TRAFFIC

# SUSTAINABLE USE STRATEGIES AND EXPERIENCES IN RESTORATION

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# AIMS

o To provide an overview of sustainable use in the restoration context

o To introduce recent TRAFFIC projects that support sustainable use in restoration

o To share tools and resources that can be used from these projects
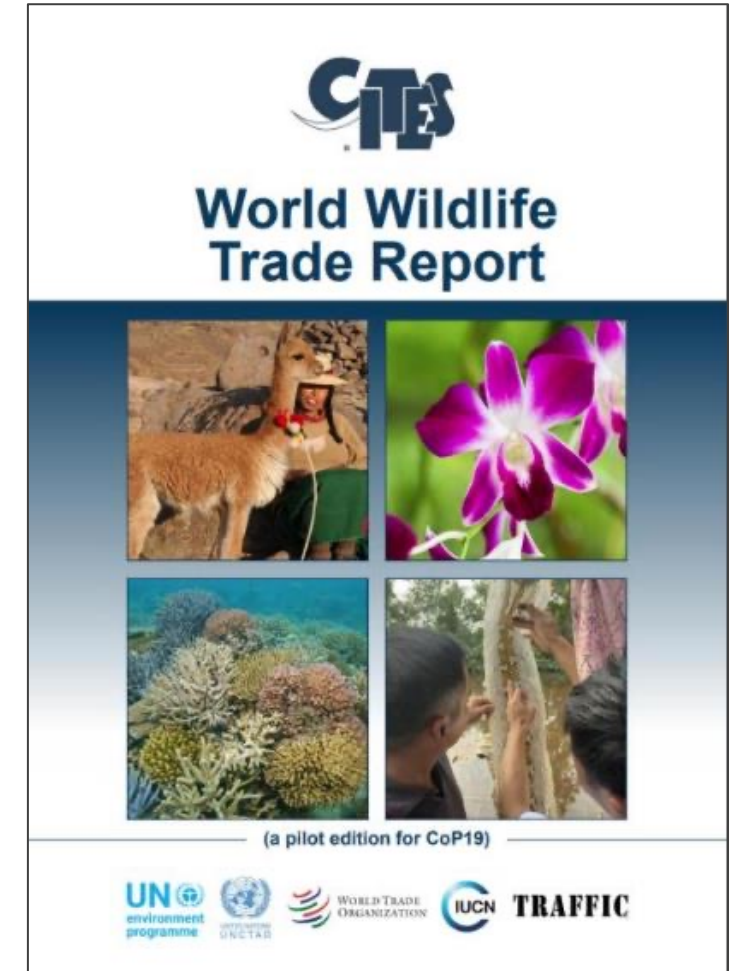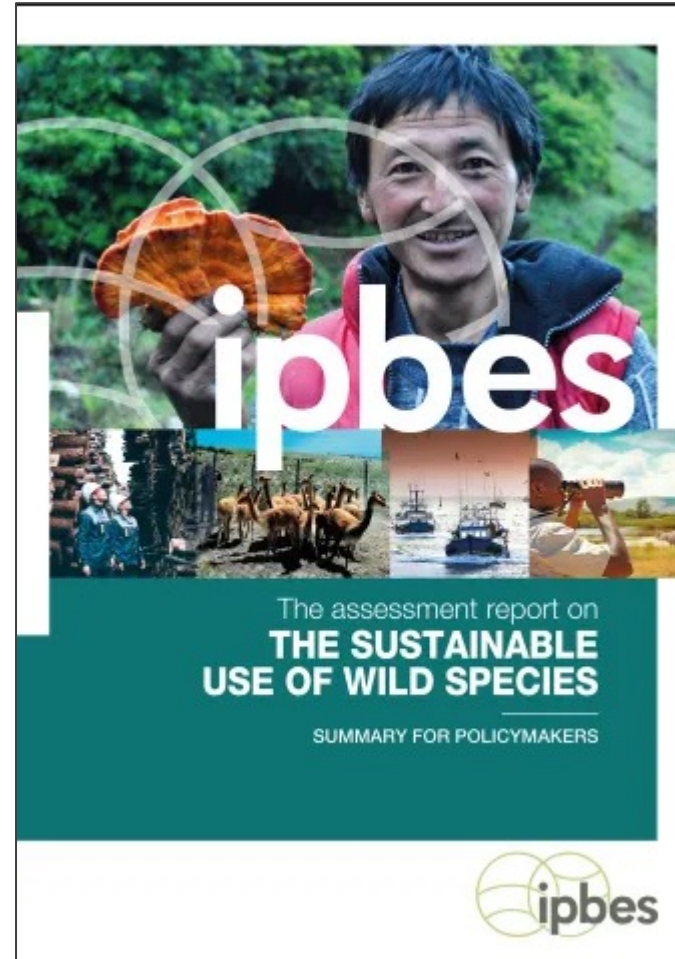
# TRAFFIC

## OUR MISSION

We work to ensure that trade in wild species is legal and sustainable, for the benefit of the planet and people.

- We are an international NGO
- 170 + global members of staff
- 100 + projects worldwide
- A presence in over 45 countries/territories
- 50 years working in wildlife trade

# CONTEXT: WHY IS SUSTAINABLE USE IMPORTANT IN RESTORATION?

# IPBES (2022):
## ONE IN FIVE PEOPLE RELY ON WILD PLANTS, ALGAE, AND FUNGI FOR THEIR FOOD AND INCOME

- The annual revenue generated by the global legal trade in wildlife (CITES and non-CITES) in total has been estimated at **USD 220 billion/year** (CITES secretariat, 2022)

- The global value of exports from non timber forest products such as pine nuts, forest mushrooms, and truffles as reported to UN Comtrade in 2022 was estimated at USD 1.8 billion (FAO, 2024)



ipbes

The assessment report on
**THE SUSTAINABLE USE OF WILD SPECIES**

SUMMARY FOR POLICYMAKERS

ipbes



CITES
**World Wildlife Trade Report**

(a pilot edition for CoP19)

UN environment programme · UNCTAD · World Trade Organization · IUCN · TRAFFIC

# ENGAGING LOCAL COMMUNITIES

- **Principle 1** of The International Principles and Standards for the Practice of Ecological Restoration points out the importance of engaging stakeholders, including through access to improved livelihood opportunities through activities such as harvesting (Gann et al., 2019)

- It has been demonstrated that promoting sustainable use has contributed to the conservation of ecosystems such as forests at the local level (IPBES, 2022)

- This can include landscapes undergoing restoration





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# TRAFFIC AND LANDSCAPE RESTORATION

# TRAFFIC AND RESTORATION

- **Three recent projects that support landscape and species restoration**

- Partnering with **Botanic Gardens Conservation International** (BGCI), the **Society for Ecosystem Restoration** (SER) and others to develop the **Global Biodiversity Standard**. We are developing guidance material for assessors and practitioners on sustainable use topics

- Developing guidance for restoration practitioners wishing to integrate sustainable use into their landscapes as part of an **Endangered Landscapes and Seascapes f**unded project, in partnership with **FairWild** and the **IUCN Sustainable Use and Livelihoods Specialist Group** (SULi)

- Commissioned by the **CITES Secretariat** to develop guidance to support sustainable use of CITES-listed rosewood tree species, which included case study examples of approaches for calculating the time needed for populations to regenerate

# ENDANGERED LANDSCAPES & SEASCAPES PROGRAMME (ELSP) – GUIDANCE FOR INTEGRATING SUSTAINABLE TRADE OF WILD PLANTS AND FUNGI

# GUIIDANCE OVERVIEW

- We are developing an online toolkit with various modules and worksheets that can support sustainable, legal, and ethical trade in wild plant and fungi species from landscapes undergoing restoration

| Module 1<br><br>**Identifying NTFPs that may be traded from restoration landscapes;** To prompt ideas of species existing in restored landscapes with reported uses | Module 2<br><br>**Stakeholder identification**: To identify and prioritise stakeholders that need to be consulted throughout the project | Module 3<br><br>**Situational analysis**; To determine, in consultation with stakeholders, if sustainable use and trade can help meet the goals of the restoration project, and to develop a 'long list' of wild species that may be suitable | Module 4<br><br>**Species assessment**; To identify which of the potential candidate species identified in module 3 are most suitable for sustainable use, with consideration of biological characteristics and market demand | Module 5<br><br>**Business plan**; To develop a business plan, drawing upon support from a checklist of best practices, a market assessment, and a series of case studies | Module 6<br><br>**Management plan;** To formulate a management plan that incorporates principles for legal, ethical and sustainable harvest, in consultation with relevant stakeholders and assess this against a sustainability framework |
|---|---|---|---|---|---|
| • Examples of wild plant and fungi species with reported uses as NTFPs in Europe | • Stakeholder mapping | • Site and project overview<br>• SWOT analysis<br>• Scoping survey | • Pre assessment market research<br>• Market assessment<br>• Species risk classification<br>• Species assessment summary | • Business plan checklist<br>• Market types for NTFPs<br>• Solutions to common barriers<br>• Certification scheme guide<br>• Risk assessment and management plan | • Checklist and resource guide for legal, ethical and sustainable harvest<br>• IUCN SULi 5D sustainability assessment |

# EXAMPLE RESOURCES

Worksheets to inform a situational analysis in consultation with stakeholders, including local communities

Can help determine if sustainable trade is suitable for the goals of the landscape restoration project, and identify who could benefit from it

| Aspect to be considered | Prompt questions for stakeholders | Answers/notes |
|---|---|---|
| Project goal review | What are the goals of the restoration project? | |
| | Could the sustainable use of wild plant and fungi in the restored landscape from the site help to contribute to any of these goals? | |
| Gathering perspectives | What are the views of stakeholders on the sustainable use of wild plant and fungi in this landscape? Are they in support of this, or against it, and why? | |
| | Which groups might be interested in being involved in the sustainable use of wild plant and fungi in the restored landscape restoration site e.g., through harvest, processing, or sale? | |
| ...oration landscape | Which habitat types exist in the restoration landscape | |
| | Where are there settlements, roads, or similar infrastructure (e.g., that could facilitate transport of any species harvested from the site) | |

# EXAMPLE RESOURCES

Species with known uses that might be suitable for sustainable use

Can be used to identify which species with known uses already exist within the landscape

Can also be used to identify which (native) species could be prioritised within management plans to enable sustainable use in the later stages of the project

| Common name where stated | Taxa where stated | Reported use (s) if stated in source |
|---|---|---|
| Aconite | *Aconitum spp* | Bulbs |
| Acorn, Evergreen oak | *Quercus ilex* | Acorn, Seed |
| Alder buckthorn | *Rhamnus frangula* | Emulsion, Essential oils, Vitamins, Syrup, Infusion, Masks, Tinctures, Herbs |
| Aleppo Pine | *Pinus halepensis* | Resin, Seed |
| Angelica, Garden angelica | *Angelica archangelica* | Herbal tea, preserve (e.g., dried), Phytochemicals, Herbs |
| Aniseed | *Pimpinella anisum* | Phytochemicals, Herbs |
| Apple | *Malus domestica* | Marmalade, Fresh, Gin, Wine, Cider, Liqueur, Preserves, Baked goods, Juice, Tisane |
| Armenian plum | *Prunus armeniaca* | Herbs |
| Ash | *Fraxinus excelsior* | Boxes, Baskets, Buttons, bookmarks etc, Furniture, Brooms |
| Ashen chanterelle | *Cantharellus cinereus* | Dried, Sauce, Cream, Pickled, Under oil, Fresh |
| Asparagus, Wild asparagus | *Asparagus spp.* | Culinary use, preserve (e.g., dried) |
| Aspen | *Populus tremula* | Juice |
| Bagnoli truffle | *Tuber mesentericum* | Frozen, Fresh |
| Bay bolete | *Boletus badius* | Dried, Sauce, Cream, Pickled, Under oil, Fresh |
| Bay laurel, Bay tree | *Laurus nobilis* | Seasonings, Tisane, Herbs, Aromatics, Essential oils, Vitamins, Syrup, Infusion, Masks, |
| Beautiful wreath moss | *Rhytidiadelphus loreus* | Wreaths, Hanging baskets |

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# EXAMPLE RESOURCES

Species assessment guidance from FairWild / IUCN SSC Medicinal Plant Specialist Group, to determine susceptibility to wild harvest

Uses a range of factors such as known regeneration rates, and population size to compare species and identify which could be most suitable for sustainable use

| Risk Level | Score | Definition |
|---|---|---|
| **Conservation Status Assessment** | | |
| Low Risk | 1 | Conservation status assessed as "Least Concern" (LC); populations not declining (stable or increasing) |
| Medium Risk | 2 | Conservation status assessed as "Data Deficient" (DD) or threat category for the species has not (yet) been assigned; populations not known to be declining |
| High Risk | 3 | Conservation status assessed as "Near Threatened" (NT) or "Vulnerable" (VU); populations declining |
| **Threat Causes** | | |
| Low Risk | 1 | No threats to the species are known or likely to exist |
| Medium Risk | 2 | Species faces single threat cause |
| High Risk | 3 | Species either faces multiple threat causes or severe habitat loss; or destructive collection practices are used |
| **Scale and trend of use and trade** | | |
| Low Risk | 1 | Used in one field; trade level low or even decreasing; no shortage of material observed |
| Medium Risk | 2 | Several non-conflicting uses; trade level medium or slowly increasing |
| High Risk | 3 | Multiple, conflicting uses; trade level high; demand increasing; shortages of material in trade |
| **Plant part collected** | | |
| Low Risk | 1 | Collection of leaves, flowers or fruits of trees, shrubs or perennial plants |
| Medium Risk | 2 | Exudates (sap, resin) |
| High Risk | 3 | Collection of whole plants; collection of annual plants; collection of bulbs, bark or roots; apical meristem of monocarpic species |
| **Geographic Distribution** | | |
| Low Risk | 1 | Distribution is internationally widespread, species occurs on >1 continent |
| Medium Risk | 2 | Distribution is regionally restricted, often to one continent |
| High Risk | 3 | Distribution is locally restricted, i.e. to several or few countries or even endemic to one country |
| **Typical Population Size** | | |
| Low Risk | 1 | Populations often large and spread homogeneously across the landscape |
| Medium Risk | 2 | Populations mostly medium-sized, sometimes large, often clumped |
| High Risk | 3 | Populations everywhere small; scattered thinly across the landscape |
| **Habitat Specificity** | | |
| Low Risk | 1 | Species is highly adaptable to various habitat types; habitat stable |
| Medium Risk | 2 | Species is adapted to few habitat types or many, but threatened habitat types |
| High Risk | 3 | Species is narrowly specific to one habitat type or few, but threatened habitat types |
| **Regeneration** | | |
| Low Risk | 1 | Species is fast growing and/or easily re-sprouting after collection |
| Medium Risk | 2 | Growth rate medium and partly re-sprouting after collection |
| High Risk | 3 | Species is slow growing and/or not re-sprouting |
| **Reproduction** | | |
| Low Risk | 1 | Species reproduces asexually or is wind pollinated; many viable seeds with abiotic dispersal |
| Medium Risk | 2 | Species reproduces mainly sexually and has common pollinators; seed dispersal biotic with common dispersers |
| High Risk | 3 | Species is dioecious or has monocarpic apical meristem; adapted to specialised pollinators and/or seed dispersers; produces only few viable seeds. |

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Thank you to the Endangered Landscapes & Seascapes Programme for funding this project.



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# THE GLOBAL BIODIVERSITY STANDARD (TGBS)

# PROMOTING THE PROTECTION, RESTORATION AND ENHANCEMENT OF BIODIVERSITY

The Global Biodiversity Standard

- International standard and certification system
- Applies the tried and tested expertise of the global botanical and biodiversity community
- Leverages knowledge of local experts
- Provides assurance that tree planting, habitat restoration and agroforestry practices are protecting, restoring, and enhancing biodiversity
- Global launch held at the CBD COP-16 in October 2024



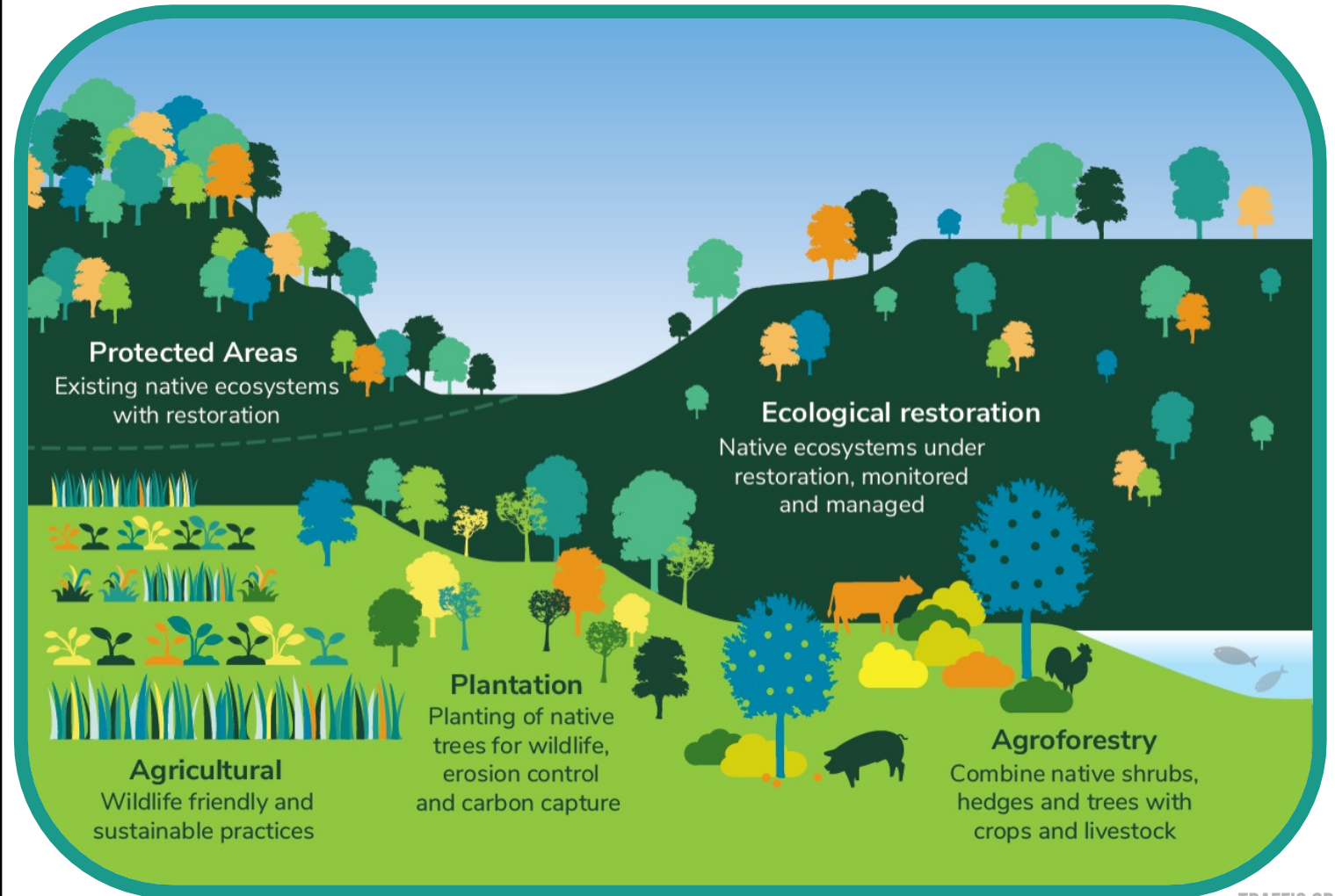Development of the standard funded by:

# PROMOTING THE PROTECTION, RESTORATION AND ENHANCEMENT OF BIODIVERSITY

The Global Biodiversity Standard

- The Global Biodiversity Standard assesses projects across the full restoration continuum

- Applicable to single and mixed land uses

- No minimum or maximum size requirements



**Protected Areas**
Existing native ecosystems with restoration

**Ecological restoration**
Native ecosystems under restoration, monitored and managed

**Agricultural**
Wildlife friendly and sustainable practices

**Plantation**
Planting of native trees for wildlife, erosion control and carbon capture

**Agroforestry**
Combine native shrubs, hedges and trees with crops and livestock

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# How it works
## A site-based certification and mentoring program



The Global Biodiversity Standard
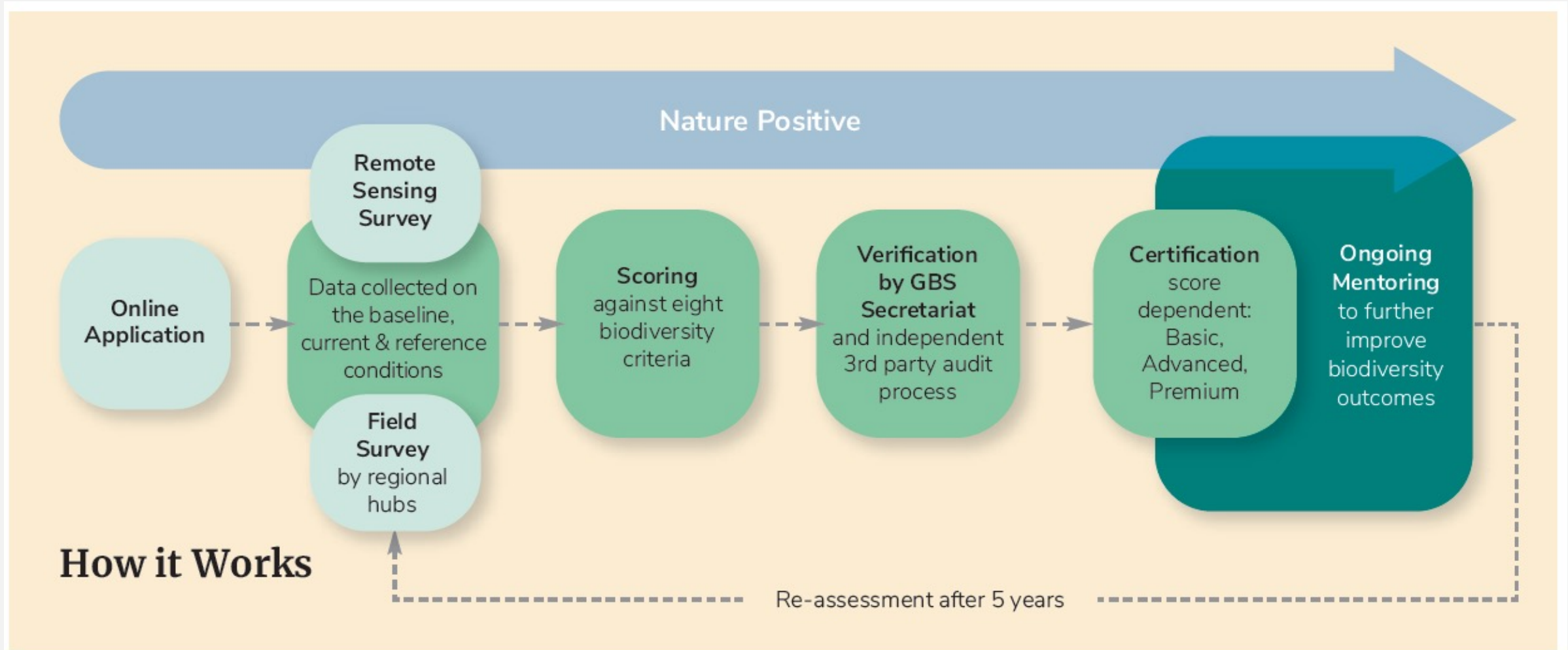
**Nature Positive**

**Online Application** → Data collected on the baseline, current & reference conditions (Remote Sensing Survey / Field Survey by regional hubs) → **Scoring** against eight biodiversity criteria → **Verification by GBS Secretariat** and independent 3rd party audit process → **Certification** score dependent: Basic, Advanced, Premium → **Ongoing Mentoring** to further improve biodiversity outcomes

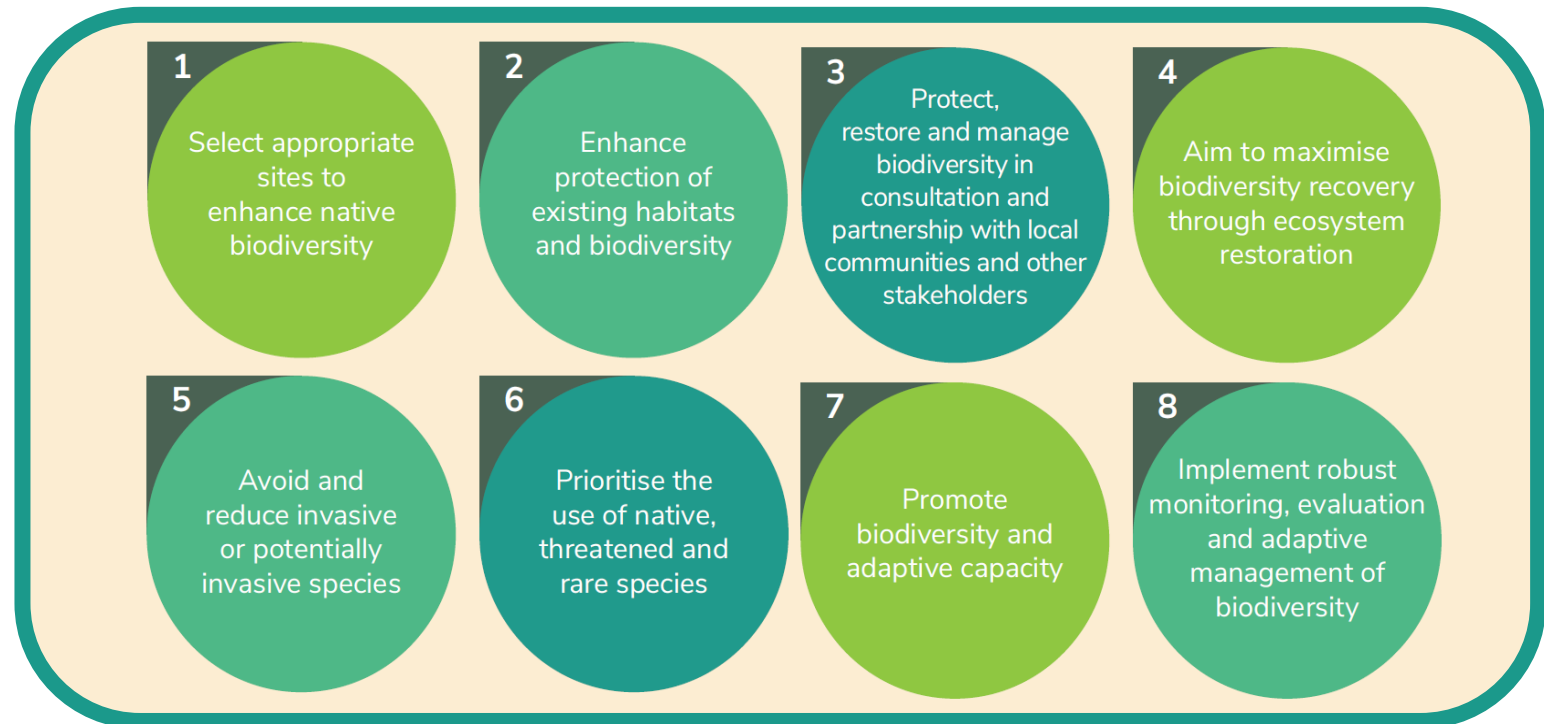**How it Works**

Re-assessment after 5 years

# PROMOTING THE PROTECTION, RESTORATION AND ENHANCEMENT OF BIODIVERSITY

The Global Biodiversity Standard

- TRAFFIC is contributing to the development of criterion 3: *Protect, restore and manage biodiversity in consultation and partnership with local communities and other stakeholders*

- Technical expertise is being provided on integrating sustainable use principles, in both assessment criteria and mentoring resources

| 1 Select appropriate sites to enhance native biodiversity | 2 Enhance protection of existing habitats and biodiversity | 3 Protect, restore and manage biodiversity in consultation and partnership with local communities and other stakeholders | 4 Aim to maximise biodiversity recovery through ecosystem restoration |
| 5 Avoid and reduce invasive or potentially invasive species | 6 Prioritise the use of native, threatened and rare species | 7 Promote biodiversity and adaptive capacity | 8 Implement robust monitoring, evaluation and adaptive management of biodiversity |

# SUPPORT FOR SUSTAINABLE HARVEST OF CITES-LISTED ROSEWOOD TREE SPECIES

# STUDY OVERVIEW



- For any CITES listed species, Parties must produce a Non Detriment Finding (NDF) to demonstrate that levels of offtake are sustainable, e.g., will allow the population to regenerate

- TRAFFIC partnered with CITES to produce a study that would contain data and case studies relevant to production of NDFs for rosewood tree species, which are in demand for their high value timber

ix) the non-detriment finding is based on resource assessment methodologies which may include, but are not limited to, consideration of:

   A. species biology and life-history characteristics;

   B. species range (historical and current);

   C. population structure, status and trends (in the harvested area, nationally and internationally);

   D. threats;

   E. historical and current species-specific levels and patterns of harvest and mortality (e.g. age, sex) from all sources combined;

   F. management measures currently in place and proposed, including adaptive management strategies and consideration of levels of compliance;

   G. population monitoring; and

   H. conservation status; and

(aspects to be considered from CITES Res conf 16.7 on Non Detriment Findings)

# EXAMPLE RESOURCES

Factsheets with data relevant to producing NDFs for the most traded and threatened CITES-listed rosewood tree species

Included aspects such as known heights, and a range of currently used minimum felling diameters, where available

Factsheet 1: *Pterocarpus erinaceus*

Refer to 'factsheet overview' in the introduction to section 2.1.1 for more information on how to use this factsheet when developing NDFs

| *Pterocarpus erinaceus* | |
|---|---|
| **A. Species biology and life-history characteristics** | |
| Habitat characteristics (e.g soil, climate) | The species is native to woody savanna and dry forests in West Africa but can also be found in humid coastal savanna in Togo, Benin, Guinea and Nigeria. (Barstow, 2018). The average rainfall in these areas is between 600–1,200 (–1600) mm, with a dry season that lasts around 8-9 months (Duvall, 2008). Annual temperatures vary between 15-35º C but the species can tolerate temperatures over 40 ºC (CITES, 2016).<br><br>The tree grows at low altitudes of up to 600 (–1200) m and is found in all soil types but prefers acidic (instead of neutral), light (instead of medium), and free-draining soils (Duvall, 2008). It can be found to thrive even in shallow soils (CITES,2016). |
| Tree characteristics (e.g maximum height and diameter) | Estimates for the maximum height of *P. erinaceus* range from 12-15 m in height (Segla et al., 2015) to up to 15(–25) m tall (Duvall, 2008). The species has a trunk size of up to 10 metres in good conditions, although in poor conditions it may be twisted, fluted and low-branched (Duvall, 2008).<br><br>Estimates of maximum diameter vary according to source. Duvall (2008) states diameters (assumedly DBH, although not stated by the author) can reach up to 75(–100) cm, whilst Segla et al (2015) give larger estimates, stating the diameter (again assumedly DBH, although not stated by the author) range from 1.2-1.8 m. |

# EXAMPLE RESOURCES

22 case study examples from existing NDFs

Included examples of techniques to inventory populations and identify if population structures were healthy and showed the ability to regenerate

NDF: *Pterocarpus erinaceus* in Benin

Link: https://www.cites-tsp.org/sites/default/files/project_files/2023 01/Doc_ACNP_PErinaceus_Benin_02092022.pdf

**Inventory**

*Selection of sampling area*

The researchers identified five forests within five protected areas with natural occurrences of the species, based on data from previous inventories and research (see 1 in figure below). Of the five forests, they selected one in the centre of the country, which constituted ecosystems representative of northern and southern formations and is exposed to degradation factors typical of the other forests. This forest was therefore thought likely to be representative of the population structure and abundance for the species at a national level (see 1 and 2 in figure below)

*Sampling methods*

The species is found in various land use types, so stratified sampling (e.g representative of each land use type) was used. The species is not thought to be present in two land use types (crops and fallows and forest and fruit plantations) so only three were selected for sampling: gallery forest, tree/shrub savannah, clear forest/wooded savannah.

The number of sampling plots to be completed was determined based on a coefficient of variation of the basal area of trees of the species from previous research (see p.53 of NDF in link), which determined that a minimum of 257 plots be sampled. This number was increased to 270 to account for different strata within forests.

Sampling plots were randomly distributed amongst the three land use types. Square plots measuring 50 m x 50m were used in clear forest and wooded savannah and tree and shrub savannah, with rectangular dimensions of 250 m x 10 m deemed more suitable for gallery forest and riparian formations. Within each plot, 5 x 5m quadrats were placed, with one each in the four corners, and one in the centre (see 2 in figure below)
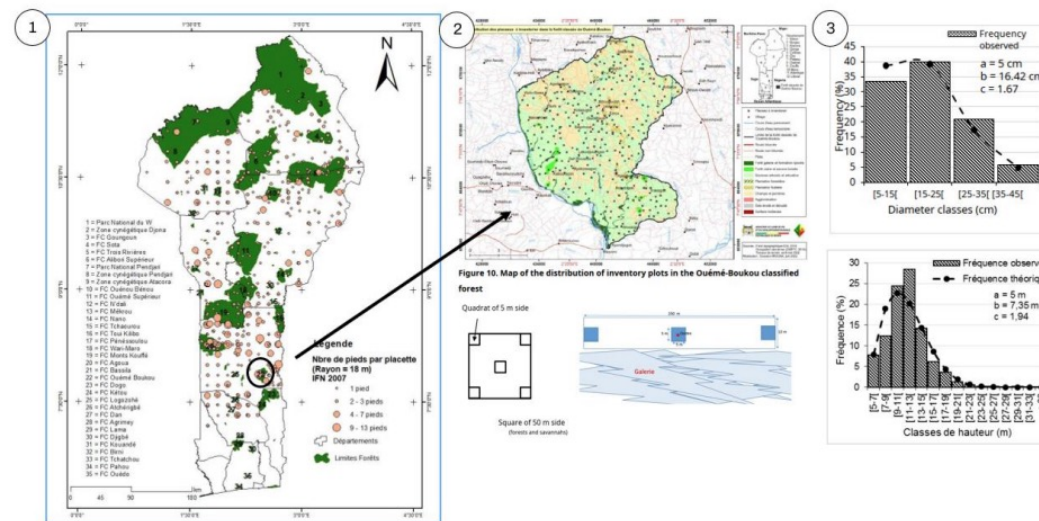


Figure 8. Distribution map of *P. erinaceus* in Benin

# NEXT STEPS

Please get in touch if you have any questions about our tools and resources

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