

# European Commission stakeholder consultation on seabed mining

Fields marked with \* are mandatory.

## Identification

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Are you answering this questionnaire on behalf of an organisation or as an individual?\*

on behalf of an organisation  as an individual

Your name.\*

*Text of 3 to 100 characters will be accepted*

This will not be published.

Bruna Campos

Contact e-mail.\*

*Text of 4 to 100 characters will be accepted*

This will not be published and will only be used to verify with you that your views are correctly represented in the published results.

bruna.campos@birdlife.org

What is the name of the organisation?\*

*Text of 2 to 300 characters will be accepted*

BirdLife Europe

Is your organisation listed in the EU's [Transparency Register](#)?\*

yes  no  do not know

What is the identification number (optional) ?

*Text of 1 to 20 characters will be accepted*

1083162721-43

What type of organisation is it? If the main activity is research, please indicate "research" whether you are a public or private body. National geological surveys should be indicated as "research".\*

- public authority    private    research    civil society

civil society - please specify\*

- organisation primarily concerned with environmental issues    organisation primarily concerned with human rights issues  
 private person    other

Where are you based?\*

- |                                |  |                                |                                      |                                 |                                      |
|--------------------------------|--|--------------------------------|--------------------------------------|---------------------------------|--------------------------------------|
| <input type="radio"/> Austria  | <input checked="" type="radio"/> Belgium | <input type="radio"/> Bulgaria | <input type="radio"/> Croatia        | <input type="radio"/> Cyprus    | <input type="radio"/> Czech Republic |
| <input type="radio"/> Denmark  | <input type="radio"/> Estonia            | <input type="radio"/> Finland  | <input type="radio"/> France         | <input type="radio"/> Germany   | <input type="radio"/> Greece         |
| <input type="radio"/> Hungary  | <input type="radio"/> Ireland            | <input type="radio"/> Italy    | <input type="radio"/> Latvia         | <input type="radio"/> Lithuania | <input type="radio"/> Luxembourg     |
| <input type="radio"/> Malta    | <input type="radio"/> Netherlands        | <input type="radio"/> Poland   | <input type="radio"/> Portugal       | <input type="radio"/> Romania   | <input type="radio"/> Slovakia       |
| <input type="radio"/> Slovenia | <input type="radio"/> Spain              | <input type="radio"/> Sweden   | <input type="radio"/> United Kingdom | <input type="radio"/> OTHER     |                                      |

What is your main interest? You may tick more than one box.\*

*between 1 and 8 choices*

- |   |                                       |  |   |
|---|---------------------------------------|--|---|
| <input type="checkbox"/> surveying and prospecting                      | <input type="checkbox"/> extraction   | <input type="checkbox"/> processing                      | <input type="checkbox"/> equipment manufacture      |
| <input type="checkbox"/> shipbuilding (vessels and offshore structures) | <input type="checkbox"/> legal issues | <input checked="" type="checkbox"/> environmental impact | <input type="checkbox"/> impact on other industries |

please explain your interest further (optional)

BirdLife Europe also sees an interest in increasing EU recycling processes to minimise the unsustainable extraction of raw materials

## Aggregate Extraction

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The sea provides a significant proportion of some countries' sand and gravel requirements for construction or beach nourishment.

Do you wish to answer questions on this?

\*

Yes, I would like to answer questions on this issue

No, I will pass to the next section

Is this a useful way of maintaining an adequate supply of material for construction and beach nourishment

\*

we would not manage without it

we believe it is or could be a useful addition to land-based sources

we do not need it

please explain (optional)

The question has been poorly formulated as it assumes that construction and beach nourishment are priority activities needed across the whole EU. However, these activities are decided on a case by case basis as a response to a problem (e.g. beach nourishment for coastal erosion) or for a needed development (i.e. construction). Nevertheless, both of these sectors have had tremendous impact on the environment and public health and maintaining a constant supply of raw material to continue these activities is questionable in itself. For example:

- o Changes in land use, the use of energy resources and its associated carbon emissions, the degradation and fragmentation of habitats resulting from certain constructions and the generation of waste and pollution are just a few of the impacts caused by the construction industry. [1]
- o Beach nourishment has been used most often as a response to coastal erosion. However, whole biological communities are lost in beach nourishment operations through burying of bottom habitats, production of plumes of suspended material, changes in the bathymetry of nearby areas and variations in the action of the waves. The mechanical shifting of sand has been shown to have detrimental effects in areas adjacent to those nourished beaches. Removing aggregate material from sites disrupts biological communities, not only in the original area but also at the site where the material is transposed. Therefore this question does not tackle the main problem: how to make use of the limited amount of seabed mined material sustainably, as means of supporting activities that have limited environmental impact. BirdLife therefore believes that the question should focus on the potential for seabed aggregates material to come from sustainable sources of fresh material and to maximise recycling of demolition as means of sustaining a supply of materials for certain activities that have limited impact on the environment (including when appropriate construction and beach nourishment).
- o On average 46% of construction material is recycled and re-used in Europe, whereas, more than 90% has the potential to be recycled with current technology. [2]

The potential to recycle construction materials comes from recovering and separating of which the rubble can be crushed and reused for new construction projects.

- o Beach nourishment is a response to coastal erosion and as a result of sea level rise. Beach nourishment can often not be the ideal solution. Nourished beaches have finer grains that erode quicker than the original coast, while mining for sands in nearby areas only worsen the problem and offer a fleeting solution. In fact, when coastal erosion occurs near sand mining sites, the best mitigation strategy has been to stop the mining. Most often, coastal erosion is best stopped through natural vegetation and non-structural strategies such as avoiding coastal development, land-use restriction and zoning. Nevertheless, the development of methods to recycle sand will become increasingly important to cover the needs of the European coast. For example, studies suggest that recycled (silica) glass cullet can be used as a substitute for natural beach sand as a new and innovative method for dune protection. [3]

[1] Sev, A. (2009), How can the construction industry contribute to sustainable development? A conceptual framework. *Sust. Dev.*, 17: 161–173. doi: 10.1002/sd.373 [2] [http://ec.europa.eu/environment/waste/pdf/2011\\_CDW\\_Report.pdf](http://ec.europa.eu/environment/waste/pdf/2011_CDW_Report.pdf) [3] Makowski, C.; Finkl, C.W., and Rusenko, K., 2013. Suitability of recycled glass cullet as artificial dune fill along coastal environments. *Journal of Coastal Research*, 29(4), 772–782. Coconut Creek (Florida), ISSN 0749-0208.

What is your involvement\*

- |   |   |
|---|---|
| <input type="radio"/> not involved                    | <input checked="" type="radio"/> already involved                                     |
| <input type="radio"/> expect to be involved in future | <input type="radio"/> would be involved if legislative framework were more favourable |

please provide more details (optional)

BirdLife Europe is a Partnership of 49 national conservation organisations and one of six regional secretariats that compose BirdLife International. Our Partners are present in 48 European and Central Asian countries including all EU Member States. We not only own or manage over 6.000 nature sites covering over 320.000 hectares, but we also work with companies such as CEMEX and Heidelberg Cement (and their national representatives) to limit the impact they might have when carrying out aggregate extraction activities as well as restoring sites.

What (if anything) is limiting the economic potential of this activity?

	significant	relevant	minor	no opinion
limited access to finance*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
inadequate port facilities*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
over-stringent licensing conditions *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
lengthy, unclear or bureaucratic licensing conditions - independent of whether they are too stringent, is their implementation over-bureaucratic?*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
volatility of prices*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
shortage of skilled labour*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
shortage of suitable sites*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
technology shortcomings*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
local opposition*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
lack of knowledge of whereabouts of deposits*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
taxation*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
competition with other users for resources (eg fisheries)*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

please explain your answer or indicate another factor (optional)

The EU has set a resource efficiency flagship initiative to move EU policies and the EU to be environmentally sustainable. [1] Nevertheless, the question fails to focus on the environmental limitations and the sustainability of the economy on finite and limited resources. More importantly, the question does not foresee the economic potential of aggregate recycling. Furthermore, the economic interest of aggregate extraction, as proposed in this question, fails to grasp the economics of the environment and more specific of biodiversity (i.e. ecological economics). This failure not only does not account for the costs of the environmental impact of aggregate extraction, but it also does not account of the economic benefits of the services these ecosystems provide. For example, the economic value of sustaining marine ecosystems in the Mediterranean is estimated to be around 26 million euros. [2] [1]  
[http://ec.europa.eu/resource-efficient-europe/pdf/resource\\_efficient\\_europe\\_en.pdf](http://ec.europa.eu/resource-efficient-europe/pdf/resource_efficient_europe_en.pdf) [2]  
[http://planbleu.org/sites/default/files/publications/cahier8\\_marin\\_en.pdf](http://planbleu.org/sites/default/files/publications/cahier8_marin_en.pdf)

The environmental impact of aggregate extraction is -

	better	the same	worse	no opinion
better or worse than fishing?*	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
better or worse than extraction on land?*	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
better or worse than oil and gas extraction*	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

please explain your answer (optional)

The question is inappropriate and poorly formulated. The environmental impact of aggregate extraction is not comparable to the impact of other sectors and these environmental impacts should not be ranked. Therefore, we believe that the environmental impacts are equally as important to tackle. Aggregate extraction can have detrimental impacts to the environment if it is not well planned and impacts mitigated. Methods most commonly practised include anchor and trailer suction hopper dredging. Aggregate extraction can lead to the destruction of the seabed fauna, alteration to the substratum, uneven bottom profile, and reduced current strength. Fisheries activities may be seriously threatened when dredging activities coincide with spawning grounds. Also re-deposition of fines from the plumes, which may extend beyond the actual dredging area, may smother eggs laid on the bottom. More importantly, the cumulative impacts on the environment can occur as a result of aggregate extraction at a single site, from multiple sites in close proximity, or in combination with effects from other activities such as fishing, waste disposal, dredging, coastal defences, anchoring or installation of offshore structures.

What EU action would be helpful?

	priority	useful	not useful	no opinion
research on environmental impact*	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
research on technology*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
promoting freely accessible seabed maps together with information on geology, ecosystems and habitats *	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
promote exchange of good practice*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
develop code of corporate responsibility*	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
facilitate mobility of labour*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
further support to initiatives such as the Extractive Industry Transparency Initiative (includes requirement for disclosure of payments to governments)*	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
strengthen EU environmental legislation such as that on environmental impact and mining waste. These are mostly applicable only for waters of EU countries.*	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

please explain your answer or indicate another area where the EU could act (optional)

Mined commodities from the seabed are finite, including aggregates such as sand, and their removal can have detrimental impacts to the ecosystems. Ensuring the sustainability of such activities requires proper implementation of legally binding EU legislation. BirdLife believes that strengthening EU legislation is fundamental to limit the impact of seabed mining. More specially, this includes o ensuring the full implementation of the Bird's and Habitat's Directives - designating marine Natura 2000 sites, establishing management plans, and setting right incentives to achieve its management. o Ensuring the full implementation of the Marine Strategy Framework Directive including through implementation of marine spatial plans through an ecosystem-based approach accounting for Natura 2000 sites and Marine Protected Areas and their interaction with other sectors It is also extremely important to undergo environmental impact assessments of projects (including cumulative impacts) and strategic environmental assessments for mineral extraction plans and spatial plans of marine areas as to identify mitigation methods. Therefore increased research and monitoring of the environmental impact of mining activities are necessary. The Habitats Directive (Article 6.3) also requires that the effects of plans and projects are assessed individually and in combination with other plans and projects. This 'combined' impact assessment is therefore a particular type of cumulative impact assessment, focusing on Natura 2000 sites and the features for which they were selected that should be carried out. Unfortunately, the proposed answers to this question lack in detail as to the type of technical or good practice it is referring to, and it is therefore subjective. Therefore, it is not possible for BirdLife to give such an opinion. Nevertheless, we believe that EU support for advancement in technology should focus on the recycling process of the commodities as to promote the resource efficiency cycle of the EU. Furthermore, we would also believe that sharing of good practice should be promoted when it refers to activities that have contributed to the implementation of EU environmental legislation. BirdLife does not also see the relevance of labour mobility to ensuring the sustainability of seabed aggregate extraction. Instead, we believe that the EU should invest in creating and maintaining jobs within the EU where they are sustainable and within those sectors that have limited impact on the environment.

## Shallow water mining of higher value commodities.

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This mostly involves dredging in water depths up to 500 metres. It includes the mining of iron sand, tin, diamonds, gold and phosphate rock.

Do you wish to answer questions on this?\*

- Yes, I would like to answer questions on this
- No, I will skip this and move to the next section

could this contribute towards a sustainable and economical supply of raw material for EU industry and agriculture?\*

- yes, otherwise we risk shortages
- it is a useful addition to land-based sources
- we do not need it

please explain (optional)

The question has been poorly formulated as it limits the economic supply for high value commodities solely on seabed mining and not on resource efficiency. Extraction of raw high value commodity material for EU Industry and agriculture have also had tremendous impact on the environment and public health and maintaining a constant supply of raw material to continue these activities is questionable in itself. Therefore, since mining operations dependent on a finite source, they can never be truly sustainable. Given the ecological impact of raw material extraction in shallow areas, alternatives such as recycling should be instead the focus of this consultation. For example, in the specific case of phosphorus: - The European Commission has already recognised four potential streams for phosphorus recycling: through manure, treatment of waste water, animal by-product waste such as bones, and recycling of food and other green waste through composting and the use of ashes. - Phosphorus is accumulating in waste streams and in the sea because it is an abundant part of intensive agriculture and domestic sewage by-products. An excess of phosphorus downstream stimulates algal growth, reducing available oxygen for the organisms living in the water column, which in turn has harmful consequences for the environment. Despite these known deleterious effects, phosphorus keeps being added in the form of mined phosphate rock, further contributing to algal blooms. These phosphate rocks are a finite non-renewable resource which could be easily replaced with the already-existing phosphate, before it gets released into the sea. - The sustainable use of phosphorus should address the problem of municipal sewage and intensive agriculture by-products, reprocessing those products as fertilizer. In Europe, half of the phosphates in sewage solids get recycled (53% of the sewage sludge). [1] There is therefore still margin for improvement in the EU. - But alternatives are not only limited to recycling of sewage sludge. For example, research has shown that composted or vermicomposted manure in alkaline soils has a lower ecological impact compared to rock phosphate fertilizers. In Sweden, projects have been trying to convert iron salts to iron sulphide through biological processes, which would allow phosphorus to be released in a soluble form. In the UK, litter from chicken farming is incinerated for energy and the ash is reused as a fertilizer. Chemical processing industries, pharmaceutical production companies and food processing plants produce waste streams that could be possible sources for recycling phosphorus. [1] EU COM (98) 775

What is your involvement?

- we are already involved
- we are still assessing the opportunities
- we would assess environmental impact
- we can see ourselves being involved in next 10 years
- we do not believe that we will be involved

please explain (optional)

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What (if anything) is driving economic interest?

	significant	relevant	not important	no opinion
advances in technology*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
limited access to raw materials from terrestrial sources*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

please explain (optional)

The question is irrelevant to assess the limitations of seabed mining and fails to grasp that seabed mining is an activity depended on resource deposits that are limited. Furthermore, advances in technology is driven by financial incentives and political direction while the limitation of raw materials are equal in terrestrial sources as it is in marine sources since both of these sources are finite.

where is your primary interest?

*at most 3 choice(s)*

waters of EU countries on European continent

waters of overseas territories of EU countries

waters of non-EU countries

Which shallow water deposits do you think will become economically interesting in the next 10 years (optional question)?

*at most 7 choice(s)*

tin

phosphates

diamonds

gold

rare earths

iron sands

other

please specify\*

No opinion

please explain (optional)

What (if anything) is limiting the economic potential of this activity?

	significant	relevant	minor	no opinion
limited access to finance*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
inadequate port facilities*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
over-stringent licensing conditions *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
lengthy, unclear or bureaucratic licensing conditions - independent of whether they are too stringent, is their implementation over-bureaucratic?*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
volatility of prices*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
shortage of skilled labour*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
shortage of suitable sites*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
technology shortcomings*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
local opposition*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
lack of knowledge of whereabouts of deposits*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
taxation*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
competition with other users for resources (eg fisheries)*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

please explain your answer or indicate another factor (optional)

The EU has set a resource efficiency flagship initiative to move EU policies and the EU to be environmentally sustainable. [1] Nevertheless, the question fails to focus on the environmental limitation and the sustainability of the economy on finite and limited resources. More importantly, the question does not foresee the economic potential of recycling of high value commodities. Furthermore, the economic interest of aggregate extraction, as proposed in this question, fails to grasp the economics of the environment and more specific of biodiversity (i.e. ecological economics). This failure not only does not account for the costs of the environmental impact of aggregate extraction, but it also does not account of the economic benefits of the services these ecosystems provide. For example, the economic value of sustaining marine ecosystems in the Mediterranean is estimated to be around 26 million euros.[2] [1] [http://ec.europa.eu/resource-efficient-europe/pdf/resource\\_efficient\\_europe\\_en.pdf](http://ec.europa.eu/resource-efficient-europe/pdf/resource_efficient_europe_en.pdf) [2] [http://planbleu.org/sites/default/files/publications/cahier8\\_marin\\_en.pdf](http://planbleu.org/sites/default/files/publications/cahier8_marin_en.pdf)

The environmental impact of shallow water mining is:

	better	worse	about the same	no opinion
better or worse than fishing*	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
better or worse than mining on land*	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
better or worse than oil and gas extraction*	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

please explain your answer (optional)

The question is inappropriate and poorly formulated. The environmental impact of shallow water mining is not comparable to the impact of other sectors and these environmental impacts should not be ranked. Therefore, we believe that the environmental impacts are equally as important to tackle. Mining of any commodity in the sea usually involves remote-controlled 'crawler' machines that travel along the seafloor while pumping sand to processing ships. Benthic habitats and species inhabiting the seabed are destroyed, killed or displaced as the resource is extracted, as the operation entails removing the entire top layer of the seabed surface. Recovery of the seabed, including regeneration of habitats, and recolonisation by the benthic community can take decades. In addition, the physical disturbance/destruction is not the only problem, as benthic biodiversity away from the 'crawlers' path will also get affected by the sediment plumes that will inevitably be formed after mining and dumping in such shallow areas. Sediment plumes issued from any underwater mining operation change light penetration in the water column, which is known to have a large detrimental impact in phytoplankton and zooplankton - the basis of the food web. Dispersal of sediment could also smother the feeding grounds of crustaceans, fish, and other marine species. The noise and light generated by mining operations could also affect marine life underwater (eg cetaceans, seals, fish), and could also disturb seabirds on the surface. The impact of shallow mining not only affects ocean conservation, but could also negatively impact the fishing industry and tourism sector. Although there is a general lack of information relating to the impacts from shallow seabed mining on the fishing industry, the environmental impacts described above could lead to localised disruption or displacement to the fishing industry- as their target species are killed or forced to disperse due to habitat destruction. One of the concerns raised by fishermen is the mobilisation of previously settled pollutants such as heavy metals. When released, these pollutants are taken up by commercial fish species, devaluating the quality of the fish and having human health implications. Furthermore, modification of the seafloor modifies waves and currents, exacerbating coastal erosion up and downstream from where the mining takes place. Coastal erosion can have detrimental effects on local tourism, making locations less desirable for tourists to visit. As observed along much of the European coast, beach nourishment does not manage to fix the problem of coastal erosion. Mitigation measures available for these operations have not been developed and remain limited.

What EU action would be helpful?

	priority	useful	not useful	no opinion
research on environmental impact*	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
research on technology*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
promoting freely accessible seabed maps together with information on geology, ecosystems and habitats *	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
promote exchange of good practice*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
develop code of corporate responsibility*	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
facilitate mobility of labour*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
further support to initiatives such as the Extractive Industry Transparency Initiative (includes requirement for disclosure of payments to governments)*	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
strengthen EU environmental legislation such as that on environmental impact and mining waste. These are mostly applicable only for waters of EU countries.*	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

please explain your choice or suggest another action that EU could take (optional)

Shallow mined commodities from the seabed are finite and their removal can have detrimental impacts to the ecosystems. Ensuring the sustainability of such activities requires proper implementation of legally binding EU legislation. BirdLife believes that strengthening EU legislation is fundamental to limit the impact of seabed mining. More specially, this includes o ensuring the full implementation of the Bird's and Habitat's Directives - designating marine Natura 2000 sites, establishing management plans, and setting right incentives to achieve its management. o Ensuring the full implementation of the Marine Strategy Framework Directive The marine environment is an extremely complex set of interacting ecosystems, where often the detrimental effects cannot be contained or foreseen. Marine ecosystems, particularly beyond the intertidal zone are still not well enough understood by scientists and managers to adequately predict the risk of human disturbance and habitat alteration. Ecological research needs to be prioritised within Europe, with habitats and species mapped and studied. In addition, prioritisation needs to be given to identifying the ecosystems that are most at risk from human disturbance, and providing adequate protection in the form of marine protected areas. As of the end of 2013, only 3% of the world's oceans and less than 1% of the high seas are protected. BirdLife is very concerned that there may be a push for an increase in shallow mining activities across European seas, given the lack of knowledge and lack of protection for our marine ecosystems. We would also like to emphasise the need to take a precautionary approach as stated under Article 191 of Treaty on the Functioning of the European Union (EU) and communicated by the European Commission [1] for policy decisions concerning environmental protection and management, where the approach should be applied in the circumstances where there are reasonable grounds for concern that an activity is, or could, cause harm but where there is uncertainty about the probability of the risk and the degree of harm We re-iterate the importance of environmental impact assessments and strategic environmental assessments to identify threats and possible mitigation methods. Therefore increased research and monitoring of the environmental impact of mining activities are necessary. The Habitats Directive (Article 6.3) also requires that the effects of plans and projects are assessed individually and in combination with other plans and projects. This 'combined' impact assessment is therefore a particular type of cumulative impact assessment, focusing on Natura 2000 sites and the features for which they were selected that should also be carried out. Unfortunately, the proposed answers to this question lack the necessary detail for the type of technical/good practice it is referring to, and it is therefore subjective. Therefore, it is not possible for BirdLife to give an opinion. Nevertheless, we believe that research in technology should focus on the recycling process of the commodities as to promote the resource efficiency cycle of the EU. Furthermore, we would also believe that sharing of good practice should be promoted when it refers to activities that have contributed to the implementation of EU environmental legislation. BirdLife does not also see the relevance of labour mobility to ensuring the sustainability of seabed aggregate extraction. Instead, we believe that the EU should invest in creating and maintaining jobs within the EU where they are sustainable and within those sectors that have limited impact on the environment. [1]

[http://eur-lex.europa.eu/legal-content/EN/ALL/;ELX\\_SESSIONID=7bSpTpxMGxBWlgGyvPbv01YW FZrWxXqBTDtv7pR1k4znvKLIQG2!1929098869?uri=CELEX:52000DC0001](http://eur-lex.europa.eu/legal-content/EN/ALL/;ELX_SESSIONID=7bSpTpxMGxBWlgGyvPbv01YW FZrWxXqBTDtv7pR1k4znvKLIQG2!1929098869?uri=CELEX:52000DC0001)

## Deep sea mining

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Deep sea mining involves mining activities that take place at large depths. Mining can take place both within national jurisdictions and in areas beyond national jurisdiction (ABNJ or international waters). Deep sea mining is aimed at mining higher value commodities, such as copper, cobalt, nickel and rare earth elements. Do you wish to answer questions on this?\*

- Yes, I would like to answer questions on this
- No, I would like to skip this and move to the next section

could this contribute towards a sustainable and economical supply of raw material for EU industry and agriculture?\*

- yes, otherwise we risk shortages
- it is a useful addition to land-based sources
- we do not need it

please explain your answer (optional)

The question has been poorly formulated as it limits the economical supply for material on extraction of raw material and not on resource efficiency. Furthermore, as explained already under shallow mining for high value commodities, the use of mined commodities for EU industrial activities and agriculture have an environmental impact that is questionable in itself. Alternatives to deep sea mining are available and would not only relieve pressure on marine ecosystems, but would also improve the problem of waste inland. According to UNEP's report on e-waste, the recycling of electronic waste is the fastest-growing in the world. Electronic waste is a good source of metals and has been found to contain precious metal deposits 40 to 50 times richer than ores mined in the ground. Waste recycling and reduction creates jobs and business opportunities and can be encouraged by promoting companies to develop effective take-back schemes for old electronic devices. Companies could also be promoted to design products that minimise the use of minerals and have longer lives. Based on our understanding on the types of environments targeted by deep sea mining- namely hydrothermal vents, it would appear that long term environmental sustainability is impossible, given the methods of extraction and the sensitivity of the habitats. Marine habitats which are currently being explored for prospective mining include hydrothermal vents (deep sea geysers) which host a unique biodiversity; seamounts (underwater mountains) which support an abundant and rich biodiversity; and manganese nodules which take millions of years to form and support sponges and other marine life. There are conservation concerns regarding the destruction of these habitats by mining, the resulting loss of biodiversity and the uncertainty that habitats and biodiversity may not recover once mining has ceased. Within Europe many of these habitats exist in protected areas (e.g. The Azores) and deep-sea mining activities would have dire consequences to these ecosystems. Furthermore, deep-sea mining is still very much experimental, with extremely costly techniques, therefore it is questionable whether there is an actual economical gain through deep sea mining and whether the EU should be placing investing support to these types of activities.

What is your involvement?\*

Involvement could include prospecting, extraction, processing, providing equipment

- We are already involved
- We are still looking at the opportunities
- We would monitor environmental impact
- We could see ourselves being involved in next 10 years
- We do not believe that we will be involved

Which deposits are of primary interest for you?\*

at most 4 choice(s)

polymetallic nodules

polymetallic sulphides

cobalt-rich crusts

rare earth element-rich deep-sea sediments

no opinion

Where do you believe that most mining activity will take place?\*

in jurisdictional waters

in international waters

no opinion

What (if anything) is driving economic interest?

	significant	relevant	not important	no opinion
advances in technology*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
limited access to raw materials from terrestrial sources*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

please explain (optional)

The question is irrelevant to assess the limitations of seabed mining and fails to grasp that seabed mining is an activity depended on resource deposits that are limited. Furthermore, advances in technology is driven by financial incentives and political direction while the limitation of raw materials are equal in terrestrial sources as it is in marine sources since both of these sources are finite.

What (if anything) is limiting the economic potential of this activity?

	significant	relevant	minor	no opinion
limited access to finance*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
inadequate port facilities*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
over-stringent licensing conditions *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
lengthy, unclear or bureaucratic licensing conditions - independent of whether they are too stringent, is their implementation over-bureaucratic?*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
volatility of prices*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
shortage of skilled labour*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
shortage of suitable sites*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
technology shortcomings*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
local opposition*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
lack of knowledge of whereabouts of deposits*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
taxation*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
competition with other users for resources (eg fisheries)*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

please provide more details or indicate other factors that might limit the activity (optional)

The EU has set a resource efficiency flagship initiative to move EU policies and the EU to be environmentally sustainable. [1] Nevertheless, the question fails to focus on the environmental limitation and the sustainability of the economy on finite and limited resources. More importantly, the question does not foresee the economic potential of recycling of high value commodities. Furthermore, the economic interest of deep sea mining, as proposed in this question, fails to grasp the economics of the environment and more specific of biodiversity (i.e. ecological economics). This failure not only does not account for the costs of the environmental impact of aggregate extraction, but it also does not account of the economic benefits of the services these ecosystems provide. For example, the economic value of sustaining marine ecosystems in the Mediterranean is estimated to be around 26 million euros. [2] [1]

[http://ec.europa.eu/resource-efficient-europe/pdf/resource\\_efficient\\_europe\\_en.pdf](http://ec.europa.eu/resource-efficient-europe/pdf/resource_efficient_europe_en.pdf) [2]

[http://planbleu.org/sites/default/files/publications/cahier8\\_marin\\_en.pdf](http://planbleu.org/sites/default/files/publications/cahier8_marin_en.pdf)

the environmental impact of deep-sea mining is:

	probably worse	probably better	it depends how it is done and where it is done	no opinion
better or worse than fishing?*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
better or worse than mining on land?*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
better or worse than offshore oil and gas extraction*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

please provide more details of your views on environmental impact (optional)

The question is inappropriate and poorly formulated. The environmental impact of deep sea mining is not comparable to the impact of other sectors and these environmental impacts should not be ranked. Therefore, we believe that the environmental impacts are equally as important to tackle. The marine environment is an extremely complex set of interacting ecosystems, where often the detrimental effects cannot be contained or foreseen. Marine ecosystems, particularly beyond the intertidal zone are still not well enough understood by scientists and managers to adequately predict the risk of human disturbance and habitat alteration. Ecological research needs to be prioritised within Europe, with habitats and species mapped and studied. In addition, prioritisation needs to be given to identifying the ecosystems that are most at risk from human disturbance, and providing adequate protection in the form of marine protected areas. As of the end of 2013, only 3% of the world's oceans and less than 1% of the high seas are protected. BirdLife is very concerned that there may be a push for an increase in shallow mining activities across European seas, given the lack of knowledge and lack of protection for our marine ecosystems. We would also like to emphasise the need to take a precautionary approach as stated under Article 191 of Treaty on the Functioning of the European Union (EU) and communicated by the European Commission [1] for policy decisions concerning environmental protection and management, where the approach should be applied in the circumstances where there are reasonable grounds for concern that an activity is, or could, cause harm but where there is uncertainty about the probability of the risk and the degree of harm. Oceans are already under pressure from other problems such as overfishing, climate change and pollution and their industrial exploitation of the seabed (beyond the existing oil and gas exploration) would only exacerbate the issues, especially taking into account the cumulative impact. Deep-sea mining would put additional pressure on benthic organisms that live in an environment that is rarely disturbed. The use of large robots that will collect materials by removing swathes of habitat will inevitably disturb these benthic organisms that are generally slow growing and late maturing and potentially remove vital habitat for their survival. Even small impacts in their habitat could have severe consequences in the short-term, and their populations would take long time to recover. But the impacts of deep seabed mining would also impact the livelihoods of coastal communities that depend on healthy and productive marine ecosystems. Furthermore, pollution that has been settled would be released and would smother both species and habitats in areas surrounding the mining site. An accumulation of these pollutants and leftover metals would be taken by marine organisms that will be fished later on. The risk of leakage and spills has the potential to alter the chemical makeup of ocean water, also affecting fish resources that are vital to coastal communities. [1]

[http://eur-lex.europa.eu/legal-content/EN/ALL/;ELX\\_SESSIONID=7bSpTpxMGxBWlgGyvPbv01YWFZrWxXqBTDtv7pR1k4zvnKLIQQG2I1929098869?uri=CELEX:52000DC0001](http://eur-lex.europa.eu/legal-content/EN/ALL/;ELX_SESSIONID=7bSpTpxMGxBWlgGyvPbv01YWFZrWxXqBTDtv7pR1k4zvnKLIQQG2I1929098869?uri=CELEX:52000DC0001)

What EU action would be helpful?

	priority	useful	not useful	no opinion
research on environmental impact*	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
research on technology*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
promoting freely accessible seabed maps together with information on geology, ecosystems and habitats *	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
promote exchange of good practice*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
develop code of corporate responsibility*	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
facilitate mobility of labour*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
further support to initiatives such as the Extractive Industry Transparency Initiative (includes requirement for disclosure of payments to governments)*	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
strengthen EU environmental legislation such as that on environmental impact and mining waste. These are mostly applicable only for waters of EU countries. *	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
support a pilot project to test technology under realistic conditions*	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
actively support network of marine protected areas in areas beyond national jurisdiction*	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

please explain your choices or suggest alternative courses of action (optional)

Deep-sea mining activities have never occurred in Europe and are very experimental in Papua New Guinea (the only place to have deep-sea mining activities) and these activities can have from the severe detrimental impacts to the ecosystems. Ensuring the sustainability of such activities requires proper implementation of legally binding EU legislation, especially when these places are Natura 2000 sites that need proper management implementation, or are potential sites that still require designation. BirdLife believes that a moratorium on deep-sea mining in the EU needs to be placed until EU environmental legislation is fully implemented. More specially, this includes o Ensuring the full implementation of the Bird's and Habitat's Directives - designating marine Natura 2000 sites, establishing management plans, and setting right incentives to achieve its management. o Ensuring the full implementation of the Marine Strategy Framework Directive It is also extremely important to undergo environmental impact assessments as to identify mitigation methods. Therefore increased research and monitoring of the environmental impact of mining activities are necessary. The Habitats Directive (Article 6.3) also requires that the effects of plans and projects are assessed individually and in combination with other plans and projects. This 'combined' impact assessment is therefore a particular type of cumulative impact assessment, focusing on Natura 2000 sites and the features for which they were selected that should also be carried out. Therefore, we do not see the benefit of the EU investing in a pilot project to test deep sea mining technology in a realistic scenario. Instead the EU should invest in the full implementation of already binding legislation as explained above. Furthermore, the EU should establish an action plan in support of the precautionary principle. Unfortunately, the proposed answers to this question lack in detail as to the type of technical or good practice it is referring to, and it is therefore subjective. Therefore, it is not possible for BirdLife to give such an opinion. Nevertheless, we believe that research in technology should focus on the recycling process of the commodities as to promote the resource efficiency cycle of the EU. Furthermore, we would also believe that sharing of good practice should be promoted when it refers to activities that have contributed to the implementation of EU environmental legislation. BirdLife does not also see the relevance of labour mobility to ensuring the sustainability of seabed aggregate extraction. Instead, we believe that the EU should invest in creating and maintaining jobs within the EU where they are sustainable and within those sectors that have limited impact on the environment.

Anything else

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Are there any other points you would like to bring up?

We found this questionnaire lacking in depth and biased towards a 'limitless' economic growth model that shows little understanding of the ecosystem based approach to the management of human activities, which is a basic requirement under various EU and international legislations (Marine Strategy Framework Directive, Integrated Maritime Policy, Convention on Biological Diversity, Common Fisheries Policy etc). The questionnaire fails to raise questions about the wider sustainability implications of the sectors, in particular how seabed mining would help to achieve the objectives of the EU resource efficiency flagship initiative and the EU's aspiration for a circular economy based on renewable resources. We call on the Commission to put forward an action plan to ensure a precautionary approach to developments in the deep sea, and deep-sea mining in particular. We strongly urge the European Commission to acknowledge the risks and uncertainties entailed with deep-sea mining and to adopt a moratorium to deep-sea mining until further research on the impacts of mining on the marine environment is conducted and before the network of marine protected areas for deep-sea ecosystems and biodiversity is completed. The outcome of this questionnaire can in our view not give the appropriate input to the Commission's thinking on a future Communication. We would therefore urge the Commission to conduct a much more in depth stakeholder consultation and to allow ample time for a transparent public debate on the issue. The workshops that were organised in the context of the Impact Assessment were a useful first step. The debate needs however be much broadened across society, in the EU as well as outside.

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