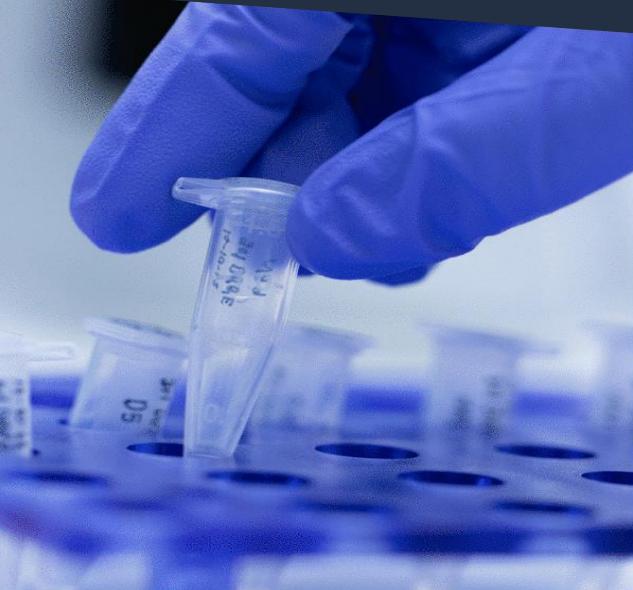




Biodiscovery Resource Toolkit



Queensland
Government



Acknowledgement of Country

Acknowledgement of Country

The Department of Environment and Science acknowledges the Country and people of Queensland's First Nations. We pay our respect to Elders, past, present and emerging.

We acknowledge the continuous living culture of First Nations Queenslanders – their diverse languages, customs and traditions, knowledges and systems.

We acknowledge the deep relationship, connection and responsibility to land, sea and sky Country as an integral element of First Nations identity and culture.

This Country is sacred. Everything on the land has meaning and all people are one with it. We acknowledge First Nations peoples' sacred connection as central to culture and being.

First Nations peoples speak to Country, listen to Country, sing up Country, dance up Country, understand Country and long for Country.

We acknowledge and thank First Nations peoples for the enduring relationship connecting people, Country and ancestors—an unbreakable bond that safely stewarded and protected the land, waters and sky for thousands of generations.

The Department of Environment and Science is committed to supporting and strengthening the capacity of First Nations peoples to engage in negotiations with biodiscovery entities and to provide support to First Nations peoples to participate in, or initiate, their own biodiscovery projects.



What is biodiscovery?

What is Biodiscovery?

What is Biodiscovery?

Biodiscovery in Queensland involves the collection and analysis of native biological material (e.g. plants, animals and other organisms) for commercial applications such as pharmaceuticals (i.e. drugs), cosmeceuticals (i.e. cosmetics) and insecticides.



The opportunity that biodiscovery presents

Approximately half of the approved drugs in the past 30 years have been made either directly, or indirectly, from products found in nature highlighting the large commercial opportunity that the biodiscovery industry represents.

Source: Newman, D. J., & Cragg, G. M. (2012). *Natural products as sources of new drugs over the 30 years from 1981 to 2010*. *Journal of natural products*, 75(3), 311–335. <https://doi.org/10.1021/np200906s>

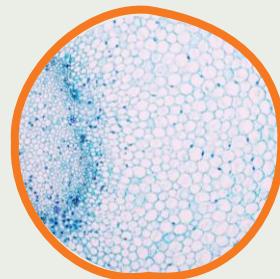
What is Biodiscovery?



Animals



Plants



Other Organisms

Collection



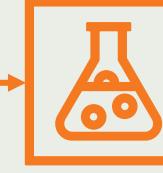
Research



Medicine



Cosmetics



Other commercial uses



Research with
commercial intent

Commercial Applications



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Examples of Biodiscovery

- Although there are examples of success stories of biodiscovery projects that have used traditional knowledge, there are also examples where projects have not had positive results.
- The examples and case studies [here](#) provide an opportunity to better understand the biodiscovery process and highlight lessons learnt from lived experience.
- To the Department's best knowledge, there are no known examples of executed Benefit Sharing Agreements since the changes to the legislation in 2020 introduced protections for traditional knowledge.

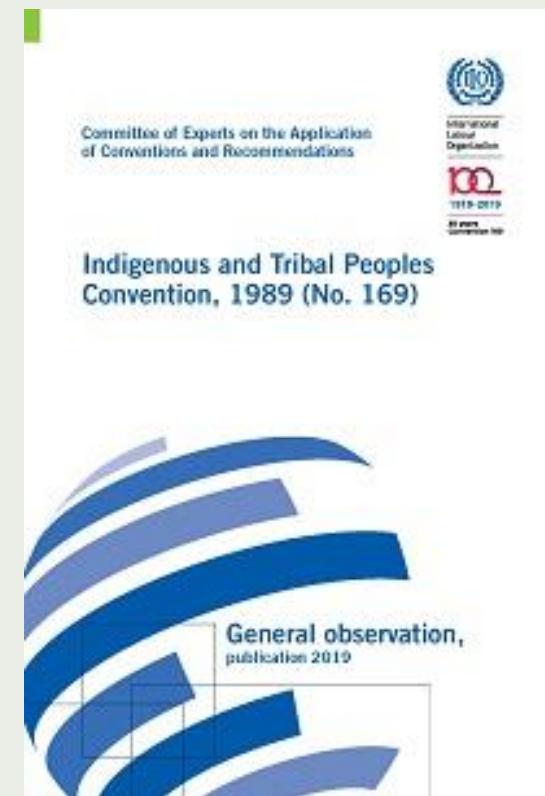




International Standards for Biodiscovery

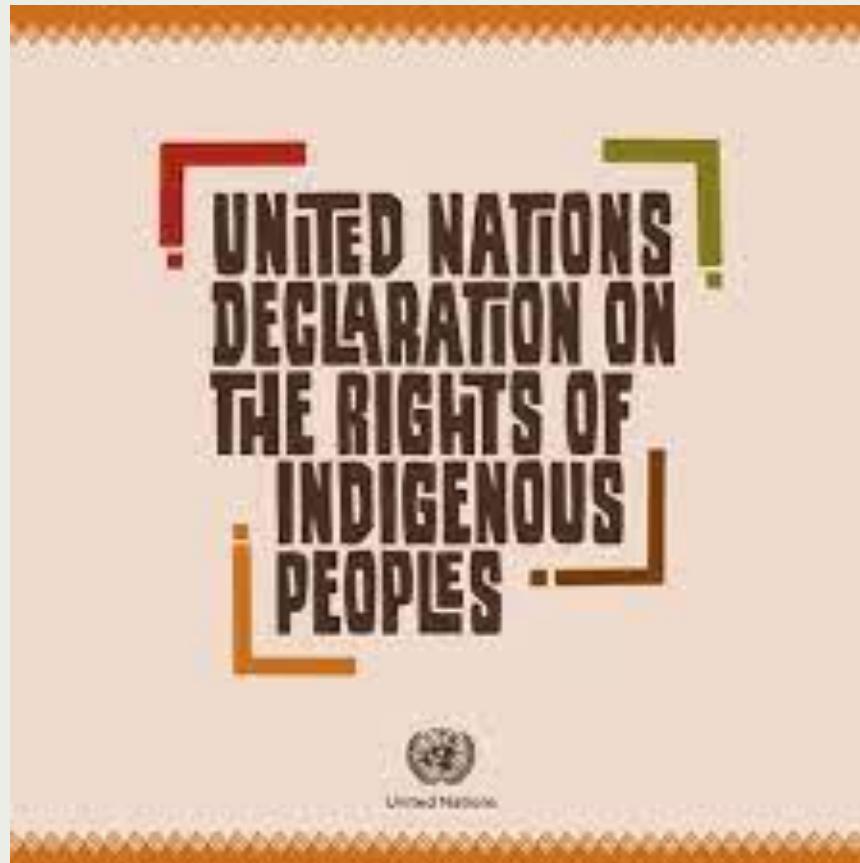
A human rights lens on biodiscovery

- The International Labour Organisation (ILO) Convention 169 ([the Convention](#)) on Indigenous and tribal peoples is an international treaty adopted by the ILO in 1989.
- The Convention aims to overcome discriminatory practices affecting Indigenous people and empower them in the decision-making process. The fundamental foundations of the Convention are participation and consultation. The requirement for consultation falls upon the government of the state and not on private persons or companies and may be delegated, but the ultimate responsibility rests on the government.
- The Convention states that governments should:
“Consult the peoples concerned, through appropriate procedures and in particular through their representative institutions, whenever consideration is being given to legislative or administrative measures which may affect them directly”
- The Convention states that consultation should be carried out in good faith and in a form that is appropriate to the circumstances. The aim of the consultation process is to achieve an agreement or consent to the proposed development.
- The supervisor bodies of the ILO have stated that the consultation process cannot be mere information-sharing and that there must be a chance for the indigenous people to influence the decision-making process.



A human rights lens on biodiscovery

The [United Nations Declaration on the Rights of Indigenous Peoples](#) (UNDRIP) is a non-binding document adopted by the United Nations in 2007 to address the urgent need to respect and promote the inherent rights of Indigenous peoples. The Declaration provides an international framework that aims to enshrine the rights that constitute the minimum standards for the survival, dignity and well-being of the Indigenous peoples of the world.



A human rights lens on biodiscovery

Some key articles of UNDRIP that are applicable to biodiscovery are summarised in the table below.

Key Theme	Article
Self-determination (Article 3)	Indigenous peoples have the right to self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social and cultural development.
Protect traditional knowledge (Article 31)	Indigenous peoples have the right to maintain, control, protect and develop their cultural heritage, traditional knowledge and traditional cultural expressions, as well as the manifestations of their sciences, technologies and cultures, including human and genetic resources, seeds, medicines, knowledge of the properties of fauna and flora, oral traditions, literatures, designs, sports and traditional games and visual and performing arts. They also have the right to maintain, control, protect and develop their intellectual property over such cultural heritage, traditional knowledge, and traditional cultural expressions.
Free, Prior and Informed Consent (Article 19)	States shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free, prior and informed consent before adopting and implementing legislative or administrative measures that may affect them.
Conservation of Environment (Article 29)	Indigenous peoples have the right to the conservation and protection of the environment and the productive capacity of their lands or territories and resources.

The Nagoya Protocol

The Convention on Biological Diversity (CBD)

The CBD is the international legal instrument for "*the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources*" that has been ratified by 196 nations.

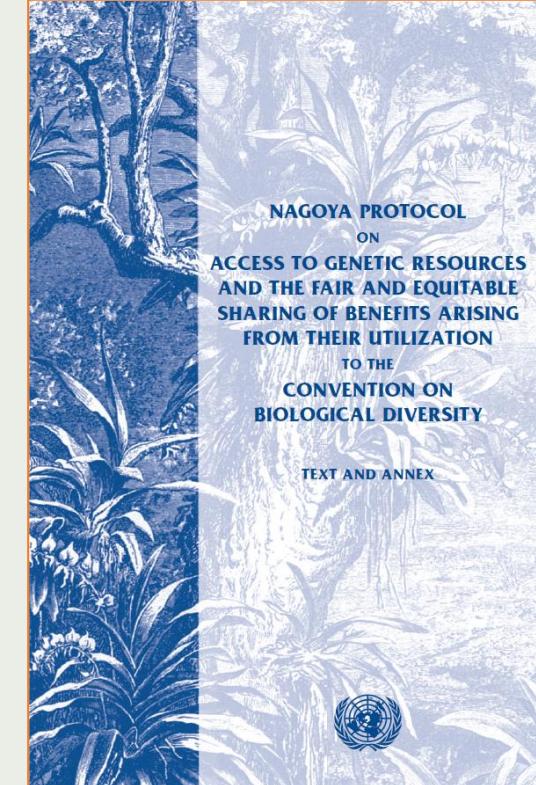
Article 8(j) states:

Each contracting Party shall, as far as possible and as appropriate:

Subject to national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge innovations and practices.

What is the Nagoya Protocol?

The [Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization](#) (the Nagoya Protocol) provides an international regime to promote and safeguard the fair and equitable sharing of benefits arising from the utilisation of genetic resources.



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The Nagoya Protocol

Why is the Nagoya Protocol important?

The Nagoya Protocol requires that:

- Genetic resources are only used with the **prior informed consent** of those who have a right to grant access, including indigenous and local communities.
- Traditional knowledge associated with genetic resources is only used with the **prior informed consent from the holders of traditional knowledge**.
- The **fair and equitable sharing of the benefits** arising from utilisation of genetic resources, subject to **mutually agreed terms**.
- In developing laws, governments take into consideration indigenous and local communities' **customary laws, community protocols and procedures** with respect to traditional knowledge.
- Countries **not restrict the customary use and exchange of genetic resources and associated traditional knowledge** within and amongst indigenous and local communities.

Free, Prior & Informed Consent (FPIC)

What is Free, Prior and Informed Consent?

The principles of Free, Prior and Informed Consent (FPIC) are underpinned by the minimum basic human rights that should be afforded to Indigenous peoples and are connected to Indigenous peoples' rights to self-determination, treaties and indigenous peoples' right to lands, territories and natural resources.

What does FPIC mean?

1. **Consent must be free** – Consent must be given without coercion, intimidation or manipulation.
2. **Consent must be prior** – Consent must be sought in advance of any authorisation or commencement of activities and respects the time requirements of Indigenous consultation/consensus processes.
3. **Consent must be informed** – Sufficient information must be provided to ensure that Indigenous peoples are informed in making decisions.

Free, Prior & Informed Consent (FPIC)

The right to say 'no'

Consent means that First Nations peoples can say 'no' to a project and this decision must be respected.



What is meant by benefit sharing?

The benefits arising from the utilisation of genetic resources or traditional knowledge associated with genetic resources are shared in a fair and equitable way with the communities concerned, based on mutually agreed terms.

Benefits may include:

- monetary benefits, such as up-front payments, royalties, salaries, research funding, and
- non-monetary benefits, such as sharing research results, collaboration in research programs, education and training, joint ownership of intellectual property rights.

What is meant by mutually agreed terms?

Mutually agreed terms are the conditions reached by negotiation between the users and providers of genetic resources or associated traditional knowledge. The Nagoya Protocol outlines that mutually agreed terms should include (amongst other things):

- A dispute settlement clause
- Terms on benefit-sharing, including in relation to intellectual property rights
- Terms on subsequent third-party use, and
- Terms on changes of intent.

Communities may develop their own minimum requirements for mutually agreed terms.

Human Rights in Queensland

- The *Human Rights Act 2019* (Qld) was passed by the Queensland government in February 2019 and officially commenced on 1 January 2020. The primary aim of the legislation is to ensure that respect for human rights is embedded in the culture of the public sector, and that public functions are exercised in a principled way that is compatible with human rights.
- The Act was drawn from international conventions and seeks to protect 23 fundamental human rights:
 - recognition and equality before the law;
 - right to life;
 - protection from torture and cruel, inhuman or degrading treatment;
 - freedom from forced work;
 - freedom of movement;
 - freedom of thought, conscience, religion and belief;
 - freedom of expression;
 - peaceful assembly and freedom of association;
 - taking part in public life;
 - property rights;
 - privacy and reputation;
 - protection of families and children;
 - cultural rights—generally;
 - cultural rights — First Nations peoples;
 - right to liberty and security of person;
 - humane treatment when deprived of liberty;
 - fair hearing;
 - rights in criminal proceedings;
 - children in the criminal process;
 - right not to be tried or punished more than once;
 - retrospective criminal laws;
 - right to education; and
 - right to health services.



Biodiscovery Legislation in Queensland

Biodiscovery Legislation in Queensland

Queensland was the first jurisdiction in Australia to regulate biodiscovery activities when it passed the *Biodiscovery Act 2004* (the Act).

Definition of biodiscovery under the Act

Biodiscovery under the Act involves:

- *Biodiscovery research* – the analysis of molecular, biochemical or genetic information about native biological material for the purpose of commercialising the material, or
- *The commercialisation of native biological material or a product of biodiscovery research.*

In essence, this is the *collection and analysis of native biological material* (e.g. plants, animals, fungi and microorganisms) for *commercial purposes* (e.g. pharmaceuticals or insecticides).

It includes using native biological material obtained outside of its natural habitat (ex-situ).

Key requirements

The Act sets up a framework for obtaining consent to access resources or traditional knowledge about the resources, and share the benefits of their use. This involves:

- For material collected from State land or Queensland waters – obtaining a collection authority and negotiating a benefit sharing agreement with the State
- For biodiscovery using First Nations peoples' traditional knowledge – ensuring traditional knowledge is only used under an agreement with the custodians of the knowledge.

See the *Biodiscovery in Queensland Guidelines* for more information.

Biodiscovery Legislation in Queensland

What are the purposes of the Act?

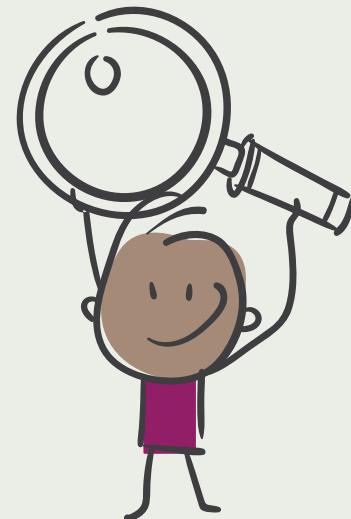
The main purposes of the Act are to:

- ensure biodiscovery entities act appropriately when accessing or using traditional knowledge for biodiscovery;
- facilitate access by biodiscovery entities to minimal quantities of native biological material for biodiscovery on or in State land or Queensland waters
- encourage the development, in the State, of value added biodiscovery
- ensure the State, for the benefit of all persons in the State, obtains a fair and equitable share in the benefits of biodiscovery; and
- ensure biodiscovery enhances knowledge of the State's biological diversity, promoting conservation and sustainable use of native biological resources.

Key terms explained

What is a biodiscovery entity?

- A biodiscovery entity is an entity that engages in biodiscovery.
- Examples of biodiscovery entities include:
 - Universities
 - Research Institutions
 - Commercial companies, such as medical, agricultural, beauty, or food companies
- Biodiscovery entities can be both non-Indigenous and Indigenous organisations.



Key terms explained

What is considered ‘commercialisation’?

The use of the native biological material in any way for commercial gain is considered as commercialisation. An activity is not biodiscovery if an entity only intends to conduct research with no intent to use the material for gain. However, if there is an intention to commercially gain from a product that is derived from research using native biological material, then the Act will apply.

What is ‘State land’ and ‘Queensland waters’?

State land means all land in Queensland other than freehold land, land contracted to be granted in fee-simple to the State, or land subject to a native title determination granting exclusive possession rights. It includes national parks, road reserves and state forests. Freehold land that is owned by the State or an entity representing the State is still considered State land.

Queensland waters is water for which Queensland has jurisdictional powers. It includes waters within the limits of the State and coastal waters within three nautical miles of the territorial sea baseline, including water reserves and marine parks.

To determine if the area is State Land or Queensland waters you can use the following tools:

- [Queensland Globe](#)
- [Australian Marine Spatial Information Systems](#)

Changes to protect traditional knowledge

In 2016, a review of the Act highlighted the need to protect the rights of First Nations peoples regarding the use of their resources and traditional knowledge for biodiscovery.

In September 2020, the *Biodiscovery and Other Legislation Amendment Act 2020* reformed the Act to include **legal protections for the use of First Nations peoples' traditional knowledge in biodiscovery** to improve the alignment with international standards such as the Nagoya Protocol.

The traditional knowledge obligation under the Act requires that a person takes all **reasonable and practical measures to only use traditional knowledge for biodiscovery with the agreement of the custodians of the knowledge**.

Further information on the reform is available on the [Department of Environment and Science website](#).



This reform represents a key step in recognising the rights of First Nations people with respect to traditional knowledge, supporting them to decide how their knowledge is used, and to gain fair benefits from its use in biodiscovery.

Changes to protect traditional knowledge



To recognise and protect the rights of First Nations peoples with respect to traditional knowledge



To bring the biodiscovery industry in Queensland in alignment with international standards



To ensure that benefits of biodiscovery are shared fairly with First Nations peoples



To provide legal protections for the use of First Nations peoples' traditional knowledge in biodiscovery

What is traditional knowledge?

What is traditional knowledge?

Traditional knowledge is defined under the Act as:

“information based on Aboriginal tradition or Island custom”.

Custodians of traditional knowledge

Custodians of traditional knowledge are defined under Act as:

“the Aboriginal people or Torres Strait Islanders to whom the traditional knowledge relates”.

The Traditional Knowledge Code of Practice clarifies that consent should be obtained from the custodians with the customary authority to speak for Country about that knowledge. This is not limited to people or organisations recognised under native title legislation.

The traditional knowledge obligation

Traditional knowledge obligation

- A person must take all reasonable and practical measures to only use traditional knowledge in biodiscovery with the agreement of the custodians of the knowledge.
- Traditional knowledge can only be used once the free, prior and informed consent of custodians is received and once a benefit sharing agreement has been negotiated on mutually agreed terms.
- Consent is an on-going process and can be withdrawn or renegotiated at agreed points.
- The traditional knowledge obligation applies to native biological material irrespective of where in Queensland it is collected. Biodiscovery entities must seek the agreement of traditional knowledge custodians to use their knowledge, even if the material collected is not sourced from State land or Queensland waters.

See the [Department of Environment and Science website](#) for further information.



An example of using traditional knowledge could be learning about the traditional medicinal uses of a plant from First Nations peoples, then using that knowledge to conduct research with a view to producing an anti-inflammatory cream.



What does it mean for First Nations peoples?

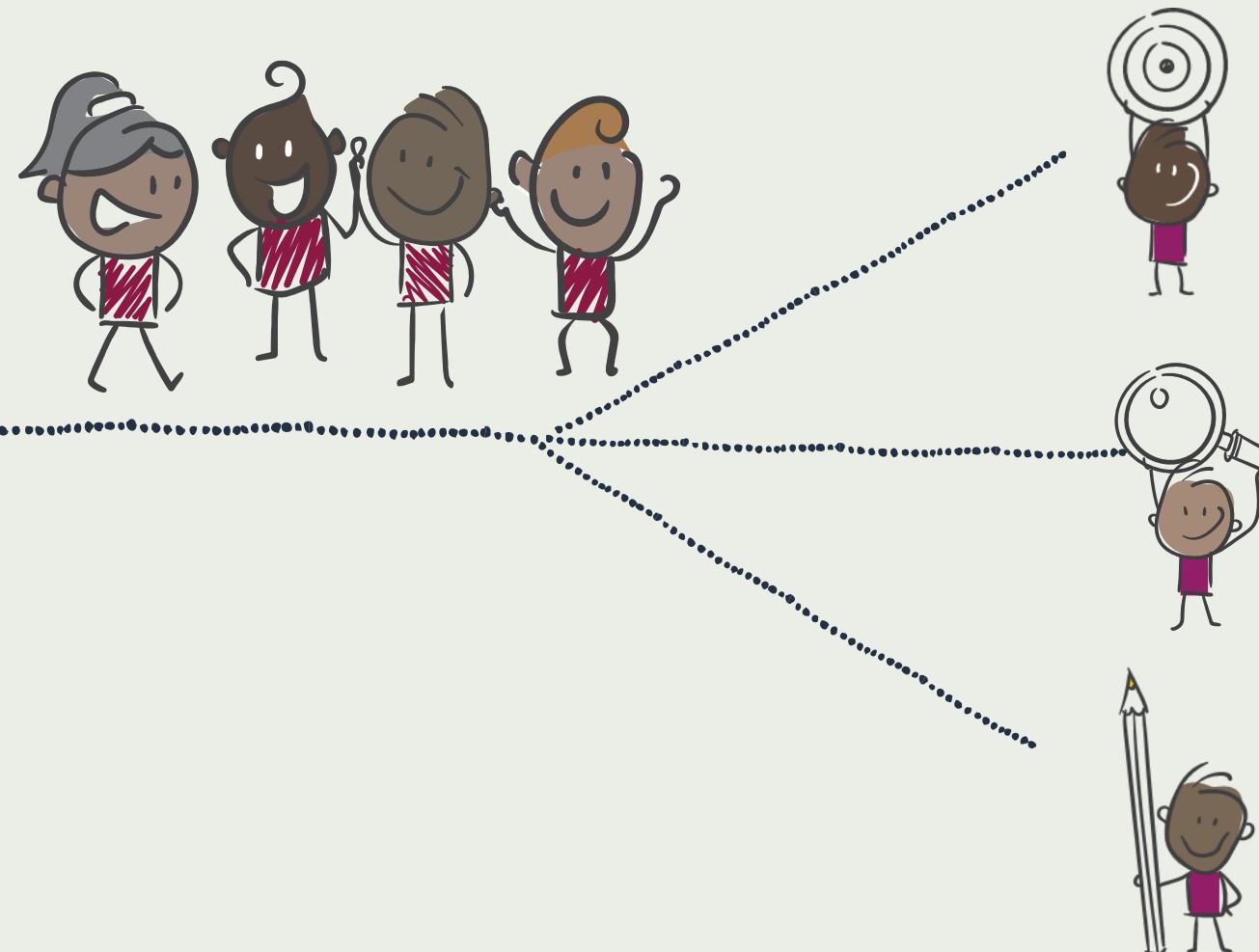
Biodiscovery for First Nations Peoples

An understanding of biodiscovery is important for First Nations peoples to...

... protect traditional knowledge.

... ensure that biodiscovery occurs in an environmentally and culturally sustainable manner.

... achieve community aspirations through biodiscovery (e.g. jobs, training & education, economic)



First Nations Peoples – Initiate or Participate

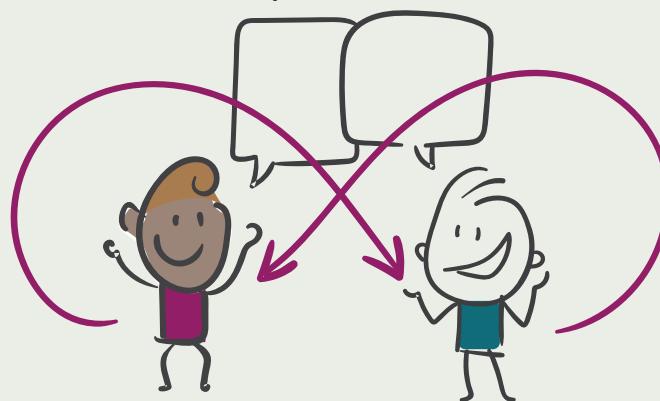
First Nations peoples can initiate biodiscovery projects, participate in biodiscovery projects run by someone else, or say ‘no’ to sharing traditional knowledge

INITIATE



First Nations peoples may choose to initiate a biodiscovery project using traditional knowledge.

First Nations peoples may choose to participate in a biodiscovery project, including by sharing traditional knowledge with trusted partners.



PARTICIPATE

SAY ‘NO’



First Nations peoples may choose to not share their traditional knowledge with biodiscovery entities.

First Nations Peoples – Initiate

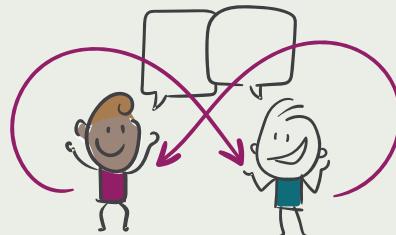
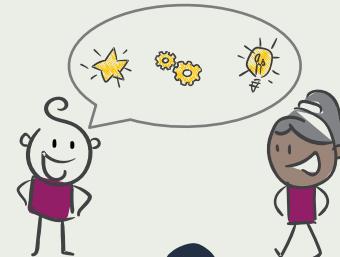
First Nations peoples may choose to initiate a biodiscovery project using traditional knowledge.



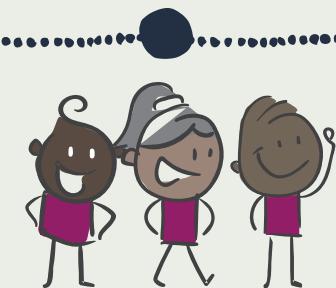
INITIATE

First Nations peoples may choose to initiate a biodiscovery project using traditional knowledge.

First Nations peoples may need support to strengthen capacity and capability.



First Nations peoples may choose to partner with research and commercialisation organisations.



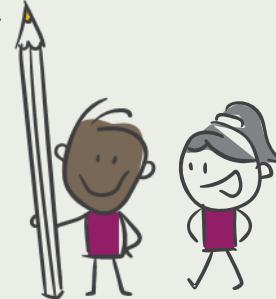
Communities may be able to achieve their aspirations for the use of traditional knowledge in biodiscovery.

Even if a First Nations organisation initiates a partnership with another organisation, free prior and informed consent and benefit sharing agreements may be appropriate.

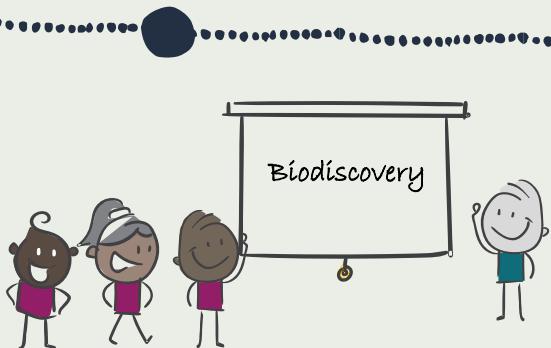
First Nations Peoples – Participate

First Nations peoples may choose to share traditional knowledge with trusted partners to participate in biodiscovery.

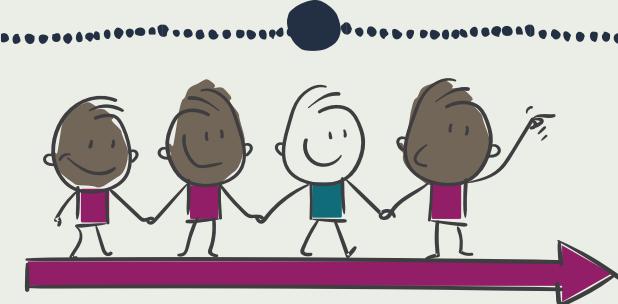
First Nations peoples may be able to reach agreement with the biodiscovery entity about terms for consent and the sharing of benefits from the biodiscovery project using their traditional knowledge.



PARTICIPATE



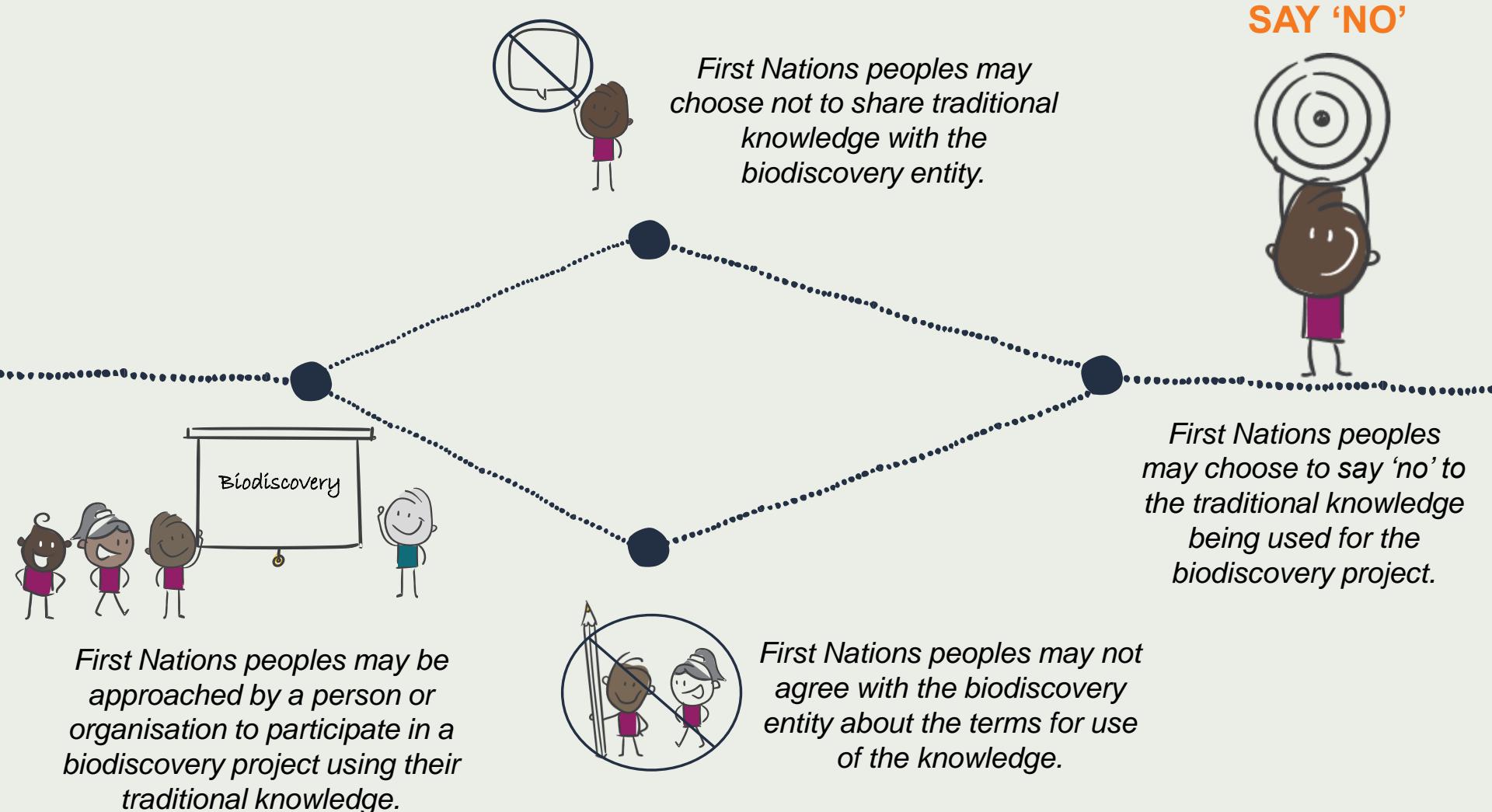
First Nations peoples may be approached by a person or organisation to participate in a biodiscovery project using their traditional knowledge.



The biodiscovery project may be able to proceed based on trusted partnerships between First Nations peoples and biodiscovery entities. Communities may be able to achieve their aspirations for the use of traditional knowledge in biodiscovery.

First Nations peoples – Right to say ‘no’

First Nations peoples can say ‘no’ to sharing traditional knowledge

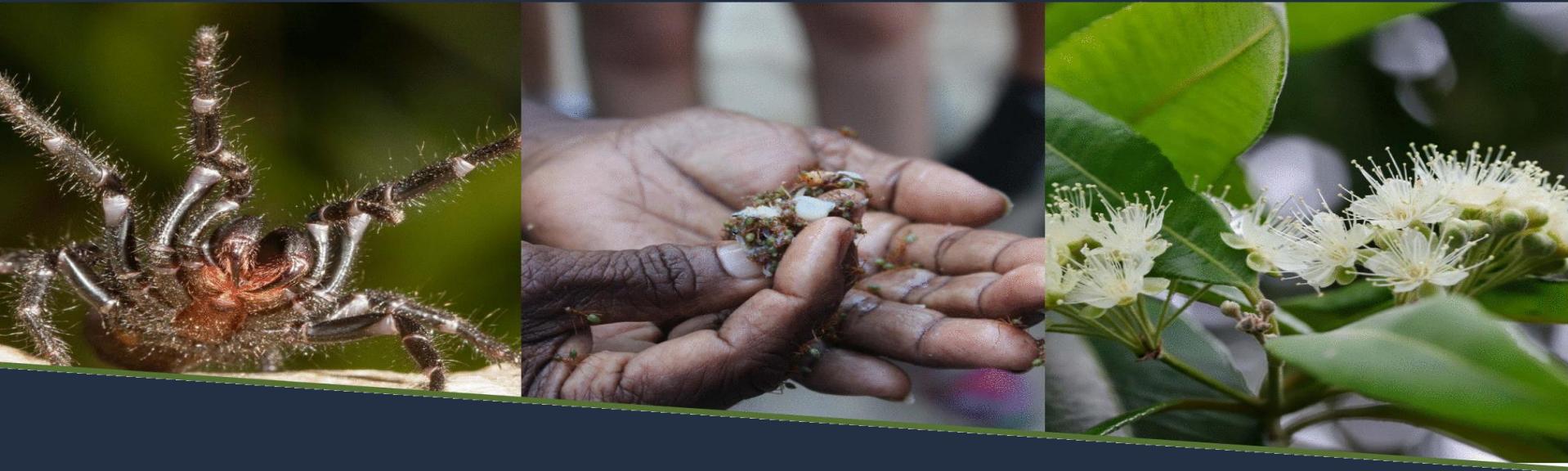


What does it mean for First Nations peoples?

First Nations peoples:

- have the right to on-going free, prior and informed consent:
 - Free – The right to not be forced or coerced into decisions.
 - Prior – Consent must be sought sufficiently in advance of any authorisation or commencement of activities and must respect the time requirements of indigenous consultation/consensus processes.
 - Informed – Sufficient information must be provided to ensure that Indigenous peoples are informed in making decisions.
- have the right to protect traditional knowledge by saying ‘no’ to sharing that traditional knowledge, or to it being used (even after that knowledge is shared).
- have the right to decide which traditional knowledge is shared and which isn’t shared.
- should receive fair and equitable benefits from biodiscovery projects using traditional knowledge.
- have the right to negotiate the terms and conditions by which traditional knowledge can be shared.
- should be engaged in a culturally appropriate manner that respects community protocols.
- can initiate and pursue commercial biodiscovery opportunities for their own interests.
- continue to retain and exert their rights to maintain, control, protect and develop traditional knowledge.





What does it mean for biodiscovery entities?

Biodiscovery Act requirements

Biodiscovery in Queensland involves the collection and analysis of native biological material (e.g. plants, animals and other organisms) for commercial applications such as pharmaceuticals (i.e. drugs), cosmeceuticals (i.e. cosmetics) and insecticides.

Using resources collected from State Land or Queensland waters

- Any biodiscovery entity wanting to collect and use native biological resources from State Lands or Queensland waters for biodiscovery purposes is required to obtain a collection authority (biodiscovery) from the Department of Environment and Science and enter into a benefit sharing agreement with the State.
- The holder of a collection authority and their agents, are able to collect the native biological resources specified on their collection authority. Collection is to be consistent with all conditions listed on the authority and the Compliance Code for taking native biological material under a collection authority.
- The holder of a collection authority cannot commence biodiscovery (including collecting and using the native biological material) until they have also negotiated a benefit sharing agreement with the State.

Using First Nations peoples' traditional knowledge

- Under the 'traditional knowledge obligation', a person must take all reasonable and practical measures to only use traditional knowledge in biodiscovery under an agreement with the custodians of the knowledge.
- This applies regardless of where in Queensland the material was collected from.

See the [*Biodiscovery in Queensland Guidelines*](#) for more information.

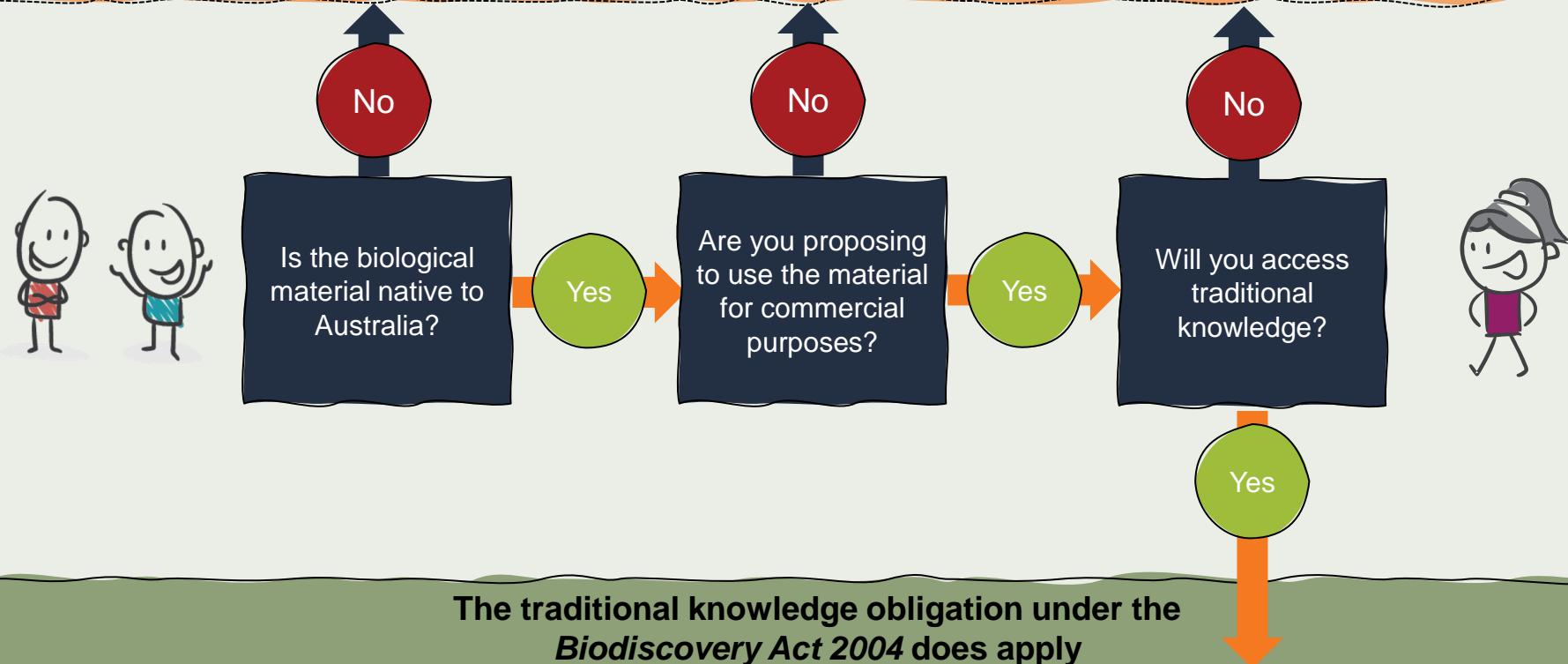
The traditional knowledge obligation

- The traditional knowledge obligation under the Act requires that a person takes all reasonable and practical measures to only use traditional knowledge in biodiscovery under an agreement with the custodian of the traditional knowledge.
- This means biodiscovery entities may only use traditional knowledge with the free, prior and informed consent of the traditional knowledge custodians and under mutually agreed terms regarding benefit sharing.
- The traditional knowledge obligation applies to native biological material collected anywhere in Queensland. Biodiscovery entities are required to seek agreement from custodians of traditional knowledge for the use of their knowledge, even if the material being collected is not sourced from State land or Queensland waters.
- If using traditional knowledge *and* collecting material from State land or Queensland waters, an agreement with the traditional knowledge custodians must be obtained as well as the necessary Queensland Government approvals.
- The State will not be a party to agreements for the use of traditional knowledge – agreements will be between the biodiscovery entity and traditional knowledge custodians.

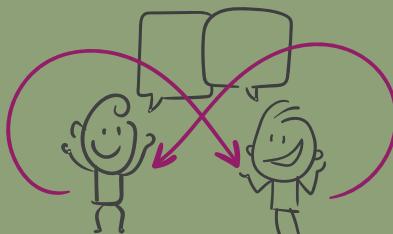
See the [Department of Environment and Science website](#) for further information.

Does the traditional knowledge obligation apply?

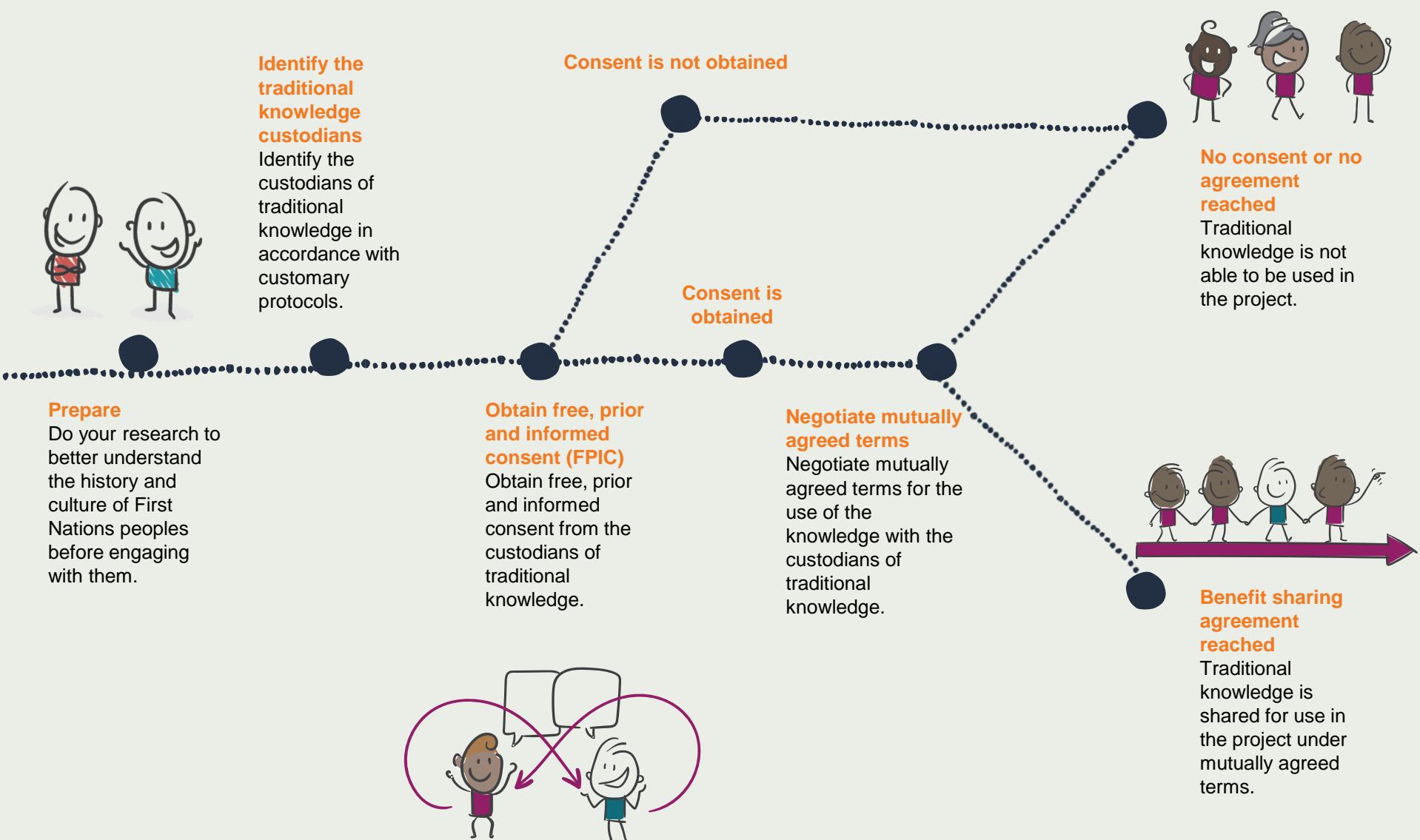
The traditional knowledge obligation under the *Biodiscovery Act 2004* does not apply



The traditional knowledge obligation under the *Biodiscovery Act 2004* does apply



Traditional knowledge obligation - How does it work?



Traditional knowledge obligation

Traditional Knowledge Code of Practice

The Traditional Knowledge Code of Practice

- describes the circumstances under which the traditional knowledge obligation applies, and what is meant by the use of traditional knowledge
- outlines the principles, performance outcomes and minimum requirements for the use of traditional knowledge. This includes practical steps for identifying the custodians of the knowledge; obtaining free, prior and informed consent for the use of the knowledge; and establishing benefit sharing on mutually agreed terms
- outlines other requirements for the use of publicly accessible traditional knowledge; addressing custodianship claims after biodiscovery has already commenced; and keeping and maintaining records to demonstrate compliance with the code.

Traditional Knowledge Guidelines

- The Traditional Knowledge Guidelines provide practical information and best practice advice for biodiscovery entities to meet the code requirements and engage in a culturally appropriate way with First Nations peoples when seeking permission to use their traditional knowledge.

What does it mean for biodiscovery entities?



Biodiscovery entities must:

- Identify the custodians of traditional knowledge in accordance with customary protocols.
- Obtain free, prior and informed consent from the custodians of the knowledge prior to undertaking biodiscovery.
- Share benefits from biodiscovery projects in a fair and equitable manner with First Nations' peoples.
- Seek agreement to the terms for use of traditional knowledge (through a benefit sharing agreement) with traditional knowledge custodians prior to using traditional knowledge in biodiscovery.
- Respect First Nations peoples' rights to maintain, control, protect and develop their traditional knowledge.
- Recognise that traditional knowledge custodians have the right to say 'no' to the use of their knowledge.



Biodiscovery entities should:

- Adopt culturally informed and culturally appropriate practices including respecting community protocols.
- Improve and develop cultural capability and awareness.
- Recognise and acknowledge that First Nations peoples' traditional knowledge represents over 60,000 years of history, and ongoing development of this scientific knowledge.
- Be clear about how the traditional knowledge will be used up front.
- Factor in appropriate project timelines to ensure that First Nations peoples are afforded their rights to consent.



Case studies

Case Studies – Uncha

Chuulangun Aboriginal Corporation

- *Dodonaea polyandra*, also known as 'Uncha' is a shrub primarily found in the north and east of the Cape York Peninsula, in Queensland.
- The plant has been traditionally used by Aboriginal people for the relief of pain and discomfort associated with infected teeth and toothache.
- The Chuulangun Aboriginal Corporation in North Queensland represents the Kuuku I'yu people, who are located on the upper Wenlock and Pascoe Rivers in Central Cape York Peninsula, Queensland.
- David Claudie, the CEO of the Chuulangun Aboriginal Corporation is an Indigenous knowledge holder of plants on his country. Claudie and the Corporation approached the University of South Australia to collaborate on a medicinal plant project.



Source: Claudie, D.J., Semple, S.J., Smith, N. M. & Simpson, B.S. [2012. Ancient but New: Developing Locally Driven Enterprises Based on Traditional Medicines in Kuuku I'yu Northern Kaanju Homelands](#), Cape York, Queensland, Australia. Indigenous Peoples' Innovation: Intellectual Property Pathways to Development. DOI:10.22459/IPI.08.2012.02

Case Studies – Uncha

Chuulangun Aboriginal Corporation

- Claudie's role in the project was to identify the plant knowledge and to collaborate with the scientists.
- The Chuulangun Aboriginal Corporation developed guidelines and protocols which promoted the involvement of traditional owners. Claudie was recognised as a co-inventor of the patent.
- The University of South Australia worked with the Chuulangun Aboriginal Corporation to patent the Uncha for research.
- The patent is owned jointly by the University and the Chuulangun Aboriginal Corporation. Having the Aboriginal Corporation as the owner recognises the collective Indigenous intellectual property rights so that the patent rights can be managed according to customary laws.
- This shows the more useful flexibility in the approach to 'inventorship' to recognise the holders of Indigenous science knowledge. In the past, Western science took priority.



Source: Claudie, D.J., Semple, S.J., Smith, N. M. & Simpson, B.S. 2012. Ancient but New: Developing Locally Driven Enterprises Based on Traditional Medicines in Kuuku I'yu Northern Kaanju Homelands, Cape York, Queensland, Australia. *Indigenous Peoples' Innovation: Intellectual Property Pathways to Development*. DOI:10.22459/IPI.08.2012.02

Source: Janke, T. 2018. From smokebush to spinifex: Towards recognition of Indigenous knowledge in the commercialisation of plants. *International Journal of Rural Law and Policy*, 2018:1, 1-37. Article ID 5713. <http://dx.doi.org/10.5130/ijrlp.i1.2018.5713>

Case Studies – Spinifex

Spinifex Grass – Myuma

- Spinifex grasses are an endemic native Australian grass that grow in abundance through the interior of the country.
- Traditionally, Aboriginal Australians widely used spinifex as waterproof roof-thatching as well as adhesive gum produced from a carefully controlled heating technique.
- The Dugalunji Aboriginal Corporation's commercial entity, Myuma Pty Ltd, represented the relevant traditional owner groups.
- The University of Queensland and the Indjalandji-Dhidhanu people of the Camooweal / Upper Georgina River area collaborated to develop commercial applications for a locally grown species of spinifex.
- The university brings the scientific researchers, skill and equipment and the Aboriginal people bring the land, natural resources on them and the traditional knowledge. Myuma operates the Dugalunji Camp, which manages cultural heritage surveys, a keeping place and training centre for Aboriginal people. In this way, the collaboration aims to find new technical solutions.
- **Benefits:** This opportunity has generated benefits for community beyond just patents through employment opportunities and training and development opportunities.



Source: <https://www.abc.net.au/news/rural/2016-02-12/indigenous-community-has-major-role-in-spinifex-condom-discovery/7162900>

Source: Janke, T. 2018. *From smokebush to spinifex: Towards recognition of Indigenous knowledge in the commercialisation of plants*. *International Journal of Rural Law and Policy*, 2018:1, 1-37. Article ID 5713. <http://dx.doi.org/10.5130/ijrlp.i1.2018.5713>

Case Studies – Spinifex

Spinifex Grass – Myuma

- The collaboration allows for the Aboriginal people to gain skills in research and science.
- Researchers also gained invaluable insights through Traditional Knowledge (e.g. ecological processes, sustainable practices etc.).
- In 2015, a patent was registered over a composite material comprising an elastomer and nanocellulose derived from spinifex plants. The patent is owned solely by University of Queensland and not co-owned with the Indigenous partner.
- Benefits will be shared with the community as negotiated in the research and collaboration agreement.
- Dugalunji Aboriginal Corporation has the right to veto commercialisation.

Benefits:

- The benefits for both the Indigenous community and the university include employment for Aboriginal youth, research on efficacy of regular spinifex burns, positive publicity for the university and respect for Indigenous cultural rights.

Lessons Learnt:

- This case study highlights how Aboriginal groups can exercise control over the research and set the agenda for how they want to benefit thus enacting Indigenous self-determination.

Source: Janke, T. 2018. *From smokebush to spinifex: Towards recognition of Indigenous knowledge in the commercialisation of plants*. *International Journal of Rural Law and Policy*, 2018:1, 1-37. Article ID 5713. <http://dx.doi.org/10.5130/ijrlp.i1.2018.5713>

Case Studies – Kakadu Plum

Kakadu Plums

- The ‘Kakadu plum’ (*Terminalia ferdinandiana*) is a small fruit-bearing tree found in the north of Australia, in the NT and WA.
- The Kakadu Plum is also known by Indigenous people as ‘Billy goat plum’ and ‘gubinge’ and has long been used by Indigenous clans in WA and NT for food and medicine (e.g. an antiseptic).
- More recently, the Kakadu Plum has come into the spotlight because of its remarkably high concentration of vitamin C.
- The plum has been used in a range of products, particularly food products such as jams and teas but also health drinks and also as a preservative.
- The commercial benefits for Indigenous communities was recognised in the 2006 report *Small-scale Commercial Plant Harvests by Indigenous Communities*, where the demand for the fruit was calculated at 10-12 tonnes per annum, with an estimated return of roughly \$10 per kilo.



Source: <https://naakpa.com.au/>

Source: Janke, T. 2018. *From smokebush to spinifex: Towards recognition of Indigenous knowledge in the commercialisation of plants*. *International Journal of Rural Law and Policy*, 2018:1, 1-37. Article ID 5713. <http://dx.doi.org/10.5130/ijrlp.i1.2018.5713>

Case Studies – Kakadu Plum

Kakadu Plums

- A US cosmetics company, applied for an international patent with WIPO under the Patent Cooperation Treaty for 'compositions comprising Kakadu plum extract or acai berry extract'.
- The Gundjeihmi Aboriginal Corporation, representative organisation of the Mirrar people of West Arnhem Land, protested in the media against the patent application. The Mirrar people claimed that the Kakadu plum has been used by the Mirrar as a food and medicine for 'as long as people can remember'.
- The patent application was subsequently withdrawn by the US cosmetics company.
- There is a strong and growing demand for the Kakadu fruit and extract, however, there are considerable supply issues already impacting upon the emerging Kakadu Plum industry.
- Overseas patents limit the ability of the Kakadu plum producing communities of the region to export their products.
- **Lessons learnt:** The need to establish a process for negotiating an Access and Benefit Sharing Agreement. Before access would be allowed for the research and development of plant species to commence, the parties are to negotiate the Access and Benefit Sharing Agreement which clearly sets out all information to be provided and confirm that the Indigenous groups will have control over the project and the intellectual property involved in commercialisation.

Source: Janke, T. 2018. *From smokebush to spinifex: Towards recognition of Indigenous knowledge in the commercialisation of plants*. International Journal of Rural Law and Policy, 2018:1, 1-37. Article ID 5713. <http://dx.doi.org/10.5130/jrlp.i1.2018.5713>

Case Studies – Smokebush

The Smokebush Story

- The smokebush plant predominantly grows in the coastal areas between Geraldton and Esperance in Western Australia (WA).
- The smokebush plant is traditionally used by Aboriginal people as medicine.
- Since the 1960s, specimens have been collected by the US National Cancer Institute (NCI) for cancer research.



Conospermum incurvum

Photos: G. Cockerton & M. Seale

Source: <https://florabase.dpaw.wa.gov.au/browse/profile/1876>

Photography by C. Hortin & J. Hooper. Image used with the permission of the Western Australian Herbarium, Department of Biodiversity, Conservation and Attractions (<https://florabase.dpaw.wa.gov.au/help/copyright>). Accessed on Thursday, 19 August 2021

Case Studies – Smokebush

The Smokebush Story

- In the late 1980s, the US Government screened the stored specimens again for treating the AIDS virus.
- The smokebush was one of only four plants found to contain the active property, conocurovone which was shown could destroy the HIV virus in low concentrations.
- The US Government's Department of Health and Human Services subsequently filed for a US patent in 1993 and for an Australian patent in 1994. The patents gave the US Government the exclusive rights to use the compounds from the smokebush for treatment against AIDS, and to licence it to others for terms they saw fit.

Lessons Learnt

- There were no royalties, other compensation or even acknowledgment of the Aboriginal people in WA highlighting the lack of protection of their Traditional Knowledge.
- Furthermore, the intellectual property laws meant that companies could be sold exclusive rights to entire species of flora, preventing anyone from using those species for any other purpose without the consent of the companies. This meant that Aboriginal people would be prevented from using any plants which are the subject of the exclusive agreement.

Source: Janke, T. 2018. *From smokebush to spinifex: Towards recognition of Indigenous knowledge in the commercialisation of plants*. *International Journal of Rural Law and Policy*, 2018:1, 1-37. Article ID 5713. <http://dx.doi.org/10.5130/ijrlp.i1.2018.5713>

Case Studies – Mudjala Plant Patent

The Mudjala Plant Patent

- The Mudjala Plant grows in the wetlands of northern Australia.
- The myardoo majala tree has always been known to the Nyinkina Mangala community in this region for its cultural significance both in its healing powers and pain relief.
- The Jarlmadangah community and Griffith University lodged a patent in 2003 for novel analgesic compounds derived from the plant.
- The Mudjala Plant was commercialised at the direction of the Jarlmadangah community, based on its knowledge of the plant's medicinal properties and the community is a joint holder of the patent.



Source: <http://www.kimberleypage.com.au/2011/08/jarlmadangah-pain-killer-more-powerful-than-morphine/> Mudjala tree. Image: flickr dinesh_valke

Source: Janke, T. 2018. From smokebush to spinifex: Towards recognition of Indigenous knowledge in the commercialisation of plants. *International Journal of Rural Law and Policy*, 2018:1, 1-37. Article ID 5713. <http://dx.doi.org/10.5130/ijrlp.i1.2018.5713>

Case Studies – Mudjala Plant Patent

Lessons Learnt

- In 2008, the co-owners licenced the IP technology to Avexis to develop commercial opportunities but, due to the global financial crisis, the obstacles to securing sufficient substantial investment capital meant that nothing became of it. The Jarlmadangah Buru community still hope to commercialise the patent.
- In 2013, it was reported that the community intended to participate in harvesting and monitoring trials and wild harvest management to ensure that wider benefits to Aboriginal communities will come out of any opportunity. As yet, no such trial has commenced and the community are still looking for opportunities for partners to licence and exploit the patent's rights.

Source: Janke, T. 2018. *From smokebush to spinifex: Towards recognition of Indigenous knowledge in the commercialisation of plants*. *International Journal of Rural Law and Policy*, 2018:1, 1-37. Article ID 5713. <http://dx.doi.org/10.5130/ijrlp.i1.2018.5713>

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