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A chairde, An Tionól Saoránach

Natural Capital Ireland (NCI) welcomes the opportunity to make a submission to the Citizens’ Assembly on Biodiversity Loss. NCI is a not-for-profit organisation leading the national conversation on natural capital (view our website [here](#)). We are a group of organisations and individuals from academia and public, private and NGO sectors. We are committed to the development and application of the natural capital approach, which reveals the often hidden costs, and benefits, of all policies and actions related to biodiversity across all sectors. This approach greatly assists in reducing biodiversity loss through better informed policies. Viewing nature through this lens is not about putting a price on it, but rather, revealing to us the myriad benefits that we gain from nature that conventional accounting omits, and that usually doesn’t appear on balance sheets.

In our submission, we will briefly explain the natural capital approach: how it relates to biodiversity and how it can be used as a tool to halt and reverse biodiversity loss. Biodiversity is not an optional extra for our society, it underpins the ecosystem services that we rely on for our very survival. The natural capital approach, in our view, offers us a lifeline to reverse biodiversity loss, enabling us to create desperately needed coherence and synergy between biodiversity policy and other policy priorities.

In our view, the Citizens’ Assembly on Biodiversity Loss needs to consider three key questions:

1. What exactly is driving biodiversity loss?
2. Why does biodiversity loss matter, and what are the consequences of these losses for our citizens and future generations?
3. What policies might halt, and reverse, these losses?

Before addressing the above questions, we outline below what the natural capital concept is about and why we consider that viewing our biodiversity and ecosystem services through the lens of natural capital enables us to understand much better its importance to our lives, health and economies. We will also include a definition of *biodiversity*, *ecosystem* and *ecosystem services*, as these are central to understanding our natural capital.

What is natural capital and the natural capital approach?

What is natural capital?	What is the natural capital approach?	What is natural capital accounting?
It is an economic metaphor for nature. A way of framing the world’s ecosystems including biodiversity, water and minerals as stocks of assets that yield flows of benefits to biodiversity. Biodiversity is one element our natural capital, the other being ecosystem services.	This approach involves measuring our natural capital to reveal how it is delivering important benefits to society and the economy. The concept of natural capital provides a way to understand the value nature provides and our dependence on it, and enables the public and policy makers to avoid unintended losses.	This is a system for organising information about natural capital stocks and ecosystem service flows. Natural Capital Accounts (NCA) detail the <i>extent</i> and <i>condition</i> of natural capital stocks (including biodiversity) and the flow of <i>services</i> and <i>benefits</i> , and enable tracking of each over time. NCAs can be linked to national accounts, making visible the previously hidden value of nature and its impact on the costs and benefits of policies in every area.

Biodiversity	Ecosystem	Ecosystem services
Biodiversity refers to the variety all life forms on earth, including humans. In most cases, the more biodiverse ecosystems have higher rates of ecological functioning, and more resilience to environmental change.	An ecosystem is a biological community of interacting organisms and their physical environment, e.g. woodlands, peatlands, dune systems, oceans, rivers, hedgerows, soils, etc. Healthy ecosystems are vital to our survival, well-being and prosperity.	Ecosystem services are the result of processes that ecosystems perform, resulting in benefits such as air purification, which make human life both possible and more enjoyable. (See Fig. 1. <i>The wood for the trees</i> infographic below).

For a quick illustration of the natural capital approach, please take 4 minutes to watch this [video](#) which explains what our natural capital is and how we account for it.

For a quick illustration of natural capital on farms, please take 3 minutes to watch this [video](#).

Below, we will consider the 3 key questions NCI believes need to be considered by the Assembly:

1. What exactly is driving biodiversity loss?

It can be difficult to visualise what exactly is being ‘lost’ when we talk about biodiversity loss. It can also be difficult to understand how biodiversity loss impacts us specifically as individuals, and globally as a human society.

The recent World Economic Forum’s Global Risks Report (2022), states that the top three most severe global risks are climate inaction, extreme weather, and biodiversity loss; all of which are inter-related risks that compound each other. These risks are a direct threat to our natural capital, and also stem largely from our failure to conserve and restore it. Reversing biodiversity loss will restore our stocks and flows of natural capital which we rely on to mitigate, and adapt to, the impacts of climate change. The natural capital approach can standardise how we measure loss, and illustrate the implications of that loss.

What is driving biodiversity loss?

The main factors that are driving biodiversity loss are human activities. These can be viewed as indirect or direct drivers including:

Indirect drivers of biodiversity loss:

- Global population growth
- Global politics and trade
- Land use change
- Urbanisation
- Agricultural intensification
- Climate change

Direct drivers of biodiversity loss:

- Habitat destruction, on land and in freshwater and aquatic systems
- Soil degradation as a result of land-use change, development, agricultural intensification and habitat destruction
- Pollution of land and water (including agrochemicals)
- Introductions of non-native species that become invasive
- increased global temperatures, increased frequency and severity of extreme weather events



But a less obvious factor driving biodiversity loss is the failure of mainstream economics to take nature's hidden wealth into account. This failure leads to our adopting policies exploiting natural resources as though they were limitless, with increasingly disastrous consequences for natural systems. It is as though our society was rapidly spending from a bank account, confident that it was flush with money, while all the time invisible withdrawals were pushing us towards bankruptcy. We argue that the natural capital approach is a vital new tool that makes these withdrawals – the loss of biodiversity and ecosystem services – fully visible to the public and policy makers, which can enable us to reverse these losses before it is too late.

2. *Why does biodiversity loss matter, and what are the consequences of these losses for our citizens and future generations?*

To understand why biodiversity loss matters, we need to consider our dependencies on biodiversity.

What are our dependencies on biodiversity?

Biodiversity loss is a critical issue that impacts the natural world, our societies and our economies. Humans depend on nature for our survival. Ecosystem services regulate the climate, fertilise soils, purify water, produce oxygen and pollinate many of our crops. Food security is dependent on healthy biodiverse ecosystems. Many countries have already seen irreversible changes, including Ireland. What's more, restoring lost biodiversity is our first and best line of defence against climate change.

How do we address the drivers of biodiversity loss?

The example of native woodland clear-felling shows how we can address drivers of biodiversity loss. When a native woodland is clear-felled, we gain the benefit of a small number of resources – timber, wood fuel and employment, which are certainly important; but we lose biodiversity (the range of species associated with and living in that woodland), and when one considers the woodland ecosystem through the lens of the natural capital approach, it reveals that the range of values in a woodland is much wider and richer than timber alone, and that timber benefit should be weighed against the loss of the wood's total 'natural capital' – one element of which is biodiversity. A healthy biodiverse woodland that is left intact provides a myriad of resources that benefit both humans and nature, such as flood mitigation, carbon regulation through carbon sequestration, air purification, habitats for wildlife, and recreational benefits to the community's physical and mental health. Timber remains a benefit, of course, but we can only assess a clear-felling policy accurately if we can see the whole bottom line, factoring in all the losses and benefits that extracting it incurs. The natural capital approach allows policymakers to make much more informed decisions.

The Wood for the Trees [infographic](#) in the following pages (Fig. 1), is an excellent way of visualising how our natural capital is valued.



Can't see the TREES for the WOOD?

Natural capital explained ...

HERE'S WHAT WE
GET FROM

WOOD

TIMBER

WOOD FUEL
EMPLOYMENT

... BUT HERE'S WHAT WE
GET FROM

TREES

POLLINATORS
SPIRITUAL BENEFITS CLIMATE
REGULATION
BIODIVERSITY STORM
PROTECTION
CARBON STORAGE RECREATION
SHELTER IMPROVED MEDICINES
WATER QUALITY TIMBER
RESILIENCE TO DISEASES NATURAL FLOOD
DEFENCES FOOD
TOURISM HEALTHY SOIL
FRESH AIR EMPLOYMENT WOOD
FUEL
EDUCATION

HERE'S A VALUE WE
CAN PUT ON

WOOD

\$

In Thailand, a study shows mangrove forests are worth about **\$1,000 per hectare** if exploited for wood.¹

... BUT LOOK WHAT HAPPENS
WHEN WE VALUE

TREES

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If left intact, their value for flood protection, carbon capture and as a breeding ground for fish is in excess of **\$21,000 a hectare**.¹

Infographic continued on next page





Figure 1: The Wood for the Trees [Infographic](#) reproduction from the World Forum on Natural Capital for the purpose of illustrating the natural capital approach.

So, when we consider what is being lost, we need to consider how we can use our planet's natural resources in a sustainable way, and how we need to take action to protect and restore our natural environment.



What are the consequences of biodiversity loss for our citizens and future generations?

Biodiversity loss has become more and more apparent in recent years. We are already facing the consequences of this loss:

- The severe declines in some insect populations, especially those that act as pollinators, natural enemies of crop pests, and nutrient recyclers, threaten our agricultural production systems and food security.
- Biodiverse peatlands, forests, and soils which provide important services including water retention and regulation, are threatened due to land-use change, intensive agricultural practices and forestry.
- Biodiverse peatlands, forests, soils and marine environments that drew down and stored greenhouse gases (GHGs) for millennia have been chronically degraded and are now releasing these GHGs ever more rapidly into the atmosphere, accelerating climate change. This has resulted in the worst droughts in Europe in 500 years, and unprecedented wildfires, coupled with catastrophic floods.
- Loss of connection with and access to biodiverse natural systems has negative consequences for human mental and physical health and well-being, whilst at the same time destruction of ecosystems has been directly linked to increased animal-human disease transmission, which can lead to pandemics.

3. What policies might halt, and reverse, these losses?

NCI's mission is to help build an Ireland in which biodiversity and ecosystem goods and services are valued, protected and restored. We do this by supporting the adoption of integrated natural capital concepts in public policy and corporate strategy, promoting informed public and private sector decision-making and assisting in the establishment of a national natural capital accounting standard (as is now required by the EU). Natural capital concepts allows for joined up policy making across Government departments and agencies. This approach allows for the creation of urgently needed coherence and synergy between biodiversity policy and other policy priorities which can be achieved using natural capital accounting as a common metric across departmental silos.

We believe this approach offers practical and viable tools to halt and reverse biodiversity loss. NCI is a partner on the pioneering EPA-funded [INCASE project](#) which is the first project to apply Natural Capital Accounting principles to river catchment areas in Ireland using the UN SEEA-EA (System of Environmental Economic Accounting – Ecosystem Accounting). The INCASE report, due early next year, will recommend support for better understanding of biodiversity to inform creation of accounts, and focused research on ecosystem service assessment. Overall, there is a need to develop an aligned approach to data generation and management to fill the gaps and discrepancies that currently hamper integrated decision-making.

Taoiseach Micheál Martin stated recently that *'Ireland must reverse a lost decade of biodiversity damage'* and urged a *'new era'* for protection of biodiversity. With those words in mind, we need to hold our Government accountable for protecting our biodiversity and our natural capital and to halt activities that are actively destroying our biodiversity. For more information on current and upcoming policy around biodiversity, please see Appendix 1.



What is NCI asking of the Citizens' Assembly on Biodiversity Loss?

NCI believes that embedding the natural capital approach in policy-making will enable alignment of national, European and global policies and asks the Citizens' Assembly on Biodiversity Loss to consider recommending to Government the following:

- To embed the natural capital approach as a core decision-making tool across government, and as part of broader cross-departmental coordination on the conservation and sustainable use of biodiversity.
- The legally binding policies to halt biodiversity loss (and protect and restore our ecosystems) should be implemented and enforced to their full capacity.
- To establish an Irish equivalent to the UK's [Natural Capital Committee](#) (NCC), or include natural capital approaches in the remit of the existing cross-departmental working group on biodiversity. This cross-departmental working group could operate in the same way as the Senior Officials Group on SDGs, to deliver a national register of natural capital assets, and of the risks they face. NCI believes that the establishment of a similar Natural Capital advisory group in Ireland would support the Government in balancing environmental, social and economic considerations in its decision-making.
- Although Irish natural capital accounts are being developed by the Ecosystem Accounts Division (EAD) of the Central Statistics Office (CSO) based on the [SEEA-EA](#) framework, NCI would urge Government, to accelerate this process in order to deliver meaningful comprehensive national accounts.
- To adequately fund and support projects to address knowledge gaps on biodiversity and establish where losses are occurring and enable further research on applying the natural capital approach at scale, i.e. from small scale (e.g. farm level), to catchment, to county levels.

For suggestions regarding resourcing the Government's response to halt and reverse biodiversity loss we refer you to a [2020 report](#) that specifically addresses the funding and financing of biodiversity conservation in Ireland.

Conclusion

Natural capital accounting may seem, at first sight, to be an abstract concept remote from the natural world and its living biodiversity. In fact, in our view, it is an essential tool if we are to preserve and restore Ireland's nature. We do this by using the economic language and tools of our current system to create the biodiverse Ireland we want to see in the future. We respectfully request this Citizen's Assembly to urge the Government to follow through with its existing paper commitment to protect and restore our biodiversity and make the necessary resources available to deliver on these commitments, turning biodiversity loss into biodiversity gain.

Please contact us for clarifications and further information at researchteam@naturalcapitalireland.com

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Natural Capital Ireland



APPENDIX 1 – POLICY AROUND NATURAL CAPITAL AND BIODIVERSITY

What’s the current situation with policy on natural capital and biodiversity?

- The European Green Deal states that “*all EU policies should contribute to preserving and restoring Europe’s natural capital*”. In June 2020, the EU published its new Biodiversity Strategy, which states that by 2050, “*the EU’s natural capital will be protected, valued and appropriately restored*”. Further, the Strategy sets a target to bring at least 10% of agricultural land under management for biodiversity, which can only be achieved with whole-of-government whole-of-society support, and that in turn can only be achieved using natural capital accounting as a common metric across departmental silos.
- Natural capital concepts are already found in a range of flagship national policies, including the National Planning Framework, the National Biodiversity Action Plan 2017-2021, the National Adaptation Framework, and Heritage Ireland 2030 – but much more needs to be done to embed natural capital thinking in decision making. Properly accounting for natural capital can help make these values visible, revealing both Ireland’s hidden wealth which enriches us, and the hitherto invisible factors that, by degrading natural capital, impoverish us.

What biodiversity policy is coming down the line?

- The 4th National Biodiversity Action Plan 2023-2027 went out to public consultation on 1st September 2022. NCI was involved in the drafting of this Plan and advocates that the natural capital approach and natural capital accounting should inform the Plan, in line with EU-wide adoption of the UN System of Environmental Economic Accounting ([SEEA](#)), and proposed changes to the EU Regulation on Environmental Economic Accounts. As part of natural capital accounting, Ecosystem Accounting ([SEEA-EA](#)) aims to reorient policies to deliver sustainable development and improved human well-being by measuring and valuing the extent, condition and services of Irish ecosystems as part of the System of National Accounts under the Central Statistics Office’s [Irish ecosystem accounting](#).
- The new [EU Nature Restoration Law](#) is an important new law to restore ecosystems for people, the climate and the planet. This law will aid alignment of national policy with European policy.

