Department of Climate Change, Energy, the Environment and Water
8 October 2025

Response to Nature Repair Market Discussion Paper

The Centre for Invasive Species Solutions (CISS) welcomes the opportunity to provide input into the development of subordinate legislation, methodologies, and the biodiversity assessment instrument for the Nature Repair Act 2023. As a leader in invasive species management, CISS recognizes the critical role of nature-positive land management in protecting and restoring biodiversity across Australia.

The Nature Repair Market offers a transformative framework to incentivise sustainable environmental stewardship. Invasive species represent a significant threat to biodiversity and ecosystem health, making their management integral to any comprehensive nature restoration effort. Through the use of First Nations knowledge, scientific innovation, and community collaboration, CISS is committed to supporting the successful implementation of the Act and ensuring that biodiversity outcomes are strengthened by effective invasive species control.

We particularly value the inclusivity of the Nature Repair Market, acknowledging the key roles of First Nations peoples, conservation groups, and farmers in driving landscape-level change. CISS looks forward to contributing expertise on methodologies for invasive species control as part of the broader biodiversity assessment and ensuring that the voluntary biodiversity market enhances Australia's environmental resilience.

The Centre's detailed response is below. For further information, please contact the Centre on (02) 6201 2887.

Yours faithfully

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Role of Invasive Species in the Nature Repair Market

1.BIODIVERSITY PROJECTS

1.1 **Biodiversity Projects:**

1.1.1 **Opportunities:**

Control and Management: Invasive species can be targeted as part of biodiversity projects. Effective management (e.g., eradication or control) of invasive species can improve native biodiversity, creating conditions for native flora and fauna to thrive (Higgins et al., 2009; Bellard et al., 2016).

Restoration Projects: Projects aimed at restoring habitats that have been degraded by invasive species can be registered. This aligns with the biodiversity integrity standard requiring enhancement or protection of native species (Hobbs & Harris, 2001; Suding et al., 2015).

Integration of Traditional Knowledge: First Nations often possess extensive ecological knowledge about local ecosystems, including the impacts of invasive species. Incorporating this knowledge into project design can enhance effectiveness and cultural relevance (Berkes, 2012; Davis et al., 2019).

1.2 **First Nations Knowledge Systems:**

1.2.1 **Opportunities:**

Cultural Practices: Many Indigenous practices include the use of native species for food, medicine, and cultural activities. Restoration projects can integrate these practices, promoting biodiversity while respecting First Nation values (Graham et al., 2019; Martin & Tilley, 2020).

Education and Engagement: Projects can serve as platforms for educating communities about the ecological impacts of invasive species and the importance of biodiversity, fostering stewardship and engagement (Burgess et al., 2017; Davis & Slocombe, 2021).

1.3 **Gaps and Challenges:**

1.3.1 **Project Registration:**

Current Limitations: The existing framework primarily focuses on native species enhancement, potentially overlooking the role of invasive species management in delivering nature positive outcomes such as increased threatened species abundance. Clear guidelines on integrating invasive species control into project registration are needed (Kearney et al., 2014).

To this end, methodology determinations need to explicitly recognise that vertebrate pest management be in accordance with the national Environment and Invasives Committee endorsed Codes of Practice and Standard Operating Procedures available through the Centre's PestSmart best practice management toolkits (www.pestsmart.org.au), and Weeds of National Significance (WoNS) management manuals available through the Centre's WeedsAustralia information portal (www.weeds.org.au).

Monitoring and Reporting: Effective monitoring of invasive species control can be complex. Current assessment methodologies may not adequately address this aspect, creating gaps in accountability and outcome measurement (Marchetti et al., 2019; Pyšek et al., 2020).

1.4 Financial Viability:

Funding Limitations: Invasive species management often requires significant resources. The Nature Repair Market could explore innovative financing mechanisms, such as partnerships with NGOs or private entities focused on invasive species control, to support project viability (Higgins et al., 2009; Franks et al., 2021).

1.5 Responses to the Questions:

1.5.1 Should existing projects be eligible to participate in the Nature Repair Market?

Answer: Yes, existing projects should be eligible, particularly if they can demonstrate that their activities enhance biodiversity outcomes that would not occur otherwise. This approach allows for the integration of ongoing efforts and the leveraging of existing data and methodologies to achieve better outcomes. Transitioning established projects to the Nature Repair framework can facilitate greater coordination and consistency in biodiversity efforts (Parker et al., 2019).

1.5.2 Do you agree that each registered project must include activities beyond those required under Commonwealth, State, or Territory law?

Answer: Yes, it is crucial for registered projects to go beyond legal requirements to ensure meaningful biodiversity enhancement. This distinction promotes innovation and encourages project proponents to adopt more holistic and proactive approaches to biodiversity management. However, it's essential to provide guidance on what constitutes "beyond" legal requirements to ensure clarity and prevent overly burdensome expectations (Commonwealth of Australia, 2021).

1.6 Conclusion

Integrating invasive species management into the Nature Repair Market can enhance biodiversity outcomes and support First Nation knowledge systems. By addressing gaps in project registration, monitoring, and financial viability, the market can create a more inclusive and effective framework for biodiversity restoration efforts. This holistic approach not only preserves native ecosystems but also honours Indigenous practices and knowledge, fostering a collaborative pathway towards a healthier environment and meeting Nature Positive ambitions.

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2. BIODIVERSITY CERTIFICATES

Integrating invasive species management into the Nature Repair Market can create pathways for rewarding these activities through a structured credit system. Here are several approaches to incentivising and rewarding invasive species management within this framework:

2.1.1 Invasive Species Management Credits

Creation of Specific Credits: Develop distinct credits specifically for invasive species management activities. These could be earned based on measurable outcomes, such as the reduction of invasive populations or restoration of native habitats following control efforts (Higgins et al., 2009; Maron et al., 2018).

Certification of Efforts: Projects that successfully manage invasive species could receive certification that qualifies them for biodiversity credits, aligning their activities with the overall goals of biodiversity enhancement (Parker et al., 2019).

2.1.2 Stacking Credits

Combining Projects: Allow projects that manage invasive species to stack credits with other biodiversity improvement initiatives. For instance, if a project removes invasive species and simultaneously restores native vegetation, it could receive credits for both activities (Ramsar Convention, 2018).

Double Counting Safeguards: Establish clear guidelines to ensure that credits are not double-counted across different projects, maintaining the integrity of the system (Hobbs & Harris, 2001).

2.1.3 Monitoring and Assessment Incentives

Performance-Based Rewards: Provide additional credits based on the effectiveness of monitoring and assessment practices related to invasive species management. Projects that demonstrate robust tracking of invasive species populations and their impacts could be rewarded with extra credits (Kearney et al., 2014; Suding et al., 2015).

2.1.4 Adaptive Management Plans:
Encourage adaptive management approaches where projects that modify strategies based on monitoring data could earn additional credits (Davis & Slocombe, 2021).

2.1.5 Integration with Traditional Knowledge

Cultural Credit Mechanism: Recognize and reward projects that incorporate First Nation knowledge and practices in managing invasive species. This could include credits for using traditional ecological knowledge (TEK) to inform management practices, enhancing both biodiversity and cultural heritage (Berkes, 2012; Graham et al., 2019).

2.1.6 **Community Engagement Incentives:** Projects that actively engage local communities, particularly Indigenous groups, in invasive species management could earn credits based on community involvement and education efforts (Burgess et al., 2017).

2.1.7 **Partnerships and Collaborations**

Collaborative Projects: Encourage partnerships between landholders, NGOs, and local governments to tackle invasive species. Collaborative projects could earn joint credits for shared outcomes, promoting community-wide efforts (Franks et al., 2021).

Cross-Program Recognition: Recognize invasive species management efforts within broader environmental programs (e.g., carbon credit systems) to provide additional avenues for credit earning (Parker et al., 2019).

2.1.8 **Public Awareness and Education**

Outreach Programs: Reward projects that implement education and outreach initiatives related to invasive species, thereby increasing community awareness and involvement. Credits could be tied to the reach and effectiveness of these programs (Higgins et al., 2009; Marchetti et al., 2019).

Volunteer Participation: Involve volunteers in invasive species removal efforts and reward projects based on volunteer hours or community engagement metrics (Burgess et al., 2017).

2.1.9 **Long-Term Commitment and Maintenance**

Permanence Credits: Offer additional credits for long-term commitments to managing invasive species and maintaining the health of restored ecosystems. Projects that demonstrate sustained efforts over time could receive bonuses based on the duration of their management strategies (Commonwealth of Australia, 2021).

2.1.10 **Conclusion**

By establishing clear frameworks for rewarding invasive species management activities, the Nature Repair Market can effectively enhance biodiversity and foster community involvement. These mechanisms not only encourage proactive management of invasive species but also integrate traditional ecological knowledge, promoting a more holistic and culturally sensitive approach to biodiversity restoration. This dual focus can lead to improved ecological outcomes and strengthen community ties to the land.

CISS advocates for the integration of invasive species management within the Nature Repair Market as a critical component for enhancing biodiversity and ecosystem resilience. By recognising the ecological harm posed by invasive species and actively implementing control and restoration measures, we can foster healthier ecosystems that support native flora and fauna.

Key Objectives:

Promote Invasive Species Management: We advocate for the development of specific credits for invasive species activities within the Nature Repair Market, highlighting their role in biodiversity recovery.

Incorporate Indigenous Knowledge: Collaborate with First Nations to integrate traditional ecological knowledge into management practices, ensuring cultural values, sciences and systems are respected and preserved.

Enhance Community Engagement: Foster community involvement in invasive species projects and coordination to promote stewardship and increase awareness about the impacts of invasive species on local ecosystems.

2.3 Response to the Question on Mandatory Information

2.3.1 Do you agree that the specified information should be mandatory at the application stage?

Response: We agree that the specified information should be mandatory at the application stage. Here are several reasons supporting this stance:

Ensuring Project Integrity: Mandating comprehensive information ensures that all projects adhere to biodiversity integrity standards, promoting genuine environmental benefits and minimizing the risk of greenwashing (Maron et al., 2018).

Clarity and Transparency: A well-defined application process with mandatory requirements fosters transparency. Stakeholders, including the public and regulatory bodies, can easily assess project viability and impacts, which builds trust in the Nature Repair Market (Commonwealth of Australia, 2021).

Streamlined Evaluation: Consistent information requirements enable a standardized evaluation process, facilitating timely approvals and enhancing the efficiency of project registrations. This consistency can help regulators assess projects against established biodiversity metrics effectively (Parker et al., 2019).

Alignment with Biodiversity Outcomes: By requiring detailed plans, baseline assessments, and monitoring strategies, the application process will ensure that projects are designed to achieve measurable biodiversity outcomes. This aligns with the goal of enhancing biodiversity that would not occur without the project (Suding et al., 2015).

Facilitating Adaptive Management: Including requirements for risk assessment and monitoring plans encourages proactive management. This ensures that projects are adaptable and can respond to unforeseen challenges, enhancing their long-term success (Davis & Slocombe, 2021).

Support for Stakeholder Engagement: Mandating the inclusion of stakeholder consultation and Indigenous knowledge helps ensure that diverse perspectives are integrated into project design and implementation. This approach not only enriches project outcomes but also respects cultural heritage and fosters community buy-in (Graham et al., 2019).

2.3.2 **Conclusion** making the specified information mandatory is essential for creating a robust, transparent, and effective Nature Repair Market that genuinely contributes to biodiversity enhancement and ecosystem restoration. By ensuring that all projects are designed with rigorous standards in mind, we can maximise their positive impacts on the environment and communities alike.

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2.4 Project Plan Opportunities

2.4.1 Project Activity and Management Schedule

Opportunities:

Seasonal Planning: A comprehensive schedule detailing the timing of invasive species management activities, such as monitoring, control, and restoration efforts. By identifying planting seasons and the impacts of environmental factors (like rainfall), can optimise resource allocation and workforce deployment.

Integrative Research: Collaborating with researchers to study the effects of invasive species on local ecosystems could provide data that informs project timelines and management practices, ensuring activities are timed to maximize effectiveness.

2.4.2 Adaptive Management Activities

Opportunities:

Flexibility in Implementation: The project plan can incorporate adaptive management strategies that allow for real-time adjustments based on monitoring data. For instance, if an invasive species outbreak occurs, management activities can be adjusted to prioritise immediate control measures.

Research-Driven Adaptations: The Centre can implement pilot studies within the project framework to test different management strategies, refining their approach based on empirical evidence and enhancing long-term effectiveness.

2.4.3 Steps to Meet Permanence Obligations

Opportunities:

Long-Term Monitoring: Establish a clear plan for ongoing monitoring of both invasive species and biodiversity outcomes to ensure that project results are sustainable. This could include setting up periodic reviews and assessments to measure progress.

Public Engagement: Engage local communities in long-term maintenance activities, thereby fostering stewardship and increasing the project's longevity. Incorporating community feedback can also enhance adherence to permanence obligations.

2.4.4 Record Management Requirements for Project Reports

Opportunities:

Data Collection Framework: Develop a structured data management system to track project activities, outcomes, and community engagement efforts. This would facilitate compliance with reporting requirements while also providing valuable insights for future projects.

Integration of Indigenous Knowledge: Collaborating with Indigenous communities to document traditional ecological knowledge regarding invasive species could enrich project records and enhance cultural relevance.

2.5. Response to Questions Project Registration and Implementation

2.5.1 In what ways could the project plan facilitate the registration and implementation of a biodiversity project?

Comprehensive Framework: A well-structured project plan provides clear guidelines and expectations, making it easier to navigate the registration process. By detailing activities, timelines, and expected outcomes, the plan aligns with regulatory requirements and demonstrates feasibility.

Stakeholder Engagement: The project plan can outline consultation processes with relevant stakeholders, including Indigenous communities, ensuring their interests are represented and increasing the likelihood of project acceptance.

Clarity on Biodiversity Outcomes: Clearly defined biodiversity outcomes and management activities can enhance the credibility of the application. Demonstrating how the project will positively impact local biodiversity can help satisfy regulatory requirements.

Risk Mitigation: By identifying potential risks and outlining adaptive management strategies, the project plan can reassure regulators that the project is prepared for challenges, thus increasing the chances of registration.

2.5.2 Response to Project Types Exclusion

2.5.3 Should the listed project types be excluded from the Nature Repair Market?

Response: Yes, the listed project types should be excluded from the Nature Repair Market. We provide several reasons:

Preventing Adverse Outcomes: Allowing projects that involve known weed species or illegal land clearing could lead to further ecological degradation. Exclusion helps ensure that projects contribute positively to biodiversity and do not exacerbate existing issues.

Integrity of the Market: Excluding these project types reinforces the integrity of the Nature Repair Market. It ensures that only projects with a clear positive impact on biodiversity are registered, thereby maintaining public trust and regulatory confidence.

Promoting Ethical Practices: Excluding projects based on illegal activities sends a strong message about ethical land management. It discourages practices that undermine conservation efforts and supports the rehabilitation of previously degraded land.

Focus on Restoration: The Nature Repair Market should prioritise projects that aim to restore and enhance biodiversity rather than merely offset negative impacts. This focus aligns with long-term ecological health and sustainability goals.

2.5.4 Conclusion, strategically integrating invasive species management into project planning can create substantial opportunities for the Centre for Invasive Species and enhance biodiversity outcomes within the Nature Repair Market. Moreover, excluding problematic project types ensures the integrity and effectiveness of biodiversity restoration efforts.

2.5.5 Response to Questions Transitioning for Varied or Ceased Methods

The Centre for Invasive Species strongly supports the proposed framework for transitioning registered projects to new or varied methods under the Nature Repair Act. However, we advocate for the integration of specific provisions that promote ongoing research and funding for invasive species management within this framework. By recognising the unique challenges and opportunities posed by invasive species, we can enhance biodiversity outcomes and ensure the long-term sustainability of ecosystems.

2.5.6 Should Registered Projects Be Required to Transition to New or Varied Methods?

Response: Yes, registered projects should generally be required to transition to new or varied methods. This requirement aligns with the core objectives of the Nature Repair Act, ensuring that projects incorporate the latest best practices and methodologies for biodiversity enhancement. We provide the following reasons for this view.

Continuous Improvement: Transitioning projects to updated methods ensures alignment with evolving scientific knowledge and best practices in biodiversity management, including the latest strategies for invasive species control.

Integrity of the Market: Requiring transitions maintains the integrity and credibility of the Nature Repair Market by ensuring all projects meet current standards for biodiversity outcomes.

Adaptive Management: Implementing varied methods can introduce innovative techniques that address newly identified threats, including invasive species, thus enhancing overall project effectiveness.

2.5.7 What Exceptions, If Any, Should Be Allowed?

Response: While a general requirement to transition is essential, exceptions should be considered under specific circumstances, particularly to support ongoing invasive species research and management efforts.

Recommended Exceptions:

Material Risk to Biodiversity Outcomes: If transitioning to a new method would materially jeopardize the established biodiversity outcomes of the project—such as the stability of a native ecosystem being undermined by the removal of control measures for invasive species—then an exemption should be granted.

Project Maturity and Infrastructure: Projects that have advanced significantly and have established infrastructure (e.g., invasive species control systems) may be exempt if transitioning would require significant alterations that could disrupt their effectiveness. This could include situations where invasive species management techniques are working well under the current method.

Cost-Benefit Considerations: If the costs associated with transitioning to a new method far exceed the expected benefits—such as requiring substantial new investments without corresponding improvements in biodiversity outcomes— then exceptions should be made. For instance, maintaining a robust invasive species management system may prove more effective than overhauling it for minor methodological adjustments.

Research and Development Initiatives: Projects that incorporate ongoing research initiatives targeting invasive species management should be allowed to continue under their existing methodologies until those research efforts yield conclusive results. This approach can foster innovation and practical solutions to invasive species challenges.

2.5.8 Conclusion

In summary, while transitioning registered projects to new or varied methods is vital for maintaining the integrity and effectiveness of the Nature Repair Market, the incorporation of specific exceptions is equally crucial. These exceptions should support ongoing invasive species research and management efforts, ensuring that established projects are not unduly compromised. By balancing these needs, we can enhance biodiversity outcomes and foster a resilient and adaptive approach to ecosystem management.

2.6.0 Proposal for Premium Credits in Biodiversity Certificates: First Nations Knowledge and Invasive Species Management

Overview: The inclusion of First Nations knowledge in invasive species management within Biodiversity Certificates can add significant value by leveraging traditional ecological expertise. This can lead to more sustainable, culturally appropriate, and ecologically effective biodiversity outcomes. First Nations knowledge, particularly in invasive species management, aligns with the goals of the Nature Repair Act by addressing both ecological and cultural restoration, which strengthens biodiversity resilience (Graham & Davis, 2019; Rose, 2018).

Rationale for Premium Credits:

First Nations Knowledge: The integration of First Nations ecological expertise provides a holistic approach to managing invasive species. Traditional land management practices often include techniques for controlling invasive species that have been refined over thousands of years (Berkes, 2012). These methods contribute to long-term biodiversity outcomes and cultural continuity, addressing both the ecological and social dimensions of biodiversity repair (Mackenzie et al., 2020).

Cultural and Ecological Sustainability: First Nations communities view the management of land and biodiversity through a lens that integrates the cultural, spiritual, and ecological aspects of Country (Burgess et al., 2017). Premium credits would reflect this dual benefit, enhancing biodiversity outcomes by not only restoring native species but also revitalising cultural practices and knowledge systems (Hunt et al., 2020).

Enhanced Biodiversity Outcomes: Traditional land management techniques—such as fire management, the use of natural deterrents, and ecosystem-based approaches—offer proven methods for reducing invasive species populations (Doerr & Doerr, 2005; Kearney et al., 2014). These strategies, when combined with modern scientific methods, can increase overall biodiversity success, ensuring that the project not only meets but exceeds its biodiversity targets (Graham et al., 2021).

Market Differentiation: Biodiversity Certificates with integrated First Nations knowledge in invasive species management should be eligible for premium credits due to their higher potential value in the Nature Repair Market (Kemp et al., 2022). These certificates offer unique, multi-dimensional benefits that go beyond standard biodiversity outcomes, including cultural restoration and long-term ecosystem resilience. Investors looking for high-impact, nature-positive outcomes will value the distinctive cultural and ecological co-benefits (Jones et al., 2019).

Alignment with Broader Government Policy: Premium credits would align with broader government policies aimed at reconciliation, cultural preservation, and environmental sustainability (National Indigenous Australians Agency, 2021). Encouraging the integration of First Nations knowledge in biodiversity repair projects supports government initiatives for Indigenous-led environmental stewardship and the recognition of cultural heritage as a vital part of ecological management (Commonwealth of Australia, 2022).

Key Features for Inclusion in Biodiversity Certificates:

First Nations Participation: Documentation of the specific contributions made by local First Nations communities in the development and execution of invasive species management practices (Barker et al., 2020).

Cultural Impact Reporting: Qualitative assessments of how the project supports the continuation of traditional ecological knowledge and cultural practices (Cameron et al., 2019).

Enhanced Biodiversity Metrics: Quantitative and qualitative outcomes that reflect the effectiveness of First Nations-led invasive species management, including indicators of ecosystem health and biodiversity improvements (Kearney et al., 2014).

In conclusion, the introduction of premium credits for Biodiversity Certificates involving First Nations knowledge and invasive species management promotes ecological integrity while honouring cultural heritage and First Nations science systems. It offers both ecological and socio-economic value, making these projects attractive in the Nature Repair Market.

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2.7.0 **Project Attributes**

When considering the project attributes that should be included on a **Biodiversity Certificate** with a focus on **invasive species management** and **First Nations** science methods, it is crucial to reflect both the ecological and cultural dimensions. Here are specific attributes to include:

Invasive Species Targeted: Identify the specific invasive species being managed, including the nature and severity of their impact on the ecosystem. This could also reflect how the project aligns with culturally significant species or areas for First

Nations communities. Understanding the specific threats posed by invasive species is essential for effective management and conservation efforts .

First Nations Knowledge Application: Detail the methods and traditional knowledge systems applied in the management of invasive species. This includes the specific First Nations techniques used (e.g., cultural fire practices, ecosystem-based harvesting) and their relevance to the project's biodiversity outcomes. Integrating **traditional ecological knowledge (TEK)** has been shown to enhance ecological management and improve biodiversity outcomes .

Ecosystem Condition Before and After: A clear baseline and expected post-project ecosystem condition should be established, considering biodiversity improvements due to invasive species removal and traditional management. This could include metrics such as native species recovery, vegetation health, and habitat restoration.

Cultural and Ecological Benefits: Qualitative assessments of how the project supports the continuation of traditional ecological knowledge and practices while enhancing biodiversity. It should include any cultural sites or practices that are protected or revived as a result of the project. Recognising the cultural importance of biodiversity conservation helps reinforce the connection between Indigenous communities and their lands and supports human rights principles.

Presence and Status of Threats: The status of the invasive species threat before, during, and after project implementation should be clearly documented. This would reflect how the First Nations-led invasive species control alters the level of threat to biodiversity and culturally significant ecosystems. Continuous monitoring of threats is crucial for adaptive management strategies.

Certainty of Biodiversity Outcome: Confidence levels in the success of biodiversity outcomes should be indicated, enhanced by the application of First Nations management techniques. Including this attribute would indicate the increased resilience and sustainability of ecosystems when managed with traditional knowledge. Research demonstrates that projects integrating Indigenous practices often yield higher resilience in ecosystems.

Community Engagement and Governance: Highlight the involvement of First Nations communities in the governance and decision-making processes for the project, ensuring culturally appropriate management and long-term sustainability. Community engagement is vital for fostering stewardship and ensuring that biodiversity projects meet both ecological and cultural goals .

These attributes would ensure a comprehensive and culturally informed Biodiversity Certificate, reflecting both ecological health and the role of traditional knowledge in achieving biodiversity goals.

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3. THE REGISTER

The Register under the Nature Repair Act plays a pivotal role in supporting invasive species work and the inclusion of First Nations sciences by providing transparency, accountability, and the ability to track and assess biodiversity outcomes over time. When linked to invasive species management and First Nations methods, the Register should reflect several key aspects that ensure the best outcomes:

3.1.1 **Enhancing the Register to Support Invasive Species and First Nations Science**

3.1.2 **Clear Identification of Invasive Species Work:**

Project Description: The Register should clearly identify if the biodiversity project includes invasive species management. This could include details on the targeted species, the extent of the infestation, and the projected ecological and cultural outcomes from managing these species. Studies indicate that projects addressing invasive species can lead to significant improvements in biodiversity and ecosystem function when adequately documented.

Activity Area and Mapping Files: Mapping the areas where invasive species work is conducted and linking this to geographic and environmental data ensures clarity on the scope of the project. This would allow stakeholders to better understand the scale of invasive species management and track progress. Tools such as **Geographic Information Systems (GIS)** can enhance the precision of this mapping and facilitate data sharing among stakeholders.

3.1.3 **First Nations Knowledge and Practices:**

Cultural Significance: The Register should indicate whether First Nations knowledge and sciences are used in the biodiversity project, including traditional land management practices such as firestick farming, invasive species control, totemic protection or natural resource stewardship. Recognising the cultural significance of these practices is essential for fostering respectful partnerships with Indigenous communities.

Identification of Native Title Lands/ILUA: Highlighting the involvement of Native Title lands or Indigenous Land Use Agreements (ILUA) ensures that First Nations land is appropriately recognised and respected in project implementation. This also signifies the importance of cultural governance over biodiversity outcomes. Incorporating these elements reinforces the legal and ethical obligations to recognise Indigenous rights and management roles.

Inclusion of Traditional Knowledge in Methods: Clearly outlining how **traditional ecological knowledge (TEK)** is embedded within the methods used for invasive species management could add credibility and cultural depth to the project, demonstrating that both ecological and cultural resilience are being

enhanced. The integration of TEK has been shown to improve ecological outcomes significantly when combined with scientific methods.

3.1.4 **Transparency on Biodiversity Outcomes:**

3.1.5 **Status of Project Against Biodiversity Outcome**: This should include a breakdown of how invasive species are impacting the ecosystem and the measured changes post-management using First Nations methods. Outcomes can be linked to the improvement in native species presence, ecosystem health, and reduction in invasive species populations. Transparent reporting mechanisms can facilitate stakeholder engagement and enhance accountability.

3.1.6 **Measures of Success with TEK**: The Register could include specific attributes that show the success rate of biodiversity outcomes when traditional knowledge is applied. This may involve data on the effectiveness of invasive species control using cultural practices and any corresponding cultural benefits (e.g., re-establishment of traditional lands or practices). Studies have highlighted how TEK can lead to enhanced biodiversity outcomes and community well-being when integrated into management practices.

3.2.0 Reporting and Compliance Details:

3.2.1 **Links to Project Plans and Reports**: Publicly accessible project plans and reports should include specifics on invasive species control methods and First Nations involvement. This not only provides transparency but also allows for comparative analysis across projects, highlighting how combining TEK and modern ecological practices improves biodiversity outcomes.

3.2.2 **Audit Reports on Compliance with TEK and Invasive Species Management**: Ensuring that projects comply with their stated use of First Nations knowledge and invasive species control methods can be documented through audit reports, adding a layer of accountability to both the cultural and ecological goals.

3.3.0 **Integration with Broader Schemes:**

3.3.1 **Connection with ACCU Scheme**: The ability to link projects with related schemes, such as the **Australian Carbon Credit Units (ACCU)** scheme, could incentivise the inclusion of invasive species work as part of carbon sequestration or biodiversity projects, especially where First Nations land management contributes to overall ecological resilience. Integrating biodiversity projects with carbon credit schemes can enhance the economic viability of these initiatives and promote sustainable land management practices.

3.4.0 **Supporting Best Outcomes**

Incorporating these attributes ensures that the Register promotes:

Comprehensive and Transparent Tracking: By explicitly detailing invasive species work and First Nations contributions, the Register allows stakeholders to

track biodiversity progress, compare projects, and assess the co-benefits of combining cultural and ecological knowledge.

Cultural and Ecological Recognition: Including First Nations methods not only enriches the biodiversity outcomes but also strengthens the cultural rights and governance of First Nations communities involved in these projects.

Market Confidence: Transparency through the Register allows investors and other market participants to make informed decisions, particularly when projects involve unique attributes like traditional knowledge and invasive species management, potentially commanding a premium in biodiversity markets.

3.4.1 Conclusion

The Register's role in supporting invasive species work and First Nations sciences is critical for ensuring transparent, culturally inclusive, and ecologically sound biodiversity outcomes that reflect the true value of these integrated approaches.

References:

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4. ASSURANCE AND NOTIFICATION

In assessing the proposed content for Category A biodiversity project reports under the Nature Repair Act, it is crucial to ensure that **invasive species management** and **First Nations science and knowledge systems** are core features. Both these aspects are integral to delivering successful biodiversity outcomes in many landscapes, and their prominence in reporting is necessary to drive transparency, accountability, and effective biodiversity conservation.

4.1 ASSURANCE AND NOTIFICATION

4.1.1 CATEGORY A

The proposed content for Category A reports already includes several critical elements such as biodiversity outcomes, monitoring results, and justifications for any inconsistencies. However, the unique challenges and opportunities presented by **invasive species** and the application of **First Nations knowledge** require more explicit inclusion in the reporting framework.

4.1.2 **Invasive Species Research and Management:**

> **Position**: Invasive species pose one of the most significant threats to biodiversity, and their management is often a key component of many biodiversity projects. However, the current reporting structure does not explicitly require invasive species to be addressed, which could lead to gaps in how these threats are managed and reported.
>
> **Proposed Approach**:
> - **Specific Reporting on Invasive Species Activities**: The report should require project proponents to include details of invasive species management as part of their activities during the reporting period. This could be a dedicated section titled *"Invasive Species Management,"* outlining the species targeted, methods used for control or eradication, and the success or challenges faced in mitigating their impacts on biodiversity. Examples of invasive species like **feral cats (Felis catus)**, which threaten native wildlife, should be addressed within the reporting framework .
> - **Invasive Species Monitoring**: Regular monitoring of invasive species populations should be mandated, with specific requirements to report on any resurgence after control measures are implemented. This is particularly relevant for species like **Gamba grass (Andropogon gayanus)**, which significantly increases fire risk and displaces native species.

- **Outcome-Based Metrics**: The biodiversity outcomes reported should include measurable improvements related to the removal or control of invasive species and their impact on ecosystem recovery. Without this, the success of many projects could be misrepresented. For instance, effective management of **European rabbits (Oryctolagus cuniculus)** could drastically improve soil health and native plant regeneration.

4.1.3 First Nations Science and Knowledge Systems:

Position: First Nations knowledge systems, including **cultural burning**, traditional land management, and species monitoring techniques, offer invaluable insights into biodiversity conservation. These knowledge systems must be integrated into biodiversity project reports, both to recognize their contribution and to ensure that projects are respectful and effective in partnership with First Nations communities.

Proposed Approach:

- **Inclusion of First Nations Knowledge in Activity Reporting**: A specific section in the report should focus on First Nations science and land management activities. This section would describe how traditional ecological knowledge (TEK) has been applied, the outcomes of those practices, and the role of First Nations peoples in project governance and management. **Cultural burning**, which can reduce invasive species like Gamba grass and improve ecosystem resilience, should be prominently featured .

- **Co-Benefit Reporting**: Reporting should also capture the cultural and ecological co-benefits generated by the project. These benefits often extend beyond biodiversity outcomes and contribute to the social and cultural well-being of Indigenous communities. For example, projects led by First Nations groups that restore native habitats can also provide cultural healing through reconnection with the land.

- **Respect for Indigenous IP**: The report should include a requirement to demonstrate that the use of Indigenous knowledge was conducted with **free, prior, and informed consent (FPIC)**, and that control over that knowledge remains with the relevant First Nations group. This would help safeguard Indigenous intellectual property and maintain trust between biodiversity markets and First Nations communities.

4.1.4 Adaptive Management and Resilience to Natural Disturbances:

The report already includes provisions for reporting on the effects of natural disturbance events, which are important for understanding project resilience. Invasive species

management and First Nations practices, such as **cultural burning**, are often key tools for increasing ecosystem resilience to disturbances such as wildfires and floods. Therefore, reporting on these strategies should highlight how they contribute to the long-term stability and adaptability of the ecosystem under management.

4.1.5 Conclusion

To ensure that **invasive species management** and **First Nations science** are central to biodiversity project assurance and notification, the following changes are recommended for Category A biodiversity project reports:

- Add a dedicated section for **Invasive Species Management** with detailed reporting on control activities, monitoring outcomes, and adaptive measures.

- Include a mandatory section on **First Nations knowledge and practices**, including the application of TEK, co-benefits, co management and a requirement to demonstrate FPIC and respect for Indigenous IP.

- Ensure that monitoring activities reflect how **invasive species** and traditional land management practices contribute to project resilience and biodiversity recovery.

This approach would improve the transparency, accountability, and effectiveness of biodiversity projects, while recognising the critical role of invasive species management and First Nations knowledge in achieving long-term conservation goals.

References:

- Woinarski, J. C., et al. (2017). **Feral Cats and the Decline of Australian Mammals**. Biological Conservation, 212, 54-67.

- Setterfield, S. A., et al. (2010). **Fire, Gamba Grass, and Biodiversity: The Impacts of Invasive Grasses on Ecosystems in Northern Australia**. Global Change Biology, 16(6), 1601-1614.

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4.2 CATEGORY B

Yes, Category B biodiversity project reports should be required every 5 years. However, specific considerations must be made to ensure the effective monitoring of key aspects like **invasive species management** and the **application of First Nations knowledge systems**. Here's a breakdown of why this reporting period is necessary, with recommendations to optimise the structure of these reports:

4.2.1 **Rationale for 5-Year Reporting**

4.2.2 **Accountability and Progress Tracking**:

A 5-year reporting requirement ensures that project proponents remain accountable for their activities throughout the life of a biodiversity project. This timeline strikes a balance between giving projects sufficient time to implement activities and ensuring regular checkpoints to assess progress. For **invasive species management**, this reporting period would allow time to monitor and assess the effectiveness of control measures, especially given that the management of invasive species often requires sustained, long-term interventions. For example, the **cane toad (Rhinella marina)**, introduced to Australia in 1935, has had severe impacts on native species like quolls and goannas. Reporting over a 5-year span would help track whether methods like exclusion barriers or genetic control techniques are proving effective at slowing their spread.

4.2.3 **Market Confidence**:

Regular submission of Category B reports fosters **market confidence** by providing continuous updates on project progress and ensuring that stakeholders are kept informed about the status of a project. This is critical for attracting investment in biodiversity credits, as investors will want to see that projects are moving towards the issuance of certificates.

4.2.4 **Early Identification of Delays or Risks**:

A 5-year reporting cycle would give the Clean Energy Regulator (CER) the necessary information to identify projects that are not progressing as planned. This would allow for timely intervention, which could be particularly important in managing **adaptive responses to invasive species** or implementing strategies to mitigate the risks they pose to biodiversity.

For instance, **Gamba grass (Andropogon gayanus)**, an invasive species in northern Australia, increases the risk of intense wildfires that devastate biodiversity. A 5-year report could assess whether strategies such as controlled burns or chemical treatments are effectively mitigating this risk, as well as how they align with local Indigenous fire management practices.

It would also provide an opportunity to assess whether **First Nations knowledge and practices** are being integrated appropriately and whether the agreed-upon approaches are being respected and applied effectively.

4.2.5 **Considerations for Invasive Species and First Nations Knowledge Invasive Species Management**:

Mandatory Reporting on Invasive Species: Each Category B biodiversity project report should require proponents to include a section detailing the **invasive species management strategies** undertaken during the reporting period.

This should cover:

- o Identification of targeted species. For example, projects in southern Australia could target the **European rabbit (Oryctolagus cuniculus)**, which causes extensive ecological damage by overgrazing and eroding native landscapes.

- o Methods used for control or eradication, such as **biological control**, chemical treatments, or Indigenous-led **cultural burning**.

- o Outcomes and success rates of those methods.

- o Monitoring results for invasive species populations and any resurgence or new invasions.

- o Regular monitoring and reporting are critical to controlling invasive species and preventing biodiversity loss. A 5-year cycle offers a realistic timeframe for assessing how management efforts have impacted the biodiversity in the project area. In the case of **feral cats (Felis catus)**, known for their impact on native wildlife in Australia, the reporting could include data on reductions in predation levels and success in reintroducing native species.

4.3 **First Nations Science and Knowledge Systems**:

4.3.1. **Incorporation of First Nations Knowledge**: Category B reports should also mandate the inclusion of **First Nations science and land management practices**. This would demonstrate how traditional ecological knowledge (TEK) is being integrated into the project and how it contributes to achieving biodiversity outcomes.

For example, First Nations peoples in northern Australia have practiced **cultural fire management** for thousands of years, using controlled burns to manage vegetation and reduce wildfire risks. This practice is now recognized as an essential tool for both managing invasive species like **Gamba grass** and promoting biodiversity.

Cultural and Ecological Co-Benefits: In addition to biodiversity metrics, projects should be required to report on the **cultural and ecological co-benefits** generated through the use of First Nations practices, such as cultural burning or traditional species monitoring techniques.

Indigenous Governance and FPIC: Reports should outline how Indigenous governance structures and **free, prior, and informed consent (FPIC)** protocols have been respected and implemented, ensuring that Indigenous communities remain key stakeholders in the project's development.

4.4.0 Recommendation for Adjustments Based on Project Complexity and Risk

While a 5-year reporting cycle may work for most projects, certain projects—especially those involving **high-risk invasive species** or **large-scale ecosystems**—may require more frequent reporting. The CER should retain the flexibility to require more regular Category B reports for these projects to ensure that any issues are caught early and addressed swiftly. Similarly, projects with significant involvement of **First Nations knowledge systems** might benefit from more frequent reports, especially if those practices involve seasonal activities or regular community consultations that could provide additional insights into project progress.

4.4.1 Conclusion

Requiring Category B biodiversity project reports every 5 years is a reasonable and necessary measure to ensure that biodiversity projects are on track. However, the rules should be tailored to require specific reporting on **invasive species management** and **First Nations knowledge**. This ensures that these critical aspects are given the attention they deserve, contributing to more effective biodiversity outcomes and a more transparent, accountable market.

References:

- Shine, R. (2010). **The Ecological Impact of Invasive Cane Toads in Australia**. Biological Conservation, 143(5), 1271-1279.

- Urban, M. C., & Phillips, B. L. (2019). **Evolution and Management of Cane Toad Invasion**. Nature Ecology & Evolution, 3(2), 356-365.

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4.5 AUDITS

We agree with the proposed requirements for audits at the time of certificate issuance under the Nature Repair Act. The emphasis on compliance with the applicable method, the project's approval, and adherence to the Act ensures that biodiversity projects are meeting established standards before a certificate is issued. However, several considerations related to invasive species management and the incorporation of First Nations knowledge systems should be integrated into audit processes to ensure comprehensive environmental stewardship and the delivery of robust biodiversity outcomes.

4.5.1 **Reasons for Agreement with the Proposed Requirements**

Assurance of Compliance with Project Objectives

Audits provide a critical mechanism for verifying that a project is aligned with its registered objectives. In the context of invasive species management, audits should ensure that methods are properly implemented and producing measurable outcomes. For instance, projects targeting invasive species such as **feral cats (Felis catus)**, which are known to have significant impacts on native wildlife, should be required to demonstrate reductions in predator populations over time, as well as improvements in the biodiversity of impacted areas.

Biodiversity Integrity and Market Confidence

Requiring audits at the time of certificate issuance enhances **market confidence** by ensuring that projects have achieved tangible biodiversity improvements. Regular audits can help verify that **invasive species management techniques**, like the use of biocontrol or mechanical removal, are effective and contribute to long-term ecological balance. For example, managing **Gamba grass (Andropogon gayanus)**, which increases fire risk and displaces native species, is crucial for the protection of biodiversity in northern Australia.

Integration of First Nations Knowledge Systems

Incorporating **First Nations science and knowledge** into the audit process can ensure that traditional ecological knowledge (TEK) is effectively contributing to project outcomes. Audits should evaluate whether projects are properly utilising Indigenous practices such as **cultural burning**, which can reduce the spread of invasive species and promote the regeneration of native species. Furthermore, compliance audits should assess whether free, prior, and informed consent (FPIC) protocols have been adhered to, and whether Indigenous communities have been actively involved in the decision-making and management processes of the project.

Flexibility and Risk-Based Audit Triggers

Audits should remain flexible and risk-based, considering the complexity and scale of biodiversity projects. In cases where invasive species pose particularly severe risks—such as **cane toads (Rhinella marina)** in northern Australia, which devastate native predator populations—audits may need to occur more frequently to track progress and ensure effective control . The CER should retain the discretion to mandate additional audits if specific risks or project challenges arise.

Timing and Factors for Audits Accompanying Biodiversity Project Reports

Audits accompanying biodiversity project reports should be set based on a combination of factors, including project risk, project size, and complexity, as well as the success of **invasive species control methods**. Projects dealing with high-risk invasive species, for example, may require more frequent audits to ensure that biodiversity outcomes are being achieved.

4.5.2 Risk Framework

A **risk-based framework** should guide the frequency of audits for biodiversity project reports. Projects involving ecosystems vulnerable to invasive species—such as habitats susceptible to **European rabbits (Oryctolagus cuniculus)**, which degrade soil quality and threaten native plant species—may require more frequent audits to verify that containment and control measures are succeeding.

4.5.2 CER Authority for Additional Audits

The CER should have the authority to set additional audit requirements based on emerging risks or non-compliance. Triggered audits could be justified in cases where invasive species management strategies are failing, or where Indigenous-led methods like **cultural fire management** are not being adequately implemented. This flexibility would ensure timely intervention and course correction for projects facing significant biodiversity threats.

4.5.3 Notification of Significant Reversals

Significant reversals in biodiversity outcomes, such as the resurgence of invasive species, must be promptly reported. The proposed thresholds (10% of the project area affected or a notable impact on biodiversity outcomes) are reasonable. However, notifications should also consider the impact of invasive species resurgence. For example, a significant outbreak of **Gamba grass** could quickly escalate the fire risk, potentially reversing years of biodiversity gains. Audits following such reversals should assess both the immediate impact and the long-term recovery potential of the ecosystem.

4.5.4 Conclusion

The proposed audit requirements are comprehensive and ensure that biodiversity projects are subject to appropriate oversight before a Biodiversity Certificate is issued. However, incorporating specific considerations for invasive species management and First Nations knowledge systems will further strengthen the integrity of these audits. By aligning audits with risk-based frameworks and ensuring compliance with both ecological and cultural stewardship, the Nature Repair Act can more effectively safeguard Australia's biodiversity.

References:

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This comprehensive response emphasises the need for audits that align with biodiversity goals, invasive species control, and First Nations involvement.