

## Declaration of support

# Scientists call for the prohibition of all destructive fishing methods and industrial activities in Marine Protected Areas

12 September 2022

Marine protected areas (MPAs) with high levels of protection have proven the most effective mechanism to restore marine life and all the benefits it provides to humanity, from food security to carbon sequestration, jobs and economic gains.<sup>1,2</sup> However, EU waters, especially around continental Europe, are in a dismal state of conservation, with only 31% of the stocks studied in the Northeast Atlantic considered in a good state in 2020, while most are not even assessed.<sup>3</sup> The EU currently has less than 1% of true MPAs,<sup>4</sup> meaning that over 99% of continental EU waters fail to be adequately protected from high-impact activities such as industrial extractions or bottom trawling. As a result, the abundance of marine life inside many EU MPAs is lower than in unprotected areas nearby,<sup>5</sup> which undermines any conservation goal. As they stand, EU MPAs fail to provide conservation benefits. If the EU aims at restoring marine life as part of its Biodiversity Strategy for 2030 and intends to use MPAs as a tool to help replenish depleted fisheries, it must immediately prohibit bottom trawling and other industrial activities within its MPAs.

### The facts

#### The impacts of bottom trawling

- The strongest and most widespread disturbance of marine ecosystems is caused by bottom trawling, considered as the most destructive<sup>6</sup> and fuel-intensive fishing practice,<sup>7</sup> which has been compared to forest clear-cutting.<sup>8</sup> Bottom-trawling kills one million tons of organisms as bycatch every year, accounting for 93% of EU discards.
- Bottom-trawling disturbs the carbon stored on the seafloor and contributes to significant CO<sub>2</sub> emissions, exacerbating global warming.<sup>2</sup>
- As of today, bottom trawling is conducted in 59% of the EU's so-called 'MPAs', ironically depleting vulnerable species within their boundaries even faster than in nearby unprotected areas.<sup>5</sup> Allowing bottom trawling and other industrial extractive activities undermines conservation goals and depletes the natural capital that MPAs are supposed to grow.

#### The benefits of highly/fully protected MPAs

- MPAs that ban fishing restore marine life within their boundaries, with 6-fold increases in fish biomass and 20% increases in diversity.<sup>2,9</sup>
- Once predator abundance recovers sufficiently, no-take MPAs can trigger indirect effects that restore the structure and complexity of the ecosystem as it was before overexploitation.<sup>10,11</sup>

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<sup>1</sup> Grorud-Colvert *et al.* (2021) [The MPA Guide: a framework to achieve global goals for the ocean.](#)

<sup>2</sup> Sala *et al.* (2021) [Protecting the global ocean for biodiversity, food and climate.](#)

<sup>3</sup> Gascuel (2022) [Bilan 2022 de l'état des stocks halieutiques en Europe : la surpêche recule, mais reste forte.](#)

<sup>4</sup> European Environment Agency (2020) [Marine Messages II — Navigating the course towards clean, healthy and productive seas through implementation of an ecosystem-based approach.](#)

<sup>5</sup> Dureuil *et al.* (2018) [Elevated trawling inside protected areas undermines conservation outcomes in a global fishing hot spot.](#)

<sup>6</sup> Chuenpagdee *et al.* (2003) [Shifting gears: assessing collateral impacts of fishing methods in US waters.](#)

<sup>7</sup> Sala *et al.* (2022) [Energy audit and carbon footprint in trawl fisheries.](#)

<sup>8</sup> Watling and Norse (1998) [Disturbance of the seabed by mobile fishing gear: a comparison to forest clearcutting.](#)

<sup>9</sup> Lester *et al.* (2009) [Biological effects within no-take marine reserves: a global synthesis.](#)

<sup>10</sup> Guidetti (2006) [Marine reserves reestablish lost predatory interactions and cause community changes in rocky reefs.](#)

<sup>11</sup> Shears and Babcock (2002) [Marine reserves demonstrate top-down control of community structure on temperate reefs.](#)

- No-take MPAs can increase adjacent fishery catches, ensure the sustainability and increase the long-term profitability of local fisheries.<sup>12,13,14,15</sup>
- Every Euro invested in a highly protected MPA generates at least 10 Euros in economic output,<sup>16</sup> in some cases exceeding the economic revenue of fishing 25-fold.<sup>17,18</sup> However, MPAs that allow commercial fishing typically do not provide more social or economic benefits than unprotected areas.<sup>19,20,21</sup>

### The opportunity for the European Union

Governing over the world's largest maritime zone, the EU is in a unique position to lead the way by banning bottom trawling from its network of supposedly 'protected' areas. The IUCN provides a clear definition of the activities, which should be prohibited within MPAs in order to qualify as 'MPAs': "*Any industrial activities and infrastructural developments (e.g. mining, industrial fishing, oil and gas extraction) are not compatible with MPAs and should be excluded from such areas if they are to be considered as MPAs.*"<sup>22</sup>

It is important to note that, to achieve the greatest ecological and economic benefits, the bottom-trawling fishing effort currently occurring in MPAs should not be relocated elsewhere. This would reduce CO<sub>2</sub> emissions from bottom trawling,<sup>2</sup> and net benefits from restored ecosystem services would start to occur as soon as four years after the bottom trawling ban.<sup>23</sup>

The transition to low-impact fisheries, and the protection of 30% of the EU's EEZ in MPAs by 2030 (including 10% in strictly protected (no-take) zones, which is a key mandate of the EU's Biodiversity Strategy), would help restore European marine biodiversity, replenish depleted European fisheries, resuscitate exhausted small-scale coastal fisheries and the livelihoods they support, and be easily financed by redirecting EU's harmful fisheries subsidies.

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<sup>12</sup> Goñi *et al.* (2011) in [Marine Protected Areas: A multidisciplinary approach](#) (ed. J. Claudet).

<sup>13</sup> Goñi *et al.* (2010) [Net contribution of spillover from a marine reserve to fishery catches.](#)

<sup>14</sup> Harrison *et al.* (2012) [Larval export from marine reserves and the recruitment benefit for fish and fisheries.](#)

<sup>15</sup> Lynham *et al.* (2020) [Impact of two of the world's largest protected areas on longline fishery catch rates.](#)

<sup>16</sup> Duarte *et al.* (2020) [Rebuilding marine life.](#)

<sup>17</sup> Sala *et al.* (2016) [Fish banks: An economic model to scale marine conservation.](#)

<sup>18</sup> Sala *et al.* (2013) [A general business model for marine reserves.](#)

<sup>19</sup> Aburto-Oropeza *et al.* (2011) [Large recovery of fish biomass in a no-take marine reserve.](#)

<sup>20</sup> Rife *et al.* (2013) [Long-term effectiveness of a multi-use marine protected area on reef fish assemblages and fisheries landings.](#)

<sup>21</sup> Turnbull *et al.* (2021) [Evaluating the social and ecological effectiveness of partially protected marine areas.](#)

<sup>22</sup> Day *et al.* (2012) [Guidelines for applying the IUCN Protected Area Management Categories to Marine Protected Areas.](#)

<sup>23</sup> Davies *et al.* (2021) [Valuing the impact of a potential ban on bottom contact fishing in EU Marine Protected Areas.](#)

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- 242 BELAY, Kibrewosen (University of Gondar, Lecturer - Ethiopia)
- 243 SANABRIA, Miguel (Thames21, River restoration officer - UK)
- 244 LUNDAHL KALISZ, Juan (Water Science Policy, Social Media Manager - Germany)
- 245 SANDOVAL, Angel (Inter-American Institute for Cooperation on Agriculture, Consultant - Ecuador)
- 246 GOODELL, Whitney (National Geographic Society, Marine Ecologist - USA)
- 247 GOLONGA DOMO, Ngai (IMI, Water and sanitation Engineer - Chad)
- 248 HERNANDEZ, Noelia (Vellmari, Marine Conservation Director - Spain)
- 249 IMRAN, Muhammad (Hazara University Mansehra, Assistant Professor - Pakistan)
- 250 ZENG, Yuhan (KIT, China - Germany)
- 251 TEJEDOR, Alberto (Diving Menorca, Scuba Instructor - Spain)



- 252 DUQUE, Natalia (Eawag, Researcher - Switzerland)
- 253 VIGONDO, Beatriz (Universidad Autónoma de Madrid, PhD - Spain)
- 254 CHEN, Wei Jen (National Taiwan University, Professor - Taiwan)
- 255 LOBRY, Jérémy (INRAE, Directeur de Recherches/Senior Scientist - France)
- 256 CASTRO CADENAS, María Dolores (ICM-CSIC, PhD candidate - Spain)
- 257 BIERNE, Nicolas (CNRS Montpellier, Director of Research - France)
- 258 BONNICI, Iago (ISEM, CNRS, Research Engineer - France)
- 259 GUINAND, Bruno (Institut des Sciences de l'Evolution de Montpellier (ISEM), Université de Montpellier, Associate Professor - France)
- 260 MEYER, Laura (University of Montpellier, PhD student - France)
- 261 MOLODTSOVA, Tina (P.P.Shirshov Institute of Oceanology RAS, Leading researcher - Russia)
- 262 DESTEFANI, Arianna (Ghent university, M.Sc. student - Belgium)
- 263 CERQUEIRA, Frédérique (CNRS, Assistant ingénieur - France)
- 264 NEO, Hsueh Yen (Water Science Policy, Software Developer - Germany)
- 265 JENOUVRIER, Stephanie (WHOI, marine ecologist - USA)
- 266 SUN, Ruijiao (Woods Hole Oceanographic Institution, Student - USA)
- 267 VENTURA, Francesco (Faculty of Sciences, University of Lisbon, PhD, researcher at University of Lisbon - Portugal)
- 268 CORON, Mathilde (Master in marine environment, Student - Spain)
- 269 MIÑARRO, Sara (Autonomous University of Barcelona, Independent researcher - Spain)
- 270 ISAIAS, Evagoras A (Institute of Oceanography and Applied Geophysics- OGS Trieste, biologist - oceanographer - Italy)
- 271 PUERTA, Patricia (Save The Med Foundation, Researcher - Spain)
- 272 LA BIANCA, Giulia (University of Plymouth, PhD student - UK)
- 273 MACHERIOTOU, Lara (Ghent University, Post-doctoral researcher - Belgium)
- 274 TAMBURINI, Christian (CNRS, Director of research - France)
- 275 LEBLANC, Karine (MIO CNRS, Oceanographer - France)
- 276 FÖLSTER, Anne-Sophie (BremenZero, Member - Germany)
- 277 BOUDOURESQUE, Charles-François (Mediterranean Institute of Oceanography (MIO), Aix-Marseille University, Professor emeritus - France)
- 278 FILELLA, Alba (Mediterranean Institute of Oceanography, PHD STUDENT - France)
- 279 OURGAUD, Melanie (CNRS, PostDoctoral Researcher - France)
- 280 ESCAÑO ROEPSTORFF, José (Cleanwave Foundation, Coordinator - Spain)
- 281 FONVIEILLE, Nadege (Mediterranean Institute of Oceanography (MIO), PhD Student - France)
- 282 QUÉGUINER, Bernard (Public University of France, Retired professor of Oceanography - France)
- 283 IZARD, Lloyd (Sorbonne University, CNRS, IRD, MNHN, Oceanography and Climate Laboratory: Experiments and Numerical Approaches (LOCEAN-IPSL), PhD Student - France)
- 284 VOGT, Linus (LOCEAN, IPSL, Sorbonne Université, PhD student - France)
- 285 CHABERT, Pierre (LOCEAN-IPSL, PhD student - France)
- 286 MOUTIN, Thierry (MIO Aix-Marseille University, Professor - France)
- 287 MATTHEWS, Katie (Oceana, Chief Scientist - USA)
- 288 GOMIS, Melissa (Université Paris Saclay, Environmental scientist - France)
- 289 ETIENNE, Pauthenet (LOPS / IFREMER, Postdoctoral researcher - France)
- 290 SPIEGEL, Timo (GEOMAR Helmholtz Zentrum für Ozeanforschung Kiel, Doctoral candidate - Germany)
- 291 WALLMANN, Klaus (GEOMAR, Professor at Kiel University and head of research unit Marine Geosystems at GEOMAR - Germany)
- 292 AUGER, Matthis (Sorbonne Université, PostDoc - France)

- 293 ROLLAND, Robin (Sorbonne Université/LOCEAN, PhD - France)
- 294 AKHOUDAS, Camille (Stockholm University, Postdoc - Sweden)
- 295 CHAMPION, Giulia (The University of Warwick, Research Assistant - UK)
- 296 KEOGH, Poppy (DFO, Aquatic Science Technician - Canada)
- 297 GOERRES, Matthias (BUND / Friends of the Earth Germany, Spokesperson for Marine Conservation - Germany)
- 298 NAUEN, Cornelia (Mundus maris - Sciences and Arts for Sustainability asbl, President - Belgium)
- 299 NOREN, Michael (Swedish Museum of Natural History, Curator - Sweden)
- 300 WILLIAMS, Stella (Obafemi Awolowo University, Vice President - Nigeria)
- 301 DR. ZIEGLER, Iris M. (Sharkproject International, Head International Cooperation - Switzerland)
- 302 VERMILYE, Antoinette (Gallifrey Foundation, co-founder - Switzerland)
- 303 LANCELOT, Christiane (ULB, Emeritus - Belgium)
- 304 REIS, Fernando (Sharks Educational Institute Portugal, President - Portugal)
- 305 BANARU, Daniela (MIO / Aix-Marseille University, Assistant Professor / MCF HDR - France)
- 306 ESCOBAR, Elva (UNAM ICML, Prof - Mexico)
- 307 PLATT-TILL, Verena (Society for Dolphin Conservation, Projectlead - Germany)
- 308 ORAL, Munevver (Faculty of Fisheries and Aquatic Science, Research fellow - Turkey)
- 309 KAYA, Cüneyt (Recep Tayyip Erdogan University, Assoc. Prof. Dr. - Türkiye)
- 310 ARANDA BARRANCO, Sergio (University of Granada, PhD Student - Spain)
- 311 ALVAREZ-MANZANEDA SALCEDO, Maria Inmaculada (Queen's University, Postdoctoral fellow - Canada)
- 312 PATON, Julia (Queen's University, MSc - Canada)
- 313 KANE, Zoe (Queen's, Grad Student - Canada)
- 314 SAM, Yasmine (Queen's University, Biology Masters Student - Canada)
- 315 AMORÓS, Lot (University of Granada, Researcher - Spain)
- 316 SMOL, John (Queen's University, Professor - Canada)
- 317 PEREZ MARTINEZ, Carmen (university of granada, professor - Spain)
- 318 FERNANDEZ, Alejandra (Universidad de Granada, researcher - Spain)
- 319 BONIZZONI, Silvia (Dolphin Biology and Conservation, Executive director - Italy)
- 320 MARTÍNEZ-LÓPEZ, Javier (University of Granada - Ecology Department, Postdoctoral researcher - Spain)
- 321 ISAIAS, Evagoras A. (National Institute of Oceanography and Applied Geophysics - OGS, University of Trieste - UniTS, Sustainable Blue Economy Expert, Researcher, biologist - oceanographer - Italy)
- 322 FÖLSTER, Anne (BremenZero, Environmental Engineer - Germany)
- 323 GONÇALVES, Rodrigo J. (University of Granada, Postdoctoral Researcher - Spain)