IPBES template for the submission of requests, inputs and suggestions on short-term priorities and longer term strategic needs that require attention and action by IPBES as part of its future work programme.

Name and contact details of individual submitting requests/inputs/suggestions: **Nature Panel (the Finnish national IPBES panel)**

Date of submission: **28.9.2018**

Submission from: IPBES member: **Finland**

Observer allowed enhanced participation in line with decision IPBES-5/4: _____

MEA(s): _____

United Nations body: _____

Expert on, and holder of, indigenous and local knowledge:_____

Other Stakeholder(s): _____

Request/input/suggestion: Assessment of the most effective ways to enhance people's health and wellbeing and reduce national health costs through a better contact with natural environments

Information to accompany requests submitted to the Platform (see also Decision IPBES-1/3 *Procedure for receiving and prioritizing requests put to the Platform*):	
1.	Relevance to the objective, functions and work programme of IPBES: The positive effects on human health through a better contact with diverse natural environments have gained a lot of interest. There is a good reason to believe that a better contact with natural environments can enhance citizen's health and wellbeing, the cohesion of families and communities, prevent diseases and, as a result of this, also reduce national health costs.
2.	Urgency of action by IPBES in the light of the imminence of the risks caused by the issues to be addressed by such action: A rapid decrease of diverse natural environments and their ecosystem services, beneficial for human health and wellbeing, continues across the world. As a consequence of this, easily reachable natural environments e.g. in urban environment are becoming threatened.
3.	Relevance of the requested action in addressing specific policies or processes: The requested assessment is of high relevance and urgency for IPBES. As most of the world's human populations are living in urban environments, the future of urban biodiversity (e.g. undisturbed forests and waterways) and ecosystem services they provide (recreation, clean water, food, etc.) are vital for people's well-being. Through the better knowledge of health effects of biodiverse environments there is also a very strong business case and job creation possibilities. Nature-connected innovations in health care systems, wellbeing tourism and various approaches like Healthy parks – Healthy people, health walks and Green Care,

	already support this business case. However, the economic importance of the preventive role of nature to restrain diseases and reduce national health costs is largely unknown.
4.	Geographic scope of the requested action, as well as issues to be covered by such action: Geographic scope: global. Issues: as in the regional and the global assessment. **Main focus could be on the most effective ways to enhance people's health and wellbeing and reduce national health costs through a better contact with natural environments.**
5.	Anticipated level of complexity of the issues to be addressed by the requested action: Complexity should be less than in the regional assessments as the geographical coverage is more limited.
6.	Previous work and existing initiatives of a similar nature and evidence of remaining gaps, such as the absence or limited availability of information and tools to address the issues, and reasons why IPBES is best suited to take action: Information is probably limited from several countries, so the assessment could be focused on those countries where sufficient information on best scientific knowledge and best practices exists.
7.	Availability of scientific literature and expertise for IPBES to undertake the requested action: There are research & expert networks for biodiversity and human health in different regions, which could be utilised here (e.g. in Europe, so called "Coalition of the willing on biodiversity and human health" within EU countries). Associated information on scientific and expert literature has gathered also when implementing the IPBES regional assessments.
8.	Scale of the potential impacts, and potential beneficiaries of the requested action: People across the world and national economies through reduced health costs.
9.	Requirements for financial and human resources, and potential duration of the requested action:
10.	An identification of priorities within multiple requests submitted:
11.	Any other relevant information (including a list of any attachments provided): A new text book introducing current areas of biodiversity and health is being released at the end of this year (see: Melissa R. Marseille, Jutta Stadler, Horst Korn, Katherine Irvine & Aletta Bonn (eds.): Biodiversity and Health in the face of Climate Change. Springer. 2018).

Request/input/suggestion: Assessment on urban biodiversity

Information to accompany requests submitted to the Platform (see also Decision IPBES-1/3 *Procedure for receiving and prioritizing requests put to the Platform*):	
1.	Relevance to the objective, functions and work programme of IPBES: Assessment on the status, trends and benefits to humans of urban biodiversity is of urgency as most of the world's population lives in cities. And this proportion increases constantly. Urban biodiversity provides a multitude of ecosystem services for urban dwellers, but we have

	incomplete knowledge of them. Thus, we also have incomplete understanding of how to enhance biodiversity in urban areas for the benefit of ecosystem services and humans.
2.	Urgency of action by IPBES in the light of the imminence of the risks caused by the issues to be addressed by such action: As stated above, rapid urbanisation continues across the world. Consequently, urban biodiversity and ecosystem services provided by its are becoming threatened.
3.	Relevance of the requested action in addressing specific policies or processes: The requested assessment is of high relevance and urgency for IPBES. As most of the world's population lives in cities, the future of urban biodiversity and ecosystem services is vital for their well-being
4.	Geographic scope of the requested action, as well as issues to be covered by such action: Geographic scope: urban/cities, global. Issues: as in the regional and the global assessment. Main focus on status and trends of urban biodiversity & ecosystem services, and their impact on humans well-being.
5.	Anticipated level of complexity of the issues to be addressed by the requested action: Complexity should be less than in the regional assessments as the geographical coverage is more limited.
6.	Previous work and existing initiatives of a similar nature and evidence of remaining gaps, such as the absence or limited availability of information and tools to address the issues, and reasons why IPBES is best suited to take action: Information is probably limited for many cities, so the assessment must be focussed on those cities from which sufficient information exists. There are networks of urban ecologists which should be utilised here.
7.	Availability of scientific literature and expertise for IPBES to undertake the requested action: There are networks of urban ecologists which should be utilised here. Literature (including grey literature) exists as well as local knowledge of various taxa.
8.	Scale of the potential impacts, and potential beneficiaries of the requested action: Urban dwellers across the world.
9.	Requirements for financial and human resources, and potential duration of the requested action:
10.	An identification of priorities within multiple requests submitted:
11.	Any other relevant information (including a list of any attachments provided):

Request/input/suggestion: **Global Assesement of Blue Carbon Ecosystems**

Information to accompany requests submitted to the Platform (see also Decision IPBES-1/3 *Procedure for receiving and prioritizing requests put to the Platform*):	
1.	**Relevance to the objective, functions and work programme of IPBES:**

	Blue carbon, i.e. the carbon stored in coastal and marine ecosystems, is an opportunity for climate change adaptation and mitigation. Coastal ecosystems such as mangroves, tidal marshes and seagrass meadows sequester and store more carbon per unit area than terrestrial forests and are now being recognised for their role in mitigating climate change. The function of these ecosystems is intimately dependent on the biodiversity of these systems, but the link is not assessed. Blue carbon ecosystems also provide essential benefits for climate change adaptation, including coastal protection and food security for many coastal communities. Dedicated conservation efforts can ensure that coastal ecosystems continue to play their role as long-term carbon sinks.
2.	**Urgency of action by IPBES in the light of the imminence of the risks caused by the issues to be addressed by such action:** If the ecosystems are degraded or damaged, their carbon sink capacity is lost or adversely affected, and the carbon stored is released, resulting in emissions of carbon dioxide (CO2) that contribute to climate change, as well as biodiversity loss.
3.	**Relevance of the requested action in addressing specific policies or processes:** Conserving and restoring terrestrial forests, and more recently peatlands, has been recognised as an important component of climate change mitigation. Several countries are developing policies and programmes in support of sustainable development through initiatives that reduce the carbon footprint associated with the growth of their economies. These include actions to conserve and sustainably manage natural systems relevant to the United Nations Framework Convention on Climate Change (UNFCCC), including through the reducing emissions from deforestation and forest degradation in developing countries (REDD+) mechanism and Nationally Determined Contributions (NDCs). Importantly, these approaches can also apply to coastal systems – that contain rich carbon reservoirs. Dedicated conservation efforts can ensure that coastal ecosystems continue to play their role as long-term carbon sinks, by helping to ensure that no new emissions arise from their loss and degradation, whilst stimulating new carbon sequestration through the restoration of previously carbon-rich coastal habitats. Alongside tropical forests and peatlands, coastal ecosystems demonstrate how nature can be used to enhance climate change mitigation strategies and therefore offer opportunities for countries to achieve their emissions reduction targets and Nationally Determined Contributions (NDCs) under the Paris Agreement. Three different operational EU Directives, namely, the Water Framework Directive (WFD 2000/60/EC), the Marine Strategy Framework Directive (MSFD, 2008/56/EC) and the Maritime Spatial Planning Directive (MSPD, have been promoted to assess and improve the environmental status of European marine ecosystems and planning their sustainable use. All directives indirectly concerns blue carbon ecosystems, so a better direct link is needed here. On an implementation level, mangroves, salt marshes and seagrasses can be included in national accounting, according to the IPCC 2013 Supplement to the 2006 Guidelines for National Greenhouse Gas Inventories: Wetlands. The management of marine ecosystems for a functioning ocean carbon cycle should therefore be strengthened under existing international, regional and sectoral regulation and management regimes such as through the Convention on the Conservation of Antarctic Marine Living Resources
4.	**Geographic scope of the requested action, as well as issues to be covered by such action:** Global scope. Coastal ecosystems need to be conserved and restored as globally significant carbon sinks. Despite their small extent relative to other ecosystems, they sequester and store globally significant amounts of carbon in their soil. Issues to be covered include;

	• Key factors and processes controlling the sequestration of carbon in costal and marine ecosystems at the systems level including local species diversity, carbon fluxes, productivity, geographical, spatial and temporal variability, hydrodynamics, effects of exposure and water depth, water quality, eutrophication, carbon sources, species specific differences. • Elucidating/verifying the role of interactions and feedbacks between climate change and anthropogenic disturbances, ecosystem functions and services related to Blue Carbon sequestration, considering different spatial and temporal scales, ranging from effects of the organism level to an inclusive seascape approach. • Assessing the vulnerability of Blue Carbon climate mitigation functioning to climate change should be investigated and modelled across several European temperate and Mediterranean blue carbon ecosystems (such as seagrass, macro algae, kelp, saltmarsh). • Assessing issues such as the extent and the status of Blue Carbon systems – such as seagrass ecosystems – and result in a better understanding of the actual Blue Carbon stocks and sequestration capacity. • Actions should identify safe operating spaces, accompanies – where relevant – with long-term strategies to prevent or mitigate Blue Carbon ecosystem loss. Actions should also advance the understanding of respective impacts and early warning indicators. Actions should consider temperate and Mediterranean European regions. • Actions should envisage clustering activities with other relevant selected projects for cross-projects co-operation, consultations and joint activities on cross-cutting issues and share of results as well as participating in joint meetings and communication events.
5.	**Anticipated level of complexity of the issues to be addressed by the requested action:** **-**
6.	**Previous work and existing initiatives of a similar nature and evidence of remaining gaps, such as the absence or limited availability of information and tools to address the issues, and reasons why IPBES is best suited to take action:** Previous work include: • IUCN Global Marine and Polar Programme, iucn.org/marine • The Blue Carbon Initiative, thebluecarboninitiative.org • The UNEP/GEF Blue Forest Project, gefblueforests.com • United States Government: Technical Support Document, Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866 (United States Government Interagency Working Group on Social Cost of Carbon, Washington, DC), 2010. • Fourqurean JW et al. (2012) Seagrass ecosystems as a globally significant carbon stock, Nat. Geosci., 5, 505–509. • Herr, D. and E. Landis (2016). Coastal blue carbon ecosystems: Opportunities for Nationally Determined Contributions. Policy Brief. Gland, Switzerland: IUCN and Washington, DC, USA: TNC. • Nellemann, C et al. (2009) Blue Carbon, A Rapid Response Assessment • Blue Carbon Initiative (2015). Guidance for national blue carbon activities: fast-tracking national implementation in developing countries. • Laffoley, D. et al. (eds.) (2014). The Significance and Management of Natural Carbon Stores in the Open Ocean. Full report. Gland, Switzerland: IUCN. • Röhr ME et al. (2016) Blue carbon stocks in Baltic Sea eelgrass (*Zostera marina*) meadows. Biogeosciences 13:6139-6153, doi:10.5194/bg-13-6139-2016

	• Röhr ME et al. (2018) Blue carbon storage capacity of temperate eelgrass (*Zostera marina*) meadows. Global Biogeochemical Cycles. DOI: 10.1029/2018GB005941 Despite an increasing research efforts major research gaps exists, presently preventing development of the field and efficient management of BC ecosystems. These include • A need to develop methods to assess Blue Carbon fluxes and the fate of Blue Carbon in ecosystems to obtain standardised protocols for GHG accounting in climate change mitigation. • Lack of best policies and actions to investigate the source and fate of Blue Carbon in marine ecosystems • Poor estimate of the role of the transfer from terrestrial to marine Blue Carbon ecosystems, i.e. the role of coastal filters in the land-sea ecostone. Why IPBES is best suited to take action: I PBES possesses best and broadest access to expertise across all scientific fields and knowledge communities to implement this topic at all levels (government to society).
7.	**Availability of scientific literature and expertise for IPBES to undertake the requested action:** Several reviews, reports and scientific papers available, but reports and grey literature not compiled
8.	**Scale of the potential impacts, and potential beneficiaries of the requested action:** Expected impacts: The assessement results are expected to contribute to: • Fostering robust methods to assess carbon fluxes and carbon accounting in coastal and marine Blue Carbon ecosystems at a systems level. • Improved understanding the role of biodiversity (including harmful/beneficial invasive seagrass species and macro algae) on carbon sequestration of marine and coastal ecosystems and climate change mitigation. • Improved understanding of carbon sequestration in restored and deteriorated blue carbon ecosystems. • Improved understanding of the effect of calcification on net carbon sequestration in blue carbon ecosystems • Improve capability in assessing and predicting cumulative impacts of changing climate and anthropogenic disturbances on Blue Carbon sequestration. • Enhancing the role of coastal and marine blue carbon ecosystems in climate mitigation and national GHG inventories. • Supporting ecosystem management actions that increase resilience of Blue Carbon and their associated long-term sedimentary carbon stores ecosystems and achievement of UN SDGs 13, 14 and 17. • Increased business opportunities for the design, development and installation of natural and restored Blue Carbon solutions in coastal European environments.
9.	**Requirements for financial and human resources, and potential duration of the requested action:**
10.	**An identification of priorities within multiple requests submitted:**

11.	**Any other relevant information (including a list of any attachments provided):**

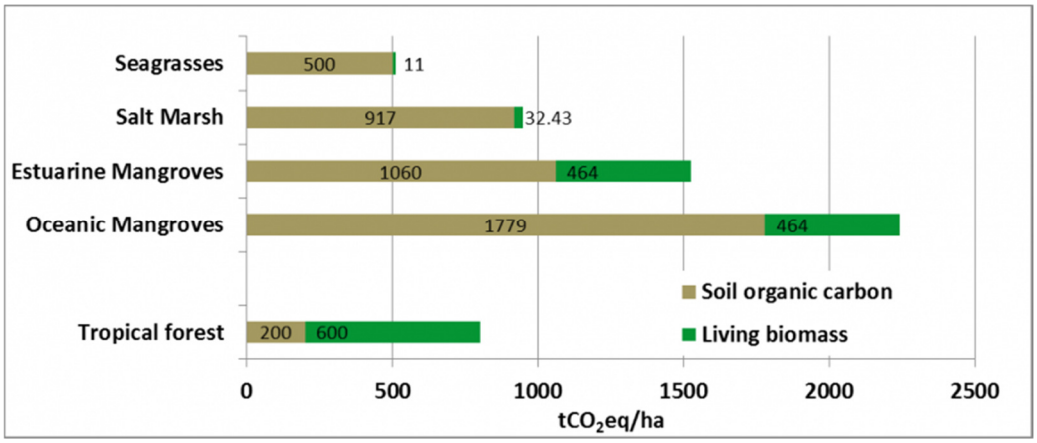

Figure 1Global averages for carbon pools (soil organic carbon and living biomass) of focal coastal habitats. Source: Murray, B.C. et al. (2011). Green Payments for Blue Carbon.

Request/input/suggestion:

An assessment to analyse the fundamental relationship between biodiversity and ecosystem services

We often assume there is a positive and monotonic relationship between the two but is there and how often. Is it so that rich biodiversity means abundant and versatile ecosystem services. If it does what is the mechanism. What is the benefit of nature conservation in terms of the supply of ecosystem services. There is research but a comprehensive assessment is missing. This should not only be a terrestrial assessment but it should also include marine and freshwater ecosystems. Global fisheries and biodiversity could be one aspect to focus on in the assessment. Interactions between ecosystems in their biodiversity and ecosystem services is also of interest i.e. how biodiversity in one ecosystem influence the ecosystem services provided by another ecosystem (land and sea, forest and agricultural fields etc.

There might also be links to climate change mitigation. To limit the increases in mean global temperature to no more than 2°C higher from pre-industrial levels will imply not only rapid decarbonization, but also active climate geoengineering methods. Such measures would either aim to reduce atmospheric CO2 concentration by capturing part of the already emitted CO2 into terrestrial and marine ecosystems. The role of biodiversity in this ecosystem service would warrant to be part of such an assessment.

Information to accompany requests submitted to the Platform (see also Decision IPBES-1/3 *Procedure for receiving and prioritizing requests put to the Platform*):	
1.	Relevance to the objective, functions and work programme of IPBES: Understanding the fundamental relationship between biodiversity and ecosystem services is naturally in the core of the platform focusing on these aspects.
2.	Urgency of action by IPBES in the light of the imminence of the risks caused by the issues to be addressed by such action: This understanding should be obtained early in the life of IPBES. It has potential to be foundational for the platform.
3.	Relevance of the requested action in addressing specific policies or processes: By understanding the causal relationship between BD and ES can help arguments that would promote action to safeguard biodiversity.
4.	Geographic scope of the requested action, as well as issues to be covered by such action: Global, land and sea.
5.	Anticipated level of complexity of the issues to be addressed by the requested action: This may still be an unresolved question in science but it is hard to know as comprehensive assessment is missing.
6.	Previous work and existing initiatives of a similar nature and evidence of remaining gaps, such as the absence or limited availability of information and tools to address the issues, and reasons why IPBES is best suited to take action: This relationship is fundamental for the platform and at the core of its focus area.
7.	Availability of scientific literature and expertise for IPBES to undertake the requested action: There is plenty of literature but no overarching assessment
8.	Scale of the potential impacts, and potential beneficiaries of the requested action: Potentially important for many sectors if the fundamental relationship between BD and ES can be understood mechanistically.
9.	Requirements for financial and human resources, and potential duration of the requested action:
10.	An identification of priorities within multiple requests submitted:
11.	Any other relevant information (including a list of any attachments provided):