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Item 8 of the provisional agenda*
Invasive alien species

Report of the Online Forum on Invasive Alien Species

I. Introduction

1. In its decision [16/18](#) on invasive alien species, adopted at its sixteenth meeting, the Conference of the Parties to the Convention on Biological Diversity requested the Executive Secretary to hold an open-ended online forum to facilitate the exchange of information and experiences on:

(a) Work carried out by Parties and stakeholders, including on tools and mechanisms used, challenges and best practices with regard to the prevention, management, control and eradication of invasive alien species, towards the implementation of Target 6 of the Kunming-Montreal Global Biodiversity Framework, in particular to facilitate international and regional cooperation;

(b) Approaches that could be taken to facilitate a collaborative response to biological invasions and the threats and impacts of invasive alien species, and how those individual approaches could be integrated into the One Health approach.

2. In the same decision, the Conference of the Parties also requested the Executive Secretary to report on progress on the aforementioned activity to the Subsidiary Body on Scientific, Technical and Technological Advice.

3. Pursuant to the request, the Secretariat invited Parties, other Governments, organizations, indigenous peoples and local communities and other stakeholders, through notifications Nos. [2025-021](#) and [2025-36](#), to nominate experts to participate in an open-ended online forum on invasive alien species, held in April 2025. Nominations were received from 47 Parties and 17 organizations.

4. The forum was co-moderated by Rachel Arie-Jougard of Canada and Paulina Stowhas Salinas of Chile.

5. Throughout the forum, participants posted comments, engaged in discussions, shared their views and responded to posts uploaded by other participants. A total of 165 posts were uploaded, of which 135 concerned topic 1 (tools and mechanisms used, challenges and best practices about the prevention, management, control and eradication of invasive alien species, towards the implementation of Target 6 of the Framework, in particular to facilitate international and regional cooperation) and 30 concerned topic 2 (information and experiences on approaches that can be taken to facilitate a collaborative response to biological invasions and the threats and impacts of invasive

* CBD/SBSTTA/27/1.

alien species, and how those individual approaches could be integrated into the One Health approach).¹

6. The present document contains a synthesis of the views expressed during the forum.² The annex contains a list of resources shared during the discussions.

II. Synthesis of discussions held in the Online Forum on Invasive Alien Species

A. Topic 1: discussions on tools and mechanisms used, challenges and best practices about the prevention, management, control and eradication of invasive alien species, towards the implementation of Target 6 of the Kunming-Montreal Global Biodiversity Framework, in particular to facilitate international and regional cooperation

7. Participants shared information on the consideration of invasive alien species in their countries' national biodiversity strategies and action plans, the tools and policies in place to support the implementation of Target 6 of the Framework, tools and mechanisms used for preventing, management and control and eradication, and the capacity needed to support the implementation of Target 6.

8. The comments have been grouped into the categories of best practices, available tools and mechanisms, and challenges and needs.

1. Best practices

9. Participants highlighted the significant role of invasive alien species as a driver of biodiversity loss. They recognized that several entities and instruments, such as the Convention on Biological Diversity, the International Maritime Organization and the International Plant Protection Convention, played important roles in addressing invasive alien species. At the same time, they noted that invasive alien species were currently not considered in assessments of desertification and land degradation, such as those conducted under the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa.

10. The importance of local frameworks in supporting national and regional actions to address invasive alien species was widely acknowledged. Several participants noted that invasive alien species were often included in national biodiversity strategies and action plans, integrated into relevant policies and, in some cases, incorporated into regulations. Those efforts had contributed to the establishment of frameworks for their management. However, other participants pointed out that, those measures notwithstanding, enforcement challenges persisted (see paras. 18–26 below).

11. In addition, given the multifaceted impacts of invasive alien species, participants emphasized the need for strong regional coordination and cross-sectoral collaboration. The examples of best practices that they shared in that regard included: intersectoral coordination, including establishing interministerial or cross-sectoral coordination mechanisms; the facilitation of the development of joint protocols, action plans and response mechanisms; and regional agreements and information-sharing mechanisms. Cross-border collaboration was highlighted by many as essential to effective surveillance and early detection.

12. Regarding courses of action to address invasive alien species, participants mentioned several good practices, such as community engagement, in particular by involving indigenous peoples and

¹ See <https://www.cbd.int/invasive/current/forum2025> for the posts.

² The synthesis covers the main discussion points and is not an exhaustive account of the views expressed during the forum, nor does it indicate consensus.

local communities, in surveillance and the implementation of management actions, stakeholder training, and capacity-building at all levels.

13. The importance of updated, comprehensive and accessible information to support both national and global efforts against invasive alien species was also emphasized. In that context, participants acknowledged the value of data provided in various databases (see paras. 16 and 17 below). It was noted that the level of information (for example, on species present in a country) and information on the sources of data might vary among databases; therefore, consulting multiple sources was recommended to ensure the use of the most accurate and complete data available. In addition, participants suggested that national and regional databases could serve as useful complements to global databases. *The Thematic Assessment Report on Invasive Alien Species and Their Control* of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services was also recognized as a key source of up-to-date, high-quality scientific information.

14. Participants also raised points related to invasive alien species management and related decision-making, emphasizing the importance of, for example, making information available in local languages, ensuring the continuous improvement of baseline data and monitoring capacities, and the relevance of applying a cost-benefit analysis to guide the decision-making process. In addition, the need to consider the definition of invasive alien species carefully when developing species lists or inventories was highlighted, because it directly shaped which species were included in that category, how they were managed and the type of actions taken on the basis of those lists, which could be particularly useful in determining whether action was warranted for species that might have known benefits but also caused significant negative impacts.

15. In relation to funding efforts to combat invasive alien species, participants noted that financial support could be obtained through such sources as the Global Environment Facility and the Global Biodiversity Framework Fund. However, they emphasized that those should not be the only sources of funding, especially given the need for long-term financial commitment to achieving transformative change.

2. Available tools and mechanisms

16. Participants highlighted a wide range of tools and mechanisms to address invasive alien species, including the following:

(a) For guidance and resources: toolkit to support the implementation of Target 6 of the Framework, guidance documents produced under the Convention on Biological Diversity and *The Thematic Assessment Report on Invasive Alien Species and Their Control*;

(b) For planning and strategies: invasive alien species lists, rapid response and management plans, species-specific strategies and integrated management approaches;

(c) For monitoring and surveillance: community-based monitoring, surveillance systems, early warning and rapid response, and monitoring and reporting frameworks;

(d) For assessment tools: risk assessments, risk analyses, impact assessments and geographic information system mapping;

(e) For control methods: mechanical, chemical and biological control, as well as containment and eradication;

(f) For technology: remote sensing, modelling, automated alert systems, next-generation sequencing to track the movement and evolution of invasive alien species, genomic-based pathway monitoring, satellite imagery, environmental DNA, artificial intelligence and detection dogs.

17. Concerning databases, global platforms, such as the Global Invasive Species Database, the Global Register of Introduced and Invasive Species, the CABI Invasive Species Compendium, the Global Naturalized Alien Flora database and the Global Biodiversity Information Facility, were

highlighted as crucial for work conducted on invasive alien species, as they provided information on species, impacts and pathways.

3. Challenges and needs

18. Some of the challenges and needs identified by participants included a range of issues that went from governance and funding to capacity-building, information-sharing and cooperation.

19. In relation to governance, participants noted that fragmented frameworks for addressing invasive alien species presented major challenges, in particular in terms of assigning roles and responsibilities, securing funding and engaging relevant stakeholders. In addition, it was observed that, although many Parties had policies and regulations in place, enforcement remained a significant challenge. In some cases, participants reported that, in the absence of regulations, policies alone were insufficient to trigger necessary actions. In other cases, even where regulations existed, enforcement was suboptimal, often as a result of limited resources, lack of technical expertise, challenges related to transboundary issues and insufficient understanding by authorities of what was required.

20. With regard to implementation mechanisms, participants highlighted ongoing difficulties in establishing priorities for addressing invasive alien species. They emphasized the need to fill data and capacity gaps in relation to the prioritization of species, pathways and sites, in alignment with Target 6 of the Framework. Challenges related to prevention were also identified, including with regard to data gaps on species distribution and identification, issues with species introduced as stowaways and difficulties in predicting which species might pose significant future threats.

21. Participants highlighted intersectoral coordination and public awareness as key areas that remained difficult to address.

22. With regard to intersectoral coordination, participants noted that invasive alien species often posed challenges that extended beyond national borders. International collaboration and coordination were therefore emphasized as essential for the successful implementation of Target 6 of the Framework. In that respect, they pointed out that differences in strategies, financial and technical resources, capacities and national priorities contributed to the difficulty in coordinating regional or subregional efforts. To overcome those challenges, they stressed the importance of clear policies and frameworks, as well as of an understanding of the multifaceted impacts of invasive alien species.

23. In terms of public awareness, a limited understanding of the impacts of invasive alien species among both the general public and policymakers was noted. The lack of awareness contributed to the lack of sufficient support for invasive alien species management, unintentional introductions through the pet and ornamental plant trade and improper disposal practices, among others.

24. Concerning information exchange and use, participants noted that no internationally recognized standard existed for the exchange of information on invasive alien species management actions among stakeholders. While the Darwin Core standard was widely used for the exchange of biodiversity data, it did not adequately encompass the complexities associated with reporting, management and data-sharing in relation to invasive alien species. Participants also noted that the variation in management goals and practices across various taxonomic groups further complicated efforts towards standardization. Furthermore, there was currently no international database where experiences and methods employed to address invasive alien species could be shared.

25. The lack of long-term sustained financial resources to address invasive alien species was also highlighted as a major challenge. In that respect, some participants indicated that projects and other short-term funding sources could be useful to advance the work but should not be the only funds committed to that end. The need for a dedicated stream of long-term funding was emphasized.

26. Last, in response to the urgent need to address invasive alien species, participants identified a set of key priorities. They noted that many of those could be tackled at the national level or supported through further work under the Convention on Biological Diversity, for example, by developing guidance, recommendations or technical advice in the following areas:

- (a) Strengthening research, technical and scientific cooperation, and regional coordination;
- (b) Evaluating and updating existing legal frameworks;
- (c) Enhancing understanding by and support from local authorities;
- (d) Improving access to information and strategies for managing marine invasive alien species and re-invasions;
- (e) Providing training on the guidance on cost-benefit analysis tools and the prioritization of invasive alien species based on ecological and economic risks;
- (f) Providing technical assistance for early warning systems and training in artificial intelligence-based detection and surveillance tools, including real-time distribution tracking;
- (g) Establishing regional data-sharing platforms for invasive alien species and an international database to share and manage information;
- (h) Supporting community-based control models that integrate invasive alien species management into local livelihood strategies;
- (i) Encouraging broader participation from professionals and citizen scientists;
- (j) Providing guidance on species identification, especially for invasive species that resembled native ones;
- (k) Addressing the high costs of mechanical and chemical control measures;
- (l) Managing non-target effects resulting from certain control methods, such as chemical control;
- (m) Creating and updating national invasive alien species lists and improving baseline data;
- (n) Facilitating information and technical exchanges on container pathway management;
- (o) Offering scientific, technical and technological advice focused on invasive alien species management.

B. Topic 2: discussions on information and experiences on approaches that can be taken to facilitate a collaborative response to biological invasions and the threats and impacts of invasive alien species, and how those individual approaches could be integrated into the One Health approach

27. Participants shared information on the use of integrated approaches to biological invasions, ideas on how to improve collaboration, examples of how integrated approaches were being used to address invasive alien species and challenges to addressing such species as a cross-cutting issue at the national and regional levels.

28. The comments made by participants have been summarized to highlight first examples of best practices and suggested actions for promoting collaborative approaches to address biological invasions and invasive alien species, and second the challenges and needs associated with implementing such approaches.

1. Best practices and suggested actions

29. Several examples were provided by participants on how integrated and collaborative strategies could enhance the management of invasive alien species, such as:

- (a) The alignment of national policies with international frameworks to ensure coherence and consistency in invasive alien species management;
- (b) A clear role definition through legislation, outlining the responsibilities of various actors and sectors, ensuring accountability in the implementation of measures related to invasive alien species;

- (c) The creation of multisectoral taskforces and coordination bodies, to enhance cross-sectoral collaboration (e.g. interministerial taskforce and biosecurity committees);
- (d) The use of a whole-of-government and whole-of-society approach, to engage a wide range of actors, including the general public;
- (e) Public-private partnerships, which could mobilize resources and engage the private sector;
- (f) Integrated national planning, useful to share responsibilities, create joint workplans and strategies and ensure cohesive action and knowledge exchange;
- (g) Technical and scientific cooperation, to share knowledge and maximize the use of resources (e.g. risk assessment expert groups and species identification).

30. Participants also noted that an enabling environment was needed to facilitate the uptake and use of integrated collaborative approaches. In that sense, the value of awareness-raising campaigns was acknowledged as a cornerstone for engaging all stakeholders, including civil society, the private sector and indigenous peoples and local communities, along with the need to highlight the relevance of collaborative-integrated approaches, such as One Health, to decision makers.

31. National invasive species strategies and action plans and national biodiversity strategies and action plans were also identified as useful tools for triggering cross-sectoral coordination by setting clear, shared goals across sectors, identifying key actors, promoting the integration of invasive alien species management into other policies (e.g. education, land- and sea-use planning, infrastructure development, trade and public health) and facilitating resource mobilization from several sectors. In addition, it was noted that the use of codes of practice and guidelines could be relevant to a One Health approach, as they could support communication and provide information on tangible actions to mitigate the threat of invasive alien species for specific stakeholder groups.

32. It was also noted that, to unleash the full potential of collaborative integrated approaches, countries should consider various elements, such as effective laws, capacity management, research, monitoring, awareness-raising and the equitable distribution of operation costs across sectors.

2. Challenges and needs

33. Participants noted that, progress in some countries notwithstanding, several persistent challenges hindered the full realization of integrated and collaborative approaches to addressing invasive alien species, such as:

- (a) Overlapping and fragmented mandates among government agencies, which made coordination difficult and often led to inefficiencies;
- (b) An insufficient understanding of the relevant role that some sectors could play in addressing invasive alien species;
- (c) Resource and capacity gaps at the local level, including limited technical expertise, staff retention issues and the absence of dedicated funding, which restricted effective implementation;
- (d) The weak integration of sectors with indirect links to invasive alien species, such as health and tourism, which led to missed opportunities for broader preventive and response strategies;
- (e) Limited continuity in staffing, which resulted in the loss of institutional knowledge and experience critical to sustained efforts to address invasive alien species;
- (f) The limited integration of the One Health approach into national strategies, noting that its application was often primarily focused on managing zoonotic disease threats, while invasive alien species management remained a peripheral concern. While efforts to address invasive alien species were complementary to One Health objectives, they currently lacked the political momentum needed to attract broader investment;

(g) The limited recognition of the important potential role that invasive alien species played in zoonotic spillover events, which translated into limited or insufficient research to help to identify and manage risks related to those species, and the need for monitoring, surveillance and risk analysis that covered risks posed by invasive alien species to wildlife, agriculture and human health.

Annex*

List of resources shared through the Open-ended Online Forum on Invasive Alien Species

The present annex contains a non-exhaustive compilation of resources shared by participants in the Open-ended Online Forum on Invasive Alien Species.

Country resources

- (a) Argentina: [List of invasive alien species in Argentina](#);
- (b) Australia:
 - [Atlas of Living Australia](#)
 - [Environmental biosecurity](#)
 - [Pest animals and weeds](#);
- (c) Brazil: [list of invasive species that occur in protected areas](#);
- (d) Canada:
 - [National Forest Pest Management Forum](#)
 - [Forest Pest and Diseases Working Group](#)
 - [British Columbia Plant Protection Advisory Council](#)
 - [Canadian Plant Health Council](#);
- (e) China:
 - [Invasive Alien Species Information System](#)
 - [Plant Photo Bank of China](#)
 - Naturalized Plant information system
 - [Chinese virtual herbarium](#);
- (f) European Union: [invasive alien species portal](#);
- (g) Finland: [National invasive alien species web portal](#);
- (h) France: [Centre de ressources - Espèces exotiques envahissantes](#);
- (i) United Kingdom of Great Britain and Northern Ireland: [Non-native species information portal](#);
- (j) Malaysia: [Biodiversity Information System](#);
- (k) Russian Federation: Russian Journal of Biological Invasions ([Russian](#) and [English](#));
- (l) Sweden:
 - [Species Observation System](#)
 - [Information materials on invasive alien species](#);
- (m) Uruguay: invasive species database [InBUy](#).

Databases

- (a) CABI [Invasive Species Compendium](#);
- (b) [European Alien Species Information Network](#);

* Issued without formal editing.

- (c) [Global Biodiversity Information Facility](#);
- (d) [Global Invasive Species Database](#);
- (e) [Global Naturalized Alien Flora](#);
- (f) [Global Register of Introduced and Invasive Species](#).

Tools

- (a) [A Pan-Canadian Approach to Wildlife Health](#). Federal, Provincial, and Territorial Governments of Canada. 2018.
- (b) COST Action “Increasing understanding of alien species through citizen science” (ALIEN-CSI). [Reducing the invasion of alien species](#);
- (c) [Animalplan 2022 to 2027: Australia’s National Action Plan for Production Animal Health](#). Australian Government;
- (d) [Aquaplan: National Strategic Plan for Aquatic Animal Health](#). Australian Government;
- (e) Convention on the Conservation of European Wildlife and Natural Habitats. [Bern Convention Group of Experts on Invasive Alien Species](#);
- (f) Convention on Biological Diversity and International Union for Conservation of Nature (2024). [Invasive Alien Species Toolkit for Target 6 of the Kunming-Montreal Global Biodiversity Framework](#). Secretariat of the Convention on Biological Diversity;
- (g) Convention on Biological Diversity and International Union for Conservation of Nature (2024). [How to use international data standards in national and regional databases containing information on invasive alien species](#);
- (h) [Crowdsorsa Mobile Game](#);
- (i) [Early alert system for invasive alien species](#) in Belgium aquatic and riparian plants, and crayfish species;
- (j) [Enhancing monitoring and prevention of invasive non-native species across the United Kingdom Overseas Territories](#);
- (k) [European Union Horizon OneSTOP project](#);
- (l) GB [Non-native Species Secretariat](#);
- (m) [GuardIAS](#) - Guarding European waters from invasive alien species;
- (n) World Organisation for Animal Health and International Union for Conservation of Nature (2024). [General guidelines for surveillance of diseases, pathogens and toxic agents in free-ranging wildlife](#);
- (o) The study on how approaches for the prevention, control and management of invasive alien species may be usefully applied to biological invasions of pathogenic agents, in particular zoonotic pathogens (information document [CBD/COP/16/INF/28](#), annex I);
- (p) [Interreg Aurora project](#) cross-border cooperation between Sweden and Finland on several topics, such as implementing management actions against invasive alien species, raising awareness and testing new ways of finding local forms of cooperation against invasive alien species;
- (q) [Invasive Alien Species in Europe](#) smartphone application;
- (r) International Union for Conservation of Nature:
 - [Environmental Impact Classification for Alien Taxa](#)

- [Guidelines and Manual of Procedures for Wildlife Disease Risk Analysis](#)
- Identification and surveillance of invasive alien species - [external resources](#);
- (s) [Action Plan for Prevention of Damage from Alien species](#) of the Government of Japan;
- (t) European Commission: [LIFE Public Database](#). [My Pest Guide](#) application;
- (u) [National Environmental Biosecurity Response Agreement](#);
- (v) World Organisation for Animal Health: [Guidelines for Addressing Disease Risks in Wildlife Trade](#);
- (w) Australian Government: [Pacific Biosecurity Strategy 2022 to 2027](#);
- (x) [Pacific Community website](#);
- (y) [Pacific Regional Invasive Species Management Support Service](#);
- (z) Australian Emergency Plant Pest Response Plan ([PLANTPLAN](#));
- (aa) [RELIONMED-LIFE](#) Preventing a LIONfish invasion in the MEDiterranean through early response and targeted REmoval;
- (bb) Secretariat of the Pacific Regional Environment Programme: [Invasive species management in the Pacific](#);
- (cc) Siren: National Early Detection and Rapid Response Information System. www.invasivespecies.gov/siren.
- (dd) [Woody Weeds and Woody Weeds Plus](#) projects (landscape-level management plans for Prosopis);
- (ee) [Working for Water South Africa](#).

Publications

Benoît, N. 2017. *Situation des espèces envahissantes au Burundi*. Burundi. <https://bi.chm-cbd.net/sites/bi/files/2020-04/situation-esp-envahiss-bi.pdf>.

Charpleix, L. (2018). “The Whanganui River as Te Awa Tupua: Place-based law in a legally pluralistic society”, *The Geographical Journal*, 184,19–30.

Copp, G.H. and others, 2016. “Development of a generic decision-support tool for identifying potentially invasive aquatic taxa: AS-ISK”, *Management of Biological Invasions* (2016), vol. 7, No. 4, pp. 343–350.

Copp, G.H. and others, 2021. “Speaking their language – Development of a multilingual decision-support tool for communicating invasive species risks to decision makers and stakeholders”, *Environmental Modelling & Software*, vol. 135, January 2021, 104900.

Costello, K.E. and Trottet, A. (2023). “Surveillance guidelines for invasive alien species in the marine environment”, [technical note](#) prepared by the International Union for Conservation of Nature for the European Commission.

Gavin, M. and others (2015). “Defining biocultural approaches to conservation”, *Trends in Ecology & Evolution*, 30, 140–145.

Katsanevakis, S. (2022). “Management Options for Marine IAS”, [technical note](#) prepared by the International Union for Conservation of Nature for the European Commission.

Keali‘ikanakaoleohaililani, and others, (2018). “Ritual sustainability science? A portal into the science of aloha”, *Sustainability*, 10, 3478.

Kimmerer, R. W. (2020). “Braiding sweetgrass: Indigenous wisdom, scientific knowledge and the teachings of plants”. Penguin Book.

European Commission. 2014. “Invasive Alien Species—Framework for the Identification of Invasive Alien Species of EU Concern”.

European Commission: Directorate-General for Environment and Umweltbundesamt GmbH, [*Study on invasive alien species – Development of risk assessments to tackle priority species and enhance prevention – Final report \(and annexes\)*](#), Publications Office of the European Union, 2022.

Genovesi P. and others, (2010), “[Towards an early warning and information system for invasive alien species \(IAS\) threatening biodiversity in Europe](#)”, European Environment Agency.

Genovesi, P. and others, (2014, November 30). “EU adopts innovative legislation on invasive species: a step towards a global response to biological invasions?”, *Biological Invasions*. Springer Science and Business Media LLC. <http://doi.org/10.1007/s10530-014-0817-8>.

Hillaert, J. and others, (2022). LIFE RIPARIAS Action A.2.1, “[Business analysis of Invasive Alien Species management registration by Belgian actors](#)” (version 20220707).

Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (2023). *Thematic Assessment Report on Invasive Alien Species and their Control*,. Roy, H. E., Pauchard, A., Stoett, P., and Renard Truong, T. (eds.). Secretariat of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, Bonn, Germany. <https://doi.org/10.5281/zenodo.7430682>.

International Union for Conservation of Nature (2020) [*IUCN EICAT Categories and Criteria*](#). The Environmental Impact Classification for Alien Taxa (EICAT). Gland, Switzerland, and Cambridge, United Kingdom.

_____ (2020) [Guidelines for using the IUCN Environmental Impact Classification for Alien Taxa \(EICAT\) Categories and Criteria](#). Gland, Switzerland, and Cambridge, United Kingdom.

Milgin, A. and others, (2020). “Sustainability crises are crises of relationship: Learning from Nyikina ecology and ethics”, *People and Nature*, 2, pp. 1210–1222.

Marsden, M., & Henare, T. A. (1992). Kaitiakitanga: A definitive introduction to the holistic world view of the Maori. Ministry for the Environment.

Masciadri S, Brugnoli E, Muniz P (2010), “InBUy database of invasive and alien species (IAS) in Uruguay: a useful tool to confront this threat to biodiversity”, *Biota Neotrop* 10(4), pp. 205–213.

Mena J. and others, “[Molecular surveillance of potential SARS-CoV-2 reservoir hosts in wildlife rehabilitation centers](#)”, *Vet Q.* 2023;43:1–10.

Ogden, L. A., Hall, B., and Tanita, K. (2013). “Animals, plants, people, and things: A review of multispecies ethnography”, *Environment and Society*, 4, 5–24

Rane R. and others, “Complex multiple introductions drive fall armyworm invasions into Asia and Australia”, *Sci Rep.* 2023 Jan 12;13(1):660. doi: 10.1038/s41598-023-27501-x. PMID: 36635481; PMCID: PMC9837037.

Roy, H.E. and others, (2017). “Developing a framework of minimum standards for the risk assessment of alien species”, *Journal of Applied Ecology*. 55(2), pp. 526–538.

Roy, H.E. and others, 2018. “Developing a list of invasive alien species likely to threaten biodiversity and ecosystems in the European Union”, *Global Change Biology*, vol. 25, No. 3, March 2019, pp 1032–1048.

Sankaran, K. V. and others, (2023). [Chapter 5: Management; challenges, opportunities and lessons learned. In: Thematic Assessment Report on Invasive Alien Species and their Control of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services](#). Roy, H. E.,

- Pauchard, A., Stoett, P., and Renard Truong, T. (eds.). Secretariat of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, Bonn, Germany.
- Scalera, Riccardo and Zaghi, Daniela. (2004). [*Alien species and nature conservation in the EU*](#).
- Tadios-Ayson, A.H., Moran, C.B. and Dagamac, N.H.A. “[Modeling invasion patterns of *Chromolaena odorata* under changing climate and LULC in La Union, Philippines](#)”, *Vegetos* (2024).
- Timoti, P. and others, (2017). “An Indigenous community– based monitoring system for assessing forest health in New Zealand”, *Biodiversity and Conservation*, 26, 3183–3212. Black, 2014.
- Tollington, S. and others, 2015. “Making the EU Legislation on Invasive Species a Conservation Success”, *Conservation Letters*, vol. 10, No. 1, pp. 112–120.
- Toomes, A. and others, (2023). “[A Snapshot of Online Wildlife Trade: Australian e-commerce trade of native and non-native pets](#)”, *Biological Conservation*, 282, Article 110040.
- Vilizzi, L. and others, 2022. “A protocol for screening potentially invasive non-native species using Weed Risk Assessment-type decision-support tools”, *Science of The Total Environment*, vol. 832, 1 August 2022, 154966.
- Watene, K. P. M. and Merino, R. (2018). “Indigenous Peoples: Self–determination, decolonisation, and Indigenous Philosophies”. In J. Drydyk & L. Keleher (Eds.), *Handbook of Development Ethics*. Routledge.
- Wehi, P. M. and others, (2021). “Mātauranga as knowledge, process and practice in Aotearoa New Zealand”. In T. Thornton & S. Bhagwat (Eds.), *Handbook of Indigenous Environmental Knowledge: Global Themes and Practice*. Routledge.
- Whyte, K. P. (2011). “The recognition dimensions of environmental justice in Indian country”, *Environmental Justice*, 4, 199–205.
- Whyte, K. P. (2013). “Justice forward: Tribes, climate adaptation and responsibility”. In *Climate Change and Indigenous Peoples in the United States* (pp. 9–22). Springer.
- Wilson, J. R. (2025), “A list of taxa currently and historically regulated under South Africa’s National Environmental Management: Biodiversity Act, Alien & Invasive Species Regulations”. v1.1(20250325) doi: 10.5281/zenodo.15082537.
- Winter, K. B. and others, (2021), “Empowering indigenous agency through community– driven collaborative management to achieve effective conservation: Hawai‘i as an example”, *Pacific Conservation Biology*, 27, pp. 337–344.
-