lessons from bright-spots for advancing knowledge exchange at the interface of marine science and policy. Journal of Environmental Management 314, 114994. [IF] = 8.91
- Chee, S.Y., Firth, L.B., Then, A.Y.-H., Yee, J.C., Mujahid, A., Affendi, Y.A., Amir, A.A., Lau, C.M., Ooi, J.L.S., Quek, Y.A., Tan, C.E., Yap, T.K., Yeap, C.A., McQuatters-Gollop, A., (2021). Enhancing Uptake of Nature-Based Solutions for Informing Coastal Sustainable Development Policy and Planning: A Malaysia Case Study. Frontiers in Ecology and Evolution 9. 10.3389/fevo.2021.708507 [IF]= 4.50
- Ostle, C., Paxman, K., Graves, C.A., Arnold, M., Artigas, L.F., Atkinson, A., Aubert, A., Baptie, M., Bear, B., Bedford, J., Best, M., Bresnan, E., Brittain, R., Broughton, D., Budria, A., Cook, K., Devlin, M., Graham, G., Halliday, N., Hélaouët, P., Johansen, M., Johns, D.G., Lear, D., Machairopoulou, M., McKinney, A., Mellor, A., Milligan, A., Pitois, S., Rombouts, I., Scherer, C., Tett, P., Widdicombe, C., McQuatters-Gollop, A., (2021). The Plankton Lifeform Extraction Tool: a digital tool to increase the discoverability and usability of plankton time-series data. Earth System Science Data 13, 5617-5642. 10.5194/essd-13-5617-2021 [IF]= 11.82
- Bedford, J., Johns, D.G. and **McQuatters-Gollop, A.**, (2020). <u>Implications of taxon-level variation in climate change</u> <u>response for interpreting plankton lifeform biodiversity indicators</u>. *ICES Journal of Marine Science*, **77**:3006-3015. [*IF*]= 3.91
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APPENDIX 2: POLICY PUBLICATIONS

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Edwards, M., Reid, P.C., **McQuatters-Gollop, A.**, Helaouet, P., Kirby, R. and Frederiksen, M., (2008). Indicator review for pelagic ecosystems (phytoplankton and zooplankton): Report to the Healthy and Biologically Diverse Sea Evidence Group (HBDSEG). Sir Alister Hardy Foundation for Ocean Science, Plymouth, UK, 22 pp.

Langmead, O., A. McQuatters-Gollop and L.D. Mee (Eds.). (2007). European Lifestyles and Marine Ecosystems: Exploring challenges for managing Europe's seas. 43pp. University of Plymouth Marine Institute, Plymouth, UK.

APPENDIX 3: BOOK CHAPTERS

McQuatters-Gollop, A., (2020). In: K. Inaba and J. Hall-Spencer (Editors), *Japanese Marine Life: A practical training guide in marine biology*. Springer Nature Singapore Pte Ltd, Singapore, pp. 347-352.

APPENDIX 4: CONFERENCE PRESENTATIONS/POSTERS

Keynote addresses:

2022

From plankton to policy - how embracing risk and failure creates opportunities for success, PlymSEF, Plymouth, UK.

Embracing risk and failure in academia, Mindful Conservation Conference, Virtual.

The CPR as a key tool for policy delivery, The Continuous Plankotn Recorder 90th Anniversary Celebration Conference, Virtual.

The role of science to advance policy initiatives, NexAMS: Launch of Policy Briefs - Nature-based Solutions and Integrated Greening of Grey Infrastructure, Kuala Lumpur.

2018

Plankton time-series are key to sustainable marine policy, L4 30th Anniversary Science Day, PML, Plymouth.

2017

From evidence to policy: developing biodiversity indicators for marine conservation, Commemorative Symposium for the 33rd International Prize for Biology - Marine biology opens a frontier for the future, University of Tsukuba, Tsukuba, Japan.

Brexit and the marine environment - key priorities: A biodiversity perspective, British Ecological Society: The Marine Environment after Brexit, London, UK.

2015

Delivering good environmental status: an ecosystem approach, Australian Marine Sciences Association, Geelong, Australia.

Delivering the ecosystem approach – a European perspective, Marine Strategy Framework Directive (EU) and the Great
Barrier Reef Long-Term Sustainability Plan (GBRWHA) workshop, hosted by the Great Barrier Reef Marine Park
Authority and Australian Institute for Marine Science, Townsville, Australia.

2014

Pathways towards effective Channel governance, Pathways towards effective Channel governance launch event, House of Commons, UK Parliament, Westminster, London.

The role of plankton time-series in managing our seas in a climate of macroecological change, PICES 2014 Annual Meeting: Toward a better understanding of the North Pacific: Reflecting on the past and steering for the future, Yeosu, Korea.

Using science to inform marine policy: a case study of marine ecosystem monitoring in the UK, Towards the better collaboration between scientists and policy makers, University of Tokyo, Japan.

Understanding planktonic systems: Update & links to MSFD, Coastal Futures, London, UK.

2012

Challenges for managing our seas in a climate of macroecological change. P/ICES Oceans of Change, Majorca, Spain.

2011

Is there a decline in marine phytoplankton?, Plankton 2011: Biodiversity and Global Change, Plymouth, UK.

Challenges for managing our seas in a climate of macroecological change: messages from the plankton, Prospectus for UK Marine Science for the Next 20 Years: A Joint Project by The Challenger Society for Marine Science and the UK Scientific Committee on Oceanic Research, Royal Society, London, UK.

Implications of large-scale ecological change for managing UK seas, How can we manage our seas in the real world? Organized by Plymouth Marine Sciences Partnership in collaboration with the Marine Management Organisation, Plymouth, UK.

Invited presentations:

2021

Using biodiversity indicators to meet marine conservation objectives, University of Sheffield Animal and Plant Science Seminar Series, University of Sheffield, UK.

From plankton to policy: Connecting ocean observations to decision making, Marine Biodiversity Observation Network, Online.

Science-policy co-development of biodiversity assessment: The Marine Strategy Framework Directive example, South Africa Marine Biodiversity Assessment Strategic Workshop, Cape Town, South Africa.

The UK's first National Marine Park: An opportunity for Plymouth, Plymouth Mayflower Rotary Club, Virtual.

2020

Using biodiversity indicators to meet marine conservation objectives, Animal and Plant Science, University of Sheffield. *Using biodiversity indicators to meet marine conservation objectives,* University of Tokyo Seminar Series, Tokyo, Japan.

2019

Opportunities for working across the science-policy interface: Nature-based solutions in Malaysia, Malaysia Nature-based Solutions, Kuala Lumpur, Malaysia.

Brexit and the Marine Environment, The UK After Brexit University of Plymouth, Plymouth, UK.

Developing and applying indicators for marine conservation and management, Blue Charter All Champions Meeting, London, UK.

Using biodiversity indicators to meet marine conservation objectives, OneNOAA Science Seminar Series, Silver Springs, Maryland, USA

How plankton data can meet global policy challenges, Essential Biological Data Products: A Showcase for the European Atlas of Marine Life, Lisbon, Portugal.

2018

Plankton time-series are key to sustainable marine policy, L4 30th Anniversary Science Day, PML, Plymouth, UK. From data to decisions: creating impact through policy, Getting your science used in policy, University of Exeter, UK. Research in Parliament – a marine conservationist's perspective, Research, impact, and the UK Parliament. UKRI, Plymouth.

Why am I here?, Shaping the next generation of early career scientists, PML, Plymouth, UK.

2017

From evidence to policy: developing biodiversity indicators for marine conservation, National Institute of Oceanography Seminar Series, Goa, India.

Large scale plankton shifts in the North Atlantic in relation to climate change, Cross-disciplinary workshop on drivers of decline in Atlantic puffins and other species with related feeding ecology in the North Atlantic, Reykjavik, Iceland.

Spatio-temporal changes in plankton communities, and their role as policy indicators, Assessing the Effects of Ocean Acidification on East Asian Ecosystems, Shimoda, Japan.

From evidence to policy: developing biodiversity indicators for marine conservation, University of the Ryukyus Tropical Biosphere Research Center Sasei Research Facility, Sesoko, Okinawa, Japan.

From evidence to policy: developing biodiversity indicators for marine conservation, University of Tsukuba Shimoda Marine Research Centre, Shimoda, Japan.

Plankton in policy: How do the smallest creatures help us protect our seas?, Hong Kong University Biological Sciences Seminar Series, Hong Kong University, Hong Kong.

2016

From evidence to policy: developing biodiversity indicators for marine policy, Japan Agency for Marine-Earth Science and Technology (JAMSTEC) seminar series, JAMSTEC, Yokohama, Japan.

From data to decisions: creating impact through policy, Plymouth University Research Impact Conference, Plymouth, University, Plymouth, UK.

From evidence to policy: developing biodiversity indicators for the MSFD, PML Invited Speakers Seminar Series, Plymouth,

From evidence to policy: developing biodiversity indicators for the MSFD, Interdisciplinary Centre for Conservation Science, Oxford University, Oxford, UK.

From evidence to policy: developing biodiversity indicators for the MSFD, UNEP World Conservation Monitoring Centre, Cambridge, UK.

2015

Challenges for developing policy indicators in a climate of macroecological change, University of Queensland, Australia. Challenges for developing policy indicators in a climate of macroecological change, Central Queensland University, Australia.

From data to decisions, using NERC science in policy, NERC Knowledge Exchange Network Conference, Leicester, UK. The benefits of crossing the science-policy interface, NERC Fellows Conference, Birmingham, UK, 2015.

Update on SW plankton, South West Marine Ecosystems, Plymouth, UK.

2014

The role of plankton time-series in managing our seas in a climate of macroecological change, Swire Institute for Marine Science Hong Kong University, Hong Kong.

Understanding large-scale change: Insights from the Continuous Plankton Recorder time-series, Japan Agency for Marine-Earth Science and Technology (JAMSTEC) seminar series, JAMSTEC, Yokohama, Japan.

Understanding large-scale change: Insights from the Continuous Plankton Recorder time-series, Fisheries Research Agency of Japan seminar series, Fisheries Research Agency, Yokohama, Japan.

Challenges for managing our seas in a climate of macroecological change, Marine Biology and Ecology Invited Seminar Series, Plymouth University, UK.

2013

Phytoplankton response to global change, Coastal and Estuarine Research Foundation Biennial Conference: Toward Resilient Coasts & Estuaries, Science for Sustainable Solutions, San Diego, CA, USA.

Informing policy in the SW: the Marine Strategy Framework Directive (MSFD), Natural England Marine Conference, Plymouth, UK.

Challenges for implementing the MSFD in a climate of macroecological change, Plymouth University Marine and Coastal Policy Research Group Invited Speakers Seminar Series, Plymouth, UK.

Global Patterns of Phytoplankton Dynamics in Coastal Ecosystems, Plymouth Celebrates SCOR, Plymouth, UK.

Informing policy in the SW: links to pelagic habitats in the Marine Strategy Framework Directive (MSFD), Southwest

Marine Ecosystems, Plymouth, UK.

2012

Challenges for managing our seas in a climate of macroecological change, University of Sheffield Dept. of Animal and Plant Sciences Invited Speakers Seminar Series, Sheffield, UK.

Challenges for managing our seas in a climate of macroecological change, NOC Invited Speakers Seminar Series, Southampton, UK.

Challenges for managing our seas in a climate of macroecological change, PML Invited Speakers Seminar Series, Plymouth, UK.

Why is it so hard to set MSFD targets?, EU Marine Observation and Data Expert Group - 16th meeting, Brussels, Belgium.

2011

Plankton Response to Global Change, Oceans 2025: Science of the Blue Planet, London, UK.

Biological indicators across heterogenous datasets, EU Marine Observation and Data Expert Group - 10th meeting, Brussels, Belgium.

Oral presentations:

2023

Do your bit: Switch out natural reefs for artificial reefs to compensate the environmental impacts of dive tourism, International Temperate Reefs Symposium, Hobart, Tasmania, Australia.

Marine Research Plymouth – Plankton: Assessing the state of plankton biodiversity in the Northeast Atlantic using sustained ocean datasets, Marine Research Plymouth - Time-Series, Plymouth, UK.

2021

Assessing the state of marine biodiversity in the Northeast Atlantic, Estuarine, Coastal, and Shelf Seas Association 59: Using the best scientific knowledge for the sustainable management of estuaries and coastal seas, San Sebastian, Spain.

2020

Biodiversity in a shifting sea: challenges and solutions for working across the science-policy interface, International Marine Conservation Congress, Kiel, Germany.

2019

Biodiversity in a shifting sea: challenges and solutions for working across the science-policy interface, Species on the Move, Kruger National Park, South Africa.

2018

From evidence to policy: developing pelagic biodiversity indicators for marine conservation, International Marine Conservation Congress: Making marine science matter, Kuching, Malaysia.

From evidence to action: challenges and solutions for working across the science-policy interface, PICES: Toward integrated understanding of ecosystem variability in the North Pacific, Yokohama, Japan.

Plankton lifeforms as regional pelagic biodiversity indicators for ecosystem-based management, PICES: Toward integrated understanding of ecosystem variability in the North Pacific, Yokohama, Japan.

2017

Developing pelagic indicators for ecosystem-based management from multiple monitoring surveys, ICES Annual Science Conference, Fort Lauderdale, FL, USA.

Collaboration is the key to success: developing pelagic habitat indicators by working across the science-policy interface, ICES Annual Science Conference, Fort Lauderdale, FL, USA.

2016

From evidence to policy: developing biodiversity indicators for the MSFD, Challenger Conference for Marine Science - Oceans and Climate, Liverpool, UK.

From evidence to policy: developing biodiversity indicators for the MSFD, ICES Annual Science Conference, Riga, Latvia. Enhancing Student Learning and Participation Interactively through the use of Clickers in Science and Engineering, at VC's Teaching and Learning Conference, Plymouth University, Plymouth, UK.

2015

Challenges for developing pelagic indicators and setting meaningful targets in a climate of ecological change, ICES Annual Science Conference, Copenhagen.

2014

Challenges for developing policy indicators against a background of macroecological change, Promoting Effective Governance of the Channel Ecosystem, Caen, France.

Challenges for developing policy indicators in a climate of macroecological change, 2nd Marine and Coastal Policy Forum, Plymouth University, UK.

Informing policy in the Western Channel: links to pelagic habitats in the Marine Strategy Framework Directive (MSFD), Marinexus final conference, Plymouth, UK.

2013

Good Environmental Status and the plankton: combining disparate datasets to assess pelagic habitats at national and regional scales, ICES Annual Science Conference, Reykjavik, Iceland.

2012

Why is it so hard to set MSFD indicators and targets? Messages from the plankton, Challenger Conference for Marine Science: Ocean Challenges in the 1st Century, Norwich, UK.

Plankton response to global change: Is the SW UK representative?, Southwest Marine Ecosystems, Plymouth, UK. Challenges for managing our seas in a climate of macroecological change, Marine Strategy 2012, Copenhagen, Denmark. **2010**

Black Sea Phytoplankton, SCOR 137 - Global Patterns of Phytoplankton Dynamics in Coastal Ecosystems: Comparative Analysis of Time-Series Observations Working Group Workshop, Hangzhou, China.

The Continuous Plankton Recorder, SCOR 137 - Global Patterns of Phytoplankton Dynamics in Coastal Ecosystems: Comparative Analysis of Time-Series Observations Working Group Workshop, Hangzhou, China.

2009

How well do ecosystem indicators communicate the effects of eutrophication?, ASLO Aquatic Sciences Conference, Nice, France.

How well do ecosystem indicators communicate the effects of eutrophication?, PMSP Symposium: Marine Science for a Changing World, Plymouth, UK.

Changes in the Northwest Atlantic phytoplankton community, GLOBEC 3rd Open Science Meeting, Victoria, Canada. Non-linear effects of climate on Black Sea phytoplankton phenology, GLOBEC 3rd Open Science Meeting Victoria, Canada.

2008

Climate exacerbates eutrophication in North Sea, ASLO Ocean Sciences Conference, Orlando, FL, USA.

2007

Climate exacerbates eutrophication in North Sea, Marine Institute Conference - Understanding Marine Systems, Plymouth, UK.

2006

A long-term chlorophyll dataset reveals regime shift in North Sea phytoplankton biomass unconnected to increasing nutrient levels, Marine Biological Association Postgraduate Workshop, Dublin, Ireland.

A long-term chlorophyll dataset reveals regime shift in North Sea phytoplankton biomass unconnected to increasing nutrient levels, Biological Sciences Synergy Conference, University of Plymouth, UK.

Posters:

Plankton on the move: implications for global biodiversity goals, Species on the Move, Kruger National Park, South Africa, 2019. Developing pelagic biodiversity indicators for ecosystem-based management, Effects of Climate Change on the World Ocean. PICES/ICES, Washington, D.C., USA, 2018.

What value does taxonomy have in modern science and policy?, Promoting Effective Governance of the Channel Ecosystem, Caen, France, 2014.

Why is it so hard to set MSFD indicators and targets? Messages from the plankton, Challenger Conference for Marine Science: Ocean Challenges in the 1st Century, Norwich, UK, 2012.

How well do ecosystem indicators communicate the effects of anthropogenic eutrophication?, How can we manage our seas in the real world? Organized by Plymouth Marine Sciences Partnership in collaboration with the Marine Management Organisation, Plymouth, UK, 2011.

How well do ecosystem indicators communicate the effects of anthropogenic eutrophication?, Plankton 2011: Biodiversity and Global Change, Plymouth, UK, 2011.

How well do ecosystem indicators communicate the effects of anthropogenic eutrophication?, Oceans 2025 Science meeting, Plymouth, UK, 2010.

Climate exacerbates eutrophication in North Sea, Change in Aquatic Ecosystems Conference, Plymouth, UK, 2007.

Climate exacerbates eutrophication in North Sea, FP6 European Lifestyles and Marine Ecosystems (ELME) Results Workshop, European Commission, Committee of the Regions, Brussels, Belgium, 2007.

Climate exacerbates eutrophication in North Sea, Parliamentary Select Committee Inquiry into Science and Technology launch event, Marine Biological Association of the UK, Plymouth, UK, 2007.

Climate exacerbates eutrophication in North Sea, Vice Chancellor's Research and Innovation Conference, University of Plymouth, UK, 2007.

Public lectures:

The UK's first National Marine Park: An opportunity for Plymouth, Plymouth Mayflower Rotary Club, Virtual.

Using biodiversity indicators to meet marine conservation objectives, Co-Coast Wine and Science, Marine Biological Association, Plymouth, UK, 2019.

Plankton in parliament: How do the smallest creatures help us protect our seas?, Public lecture at Capturing Our Coast Wine and Science Night, Plymouth, UK, 2016.

Plankton in parliament: How do the smallest creatures help us protect our seas?, Public lecture at National Science and Engineering Week, Plymouth, UK, 2014.

APPENDIX 5: MEDIA ENGAGEMENTS

2023

- "Why are we seeing more jellyfish in British waters and should we be worried?", ITV News, November 2023.
- "Boom in unusual jellyfish spotted in UK waters", BBC News, November 2023.
- "Increase in jellyfish in UK waters", November 2023.
 - o BBC Radio 4
 - BBC Radio Devon
 - o BBC Radio London
 - BBC Radio Cambs
 - o BBC Radio Humberside
 - o BBC Radio Hereford & Worcester
 - o LBC
 - o LBC News
- BBC Radio 4: "In Our Time: Plankton" with Melvyn Bragg, BBC Radio 4, October 2023
- "Five jellyfish species you may encounter more often in UK's warming seas", The Conversation, September 2023
- Marine Conservation Happy Hour 462: Winter holiday traditions
- Marine Conservation Happy Hour 463: Saucy scientific names
- Marine Conservation Happy Hour 464: Marine Conservation New Year resolutions
- "Six decades of plankton decline sparks call to protect the foundation of the marine food web", Sept 2023
 - o https://phys.org/news/2023-09-decades-plankton-decline-foundation-marine.html

• TEDx talk: The Breath-Giving Beauty of Bioluminescence

- "Jellyfish alert: increased sightings signal dramatic changes in ocean food web due to climate change", The Conversation, August 2022
- Factcheck: Atlantic Ocean has not lost 90% of plankton
 - https://today.rtl.lu/news/fact-check/a/1949415.html
 - o https://factcheck.afp.com/doc.afp.com.32FN86H
- Marine Conservation Happy Hour 465: Quiz- Ocean science
- Marine Conservation Happy Hour 466: Plankton wiped out in the North Atlantic? Is that right?

2021

- Marine Conservation Happy Hour YouTube: Why you should fear the plankton
- Marine Conservation Happy Hour YouTube Short: Fear the plankton!
- "Inside the world of tiny phytoplankton microscopic algae that provide most of our oxygen", The Conversation, April 2021
 - "Drifting into trouble? The tiny ocean creatures with a global impact", Oct 2021
 - o https://jen.jiji.com/jc/i afp?k=20211105042238a
 - https://www.france24.com/en/live-news/20211026-drifting-into-trouble-the-tiny-ocean-creatures-witha-global-impact
 - o https://www.japantimes.co.jp/news/2021/10/25/world/plankton-oceans-climate-change/
 - o https://www.theaustralian.com.au/news/latest-news/drifting-into-trouble-the-tiny-ocean-creatures-with-a-global-impact/news-story/eb791268ab965c1f5e07e1f376eb330f
 - https://www.bangkokpost.com/world/2203759/drifting-into-trouble-tiny-ocean-creatures-with-a-global-impact

- "Innovative plankton monitoring tool holds key to assessing health of ocean life"
 - https://phys.org/news/2021-12-plankton-tool-key-health-ocean.html
 - o https://www.miragenews.com/innovative-plankton-monitoring-tool-holds-key-688984/
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- Invited guest blogger (*Plankton and Policy*) for *Research in Action*. University of Miami Rosenstiel School of Marine and Atmospheric Science.
 - Research featured in New Scientist magazine
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- Interview by Louie Psihoyos, director, for his documentary film *Racing Extinction*.