

Impact case study (REF3)

Institution: Aberystwyth University		
Unit of Assessment: 17: Business and Management Studies		
Title of case study: Providing a framework to incorporate economic and socio-cultural values of Nature's Contributions to People into the Convention on Biological Diversity.		
Period when the underpinning research was undertaken: 2017- 2018		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Professor Michael Christie	Professor	1 August 2012- present
Period when the claimed impact occurred: 2018-2019		
Is this case study continued from a case study submitted in 2014? Y/N		
<p>1. Summary of the impact (indicative maximum 100 words)</p> <p>Christie's research for the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) 'European and Central Asia' (ECA) assessment provides a framework to incorporate economic and socio-cultural values of Nature and its services into public policies.</p> <p>Nature is declining at unprecedented rates, which adversely affects economies and people's well-being. The ECA assessment provided policy makers with evidence on the values of Nature to respond to this crisis.</p> <p>The ECA assessment was approved by 130 governments (who are the signatory members of the IPBES Plenary), incorporated into processes of the Convention on Biological Diversity (CBD), the G7, and also forms part of EU staff guidance for integrating ecosystems and their services in climate mitigation and adaptation policies.</p>		
<p>2. Underpinning research (indicative maximum 500 words)</p> <p>Global biodiversity is in decline, which in turn is adversely impacting economies and people's wellbeing. To respond to this ecological crisis, policy makers requested robust evidence of the status, trends and threats to biodiversity and the associated impacts on ecosystem services (ES) and Nature's Contributions to People (NCP). In particular, they have requested that this evidence is expressed using economic and socio-cultural indicators.</p> <p>Over the past two decades, Christie has led numerous collaborative research projects that have developed methods to value Nature and ES / NCP, as well as the development of frameworks to embed these values into policy decisions [3.1]. Based on this work, Christie was invited by the UK Government and UN Environment Programme (UNEP) to be a lead author of the landmark 'The Economics of Ecosystems and Biodiversity' (TEEB) report [3.2]. Christie's contributions to the report included developing the economic theory for valuing ES, as well as gathering global empirical evidence of ES values.</p> <p>IPBES was set up in 2012 as an independent intergovernmental body to provide governments with evidence on how incorporating the values of biodiversity and ecosystem services into policy can enhance human well-being. Its work programme included four regional assessments, including the 'European and Central Asia' (ECA) assessment [3.3; 3.4].</p> <p>Acknowledging his world-leading expertise on the valuation of ecosystem services, Christie was nominated by the UK government, and subsequently approved by the 132-member states of the IPBES in 2017 to be a 'lead author' of the 1150-page IPBES '<i>Regional Assessment report on</i></p>		

Biodiversity and Ecosystem Services for European and Central Asia report [3.3], and its high-level *Summary for Policy-Makers* (SPM) report [3.4]. Specifically, Christie led the empirical work for Chapter 2 of the main ECA report [3.3] and Section A1 of the SPM report [3.4]. This research involved an analysis and synthesis of evidence published between 2007 and 2017 on: the plurality of values of ES / NCP across Europe and Central Asia; the methods used to assess these values; and an assessment of how these values could best be integrated in policy decisions [3.3; 3.4; 3.5; 3.6]. The ECA report provided 'a critical assessment of the full range of issues facing decision makers, including the importance, status, trends and threats to biodiversity and Nature's Contributions to People, as well as policy and management response options' [3.4]. The ECA assessment was approved by 130-member states of the IPBES Plenary on 24 March 2018.

3. References to the research (indicative maximum of six references)

3.1 Christie M., Hanley, N., Warren, J., Murphy K., Wright, R., and Hyde, T. (2006), Valuing the diversity of biodiversity, *Ecological Economics*, 58(2): 304-317. DOI:[10.1016/j.ecolecon.2005.07.034](https://doi.org/10.1016/j.ecolecon.2005.07.034) Notes: This paper was Christie's first significant publication on valuing biodiversity which has 228 citations (Scopus).

3.2 TEEB (2011):

a) de Groot, D., Fisher B., and **Christie, M.** (2011), Integrating the ecological and economic dimensions in biodiversity and ecosystem service valuation, in Kumar, P. (ed.), *The Economics of Ecosystems and Biodiversity: Ecological and Economic Foundations*, (London: Routledge). DOI: [10.4324/9781849775489](https://doi.org/10.4324/9781849775489)

b) Pascual, U., Muradian, R., Brander, L., Gómez-Baggethun, E., Martín-López, B., Verma, M., Armsworth, P., **Christie, M.**, Cornelissen, H., Eppink, F., Farley, J., Loomis, J., Pearson, L., Perrings, C., Polasky, S., McNeely, J.A., Norgaard, R., Siddiqui, R., Simpson, R., Kerry Turner, R., and Simpson, R.D. (2011), The economics of valuing ecosystem services and biodiversity, in Kumar, P. (ed.), *The Economics of Ecosystems and Biodiversity: Ecological and Economic Foundations*, (London: Routledge). DOI: [10.4324/9781849775489](https://doi.org/10.4324/9781849775489)

3.3 Martín-López, B., Church, A., Başak Dessane, E., Berry, P., Chenu, C., **Christie, M.**, Gerino, M., Keune, H., Osipova, E., Oteros-Rozas, E., Paillard, S., Rossberg, A. G., Schröter, M., and van Oudenhoven, A. P. E. Chapter 2: Nature's contributions to people and quality of life. In IPBES (2018): The IPBES regional assessment report on biodiversity and ecosystem services for Europe and Central Asia. Rounsevell, M., Fischer, M., Torre-Marin Rando, A. and Mader, A. (eds.). Secretariat of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, Bonn, Germany, pp. 57-185. DOI: [10.5281/zenodo.3237429](https://doi.org/10.5281/zenodo.3237429)

3.4 IPBES (2018): Summary for policymakers of the regional assessment report on biodiversity and ecosystem services for Europe and Central Asia of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. M. Fischer, M. Rounsevell, A. Torre-Marin Rando, A. Mader, A. Church, M. Elbakidze, V. Elias, T. Hahn, P.A. Harrison, J. Hauck, B. Martín-López, I. Ring, C. Sandström, I. Sousa Pinto, P. Visconti, N.E. Zimmermann and **M. Christie** (eds.). IPBES secretariat, Bonn, Germany. DOI: [10.5281/zenodo.3237429](https://doi.org/10.5281/zenodo.3237429) Notes: Christie was selected from the ~250 authors of the main IPBES ECA report [3.3] to be one of 15 authors of this high-level, Summary for Policy Makers report that was presented and approved by the 129 IPBES member states.

3.5 Christie, M., Martin-Lopez, B., Church, A., Siwicka, E., Szymonczyk, P., and Sauterel, J. M. (2019), Understanding the diversity of values of "Nature's contributions to people": insights from the IPBES Assessment of Europe and Central Asia, *Sustainability Science*, 14(5): 1267-1282. DOI: [10.1007/s11625-019-00716-6](https://doi.org/10.1007/s11625-019-00716-6)

3.6 Schröter, M., Başak, E., **Christie, M.**, Church, A., Keune, H., Osipova, E., Oteros-Rozas, E., Sievers-Glotzbach, S., Van Oudenhoven, A. P. E., Balvanera, P., González, D., Jacobs, S., Molnár, Z., Pascual, U., and Martín-López, B. (2020), Indicators for relational values of nature's contributions to good quality of life: the IPBES approach for Europe and Central Asia, *Ecosystems and People*, 16 (1): 50-69. DOI: [10.1080/26395916.2019.1703039](https://doi.org/10.1080/26395916.2019.1703039)

4. Details of the impact (indicative maximum 750 words)

Christie's research for the IPBES ECA assessment provides a framework, to incorporate economic and socio-cultural values of nature and its ES / NCP into public policies, including the processes of the Convention on Biological Diversity (CBD), the G7 response to biodiversity loss, and EU staff guidance for integrating ecosystems and their services in climate mitigation and adaptation policies.

Impact on decisions of the Convention on Biological Diversity (CBD)

Christie was invited to present the findings of the ECA report to the CBD's Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) meeting in Montreal, Canada 29 June to 7 July 2018 [5.1.a]. Following this presentation, SBSTTA used '*stronger language in the draft decision to [the CBD] COP14 to make use of the IPBES reports*' [5.1.b], including SBSTTA Recommendation 22/4 [5.2], which, drawing on the sections of the ECA assessment led by Christie, states that the CBD should make greater use of '*non-material values of biodiversity*' and should promote the use of multiple approaches to valuing biodiversity and ecosystem services [5.2, Annex 2a and n]. An information report on the IPBES regional assessments was also presented to the CBD COP14 meeting held in Egypt between 17 and 29 November 2018 [5.3]. Specifically, key finding 3 of this report highlights that biodiversity has significant market and non-market economic value and non-economic (social/cultural) value, while the values quoted in the bullet point are based on the research directly undertaken by Christie in the ECA assessment [3.3; 3.4; 3.5; 3.6]. The CBD adopted the SBSTTA recommendations at its COP14 meeting through Decisions 14/1 [5.4.a], 14/5 [5.4.b] and 14/34 [5.4.c].

CBD Aichi Biodiversity Targets:

The CBD COP14 Decision 14/1 [5.4.a] asked governments to use the ECA assessment to inform their actions to achieving the CBD Aichi Biodiversity Targets (COP14/1/2 & COP14/1/11(a)). Specifically, Annexes (a), (h) and (n) provide a list of options for governments to achieve the Targets, some of which are based on Christie's research in Section 2.3.5 of the ECA report [3.3], on the multiple values of Nature and its ecosystems services and the methods used to measure those values [5.4.a].

CBD post-2020 global biodiversity framework:

COP14 Decisions 14/1/19 [5.4.a] and 14/34/E.13(i) [5.4.c] request that the CBD use the ECA and other IPBES regional assessments as a key information source to help prepare for the '*post 2020 global biodiversity framework under the Convention*'. Decision 14/5/14(a) further '*requests that the [CBD] Executive Secretary consider the linkages and interdependencies between biodiversity and climate change in the preparation of this framework*' [5.4.b]. A meeting in Bonn, 19 to 21 March 2019, demonstrates that this is happening at the European level [5.5], while the SBSTTA meeting, 25 to 29 November 2019, recommended (Recommendation 23/1, points 1, 3(a) and 20.1) that the CBD COP15 meeting (to be held in 2021) adopt the findings of the IPBES ECA assessment in the preparation of the Post-2020 global biodiversity framework [5.6].

Sustainable Development Goals:

COP14 Decision 14/5/6 '*endorses the key messages [of the IPBES regional assessments] that support achieving the Sustainable Development Goals*' [5.4.b].

The IPBES Executive Secretary reports that the IPBES regional assessments have:

begun to make a very real impact on policy, having already been taken up in the formal processes of the Convention of Biological Diversity (CBD) ... and are expected to help inform the evidence base for the development of the post-2020 global biodiversity framework and targets. [5.7]

Impact on the Metz Charter on Biodiversity

The IPBES regional assessments, including the ECA report, were acknowledged as the ‘*best available science and knowledge*’ in the ‘Metz Charter on Biodiversity.’ The Charter was developed and agreed at a meeting between G7 countries on 6 May 2019. It commits the G7 and other countries to provide a response to biodiversity loss that recognises the economic and non-economic values of biodiversity highlighted in the ECA report [5.8].

Impact on EU Staff Guidance on integrating ecosystems and their services in climate mitigation and adaptation policies

Furthermore, the IPBES ECA assessment is integrated into the European Commission’s Staff Working Document ‘EU guidance on integrating ecosystems and their services into decision-making.’ Specifically, Section 4.6.2 ‘The role of ecosystems and their services in climate mitigation and adaptation policies’ (p.82) states that: ‘*The estimated value of nature’s contribute to climate regulation in the Europe and Central Asia is EUR 400/ha/yr*’ [5.9]. This figure comes directly (albeit rounded down) from Christie’s analysis in Section 2.3.5.2 of the ECA report [3.3] and Section A1 of the IPBES ECA SPM [3.4].

5. Sources to corroborate the impact (indicative maximum of 10 references)

5.1 Emails, Executive Secretary, IPBES; a) 17 May 2018; b) 4 July 2018.

5.2 Convention on Biological Diversity, SBSTTA Recommendation 22/4, 7 July 2018, See Annex 2, a) and n). Available at: www.cbd.int/doc/recommendations/sbstta-22/sbstta-22-rec-04-en.pdf

5.3 Provisional agenda, Convention on Biological Diversity COP14, item 8, 2 November 2018. Available at: www.cbd.int/doc/c/c25e/2274/3c7ea710e0442730174c4216/cop-14-inf-24-en.pdf.

5.4 Convention on Biological Diversity decision CBD/COP14/DEC/14, 30 November 2018:
 a) Decision 14/1; see 2.11(a), 19, and Annex 2(a), (h) and (n). Available at: www.cbd.int/doc/decisions/cop-14/cop-14-dec-01-en.pdf
 b) Decision14/5; see 6 and 14(a). Available at: www.cbd.int/doc/decisions/cop-14/cop-14-dec-05-en.pdf
 c) Decision14/34; see E. key information sources, 13 and 13(i). Available at: www.cbd.int/doc/decisions/cop-14/cop-14-dec-34-en.pdf

5.5 Convention on Biological Diversity report CBD/POST2020/WS/2019/2/2 19 July 2019. See I, 1-4, B, 10 and G 4 & 13. Available at: www.cbd.int/doc/c/7b60/e4e2/998bd1e553db7c749028a455/post2020-ws-2019-02-02-en.pdf

5.6 Convention on Biological Diversity recommendation CBD/SBSTTA/REC/23/1, 29 November 2019. See 1, 3(a), 20(1), 127 & 128. Available at: www.cbd.int/doc/recommendations/sbstta-23/sbstta-23-rec-01-en.pdf

5.7 Letter, Executive Secretary, IPBES, September 2018.

5.8 Metz Charter on Biodiversity, report from the G7, and others, meeting, 5 to 6 May 2019. Available at: www.g7.utoronto.ca/environment/2019-metz-charter-on-biodiversity.pdf

5.9 European Commission staff working document, EU guidance on integrating ecosystems and their services into decision-making, SWD(2019) 305 final, Part 2-3, Brussels, 18 July 2019. See 6.6.2. Available at: <https://ec.europa.eu/transparency/regdoc/rep/10102/2019/EN/SWD-2019-305-F1-EN-MAIN-PART-2.PDF>