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**Plenary of the Intergovernmental Science-Policy
Platform on Biodiversity and Ecosystem Services****Ninth session**

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Item 5 of the provisional agenda*

**Report of the Executive Secretary on progress in the
implementation of the rolling work programme up to
2030****Information on progress in the preparation of the thematic
assessment of invasive alien species, the thematic assessment of
the interlinkages among biodiversity, water, food and health
(nexus assessment) and the thematic assessment of the
underlying causes of biodiversity loss and the determinants of
transformative change and options for achieving the 2050
Vision for Biodiversity (transformative change assessment)****Note by the secretariat**

1. In decision IPBES-6/1, section V, the Plenary of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) approved, for consideration no later than at its tenth session, the undertaking, following the seventh session of the Plenary, of a thematic assessment of invasive alien species, as outlined in the scoping report set out in annex III to decision IPBES-4/1 (hereinafter referred to as the “assessment of invasive alien species”).
2. In decision IPBES-7/1, the Plenary adopted the rolling work programme of the Platform up to 2030. Under objective 1 of the 2030 work programme, assessing knowledge, the Plenary included, among other assessments, a thematic assessment of the interlinkages among biodiversity, water, food and health (hereinafter referred to as the “nexus assessment”) and a thematic assessment of the underlying causes of biodiversity loss and the determinants of transformative change and options for achieving the 2050 Vision for Biodiversity (hereinafter referred to as the “transformative change assessment”). In decision IPBES-8/1, section II, the Plenary approved, for consideration at its eleventh session, the undertaking of the nexus and transformative change assessments, in accordance with the procedures for the preparation of Platform deliverables and as outlined in their respective scoping reports in annexes I and II to the decision.
3. In decision IPBES-8/1, section II, the Plenary invited the management committee of the nexus assessment to consider reducing the number of chapters of that assessment, without changing the underlying content of each individual chapter, in particular on the assessed policy options, in time for the final selection of authors, and ensuring that each sector is represented in overall assessment leadership. In response to that decision, the revised scoping report is set out, without formal editing, in appendix II of the annex to the present note.

* IPBES/9/1.

4. The annex to the present note, which is also presented without formal editing, provides information on the progress made in these assessments, including details on their timeline and the process for the selection of experts.

Annex*

Information on progress in the preparation of the thematic assessment of invasive alien species, the thematic assessment of the interlinkages among biodiversity, water, food and health (nexus assessment) and the thematic assessment of the underlying causes of biodiversity loss and the determinants of transformative change and options for achieving the 2050 Vision for Biodiversity (transformative change assessment)

I. Composition of the expert groups performing the assessments

A. Dedicated Multidisciplinary Expert Panel and Bureau members

1. In line with the procedures for the preparation of IPBES deliverables (decision IPBES-3/3, annex I), the following dedicated members of the Multidisciplinary Expert Panel and Bureau oversaw the production of the assessment report on behalf of the Panel and the Bureau for the three assessments:

Assessment of invasive alien species:

- (a) **Bureau:** Rashad Allahverdiyev, Vinod Bihari Mathur;
- (b) **Multidisciplinary Expert Panel:** Eric Fokam, Shizuka Hashimoto, Ruslan Novitsky.

Nexus assessment:

- (a) **Bureau:** Douglas Beard and Hamid Čustović;
- (b) **Multidisciplinary Expert Panel:** Judith Fisher, Isabel Sousa Pinto, and Katalin Török.

Transformative change assessment:

- (a) **Bureau:** Özden Görücü, Asia Mohamed;
- (b) **Multidisciplinary Expert Panel:** Markus Fischer, Madhav Karki, Sandra Lavorel.

2. The management committee for each assessment consisted of the Multidisciplinary Expert Panel and Bureau members mentioned above, the co-chairs of the assessment, the technical support unit, as well as a representative of the IPBES secretariat. Management committee meetings were held, usually remotely, at regular intervals, for each assessment.

B. Selection of experts for the assessment of invasive alien species

3. A call for the nomination of experts (EM/2018/22) was issued on 1 October 2018 inviting nominations by 1 February 2019.

4. A total of 260 nominations was received for this assessment. The Multidisciplinary Expert Panel, in consultation with the Bureau, in accordance with the procedures for the preparation of Platform deliverables set out in annex I to decision IPBES-3/3, reviewed the nominations during a teleconference in April 2019, and in the margins of the seventh session of the Plenary. They completed a pre-selection of experts based on candidates' expertise as reflected in the nomination forms and curricula vitae of the nominees. Once selected based on merit, further selection considerations focused on balancing disciplinary, regional and gender diversity. Out of the 260 nominees, a total of 47 were selected as experts of the assessment, including 3 co-chairs.

5. The management committee also identified gaps in the availability of experts with regard to geographic balance and disciplinary balance in the nominations received and suggested to fill the gaps in accordance with the procedure for filling gaps in the availability of experts set out in annex I to

* The annex has not been formally edited.

decision IPBES-4/3. This procedure was also followed to replace 2 selected experts who resigned during the assessment. With these experts, the total number of experts amounts to 74 experts.

6. In line with decision IPBES-6/1, in which the Plenary requested the task force on capacity-building to continue implementing the capacity-building rolling plan, which includes the IPBES fellowship programme, the Executive Secretary launched a call for the nomination of fellows (EM/2018/30) on 13 December 2018. A total of 115 nominations were received and 14 fellows selected by the management committee, out of which 2 subsequently resigned. Each fellow contributes to one of the chapters of the assessment. The following table provides information on the total number of experts selected for the assessment, including the fellows:

<i>Co-chairs</i>	<i>Coordinating lead authors</i>	<i>Lead authors</i>	<i>Review editors</i>	<i>Fellows</i>	<i>Total number of experts including fellows</i>
3	14	45	12	12	86

7. The full list of experts is provided on the IPBES website at: <https://ipbes.net/invasive-alien-species-experts-2019>.

C. Selection of experts for the nexus and transformative change assessments

8. In line with decision IPBES-8/1, a call for nominations of experts for the nexus and transformative change assessments was issued on 19 July 2021 (EM/2021/17).

9. The nexus assessment received 291 nominations and the transformative change assessment received 198 nominations.

10. The Multidisciplinary Expert Panel, in consultation with the Bureau, in accordance with the procedures for the preparation of Platform deliverables set out in annex I to decision IPBES-3/3, reviewed the nominations prior to their 17th meetings held in September 2021. They completed a pre-selection of experts based on candidates' expertise as reflected in the nomination forms and curricula vitae of the nominees. Once selected based on merit, further selection considerations focused on balancing disciplinary, regional and gender diversity were made. The final selection of experts was made from December 2021 to January 2022. Out of the 291 nominees for the nexus assessment, a total of 125 were selected as experts. Out of the 198 nominees for the transformative change assessment, a total of 71 were selected as experts.

11. The management committees of the nexus and transformative change assessments identified gaps in the availability of experts with regard to geographic and disciplinary balance in the nominations received and suggested to fill the gaps in accordance with the procedure for filling gaps in the availability of experts set out in annex I to decision IPBES-4/3. The gap filling process is ongoing. For the nexus assessment, 36 experts were identified and 27 confirmed. For transformative change 27 experts were identified and 20 confirmed.

12. For the nexus assessment, the current list of experts amounts to 152 experts; additional experts are being identified and confirmed. The list of experts is set out on the IPBES website at: <https://ipbes.net/nexus/experts>.

13. For the transformative change assessment, the current list of experts amounts to 88 experts; additional experts are being identified and confirmed. The list of experts is set out on the IPBES website at: <https://ipbes.net/transformative-change/experts>.

14. The Executive Secretary launched a call for the nomination of fellows (EM/2021/19) on 09/08/2021, which led to a total of 193 nominations for the nexus assessment, and 160 nominations for the transformative change assessment. A total of 13 fellows were selected for the nexus assessment and 12 fellows for the transformative change assessment. The table below provides details on the number of experts currently selected for both assessments.

<i>Assessment</i>	<i>Co-chairs</i>	<i>Coordinating lead authors</i>	<i>Lead authors</i>	<i>Review editors</i>	<i>Fellows</i>	<i>Total number of experts including fellows</i>
Nexus assessment	3	24	112	13	13	165
Transformative change assessment	3	14	63	8	12	100

D. The technical support units

15. In decisions IPBES-6/1 and IPBES-8/1, the Plenary requested the secretariat, in consultation with the Bureau and in accordance with the approved budget set out in the annexes to decisions IPBES-6/4 and 8/4, to establish the institutional arrangements necessary to operationalize the technical support required for the work programme. Following an open call for expressions of interest in hosting the technical support units for the assessments, the following institutions were selected by the Bureau and the relevant institutional arrangements made:

(a) For the assessment of invasive alien species: The Institute for Global Environmental Strategies (IGES), Japan;

(b) For the transformative change assessment: The University of Montpellier, France. The technical support unit will be fully operational in June 2022.

16. For the nexus assessment, the technical support unit is based with the IPBES secretariat in Bonn, Germany. As of 30 April 2022, the head of the unit had arrived at the secretariat and the associate programme manager was in the last stages of the recruitment process.

17. The role of each technical support unit is to provide scientific, technical and organizational support toward the delivery of the assessment. In addition, the technical support units liaise with other technical support units supporting the IPBES task forces and the production of other assessments, as necessary, to support work towards other deliverables in order to ensure that cross-cutting issues are properly addressed.

18. Additional information on institutional arrangements is provided in IPBES/9/INF/6.

II. Progress towards preparation of the assessment of invasive alien species

19. A description of key steps towards the production of this assessment, undertaken after the eighth session of the Plenary is provided below. A detailed description of the steps taken before the eighth session can be found in IPBES/7/INF/6 and IPBES/8/INF/3.

A. Third author meeting

20. A second meeting to advance the summary for policymakers was held online on 25, 28, 29 and 30 June 2021. The meeting addressed the following issues: (i) ensuring the policy relevance of the summary for policymakers; (ii) resolving major gaps and overlaps and refining the narrative; (iii) finalizing the first order draft of the background part of the summary for policymakers; (iv) initiating the discussion on key messages; (v) initiating the discussions on figures.

21. The third author meeting of the assessment was held from 4 to 8 April 2022 in a hybrid setting, in Aarhus, Denmark. Co-chairs, coordinating lead authors, and chapter 1 review editors participated in person. Other members of the expert group, members of the management committee and of the secretariat were invited to participate remotely. The main objectives were to address comments received during the second external review, resolve cross-chapter issues, improve chapter executive summaries and ensure the policy relevance and clarity of main messages and key findings.

22. The third author meeting included dedicated sessions on the topic of knowledge gaps which emerged from the assessment. Other issues discussed included the consolidation of the methodology and data management reports that were developed and used throughout the assessment.

23. A third meeting to advance the summary for policymakers was held back-to-back with the third author meeting, on 9 and 10 April 2022, in a hybrid setting, in Aarhus, Denmark. The main objective of this meeting was to revise the summary for policymakers based on the comments received during the second external review.

B. Implementation of the approach to recognizing and working with indigenous and local knowledge

24. Experts of the assessment of invasive alien species engaged in three indigenous and local knowledge dialogue workshops, as part of the implementation of the approach to recognizing and working with indigenous and local knowledge, set out in annex II to decision IPBES-5/1.

25. The first dialogue workshop was held in Montreal, Canada on 15 and 16 November 2019. The second dialogue workshop was held online from 29 September to 1 October 2020. The third dialogue workshop was held online from 1 to 3 February 2022.

26. The task force on indigenous and local knowledge organized a call for contributions from 12 June to 15 September 2020 (EM/2020/15), inviting indigenous peoples and local communities to support the three ongoing assessments, including the assessment of invasive alien species. There were more than 700 submissions, including 30 documents directly relevant to the assessment of invasive alien species. These were included by the experts of the assessment of invasive alien species in their literature review processes. Please refer to IPBES/8/INF/10 for more information.

C. Other activities relevant to the assessment of invasive alien species

27. Experts of the assessment of invasive alien species were involved in a number of cross-cutting IPBES activities (e.g., workshops, task force meetings and side events) and other events relevant to the assessment. Events since the eighth session of the Plenary include participation at an event at the World Conservation Congress of IUCN on the global invasive alien species target for the post-2020 global biodiversity framework (6 September 2021, online), and participating in the meeting of the IPBES task force on indigenous and local knowledge (9- 16 November 2021, online; please see document IPBES/9/INF/13).

D. Timeline and next steps

28. An updated annotated timeline for the assessment of invasive alien species is set out in appendix II.

29. The Multidisciplinary Expert Panel and Bureau, following decision IPBES-8/1, decided to recommend to the Plenary to conduct an additional round of review by Governments in July and August 2022 for the summary for policymakers of the invasive alien species assessment, followed by an additional meeting to advance the summary for policymakers. Such an additional round of review could enhance the policy relevance of the summary for policymakers and facilitate the consideration of its final version by the Plenary.

III. Progress towards preparation of the nexus assessment and of the transformative change assessment

A. Management committee meetings

30. All meetings of the nexus and transformative change management committees to date have been conducted online. The management committees met in December 2021 to finalize their recommendation for the selection of experts. Since December 2021, the management committees met on a regular basis to discuss the organization of the online introductory meetings. Further, the nexus management committee met in April 2021 to discuss the first author meeting.

B. Online introductory meetings

31. Meetings of the co-chairs and coordinating lead authors were held on 7 and 8 February and 9 and 11 February 2022 for the transformative change and nexus assessment, respectively. The objectives of both meetings were to:

- (a) Introduce co-chairs and coordinating lead authors to each other;
- (b) Briefly introduce IPBES and the assessment process;
- (c) Provide an overview of the scoping report and co-chairs' vision for the assessment;
- (d) Communicate the role and expectations of coordinating lead authors.

32. An online introductory meeting with the full expert group was also held on 22 and 23 February 2022 for the transformative change and nexus assessments, respectively. A joint meeting of the nexus and transformative change experts was organized on 24 February 2022.

33. Following the online introductory meetings, the chapters met online to develop the zero-order draft of the chapters which were discussed at the subsequent first author meetings.

C. First author meetings

34. The nexus and transformative change first author meetings were held in-person with an online option available. The first author meeting of nexus assessment was held from 16-20 May 2022 and hosted at the Senckenberg Biodiversity and Climate Research Centre in Frankfurt, Germany. The first author meeting of the transformative change assessment was held from 8-13 May 2022 at the University of Montpellier and Agropolis International in Montpellier, France.

D. Other activities related to the nexus and transformative change assessments

35. The technical support unit for the knowledge and data task force conducted a data workshop at the first author meetings for both the nexus and transformative change assessments.

36. The technical support unit for the indigenous and local knowledge task force worked with the co-chairs of the assessment to identify members for the indigenous and local knowledge liaison groups for both assessments. A workshop on indigenous and local knowledge was held at the first author meetings of both assessments.

37. The co-chairs of both assessments met the week of 25 April 2022 to discuss potential overlaps and ways in which the two assessments will coordinate to avoid duplication of work and build on overarching topics between the two assessments. Future meetings will be planned as needed to facilitate coordination between the two assessments.

38. The secretariat is working with the task force on policy tools and methodologies to send letters to a number of organizations which would be expected to use the findings of both assessments, including: the four UN partners of IPBES: United Nations Environment, the United Nations Educational, Scientific and Cultural Organisation (UNESCO), the Food and Agriculture Organization of the United Nations (FAO) and the United Nations Development Programme (UNDP), the World Health Organization (WHO), UN Water, the Department of Economic and Social Affairs of the Secretariat of the United Nations and the secretariats of the Convention on Biological Diversity (CBD) and of the United Nations Framework Convention on Climate Change, regarding:

(a) Ongoing work and existing decisions, publications or other materials relevant to the assessments;

(b) Issues and questions which the IPBES assessments could address, within their agreed scope, to make the assessments most useful to these organizations, particularly related to the 2050 Vision for Biodiversity, the post-2020 global biodiversity framework; long-term strategies of the Paris Agreement (for matters related to the links between biodiversity and climate change) and the 2030 Agenda for Sustainable Development;

(c) Future plans or products that could be informed by the key messages of the assessments once completed and how these key messages may be considered in these plans or products.

39. The compilation, once finalized, will be made available to authors.

E. Involvement of resource persons with practical experience

40. The Bureau, at its 17th meeting (October 2021), was invited to consider a proposal for piloting the involvement of practitioners in the nexus and transformative change assessments.

41. The practitioners would engage through online sessions with the authors and then be involved in the subsequent external reviews to provide feedback on the practical and policy relevance of the assessments.

42. Following confirmation of all the nominated experts and gap fillers, the secretariat in consultation with the management committees of the nexus and transformative change assessments, is working to identify a small number of practitioners for this pilot phase.

F. Reducing the number of chapters of the nexus assessment

43. Reducing the number of chapters of the nexus assessment in response to decision IPBES-8/1, section II, paragraph 2, was seen as critical for managing the nexus assessment. The new chapter structure developed by the management committee is presented as a consolidated version of the scoping report in appendix II.

G. Timeline and next steps

44. A timeline for both assessments is set out in appendix III.

Appendix I*

Timeline for the thematic assessment of invasive alien species

<i>Date</i>	<i>Actions and institutional arrangements</i>
2018	
March	Decision by Plenary to conduct the assessment following its seventh session
October	Request for nominations of experts from Governments and other stakeholders
2019	
April/May	Selection of the assessment co-chairs, coordinating lead authors and lead authors
June	Meeting of the management committee of the assessment, 6-8 June 2019
August	First author meeting, 19 – 23 August 2019. Preparation of the advanced annotated outline of the assessment chapters
December	Completion of the advanced annotated outline of the assessment chapters and internal review
2020	
January-August	Preparation of the first order draft of the chapters
August-October	First external review: 31 August – 18 October 2020. Review by experts of the first order draft of the chapters
November-December	Second author meeting: 30 November – 7 December 2020. Preparation of second order draft of the chapters
Fourth quarter	Continuation of preparation of second order draft of chapters and first order draft of summary for policymakers
2021	
February-March	First meeting to advance the summary for policymakers: 22, 25 February and 3 March 2021
First quarter/Second quarter/Third quarter	Continuation of preparation of second order draft of chapters and first order draft of summary for policymakers Second meeting to advance the summary for policymakers: 25, 28, 29 and 30 June 2021
Fourth quarter	Second external review by Governments and experts of the second order draft of the chapters and of the first order draft of the summary for policymakers: 15 December 2021 – 15 February 2022
2022	
January-February	Dialogue workshops with national focal points: 19 January 2022; with stakeholders: 20 January 2022; on indigenous and local knowledge: 1-3 February 2022
April	Third author meeting: 4-8 April 2022; third meeting to advance the summary for policymakers: 9-10 April 2022
Second quarter/Third quarter	Continuation of preparation of final drafts
July-August	Additional review by Governments of the summary for policymakers (to be confirmed)
Third/fourth quarter	Additional meeting to advance the summary for policymakers (to be confirmed)
Fourth quarter	Preparation of final drafts of the chapters and of the summary for policymakers.
2023	
First quarter	Final review of the summary for policymakers by Governments prior to the tenth session of the Plenary
Second quarter	Tenth session of the IPBES Plenary invited to approve the summary for policymakers and accept the chapters of the assessment Final laid-out versions of chapters and summary for policymakers, outreach and communication.

* The appendix has not been formally edited.

Appendix II*

Scoping report with revised chapter structure for the nexus assessment

In response to decision IPBES-8/1 and following the eighth session of the IPBES Plenary (June 2021), the management committee of the nexus assessment reduced the number of chapters of the assessment from 12 to 7 without changing the underlying content. The scoping report for the nexus assessment is reproduced below, with the final chapters' structure, and no change in the original content.

The correspondence between the final chapters' structure, and the former version approved by IPBES 8/1 is as follows:

- *Final chapter 2 corresponds to the merging of former chapters 2 and 3.*
- *Final chapter 3 corresponds to former chapter 4.*
- *Final chapter 4 corresponds to former chapter 5.*
- *Final chapter 5 corresponds to the merging of chapters 6, 7, 8, 9 and 11.*
- *Final chapter 6 corresponds to former chapter 10.*
- *Final chapter 7 corresponds to former chapter 12.*

Scoping report for the thematic assessment of the interlinkages among biodiversity, water, food and health (nexus assessment)

I. Scope, timeline and geographic coverage, policy context and methodological approach

A. Scope

2. This document was prepared in response to decision IPBES-7/1, in which the Plenary of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) approved a scoping process, for consideration at its eighth session, for a thematic assessment of the interlinkages among biodiversity, water, food and health. The assessment addresses the interlinkages among biodiversity, climate change, adaptation and mitigation including relevant aspects of the energy system, water, food, and health and will consider holistic approaches based on different knowledge systems.

3. The assessment will fully take into account the IPBES conceptual framework, as set out in the annex to decision IPBES-2/4, in particular by addressing all of the elements and interactions of the IPBES conceptual framework, and by fully recognizing and considering different world views and different knowledge systems, including science and indigenous and local knowledge systems.

4. The report will assess the state of knowledge, including indigenous and local knowledge, on past, present and possible future trends in these multi-scale interlinkages, with a focus on biodiversity and nature's contributions to people, to inform the development of policies and actions. Strong interlinkages and interdependencies exist among globally agreed goals with regard to the components of the nexus. The complementarity and trade-offs between these agreements and frameworks will be assessed in the context of the nexus approach.

5. The assessment will highlight thresholds, feedback and resilience in nexus linkages, as well as opportunities, synergies and trade-offs between different response options. The assessment will consider the synergies and trade-offs in terms of broadly defined social, economic, and environmental impacts. Emphasis will be placed on response options that consider these nexus elements and their diverse dimensions, including the limits and safeguards needed to implement those options.

6. The assessment, across all nexus elements, will evaluate the role of the most important indirect (i.e., societal values, production and consumption patterns, demography, technology, culture, and governance) and direct drivers of change (i.e., land- and sea-use change, direct exploitation of

* The appendix has not been formally edited.

organisms, climate change, pollution, and invasive species),¹ the role of both formal and informal institutions, and the impacts of the patterns of production, supply and consumption (including telecoupling) on nature, nature's contributions to people and good quality of life.

7. The assessment process and its outputs will be supported by, and contribute to, the four functions of the Platform.²

B. Timeline and geographic coverage

8. The assessment will be global in scope but highlight and interpret regional and subregional similarities and differences, and will include terrestrial, freshwater and marine systems.

9. The time frame of analyses will cover the past (in the last 50 years, from the industrial revolution, from around 1500 or as far back as appropriate, where data or information is available, or as clearly relevant to future response options or to understand current status and trends) and plausible future projections up until 2050, with a focus on various periods up to 2050 that cover key target dates related to the post-2020 global biodiversity framework³ and the Sustainable Development Goals. Longer future time horizons up to 2100 will be considered where they add relevant knowledge on the long-term consequences of nexus interactions or the long-term resilience of response options.

10. The assessment will be conducted over three years from the initial start of the assessment.

C. Policy context

11. The assessment will contribute to the development of a strengthened knowledge base for policymakers for informed, science-based decision-making, in the context of the 2050 Vision for Biodiversity, the post-2020 global biodiversity framework and its targets, as well as national biodiversity strategies and action plans, and nationally determined contributions and long-term strategies of the Paris Agreement adopted under the United Nations Framework Convention on Climate Change (for matters related to the links between biodiversity and climate change) and the 2030 Agenda for Sustainable Development.

12. Intended users include Governments, relevant multilateral environmental agreements, other multilateral organizations, academic organizations, the private sector and civil society, including indigenous peoples and local communities, and non-governmental organizations. The assessment is also expected to inform other national, regional and global policies on the conservation and sustainable use of biodiversity and ecosystems and their contributions to people. The assessment will also provide guidance on building resilience to pandemics, highlighting the role of biodiversity and restoration of ecosystem functions in the prevention of pandemics.

D. Methodological approach

13. The assessment will be produced by a group of experts in accordance with the procedures for the preparation of Platform deliverables. It will include a summary for policymakers and a set of chapters, submitted to the Plenary for its approval and acceptance, respectively.

14. For the purpose of the assessment, biodiversity is: “The variability among living organisms from all sources, including terrestrial, marine and other aquatic ecosystems, and the ecological complexes of which they are a part. This includes variation in genetic, phenotypic, phylogenetic and functional attributes, as well as changes in abundance and distribution over time and space within and among species, biological communities and ecosystems.”⁴ Climate includes the global climate system and its interactions with human activities, comprising climate change, adaptation and mitigation, including relevant aspects of the energy system; water includes all forms of surface and ground water and the biophysical and human processes and systems that regulate its quality, quantity, distribution and use; food includes the full value chain for all cultivated and wild foods, fibre, feed, lumber and industrial feedstocks, from production to consumption and disposal; and health includes human

¹ As identified in: Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), *Summary for Policymakers of the Global Assessment Report on Biodiversity and Ecosystem Services* (Bonn, Germany, 2019).

² UNEP/IPBES.MI/2/9, annex I, appendix I, section I.

³ Decision 14/34 of the Conference of the Parties to the Convention on Biological Diversity. For more information see www.cbd.int/conferences/post2020.

⁴ IPBES, “Biodiversity”, Glossary. Available at <https://ipbes.net/glossary/biodiversity> (14/07/2021).

physical and mental health and well-being, how infectious diseases emerge from the wild, including the role of human activity in their spread and the systems related to the prevention, treatment and management of diseases, and is addressed using frameworks such as the One Health and other holistic approaches.

15. The assessment will aim to be credible, legitimate, science-based and build from a multiple evidence base. The summary for policymakers will highlight key policy-relevant findings and non-prescriptive policy options for a wide range of end users, some of whom are mentioned above, and reflect the comprehensive analysis of the current state of scientific knowledge and other knowledge systems (including indigenous and local knowledge) performed in the chapters and summarize knowledge gaps and further research needs.

16. The assessment will be based on existing evidence: data (including, as appropriate, national data), scientific and grey literature and other forms of knowledge, in different languages (to the extent possible), including indigenous and local knowledge, in line with relevant procedures of the Platform.

17. The assessment will build on and complement previous and ongoing work by IPBES, including IPBES assessments (methodological, thematic, regional and global). The reports from the IPBES workshop on biodiversity and pandemics⁵ and the IPBES/Intergovernmental Panel on Climate Change co-sponsored workshop on biodiversity and climate change⁶ will be considered as supplementary material in the preparation of the assessment. The assessment will also use existing data and information held by global, regional, subregional and national institutions, including but not limited to relevant multilateral environmental agreements and intergovernmental organizations. The assessment will use existing scenarios and models as well as new scenarios and models whose production may be catalyzed as part of the follow-up to the IPBES Assessment of Scenarios and Models of Biodiversity and Ecosystem Services.⁷

18. The assessment will identify key knowledge gaps and areas of knowledge generation needs in capacity and policies, promote the use of policy support tools and provide options and solutions for addressing them at the appropriate scales.

19. The task force on indigenous and local knowledge will support the implementation of the approach to recognizing and working with indigenous and local knowledge in IPBES for the assessment. The task force on knowledge and data will support work related to data and knowledge, as detailed in section III below. The task force on scenarios and models will support the work of authors, in particular those preparing chapter 4. The task force on policy tools and methodologies will perform work to increase the policy relevance of the assessment and its use in decision-making, once approved. Finally, the task force on capacity-building will oversee the implementation of capacity-building activities, as outlined in section IV below.

20. Given the potentially strong interlinkages between the planned IPBES nexus assessment and transformative change assessment (thematic assessment of the underlying causes of biodiversity loss and the determinants of transformative change and options for achieving the 2050 Vision for Biodiversity), close coordination and facilitation between all relevant assessment processes during their development will be ensured to enable complementarity and synergies and to avoid duplication of scope and work. The two assessments will be complementary, with the transformative change assessment focused on determinants of transformative change, and the nexus assessment focused on options for overcoming trade-offs and for enabling synergies between biodiversity, water, food and health.

II. Chapter outline

21. The assessment will be divided into two parts, with part I focused on framing the nexus and holistic approaches, and part II on pathways to sustainable futures based on different knowledge systems. Part I will include three chapters and part II four, each containing an executive summary.

⁵ IPBES/8/INF/5.

⁶ IPBES/8/INF/20.

⁷ IPBES, *The Methodological Assessment Report on Scenarios and Models of Biodiversity and Ecosystem Services* (Bonn, Germany, 2016).

Part I. Framing the nexus

22. **Chapter 1: Introducing the nexus.** Chapter 1 will outline the general framework for the assessment and the relationship to the transformative change assessment, define the elements of the nexus, including their social, economic and environmental aspects, and portray the interlinkages and interdependencies among the nexus elements across scales, geographic regions and ecosystems. Chapter 1 will explain the policy relevance of the assessment, provide a road map and overarching rationale for the sequence of chapters in the assessment and identify the policy-relevant key questions pertinent to the assessment. The chapter will frame the conceptual basis for the assessment, linked to the IPBES conceptual framework, including links to nature's contributions to people and good quality of life. The chapter will also discuss the importance of indicators in the context of the nexus, and the effectiveness of the monitoring frameworks of the post-2020 global biodiversity framework and of the 2030 Agenda at capturing the nexus interactions.
23. **Chapter 2: Status and past trends of interactions in the nexus.** Chapter 2 will assess the global and regional trends and current status of key aspects of the two-way interactions between biodiversity and each element of the nexus. The chapter will treat each two-way interaction with a separate section: (a) Biodiversity and climate change, mitigation and adaptation, including relevant aspects of the energy system; (b) biodiversity and water; (c) biodiversity and food; (d) biodiversity and health.
24. Within each section, interactions will be described and assessed, quantitatively when possible, in terms of their environmental, social and economic costs and benefits. Each section will summarize overarching insights that can improve decision-making and assign attribution of past trends in most impactful interactions to drivers (direct and indirect), identifying which past actions, decisions, policies or institutions have or have not advanced elements of the nexus relative to the Sustainable Development Goals at various scales. The analysis and synthesis in each section will describe the roles of formal and informal institutions (e.g., shared rules, values, customs and cultural practices) associated with any of the systems in the nexus. In addition to an in-depth assessment of two-way interactions, each section will also give a brief indication of the most important past and current higher-order (three-way or higher) interactions involving each pair, which will be examined in more detail in this chapter. Terrestrial, freshwater and marine ecosystems will be considered.
25. Chapter 2 will also assess the global and regional trends and current status in interactions and integrated perspectives of higher-order interactions in the nexus. Building on the first part above, which approaches this nexus through system-specific two-way interactions, chapter 2 will emphasize the three-way and higher interactions (e.g., biodiversity – food – health, biodiversity – climate – water). Understanding the nexus is complex but essential to managing biodiversity and development issues effectively. The chapter will attribute past trends in important interactions to drivers (direct and indirect), identifying which past actions, decisions, policies, or institutions have affected elements of the nexus relative to the Sustainable Development Goals. The chapter will assess potential synergies and trade-offs among those multiple dimensions of the nexus and identify challenges, opportunities, and methodologies for approaching them holistically instead of through the lens of one system at a time. The chapter will outline how interactions were prioritized for analysis and will not attempt to assess every possible higher-order interaction. Instead, it will identify and focus on a subset of interactions that are likely to be most powerful in shaping the nexus and most relevant to response options. In doing so, it will establish a set of overarching relationships that can be explored in a consistent manner through the scenarios provided in chapter 3.
26. **Chapter 3: Future interactions across the nexus.** Chapter 3 will assess different types of scenarios (exploratory, policy-screening and target-seeking, defined according to the IPBES Assessment of Scenarios and Models), including qualitative scenarios and diverse views of future projections of good quality of life, representing plausible futures for the nexus issues addressed in this assessment. The chapter will focus on scenarios that address, in an integrated way, multiple interactions among these issues and their response to major drivers of change (e.g., population and economic growth), as identified in chapter 2 as being the most powerful and relevant to response options. While the chapter will cover a range of exploratory scenarios that are likely to show positive and negative future impacts on biodiversity, a greater focus of the chapter will be on the analysis and comparison of scenarios representing sustainable futures, which better integrate the elements of the nexus, paving the way for chapters 4 to 6. The timeframe of the analysis will focus on scenarios covering the period from current year to 2050 (linking to relevant policy targets such as the Sustainable Development Goals and the 2050 Vision for Biodiversity), although longer time horizons to 2100 will be considered where they add relevant knowledge on the long-term consequences of

nexus interactions or the long-term resilience of response options. Global- to national-scale (and subnational-scale, where relevant) scenario studies that are quantitative and/or qualitative will be considered.

27. The chapter will cover a wide range of direct and indirect drivers of biodiversity change (see paragraph 5 in Section A of the scoping report) that are addressed within scenarios that affect or shape the nexus, including how these drivers evolve through time into the future. The chapter will also account for alternative worldviews and visions of the future, including those embedded within indigenous and local knowledge. The chapter will include analyses of which nexus interactions are most influential in determining how multiple internationally agreed goals can be achieved, while minimizing trade-offs. It will show which pathways lead to outcomes that are closest to and furthest from these policy goals. Finally, it will discuss uncertainties and limitations embedded in currently available scenarios and models, focusing on their treatment of nexus interactions.

Part II. Pathways to sustainable futures

28. Part II of the assessment will address the possible pathways to realizing a range of sustainable futures.⁸

29. Chapter 4 will assess policy and sociopolitical options to implement changes for sustainable futures. Drawing from the analyses in part I, chapters 5 and 6 will take a holistic multisectoral and multidimensional view to assess the potential for different sets of actors to create the changes identified in chapter 4. The chapters, in line with the nexus approach, will assess options for action which are in synergy with each other, by actors focused on water (chapter 5.1), food (chapter 5.2), health (chapter 5.3), finance (chapter 6), biodiversity (chapter 5.4), and focused on delivering sustainable biodiversity-related approaches to climate change, adaptation and mitigation, including relevant aspects of the energy system (chapter 5.5).

30. Each chapter will consider:

(a) Response options that include individual and collective action (e.g., from local to national governments, international organizations, the private sector, youth, faith-based organizations, indigenous peoples and local communities, financial institutions, non-profit organizations, and research organizations) to modify or change policies and regulations, financial instruments, governance structures, technologies, business practices, and behaviours, and enabling conditions to advance the changes identified in chapter 4;

(b) Response options that require joint action by multiple sectors, emphasizing how each sector would contribute to those joint actions;

(c) The potential of nature-based solutions,⁹ ecosystem-based approaches and other response options;

(d) The environmental (e.g., biodiversity, climate, ecosystem services and nature's contributions to people in terrestrial, freshwater, and marine ecosystems), social (e.g., gender equity, cultural values, disease burden, food security, water security and disaster risk) and economic (e.g., employment, livelihood options, income and access to capital) costs and benefits (positive and negative impacts) of response options that can advance the changes highlighted in chapter 4. These assessments will be quantitative when possible, outline ways in which actions can be prioritized and include consideration of the environmental, social and economic impacts of inaction or delayed action considering multiple value systems;

(e) Which indicators are used to track progress toward goals and targets, including as part of the monitoring framework of the post-2020 global biodiversity framework and the 2030 Agenda, how efficient are they at capturing nexus interactions and holistic integration, what progress has been made against these indicators, and what options exist to improve or complement them?

⁸ The assessment will acknowledge that there is a range of sustainable futures depending on one's world view and a number of other factors.

⁹ "Actions to protect, sustainably manage and restore natural and modified ecosystems in ways that address societal challenges effectively and adaptively, to provide both human well-being and biodiversity benefits". International Union for Conservation of Nature, *Global Standard for Nature-based Solutions* (Gland, Switzerland, 2020).

(f) Knowledge gaps related to response options for the given sector, including limitations to using process-based and numerical simulation models for nexus explorations;

(g) As relevant, case studies of successes and failures at different scales.

31. **Chapter 4: Policy and sociopolitical options across the nexus that could facilitate and accelerate the transition to a range of sustainable futures.** Chapter 4 will define what change means in the context of the present nexus and will assess the utility of different theoretical and practical frameworks for implementing sustainable management approaches, either through transformative change based on different knowledge systems, or through identifying other approaches to management (policy and sociopolitical options). Changes that could facilitate sustainability within the context of the interacting nexus elements, and in the broader context of the 2050 Vision for Biodiversity, the post-2020 global biodiversity framework and its targets, as well as national biodiversity strategies and action plans, and nationally determined contributions and long-term strategies of the Paris Agreement adopted under the United Nations Framework Convention on Climate Change, will be explored. This chapter will assess the factors, including economic and financial, technical and technological, social, institutional, cultural and behavioural, that could facilitate or obstruct changes to achieve a sustainable future and avoid actions which could be maladaptive in the longer term. Specifically, chapter 4 will identify and assess cross-cutting and high-level issues, including integrative tools that are relevant for all nexus elements, e.g., social issues such as poverty, employment, gender, cohesion, education, food security, equity and justice, and demography; economic and financing issues such as inclusive wealth, subsidies, externalities, income, growth and cost-effectiveness; and political issues such as polycentric governance and inclusiveness. The chapter will assess how economic, financing and governance systems can evolve, as well as evaluate the potential of cross-sectoral planning and management in creating sustainable approaches to management of nexus elements. This chapter will also examine the roles of technology, and indigenous and local knowledge, and different perceptions of a good quality of life and the values and structural conditions that influence individual and collective behaviour in relationship to the nexus. The potential effectiveness of a variety of governance interventions and leverage points will be assessed. The chapter will discuss and assess the types of actions that represent transformative change and other sustainable approaches to decision-making, e.g., what actions are not in themselves transformative but lead to transformation, and briefly identify the types of sector-specific actions that are incremental, but still very important, while understanding synergies and trade-offs with all nexus elements. Finally, chapter 4 will include a section on holistic perspectives of the nexus elements, including different world views, such as those held by indigenous peoples and local communities, and various conceptualizations of the world, as appropriate. The intrinsic values of nature and mechanisms to support holistic indigenous approaches should be considered.

32. **Chapter 5: Options for delivering sustainable approaches**

(a) **Chapter 5.1: Options for delivering sustainable approaches to water.** Chapter 5.1 will address the response options that can be implemented by actors in the freshwater and marine sectors to create the changes outlined in chapter 4. Response options such as water policies or demand management that provides safe, adequate and equitable supply for various users and uses will be identified and assessed at the watershed and at other appropriate scales. The chapter will also assess policy options available to public and private water managers such as participatory management, adaptive uses of water systems, water and land tenure and access, integrated watershed management, water reuse, mitigation measures for water infrastructure development and nature-based, ecosystem-based and other solutions that contribute to biodiversity and ecosystem protection and management. This chapter will take a holistic integrated approach, while also seeking to address challenges to implementation of policy response options, including at the transboundary level. It will consider interactions between freshwater, terrestrial and marine ecosystems. It will incorporate biodiversity and nature's contributions to people into considerations in current policy responses, commitments, incentives and finance channels along with water management for climate change, adaptation and mitigation, and prevention and management of invasive alien species. It will also explore the utility of relevant transdisciplinary concepts, which can be used to identify innovative policy interventions.

(b) **Chapter 5.2: Options for delivering sustainable food systems.** Chapter 5.2 will address the response options that can be implemented by actors in the food system to create the changes outlined in chapter 4. Response options considered may include policies and procedures at any scale related to food systems (e.g., entire value chains of wild harvested terrestrial, freshwater or marine resources, crops, feedstocks, fibre, livestock, aquaculture, agroforestry and forestry). Response options may include governance, finance, regulatory regimes, trade, and management systems and

practices. The chapter will also examine the use of effective agricultural practices, including agroecological practices, organic farming, integrated pest management and biotechnology, that incorporate innovative solutions as possible pathways to sustainability, including trade-offs. Further, the chapter will examine how to achieve food and nutrition security and food safety, and how to reduce food loss and waste. Other components of the food system such as altering food processing, packaging, distribution, trade and marketing will be considered as part of the analysis. The chapter will consider indigenous and local knowledge relevant to food systems; examine how to alter food demand and consumption and how to increase diversity in food consumption to ensure equitable access to healthy diets. Response options could also include those that contribute to water security and thriving freshwater systems; reducing greenhouse gas emissions; increased efficiency (e.g., land requirements, water and chemical inputs, soil health) in existing production or harvest systems; and improved health (e.g., undernutrition and overnutrition, air quality, and pandemic prevention) in order to facilitate improvements across all elements of the nexus.

(c) Chapter 5.3: Options for delivering sustainable approaches to health. Chapter 5.3 will address the response options that can be implemented by health actors to create the changes outlined in chapter 4. Response options considered may include policies and procedures related to valuing the human health-related contributions from biodiversity (including medicinal plants, contributions to nutrition and to mental health). The chapter will examine progress towards equity in accessibility to health-related benefits (including for indigenous peoples and local communities, community groups, women and girls), governance of intellectual property rights, management of environmental determinants of diseases, or health system impacts on biodiversity. Response options may include health-oriented actions that benefit health and biodiversity, as well as other elements of the nexus, and may require cross-sector collaboration (e.g., sanitation and wastewater treatment; diet diversification that maintains crop genetic diversity and improves nutrition; reproductive health options that aid maternal and child health, lower demands for environmental resources and maximize cross-sectoral benefits and governance; addressing a One Health approach in an environment shared by people, animals and plants; coronavirus disease (COVID-19) pandemic recovery actions that reduce future pandemic risk and mitigate climate change and/or enhance food security).¹⁰ There may be considerations of policies and procedures that adopt frameworks that allow exploration of approaches to a healthy planet, maximizing cross-sectoral benefits and governance. Response options will include those that manage the linkages among biodiversity and disease prevention, including links to anthropogenic drivers of the emergence and spread of infectious diseases, including those with pandemic potential, such as COVID-19, SARS, Nipah virus infection, HIV/AIDS and Ebola virus disease, as well as land-use change, climate change, wildlife consumption and trade, and livestock intensification.¹¹

(d) Chapter 5.4: Options for delivering sustainable approaches to biodiversity conservation, restoration and sustainable use. Chapter 5.4 will address the response options that can be implemented by environmental or conservation actors to create the changes outlined in chapter 4. Response options considered may include the potential of nature-based solutions, ecosystem-based approaches and other response options such as Mother Earth rights-based approaches, green and blue urban spaces, terrestrial, freshwater and marine spatial planning, the creation and effective and sustainable management of protected area networks and ecological corridors, other effective area-based conservation measures to maximize conservation and enhance ecological connectivity, environmental restoration of degraded ecosystems, and environmental rehabilitation. Response options may include environmental regulations (e.g., infrastructure development, water management, aquaculture and fisheries management, agricultural chemical use, and pollution), and voluntary norms or formal governance agreements related to natural resource access and management. Options will include consideration of necessary research, monitoring and environmental public awareness and education to support the changes identified in chapter 5.

(e) Chapter 5.5: Options for delivering sustainable biodiversity-related approaches to climate change, adaptation and mitigation, including relevant aspects of the energy system. Chapter 5.5 will address biodiversity-related response options for climate change, adaptation and mitigation, including relevant aspects of energy production, distribution and consumption, including those that can be implemented in terrestrial, freshwater, and marine ecosystems, to create the changes outlined in chapter 4. Options considered may focus on mainstreaming biodiversity considerations into

¹⁰ For specific potential options see IPBES, Workshop Report on Biodiversity and Pandemics of the Intergovernmental Platform on Biodiversity and Ecosystem Services (Bonn, Germany, 2020).

¹¹ Ibid.

the relevant aspects of the energy system. The chapter will examine biodiversity-related policies and procedures related to the governance of climate change, adaptation and mitigation strategies, including relevant aspects of the energy system. Further, the chapter will examine financing options and incentives to mitigate and adapt to climate change, while conserving, restoring and sustainably using biodiversity, and meeting relevant global objectives for food, water, and health.

33. **Chapter 6: Options for delivering sustainable approaches to public and private finance for biodiversity-related elements of the nexus.** Chapter 6 will address the response options that can be implemented by actors in the financial sector to create the changes outlined in chapter 4. The chapter will examine the role of international and national public and private financiers in funding progress towards the options identified in previous chapters. The chapter will consider response options related to domestic budgets, philanthropic foundations, international cooperation, private investors and lenders, and multilateral organizations and development cooperation agencies. Further, the chapter will assess progress in the context of international conventions' commitments to providing the financing required to achieve the changes highlighted in chapter 4, including those that have the potential to achieve the Sustainable Development Goals. The chapter may consider different mechanisms, approaches, and market and non-market economic instruments to enhance nexus and holistic approaches within the context of the evolving economic paradigms explored in chapter 4.

34. **Chapter 7: Summary and synthesis of options, knowledge and technology gaps and capacity development.** Chapter 7 will summarize the opportunities for action for a range of policymakers, decision-makers and actors at all levels, including relevant parts of the United Nations system, the governing bodies of nexus-related biodiversity, climate (including relevant aspects of the energy system), food, water or health agreements and other relevant agreements, as appropriate, and, in accordance with their respective mandates, policymakers, legislators, private sector actors, financial planners, civil society, academic and research institutions, indigenous peoples and local communities, youth, women, and other stakeholders related to any systems within the nexus. Holistic perspectives of the nexus elements, including those held by indigenous peoples and local communities, would also be brought forward in this chapter. This summary will also include a synthesis of the costs of action and inaction identified in chapters 5 and 6, providing a conclusion on how they relate to each other. Emphasis will be given to summarizing which opportunities for transformation can be driven most efficiently by actors within a sector, and which opportunities will require collaborative action across multiple sectors and civil actors. Attention will also be given to which trade-offs within the nexus are likely to persist, and what can be done to mitigate these and support social groups most likely to be impacted.

35. The chapter will summarize the findings on the strengths and weaknesses of the monitoring frameworks of the post 2020 global biodiversity framework and of the 2030 Agenda for Sustainable Development in the context of the nexus and suggest options to complement them. Finally, the chapter will synthesize knowledge gaps, including governance gaps and future research needs, as identified throughout the assessment. Attention will be given to opportunities for synergies in filling knowledge and capacity gaps across elements of the nexus.

III. Data and information

36. The nexus assessment will draw on data and information from diverse knowledge systems and languages, including scientific literature and indigenous and local knowledge, addressing all the components of the IPBES conceptual framework in order to explore the interrelationships between nature, nature's contributions to people, drivers, institutions and governance and good quality of life.

37. Attention will be given, in accordance with the Platform's data management policy, to ensuring access to metadata and, whenever possible, the corresponding underlying data, through a findable, accessible, interoperable and reusable (FAIR) process to ensure comparability between assessments. Furthermore, the task force on knowledge and data will work towards ensuring that the outcomes (i.e., knowledge and metadata products) of the nexus assessment are widely available for future Platform assessments and other uses.

38. The assessment will also identify and seek access to globally and regionally relevant data and information sources that may exist or emerge. Potential data sources include, but are not limited to, global, regional and national institutions and organizations, scientific literature, grey literature and indigenous and local knowledge. The needs of the assessment process will be communicated widely in order to identify and encourage the sharing of relevant data and information.

39. The task force on knowledge and data will support work on data and information quality, confidence, essential biodiversity variables and indicators, baselines and representativeness, as necessary. It will also support experts in their identification of knowledge gaps and, subsequently, promote knowledge generation to address the gaps identified.

40. Addressing and working with indigenous and local knowledge in the assessment will be in line with the IPBES approach adopted by the Plenary in decision IPBES-5/1 and relevant guidance regarding its implementation prepared by the task force on indigenous and local knowledge.

IV. Capacity-building and development

41. Capacity-building activities will help support the development and uptake of the assessment. The activities will be designed in accordance with objective 2 on building capacity of the IPBES work programme up to 2030 and the capacity-building rolling plan, under the guidance of the task force on capacity-building. Activities will, subject to the availability of resources, include: the IPBES fellowship programme; the training and familiarization programme; science-policy dialogues; and support to activities organized by other organizations in support of the uptake and use of the assessment findings across sectors and the strengthening of the science-policy interface at (sub)regional and national levels.

V. Communication and outreach

42. The nexus assessment report and its summary for policymakers will be published in electronic format, made available on the Platform website and promoted through social media channels of the Platform. The summary for policymakers will be available in all official languages of the United Nations and will be printed on demand, resources permitting. Outreach to a broad set of stakeholders, including the wider audience of decision makers, will be based on the Platform's communications and outreach strategy and budget.

43. Communication and outreach will be undertaken from the outset and during the development of the assessment in order to build engagement with the wider scientific community, other knowledge holders and the end users of the assessment. Engagement with users, across sectors, will help to define the type and range of communication products and policy support tools in multiple languages (as appropriate and subject to the availability of resources), that will be developed as part of the assessment.

VI. Technical support

44. Technical support for the nexus assessment will be provided by a technical support unit, composed of several full-time professional and administrative staff members. This unit will work in close collaboration with the groups of experts producing other IPBES assessments and with the IPBES task forces and their respective technical support units.

VII. Process and timetable

<i>Date</i>	<i>Actions and institutional arrangements</i>
2021	
Second quarter	The Plenary, at its eighth session, approved the undertaking of the nexus assessment and requested the secretariat to establish the institutional arrangements necessary to operationalize the technical support required for the assessment The Multidisciplinary Expert Panel, through the secretariat, requests nominations of experts from Governments and other stakeholders
Third quarter	The Multidisciplinary Expert Panel selects the assessment co-chairs, coordinating lead authors, lead authors and review editors in line with the procedures for the preparation of IPBES deliverables, including by implementing the procedure for filling gaps in expertise
Fourth quarter	Selection decision communicated to nominees Meeting of the management committee (co-chairs, members of the Bureau and Multidisciplinary Expert Panel assigned by these bodies to the assessment) to plan first author meeting

<i>Date</i>	<i>Actions and institutional arrangements</i>
2022	
First quarter	First author meeting with co-chairs, coordinating lead authors, lead authors, review editors and members of the Bureau and Multidisciplinary Expert Panel that are part of the management committee of the assessment
First to third quarter	Preparation of zero-order drafts and first-order drafts of chapters
Early fourth quarter	First external review (six weeks) – draft chapters made available for review by experts
Fourth quarter	Second author meeting with co-chairs, coordinating lead authors, lead authors, review editors and members of the Bureau and Multidisciplinary Expert Panel that are part of the management committee of the assessment Back to back with the second author meeting: meeting to advance the preparation of the summary for policymakers with co-chairs, coordinating lead authors and members of the Bureau and Multidisciplinary Expert Panel that are part of the management committee of the assessment
2023	
First to third quarter	Preparation of the second-order drafts of chapters and first-order draft of summary for policymakers
Second quarter	Writing workshop to advance the preparation of the summary for policymakers with co-chairs, coordinating lead authors and members of the Bureau and Multidisciplinary Expert Panel that are part of the management committee of the assessment
Third quarter	Second external review (eight weeks) – draft chapters and draft of the summary for policymakers made available for review by Governments and experts
Fourth quarter	Third author meeting with co-chairs, coordinating lead authors, lead authors, review editors and members of the Bureau and Multidisciplinary Expert Panel that are part of the management committee of the assessment Back-to-back with the third author meeting: Meeting to advance the preparation of the summary for policymakers with co-chairs, coordinating lead authors and members of the Bureau and Multidisciplinary Expert Panel that are part of the management committee of the assessment
2024	
First quarter	Online writing workshop to advance the preparation of the summary for policymakers with co-chairs, coordinating lead authors and members of the Bureau and Multidisciplinary Expert Panel that are part of the management committee of the assessment
Third quarter	Final review (six weeks) – final draft chapters and draft of the summary for policymakers made available for review by Governments
Early fourth quarter	Consideration by the Plenary, at its eleventh session, of the summary for policymakers for approval and of the chapters for acceptance
Fourth quarter	Communication activities in relation to the assessment

Appendix III*

Joint timeline of the nexus and transformative change assessments

<i>Date</i>	<i>Nexus assessment</i>	<i>Transformative change assessment</i>
2022		
Mid-January	Selection decision communicated to nominees (authors confirm participation by 1 February)	Selection decision communicated to nominees (authors confirm participation by 1 February)
Week of 22 February	Online introductory meeting (23-24 February) (<i>online</i>)	Online introductory meeting (22 and 24 February) (<i>online</i>)
9 – 13 May		First author meeting (<i>In person: Montpellier, France</i>)
16 – 20 May	First author meeting (<i>In person: Bonn, Germany</i>)	
May - December	Preparation of zero-order drafts and first order drafts of chapters	Preparation of zero-order drafts and first order drafts of chapters
2023		
January	First external review (six weeks) – draft chapters made available for review by experts	
February		First external review (six weeks) – draft chapters made available for review by experts
March	Second author meeting with co-chairs, CLAs, LAs, REs and members of the Bureau and MEP that are part of the management committee of the assessment Back-to-back with the second author meeting: meeting to advance the preparation of the SPM with co-chairs, CLAs and members of the Bureau and MEP that are part of the management committee of the assessment	
May		Second author meeting with co-chairs, CLAs, LAs, REs and members of the Bureau and MEP that are part of the management committee of the assessment Back-to-back with the second author meeting: meeting to advance the preparation of the SPM with co-chairs, CLAs and members of the Bureau and MEP that are part of the management committee of the assessment
June	Writing workshop to advance the preparation of the SPM with co-chairs, CLAs, and members of the Bureau and MEP that are part of the management committee of the assessment	
July		Writing workshop to advance the preparation of the SPM with co-chairs, CLAs, and members of the Bureau and MEP that are part of the management committee of the assessment

* The appendix has not been formally edited.

<i>Date</i>	<i>Nexus assessment</i>	<i>Transformative change assessment</i>
April-August	Preparation of the second-order drafts of chapters and first-order draft of SPM	Preparation of the second-order drafts of chapters and first-order draft of SPM
October/November	Second external review (eight weeks) – draft chapters and draft of the SPM made available for review by Governments and experts	
November/December		Second external review (eight weeks) – draft chapters and draft of the SPM made available for review by Governments and experts
2024		
January	Third author meeting with co-chairs, CLAs, LAs, REs and members of the Bureau and MEP that are part of the management committee of the assessment Back-to-back with the third author meeting: Meeting to advance the preparation of the SPM with co-chairs, CLAs and members of the Bureau and MEP that are part of the management committee of the assessment	
February		Third author meeting with co-chairs, CLAs, LAs, REs and members of the Bureau and MEP that are part of the management committee of the assessment Back-to-back with the third author meeting: Meeting to advance the preparation of the SPM with co-chairs, CLAs and members of the Bureau and MEP that are part of the management committee of the assessment
March	Online writing workshop to advance the preparation of the SPM with co-chairs, CLAs and members of the Bureau and MEP that are part of the management committee of the assessment	Online writing workshop to advance the preparation of the SPM with co-chairs, CLAs and members of the Bureau and MEP that are part of the management committee of the assessment
March-April	Finalize chapters, including figures and tables, and SPM	Finalize chapters, including figures and tables, and SPM
August-September	Final review (six weeks) – final draft chapters and draft of the SPM made available for review by Governments	Final review (six weeks) – final draft chapters and draft of the SPM made available for review by Governments
September	Address final Government comments and send chapter and SPM to secretariat	Address final Government comments and send chapter and SPM to secretariat
October	Consideration by the Plenary, at IPBES 11, of the SPM for approval and of the chapters for acceptance	Consideration by the Plenary, at IPBES 11, of the SPM for approval and of the chapters for acceptance
November	Communication activities in relation to the assessment	Communication activities in relation to the assessment