

**Assessment of the**

###### NSW Southern Cross Botanicals Beach-cast Sea Kelp Fishery

March 2020

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Disclaimer

This document is an assessment carried out by the Department of Agriculture, Water and the Environment of a commercial fishery against the Australian Government *Guidelines for the Ecologically Sustainable Management of Fisheries – 2nd Edition 2007*. It forms part of the advice provided to the Minister for the Environment on the fishery in relation to decisions under Parts 13 and 13A of the *Environment Protection and Biodiversity Conservation Act 1999*. The views expressed do not necessarily reflect those of the Minister for the Environment or the Australian Government.

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# Executive Summary

Southern Cross Botanicals submitted an application for the *NSW Southern Cross Botanicals Beach-cast Sea Kelp Fishery* (the Southern Cross Botanicals Sea Kelp Fishery) on 25 July 2019 for approval under protected species (Part 13) and wildlife trade (Part 13A) provisions of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The application is consistent with the Australian Government *Guidelines for the Ecologically Sustainable Management of Fisheries – 2nd Edition (2007)* (the Fisheries Guidelines).

While there is no NSW state government marine vegetation management plan or specific Sea Kelp harvesting plan, the impact and risk associated with the harvest of a small amount of detached and dead or dying Sea Kelp from the intertidal zone of a 50 km stretch of the NSW coast is considered to be low. Additionally, the harvest of Sea Kelp is unlikely to have an overall detrimental impact on shorebirds due to the small scale and harvest method proposed for the operation.

**Management arrangements**

The Southern Cross Botanicals Sea Kelp Fishery collects marine vegetation and is considered a fishery under the EPBC Act’s broad definition that includes other marine organisms as well as fish. The operation is considered a fishery under the Act for the purpose of its wildlife trade operation approval. It is also considered a small scale fishing activity by the NSW Department of Primary Industries (NSW DPI).

The Department of Agriculture, Water and the Environment notes the regulatory and policy regime that applies to the Southern Cross Botanicals Sea Kelp Fishery under the *Fisheries Management Act 1994* (NSW), *Fisheries Management (General) Regulation 2019* (NSW)*, Fisheries Management (Aquaculture) Regulation 2017* (NSW) and the *Review of Environmental Factors – Marine Vegetation Gathering for Commercial Purposes, 2008*, referred to as *the Marine Vegetation Review* (Department of Primary Industries 2008). Also, a three-tiered permit application process operates based on the potential environmental impact of marine vegetation collection. Sea Kelp collection in NSW is at the level 1 (low level) category.

Sea Kelp is detached from the ocean substrate by natural events and then washed ashore by wave action. Sea Health Products (the business providing Sea Kelp to Southern Cross Botanicals) collects detached, free-floating dead or dying beach-cast seaweed under a NSW Department of Primary Industries (NSW DPI) permit, primarily from three beaches along a 50 kilometre stretch of the NSW south coast between Dalmeny near Narooma and Cuttagee near Bermagui (Figure 1). Harvesting is controlled by conditions attached to the Sea Health Products permit to collect up to a maximum total amount of 7,300 kg annually or no more than 700 kg per month of two species of seaweed - Brown algae (*Ecklonia radiata*, referred to here as Sea Kelp) and Crayweed (*Phyllospora comosa*). Harvesting is limited to sandy beaches with collection in the intertidal zone (between low and high tide mark). Impacts to the environment and threatened species are minimised through measures that include prohibiting harvest in conservation areas, prohibiting vehicle access to beaches, and using selective harvesting methods including non-destructive hand or rake collection. Sea Health Products provide dried Sea Kelp to Southern Cross Botanicals who produce an extract for export to the international cosmetic market.

There are two other permits to collect seaweed in the surrounding region that allow the collection of a minimal amount and are not part of a fishery approval assessment for export.

Southern Cross Botanicals’ fishery application was placed on the Department of the Environment and Energy’s website for public comment from 26 July 2019 to 28 August 2019. No comments were received as part of this consultation.

**Target stocks**

The target species for the purposes of the wildlife trade operation application for export is Sea Kelp (Brown Algae: *Ecklonia radiata*). No species are identified as byproduct or bycatch. There are no concerns in relation to stock status because the Sea Kelp is dead or dying when it is harvested from beach intertidal areas. The harvest of Sea Kelp is recorded with dates, methods, locations and quantities and reported to NSW DPI annually.

The Department of Agriculture, Water and the Environment has determined the harvesting operations will not be detrimental to the survival or conservation status of the target species, and considers that overall the management regime for the Southern Cross Botanicals Sea Kelp Fishery aims to ensure that harvesting is conducted in a manner that does not lead to over-harvesting.

**Protected species and ecological communities**

The Southern Cross Botanicals Sea Kelp Fishery does not harvest (or have as bycatch or by-product) any EPBC Act listed threatened, endangered and protected species (TEP species) or impact on ecological communities listed under the EPBC Act.

One species, the EPBC Act vulnerable listed Hooded Plover (eastern) (*Thinornis rubricollis rubricollis*) has been recorded in the area, however, the collection beaches are not known nesting or roosting sites for these birds (Office of Environment and Heritage 2019). The impacts to the Hooded Plover will be minimised by implementation of a 100m buffer zone around nests or birds caring for young if they are sighted, based on buffers applied in another state and analysis of distances relating to human disturbance initiating shorebird flight (SA PIRSA 2018, Glover et al. 2011). In addition, collection of Sea Kelp will be by personnel able to identify individual shorebird species and aware of steps required to negate impacts.

Subtropical and Temperate Coastal Saltmarsh is a listed vulnerable ecological community under the EPBC Act and occur in the intertidal zone along the shores of estuaries and lagoons. The NSW DPI marine vegetation permit restricts collection of Sea Kelp to ocean beaches and excludes habitat protection zones. At the scale of the operation it is unlikely that this harvest will have a substantial impact on saltmarshes (*Marine Vegetation Review,* Department of Primary Industries 2008).

The Department of Agriculture, Water and the Environment considers the fishery is unlikely to have a detrimental impact on threatened species and ecological communities given the management measures in place, that include exclusion zones, harvest limits, targetted harvest methods, and buffer zones in the unlikely situation that Hooded Plover (eastern) nesting sites are observed.

**Ecosystem impacts**

Accumulated seaweed along beaches can stabilise coastal ecosystems and may contribute to the fertility and stability of substrates behind the fore dunes. Particulate matter from decomposing seaweed provides food for offshore species, including fish and benthic coastal communities. The removal of large banks of seaweed increases the risk of impacts to coastal and nearshore ecosystems.

The NSW DPI permit conditions will help to limit the impacts on the broader ecosystem by restricting harvest to the intertidal zone along ocean beaches and excluding conservation areas, limiting the harvest of Sea Kelp to a small quantity primarily from three beaches along a 50 kilometre stretch of coastline, and requiring non-destructive collection by hand or rake. Given these and other management arrangements in place in the fishery, the fishery is unlikely to have a significant impact on the environment in which it operates in the short-term.

**Conclusion**

Based on the assessment, the Department of Agriculture, Water and the Environment recommends that the NSW Southern Cross Botanicals Beach-cast Sea Kelp Fishery be granted export approval for three years from the date of approval by declaring the fishery an approved wildlife trade operation under the EPBC Act.

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*Figure 1: Map of harvest area with northern boundary (Dalmeny) and southern boundary (Cuttagee) and main collection sites.*

# Section 1: Assessment Summary

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| **Guidelines assessment** | **Meets** | **Partially meets** | **Does not meet** | **Details** |
| Management regime | 6 of 9 | 3 of 9 |  | **The management regime is adequate.**  The Department of Agriculture, Water and the Environment considers the management regime for the Southern Cross Botanicals Sea Kelp Fishery is adequate for the scale of the Sea Kelp harvest operation. The harvest of Sea Kelp is a small-scale fishing activity under the NSW government’s fisheries legislation with state permits issued according to NSW DPI sustainable management arrangements. General objectives and performance criteria contained in state legislation will assist the fishery to be adequately managed. Conditions on the NSW DPI permit prescribe harvest limits, exclude conservation areas and include non-destructive harvest methods.  NSW DPI has not undertaken a review of its management arrangements for marine vegetation, however they may be reviewed at any time if activity thresholds are reached. |
| Principle 1 (target stocks) | 8 of 11  N/A 2 of 11 | 1 of 11 |  | **Target stock (Sea Kelp) is satisfactorily managed.**  Harvesting operations are very unlikely to impact on the survival of the target species, Sea Kelp, because it is collected as dead or dying, detached free-floating stock washed up to beach intertidal areas. It is a prolific species with large amounts continually deposited along the NSW coastline (*Marine Vegetation Review*,Department of Primary Industries 2008). The management of the target stock is acceptable as the fishery harvest is small scale and the quantity of Sea Kelp available at various times and locations is widespread and large. |
| Principle 2 (bycatch and TEP species) | 6 of 12  N/A 6 of 12 | 0 of 12 |  | **Negligible impacts to bycatch. Risks to protected shorebird species is minimised through appropriate management measures.**  Bycatch and interactions with threatened, endangered and protected species (TEP species) are considered to be negligible due to the selective harvest method (collection by hand or rake), area restrictions (exclusions from habitat protection locations) and prohibition of vehicle access to beaches. Measures are in place through buffer zones to manage potential interactions with the vulnerable listed shorebird: Hooded Plover (eastern). |

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| Principle 2 (ecosystem impacts) | 5 of 5 | 0 of 5 |  | **Ecological risk is inherently low due to the method used and the fishery’s small scale.**  Based on the available information and the Southern Cross Botanicals Sea Kelp Fishery management arrangements, the Department of Agriculture, Water and the Environment considers that the harvest operation will be managed in a manner that minimises impacts on the structure, productivity, function and biological diversity of the ecosystem. |
| **EPBC requirements** | **Meets** | **Partially meets** | **Does not meet** | **Details** |
| Part 12 | N/A |  |  | **Not applicable.**  The fishery operates within state waters only, it does not impact on a Commonwealth marine area and does not require approval under Part 12 of the EPBC Act. |
| Part 13 | N/A |  |  | **Not applicable.**  The fishery operates in state waters only, and is therefore not subject to the provisions relating to listed threatened and protected (eg. threatened, migratory and marine) species under Part 13 of the EPBC Act. |
| Part 13A | All met |  |  | **Meets the requirements.**  The fishery is consistent with the provisions of Part 13A (CITES and Regulated not threatened specimens). It does not harvest any CITES species and there are management arrangements in place to ensure the resource (Sea Kelp) is being managed in an ecologically sustainable way. |
| Part 16 | Met |  |  | **Meets the requirements.**  The Department of Agriculture, Water and the Environment considers that precautionary measures are in place to prevent serious or irreversible environmental damage being caused by this fishery. |

**Notes**

**Assessment history:**

Information on the EPBC Act assessment for the NSW Southern Cross Botanicals Beach-cast Sea Kelp Fishery is available on the Department of Agriculture, Water and the Environment’s website.

For a copy of the NSW Southern Cross Botanicals Beach-cast Sea Kelp Fishery Proposal (2019) click on the link below then click the link at ‘Download the application’.

1st assessment, August 2019 – Public comment, Agency submission on ecological sustainability: <http://www.environment.gov.au/marine/fisheries/nsw/southern-cross-botanicals-sea-kelp/application-2019>

**Key links and documents:**

Fishery information is available at the NSW Department of Primary Industries (DPI) web links:

NSW DPI commercial fisheries – <https://www.dpi.nsw.gov.au/fishing> .

NSW DPI Permit information – <https://www.dpi.nsw.gov.au/fishing/closures/section-37-permits>

NSW DPI – Science and Research – <https://www.dpi.nsw.gov.au/content/research/fishing-aquaculture>

* Wildlife conservation plan for migratory shorebirds – <http://www.environment.gov.au/biodiversity/publications/wildlife-conservation-plan-migratory-shorebirds>.
* Species profile and threats database (SPRAT), <http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl>
* Conservation advice for *Thinornis rubricollis* (Hooded Plover (eastern)), Threatened Species Scientific Committee 2014, [http://www.environment.gov.au/cgi bin/sprat/public/publicspecies.pl?taxon\_id=66726](http://www.environment.gov.au/cgi%20bin/sprat/public/publicspecies.pl?taxon_id=66726) last accessed 22 January 2020.
* EPBC Act Policy Statement 3.21 – Industry guidelines for avoiding, assessing, and mitigating impacts on EPBC Act listed migratory shorebird species – <http://www.environment.gov.au/epbc/publications/shorebirds-guidelines>.

**Management plan**

The NSW Southern Cross Botanicals Beach-cast Sea Kelp Fishery is managed under state legislation and regulations. There is no fishery-specific management plan.

**Enforcing legislation**

The following legislative and regulatory information is available on the NSW legislation website:

*Fisheries Management Act 1994* (NSW): <https://www.legislation.nsw.gov.au/#/view/act/1994/38>

*Fisheries Management (General) Regulation) 2019* (NSW): <https://legislation.nsw.gov.au/#/view/regulation/2019/407>

*Fisheries Management (Aquaculture) Regulation 2017* (NSW): <https://www.legislation.nsw.gov.au/#/view/regulation/2017/443>

# Section 2: Detailed Analysis against the Guidelines

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| **Guidelines criteria** | **Comment** |
| **THE MANAGEMENT REGIME** | |
| The management regime does not have to be a formal statutory fishery management plan as such, and may include non-statutory management arrangements or management policies and programs. The regime should: | |
| Be documented, publicly available and transparent. | **Meets – the management regime for the fishery has been prepared in accordance with the Guidelines for the Ecologically Sustainable Management of Fisheries (2007).**  The fishery is managed by the NSW Department of Primary Industries (DPI) in accordance with the *Fisheries Management Act 1994* (NSW), *Fisheries Management (General) Regulation 2019* (NSW), *the Fisheries Management (Aquaculture) Regulation 2017* (NSW) and the *Marine Estate Management Regulation 2017* (NSW). A state permit is required under fishery legislation to collect marine vegetation for commercial purposes and non-commercial collection greater than 20kg per day.  The *Fisheries Management Act 1994*, *Fisheries Management (General) Regulation 2019*, and *Fisheries Management (Aquaculture) Regulation 2017* require consultation with key stakeholders including the general public on matters relating to management plans, habitat protection plans and threatened species conservation, and on changes relating to management provisions within the Acts.  NSW DPI consults directly with permit holders regarding managing harvest and any associated impacts. Fisheries officers have access to NSW DPI’s fisheries research services that provide scientific advice on priority fisheries programs.  There is no stock assessment process because Sea Kelp is not harvested live and the operation is restricted to the collection of material that is dead or dying at the time of harvest. However, NSW DPI monitor information from annual reports, which include the amounts and species collected and processed. |
| Be developed through a consultative process providing opportunity to all interested and affected parties, including the general public. |
| Ensure that a range of expertise and community interests are involved in individual fishery management committees and during the stock assessment process. |
| Be strategic, containing objectives and performance criteria by which the effectiveness of the management arrangements are measured. | **Partially meets – while the management arrangements for the fishery do not include performance criteria, the Department of Agriculture, Water and the Environment considers that the level of risk associated with the fishery is low and that the management arrangements are appropriate for a fishery of this nature and small size.**  The effectiveness of management arrangements is measured using general fishery objectives and performance measures that are included in the *Fisheries Management Act 1994* (NSW). NSW DPI prepare management strategies for ‘significant fisheries’ however a fishery management strategy has not been prepared for marine vegetation due to its small scale and low level of impact. In this case, conditions attached to individual state permits provide more specific guidance in relation to managing harvesting operations. The fishery’s performance in terms of harvest outputs is monitored via annual reporting. |

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| Be capable of controlling the level of harvest in the fishery using input and/or output controls. | **Meets – the management arrangements are controlled by NSW DPI through commercial permits issued for collection of marine vegetation.**  To collect marine vegetation for commercial purposes and non-commercial collection greater than 20kg per day, a NSW DPI permit is required under fishery legislation. The NSW DPI permit conditions enable harvest to be limited by input and output control measures including:   * harvest level limits - in the case of Southern Cross Botanicals suppliers, a maximum annual and monthly limit applies * eligible species to be harvested * limited entry and area exclusions * specific conditions for land-based vehicle usage * annual reporting on species and quantities harvested * gear and method restrictions (collection by hand or rake) |
| Contain the means of enforcing critical aspects of the management arrangements. | **Meets – NSW fisheries legislation contains provisions to enforce management arrangements through compliance measures.**  The *Fisheries Management Act 1994* (NSW), *Fisheries Management (General) Regulation) 2019* (NSW) and *Fisheries Management (Aquaculture) Regulation 2017* (NSW) contain provisions for the enforcement of the management arrangements for the Southern Cross Botanicals Sea Kelp Fishery. Compliance measures include notification to the local NSW DPI fisheries officer at each time harvest of Sea Kelp is to occur and the permit holder must be in possession of the issued state permit while harvesting. NSW DPI monitors annual reports to determine the numbers and types of species harvested. |
| Provide for the periodic review of the performance of the fishery management arrangements and the management strategies, objectives and criteria. | **Partially meets – while there is no periodic review of the fishery’s management performance, annual reporting provides fishery harvest output information.**  Fishery management strategies are subject to review at such times as management plans prescribe and at such other times as the Minister determines. There is no fishery management strategy for NSW beach cast marine vegetation. The *Marine Vegetation Review* (Department of Primary Industries 2008) identified a review in 2013 but this has not been undertaken. There is no performance review such as a stock assessment because the fishery harvests dead or dying native species. The NSW DPI permit contains conditions for annual reporting on the fishery’s performance in regard to the operation’s harvest outputs but not management arrangements. |
| Be capable of assessing, monitoring and avoiding, remedying or mitigating any adverse impacts on the wider marine ecosystem in which the target species lives and the fishery operates. | **Meets – the management regime includes measures to mitigate impacts.**  The management regime is capable of effectively managing the impacts from the harvest of marine vegetation. The NSW permit includes measures to mitigate impacts such as requiring collection by hand or by rake and in locations that exclude areas of conservation value. A three-tiered permit application process operates based on the potential environmental impact from the harvest of marine vegetation. Additional application and assessment processes are in place according to the physical scale and methods of a project (eg. dredging, fish passage obstruction), the level of environmental impact risk (low, moderate, high) and impacts on threatened species and habitat. There is a small number of harvesters in the NSW south coast (Southern Cross Botanicals, and up to another two with minimal collection of Sea Kelp) and the management arrangements, through the NSW DPI permit application processes, provide capacity to effectively manage the impacts on the wider marine ecosystem.  State and local government agencies are required to monitor beaches and foreshore areas. These agencies are also responsible for providing access to harvesters, and therefore have oversight of the amounts available for harvesting. The amounts harvested are monitored by NSW DPI through annual reports. |
| Requires compliance with relevant threat abatement plans, recovery plans, the National Policy on Fisheries Bycatch, and bycatch action strategies developed under the policy. | **Partially Meets – while the fishery is compliant with relevant NSW plans and policies it does not specify compliance with Commonwealth plans.**  Management arrangements for the harvest of marine vegetation in NSW including for Southern Cross Botanicals Sea Kelp Fishery do not include requirements for marine vegetation harvesters to comply with Commonwealth threat abatement plans, recovery plans, or bycatch policies or strategies. However, they are required to comply with relevant threat abatement plans and recovery plans issued by NSW. |
| **PRINCIPLE 1 -** A fishery must be conducted in a manner that does not lead to overfishing, or for those stocks that are overfished, the fishery must be conducted such that there is a high degree of probability the stock(s) will recover**.** | |
| **Objective 1 -** The fishery shall be conducted at catch levels that maintain ecologically viable stock levels at an agreed point or range, with acceptable levels of probability. | |
| Information requirements | |
| ***1.1.1*** There is a reliable information collection system in place appropriate to the scale of the fishery. The level of data collection should be based upon an appropriate mix of fishery independent and dependent research and monitoring. | **Meets – this is a small scale fishery with appropriate information collection required under permit conditions.**  Data on marine vegetation harvesting is annually reported to NSW DPI as part of permit conditions issued to harvesters of marine vegetation. Reporting includes dates, methods, location, species and quantities harvested, total sales value and unique identification numbering for each sale. No independent fishery data is collected.  Overall there is a reliable information collection system in place appropriate to the small scale of the fishery. |
| Assessment | |
| ***1.1.2*** There is a robust assessment of the dynamics and status of the species/fishery and periodic review of the process and the data collected. Assessment should include a process to identify any reduction in biological diversity and /or reproductive capacity. Review should take place at regular intervals but at least every three years. | **Partially meets – while a stock assessment has not been undertaken the Department considers it unlikely the fishery would cause stock levels of live populations of Sea Kelp to be depleted, due to the operation’s small scale and because it harvests detached dead or dying Sea Kelp.**  The target species - Sea Kelp, is detached from the ocean substrate by natural events, and then washed ashore by wave action as dead or dying Sea Kelp. There is a degree to which Principle 1 may be considered not applicable as the collection is dead or dying Sea Kelp from the intertidal zone and does not affect Sea Kelp reproductive capacity or stock recovery.  The Sea Kelp stock status is undetermined for both its live ocean form and its washed up beach form. There is no up-to-date research available to ascertain ecologically sustainable harvest levels, and no formal stock assessments or surveys are planned for marine vegetation including Sea Kelp. The Marine Vegetation Review (Department of Primary Industries 2008) points to large amounts of Sea Kelp continually being deposited on the NSW coastline and concludes that stock levels are unlikely to be depleted as a result of the small amount of commercial harvest. |
| ***1.1.3*** The distribution and spatial structure of the stock(s) has been established and factored into management responses*.* | **Meets – the broad distribution of Sea Kelp is known, is reflected in basic management responses, and is adequate for the small scale of the fishery.**  Sea Kelpoccurs from Kalbarri in Western Australia, around the southern coastline and Tasmania and as far north as Caloundra in Queensland (Kirkman and Kendric 1997). Its distribution is dependent on environmental activities (such as seasonal changes and big weather events) that dislodge plants from the seabed and wash them ashore. These factors result in it being unevenly deposited along the NSW coastline, with the most intensive areas of deposition along the Tweed-Moreton and Batemans Shelf marine bioregions.  The *Marine Vegetation Review* (Department of Primary Industries 2008) recommends more detailed environmental assessment where the applications for Sea Kelp harvest exceed 20,000kg per month from a single location. The NSW DPI permit relating to the Southern Cross Botanicals Sea Kelp Fishery is for a harvest up to a maximum of 7,300kg annually with a maximum monthly weight of 700kg. |
| ***1.1.4*** There are reliable estimates of all removals, including commercial (landings and discards), recreational and indigenous, from the fished stock. These estimates have been factored into stock assessments and target species catch levels. | **Meets – as there are reliable estimates of commercial harvest of Sea Kelp in annual reports.**  Commercial operators provide reliable estimates of removals from the fished stock through annual reports to NSW DPI. The information includes catch data and sales records. Local councils also report to NSW DPI as part of permit conditions on the quantities of marine vegetation taken.  The amounts harvested for recreational and Aboriginal traditional use are unknown but is considered likely to be negligible. A state permit is not required for private use where less than 20kg/day is collected.  While a stock assessment has not been undertaken for Sea Kelp, annual reporting from commercial operators and local government to NSW DPI provides an indication of the quantity of harvested marine vegetation (including Sea Kelp). As discussed under 1.1.2, the harvest of detached and/or dying Sea Kelp will not have an impact on the species stock. |
| ***1.1.5*** There is a sound estimate of the potential productivity of the fished stock/s and the proportion that could be harvested. | **Meets – as there are estimates of large amounts of Sea Kelp deposited and the amount harvested is very small in comparison.**  The amount of seaweed deposited on beaches varies depending on the location. Estimates of up to 2,000kg (wet- weight) per metre per year has been reported from beaches in Western Australia (Koop et al 1982). The Southern Cross Botanicals Sea Kelp Fishery total allowable annual harvest is 7,300kg across nearly 50kms of coastline. The amount harvested in the fishery is a very small proportion of annually deposited seaweed. |
| Management responses | |
| ***1.1.6*** There are reference points (target and/or limit), that trigger management actions including a biological bottom line and/or a catch or effort upper limit beyond which the stock should not be taken. | **Meets – as there are catch and trigger reference points for stock harvest levels and environmental review.**  The Southern Cross Botanicals Sea Kelp Fishery contains an upper catch limit of 7,300kg/year and a 700kg/month limit. The catch limit is small for the target stock given the large amounts of Sea Kelp continually being deposited along beaches and therefore identifying a biological bottom line is not warranted.  The *Marine Vegetation Review* (Department of Primary Industries 2008) includes triggers to undertake further environmental review where the number of state permit applications for Sea Kelp exceed a threshold of 10 from a single location or where an applicant applies to collect more than 2,000kg (wet weight) per month from a single location. |
| ***1.1.7*** There are management strategies in place capable of controlling the level of take. | **Meets – management arrangements including area restrictions, collection by hand and harvest limits control the level of take.**  Management arrangements are in place to control the level of take including limited entry, method of take (by hand or rake) and limits on the amounts permitted to be harvested. Annual reporting, that includes quantities harvested, provides NSW DPI with the information to monitor and respond to Sea Kelp harvest activity. |
| ***1.1.8*** Fishing is conducted in a manner that does not threaten stocks of byproduct species. | **Meets – the selective collection of Sea Kelp by hand or rake means take of byproduct does not occur.**  There are no byproduct species taken as part of the Southern Cross Botanicals Sea Kelp Fishery due to the selective harvest method. Harvest is undertaken by individuals wading in the intertidal zone and collecting Sea Kelp by hand or rake. |
| ***1.1.9*** The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective. | **Meets – the level of risk of overfishing is low and the management response measures including a small harvest level have a high chance of ensuring the ecologically viable catch level objective is achieved.**  Current management arrangements are likely to maintain ecologically viable stock levels of Sea Kelp given fishery permit conditions that specify a small harvest level and require annual reporting on quantities collected.  Triggers prompting further environmental consideration when the number of state permits or harvest quantity thresholds are met, provide confidence in the sustainability of the fishery being maintained (*Marine Vegetation Review*, Department of Primary Industries 2008). |

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| **Objective 2 -** Where the fished stock(s) are below a defined reference point, the fishery will be managed to promote recovery to ecologically viable stock levels within nominated timeframes. | |
| Management responses | |
| ***1.2.1*** A precautionary recovery strategy is in place specifying management actions, or staged management responses, which are linked to reference points. The recovery strategy should apply until the stock recovers, and should aim for recovery within a specific time period appropriate to the biology of the stock. | **Not applicable**  The target stock Sea Kelp is not overfished (harvested) and is described as a prolific species with large amounts continually deposited along the NSW coastline (*Marine Vegetation Review*, Department of Primary Industries 2008). Sea Kelp is not taken from live plants but from dislodged free-floating dead or dying material washed up to the beach. For this reason, a precautionary recovery strategy is not required because stocks of Sea Kelp will not be adversely impacted by the Southern Cross Botanicals Sea Kelp Fishery. |
| ***1.2.2*** If the stock is estimated as being at or below the biological and / or effort bottom line, management responses such as a zero targeted catch, temporary fishery closure or a ‘whole of fishery’ effort or quota reduction are implemented. |

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| **PRINCIPLE 2 -** Fishing operations should be managed to minimise their impact on the structure, productivity, function and biological diversity of the ecosystem. | |
| **Objective 1 -** The fishery is conducted in a manner that does not threaten bycatch species. | |
| ***2.1.1*** Reliable information, appropriate to the scale of the fishery, is collected on the composition and abundance of bycatch. | **Not applicable**  Bycatch is considered unlikely due to the selective harvesting method (collection by hand or by rake). Sea Kelp is collected between low and high tide mark at beaches and is cleaned in the seawater to remove any debris. |
| ***2.1.2*** There is a risk analysis of the bycatch with respect to its vulnerability to fishing. |
| ***2.1.3*** Measures are in place to avoid capture and mortality of bycatch species unless it is determined that the level of catch is sustainable (except in relation to endangered, threatened or protected species). Steps must be taken to develop suitable technology if none is available. |
| ***2.1.4*** An indicator group of bycatch species is monitored. |
| ***2.1.5*** There are decision rules that trigger additional management measures when there are significant perturbations in the indicator species numbers*.* |
| ***2.1.6*** The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective. |
| **Objective 2 -** The fishery is conducted in a manner that avoids mortality of, or injuries to, endangered, threatened or protected species and avoids or minimises impacts on threatened ecological communities. | |
| Information requirements | |
| ***2.2.1*** Reliable information is collected on the interaction with endangered, threatened or protected species (TEP species) and threatened ecological communities. | **Meets – measures are in place to identify the level of interaction with TEP species. The Department’s wildlife trade operation approval condition requires reporting on shorebird interactions if they occur.**  Interactions by the fishery with TEP species including resident and migratory shorebirds is likely to be low with the area not known as a place where nesting or roosting of these birds occurs (Office of Environment and Heritage 2019). The EPBC Act vulnerable listed Hooded Plover (eastern) (*Thinornis rubricollis rubricollis*), a species prone to disturbance and vulnerable to breeding failure, is recorded as occurring in the harvest area, but not for nesting sites (Office of Environment and Heritage 2019). Due to the low level of interaction, NSW DPI has not included TEP species reporting conditions in the harvester’s (Sea Health Products) permit. A condition however is in Department of Agriculture, Water and the Environment’s fishery approval to report on interactions and steps taken to mitigate impacts on Hooded Plover (eastern).  Harvesting of Sea Kelp is undertaken by personnel with skill in shorebird identification which will assist reporting of interactions if they were to occur. |
| Assessments | |
| ***2.2.2*** There is an assessment of the impact of the fishery on endangered, threatened or protected species. | **Meets – an assessment of the impacts on TEP species and communities has been done. The small scale of the operation is unlikely to have a detrimental impact.**  The *Marine Vegetation Review* (Department of Primary Industries 2008) notes the activity has the potential to disturb some bird species and the coastal saltmarsh endangered ecological community, but the scale of collection (by individuals in widely spaced varying locations) is unlikely to have an overall detrimental impact. It concludes that marine vegetation collection is unlikely to impact on TEP species or threatened ecological communities. |
| ***2.2.3*** There is an assessment of the impact of the fishery on threatened ecological communities. |
| Management responses | |
| ***2.2.4*** There are measures in place to avoid capture and/or mortality of endangered, threatened or protected species. | **Meets – management measures including selective harvest methods, area restrictions and using skilled personnel** **provides a high chance of avoiding or reducing the impact of the operation on TEP species and ecological communities.**  There are measures in place through the NSW DPI permit conditions to mitigate potential impacts on TEP species and ecological communities. The harvesting method is limited to a selective process by hand or rake, vehicles to transport the harvest are not allowed on beaches, and conservation areas such as sanctuary zones, nature reserves and other notified conservation areas are excluded from collection areas.  The NSW DPI permit does not allow Sea Kelp to be harvested from marine conservation areas, and restricts take to primarily three ocean beaches in the intertidal zone between high and low tide.  Sea Health Products employs a qualified and experienced marine biologist familiar with threatened species and ecological communities. Due to the operation’s small scale (small level of collection) and selective harvest method (collection by hand or rake) and permit conditions excluding access to conservation areas, there will be negligible impact on TEP species and the ecosystem along the coast.  The Department of Agriculture, Water and the Environment considers the proposed management actions have a high chance of achieving the objective to conduct the fishery in a manner that avoids mortality of, or injuries to, TEP species and avoids or minimises impacts on threatened ecological communities. |
| ***2.2.5*** There are measures in place to avoid impact on threatened ecological communities. |
| ***2.2.6*** The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective. |

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| **Objective 3 -** The fishery is conducted, in a manner that minimises the impact of fishing operations on the ecosystem generally. | |
| Information requirements | |
| **2.3.1** Information appropriate for the analysis in 2.3.2 is collated and/or collected covering the fisheries impact on the ecosystem and environment generally. | **Meets – information is not collected on the impact of the fishery on key ecological features, however there is not the necessity to do so because of the low level of impact from the fishery.**  The impact on the ecosystem and environment generally is considered to be low as the harvest of dead or dying, detached free floating Sea Kelp is small, selective (by hand or rake) and is spread over a length of coastline (*Marine Vegetation Review,* Department of Primary Industries 2008). The *Marine Vegetation Review* described potentially impacted ecosystems and the environment in general including species, communities, habitat, and the physical environment. The review assessed the risk of the impact of marine vegetation collection on these components of the ecosystem as low.  While there is no ongoing information collected on the impacts of the NSW Southern Cross Botanicals Sea Kelp Fishery or specific management actions in place in relation to its impact on the ecosystem or environment generally, it is considered not necessary based on the small scale of the operation and low risk to the environment.  There are no decision rules to trigger management responses if monitoring of ecosystem indicators detect impacts from harvesting (eg. shorebird populations). However, there are operational triggers in the *Marine Vegetation Review* (Department of Primary Industries 2008) that require an environmental impact assessment of marine vegetation collection if there is an increase in the number of permit applications for the region, or if a single state permit application exceeds a quantity threshold. Decision rules related to ecosystem indicators are not considered necessary due to the low risk of harm (small harvest intermittently spread over a length of coastline and a selective method of take by hand or rake) to ecosystems from the Southern Cross Botanicals Sea Kelp Fishery.  The management arrangements, considering any precautionary management actions, together with the operation’s low level of impact have a high chance of achieving the objective of ensuring that the Southern Cross Botanicals Sea Kelp Fishery is conducted in a manner that minimises the impact of harvesting operations on the ecosystem generally. |
| **2.3.2** Information is collected and a risk analysis, appropriate to the scale of the fishery and its potential impacts, is conducted into the susceptibility of each of the following ecosystem components to the fishery.  1. Impacts on ecological communities  • Benthic communities  • Ecologically related, associated or dependent species  • Water column communities  2. Impacts on food chains  • Structure  • Productivity/flows  3. Impacts on the physical environment  • Physical habitat  • Water quality |
| ***2.3.3*** Management actions are in place to ensure significant damage to ecosystems does not arise from the impacts described in 2.3.1. |
| ***2.3.4*** There are decision rules that trigger further management responses when monitoring detects impacts on selected ecosystem indicators beyond a predetermined level, or where action is indicated by application of the precautionary approach. |
| ***2.3.5*** The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective. |

# Section 3: Assessment Against the Requirements of the EPBC Act

The table below is not a complete or exact representation of the EPBC Act. It is intended to show that the relevant sections and components of the EPBC Act have been taken into account in the formulation of advice on the Southern Cross Botanicals Sea Kelp Fishery in relation to decisions under Part 13 and Part 13A.

**Part 12 – Identifying and monitoring biodiversity and making bioregional plans**

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| **Section 176 Bioregional Plans** | **Comment** |
| (5) Minister must have regard to relevant bioregional plans | Not applicable. No marine bioregional plan applies to the South-east Marine Bioregion in which the Southern Cross Botanicals Sea Kelp Fishery operates. |

**Part 13 – Species and communities**

No Part 13 accreditation is required because the Southern Cross Botanicals Sea Kelp Fishery operates within the state jurisdiction.

**Part 13A – International movement of wildlife specimens**

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| **Section 303BA Objects of Part 13A** | |
| (1) The objects of this Part are as follows:  (a) to ensure that Australia complies with its obligations under CITES and the Biodiversity Convention;  (b) to protect wildlife that may be adversely affected by trade;  (c) to promote the conservation of biodiversity in Australia and other countries;  (d) to ensure that any commercial utilisation of Australian native wildlife for the purposes of export is managed in an ecologically sustainable way;  (e) to promote the humane treatment of wildlife;  (f) ensure ethical conduct during any research associated with the utilisation of wildlife; and  (h) to ensure the precautionary principle is taken into account in making decisions relating to the utilisation of wildlife. | **Meets – the fishery meets the objects of the Part 13A of the EPBC Act.**  The management arrangements for the Southern Cross Botanicals Sea Kelp Fishery have been assessed as consistent with the general guidance provided in the objects of Part 13A as:   * the fishery will not harvest any Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) listed species * there are management arrangements in place to ensure that the resource is being managed in an ecologically sustainable way, and * the operation of the Southern Cross Botanicals Sea Kelp fishery is unlikely to be unsustainable and threaten biodiversity within the next three years. |
| **Section 303DC Minister may amend list (non CITES species)** | **Comment** |
| (1) The Minister may, by legislative instrument, amend the list referred to in section 303DB [list of exempt native specimens] by:  (a) doing any of the following:  (i) including items in the list;  (ii) deleting items from the list;  (iii) imposing a condition or restriction to which the inclusion of a specimen in the list is subject;  (iv) varying or revoking a condition or restriction to which the inclusion of a specimen in the list is subject; or  (b) correcting an inaccuracy or updating the name of a species. | **Not Applicable – the fishery is not recommended for the LENS (operation is a first time application with compliance yet to be clearly demonstrated).**  The Department of Agriculture, Water and the Environment recommends that specimens that are, or are derived from, species harvested in the Southern Cross Botanicals Sea Kelp Fishery in accordance with the management regime in force not be included on the list of exempt native specimens (LENS). While the fishery is a low risk (small scale harvest of dead or dying, detached commonly occurring Sea Kelp), it is a first time application, its performance in meeting its harvest management controls is not yet demonstrated, and there is no NSW management plan in place covering Sea Kelp. |
| (1A) In deciding to amend the LENS, the Minister must rely primarily on outcomes of Part 10, Divisions 1 or 2 assessment |
| (1C) The above does not limit matters that may be considered when deciding to amend LENS. |
| (3) Before amending the LENS, the Minister must consult:  (a) other Minister or Ministers as appropriate; and  (b) other Minister or Ministers of each State and self-governing Territory as appropriate; and  (c) other persons and organisations as appropriate. |
| (5) A copy of an instrument made under section 303DC is to be made available for inspection on the Internet. |

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| **Section 303FN Approved wildlife trade operation** | **Comment** |
| (2) The Minister may, by instrument published in the *Gazette*, declare that a specified wildlife trade operation is an ***approved wildlife trade operation*** for the purposes of this section. | **Meets – the wildlife trade operation instrument will be registered on the Federal Register of Legislation.**  The instrument to declare the Southern Cross Botanicals Sea Kelp Fishery as an approved wildlife trade operation under section 303FN will be registered on the Federal Register of Legislation (FRL) and a link to the instrument made available through the Department of Agriculture, Water and the Environment’s website.  Under subsection 56(1) of the Legislation Act 2003 (CTH), registration on the FRL meets the requirements for gazettal. |
| (3) The Minister must not declare an operation as an approved wildlife trade operation unless the Minister is satisfied that:  (a) the operation is consistent with the objects of Part 13A of the Act; and | **Meets – the Southern Cross Botanicals Sea Kelp Fishery is consistent with the Objects of 13A – based on the assessment against the Australian Government *Guidelines for the Ecologically Sustainable Management of Fisheries – 2nd Edition (2007)* (the Fisheries Guidelines).** |
| (b) the operation will not be detrimental to:  (i) the survival of a taxon to which the operation relates; or  (ii) the conservation status of a taxon to which the operation relates; and  (ba) the operation will not be likely to threaten any relevant ecosystem including (but not limited to) any habitat or biodiversity; and | **Meets – the fishery will not be detrimental to the survival or conservation status of a taxon to which it relates, nor will it threaten any relevant ecosystem, within the next three years.**  Subject to the management measures in place and the conditions proposed in Section 4 of this report, the Southern Cross Botanicals Sea Kelp Fishery will not be detrimental to the survival or conservation status of a taxon to which it relates, nor will it threaten any relevant ecosystem, given management measures which include the specific targeting of stock (Sea Kelp), limited entry, restrictions on the amount harvested, and stock selectively taken by hand or rake. |
| (c) if the operation relates to the taking of live specimens that belong to a taxon specified in the regulations – the conditions that, under the regulations, are applicable to the welfare of the specimens are likely to be complied with; and | **Not applicable**  The *Environment Protection and Biodiversity Conservation Regulations 2000* (EPBC Regulations) do not specify the harvested specimens as a class of animal in relation to the welfare of live specimens. The target species is marine vegetation (Sea Kelp) and is dislodged from the substrate by natural events, and harvested in a dead or dying state. |
| (d) such other conditions (if any) as are specified in the regulations have been, or are likely to be, satisfied. | **Not applicable**  No other conditions are specified in relation to commercial fisheries in the EPBC Regulations. |
| (4) In deciding whether to declare an operation as an approved wildlife trade operation the Minister must have **regard** to:  (a) the significance of the impact of the operation on an ecosystem (for example, an impact on habitat or biodiversity); and | **Meets - the fishery will not have a significant impact on an ecosystem within the next three years.**  Subject to the management measures in place and the conditions proposed in Section 4 of this report, the Southern Cross Botanicals Sea Kelp Fishery will not have a significant impact on any relevant ecosystem and the management arrangements that will be employed are likely to be effective.  The Sea Kelp that is harvested within the Southern Cross Botanicals Sea Kelp Fishery will be protected, conserved and managed in accordance with the *Fisheries Management Act 1994* (NSW), the *Fisheries Management (General) Regulation 2019* (NSW), *Fisheries Management (Aquaculture) Regulation 2017* (NSW) and the *Marine Estate Management Regulation 2017* (NSW). This legislation applies throughout NSW-managed waters and is considered by the Department to effectively manage the fishery. |
| (b) the effectiveness of the management arrangements for the operation (including monitoring procedures). |
| (5) In deciding whether to declare an operation as an approved wildlife trade operation the Minister must have **regard** to:  (a) whether legislation relating to the protection, conservation or management of the specimens to which the operation relates is in force in the State or Territory concerned; and  (b) whether the legislation applies throughout the State or Territory concerned; and  (c) whether, in the opinion of the Minister, the legislation is effective. |
| (10) For the purposes of section 303FN, an operation is a wildlife trade operation if, an only if, the operation is an operation for the taking of specimens and:  (d) the operation is a commercial fishery. | **Meets – the operation is declared a wildlife trade operation because it is a commercial fishery.** |
| **Section 303FR Public consultation** | **Comment** |
| (1) Before making a declaration under section 303FN, the Minister must cause to be published on the Internet a notice:  (a) setting out the proposal to make the declaration; and  (b) setting out sufficient information to enable persons and organisations to consider adequately the merits of the proposal; and  (c) inviting persons and organisations to give the Minister, within the period specified in the notice, written comments about the proposal.  (2) A period specified in the notice must not be shorter than 20 business days after the date on which the notice was published on the Internet. | **Meets – public consultation requirements were met.**  A public notice, which sets out the proposal to declare the Southern Cross Botanicals Sea Kelp Fishery an approved wildlife trade operation and included the application from Southern Cross Botanicals, was released for public comment on 26 July 2019 until 28 August 2019, a total period exceeding 20 business days. |
| (3) In making a decision about whether to make a declaration under section 303FN, the Minister must consider any comments about the proposal to make the declaration that were given in response to the invitation in the notice. | **Not applicable**  No public comments on the proposal were received. |
| **Section 303FT Additional provisions relating to declarations** | **Comments** |
| (1) This section applies to a declaration made under section 303FN, 303FO or 303FP. | **Meets – a declaration as an approved wildlife trade operation for the Southern Cross Botanicals Sea Kelp Fishery will be made under section 303FN.** |
| (4) The Minister may make a declaration about a plan or operation even though he or she considers that the plan or operation should be the subject of the declaration only:  (a) during a particular period; or  (b) while certain circumstances exist; or  (c) while a certain condition is complied with.  In such a case, the instrument of declaration is to specify the period, circumstances or condition. | **Meets – the wildlife trade operation instrument for the Southern Cross Botanicals Sea Kelp Fishery specifies the standard and any additional conditions applied.**  The standard conditions applied to the Southern Cross Botanicals Sea Kelp Fishery wildlife trade operation include:   * operation in accordance with the management regime * notifying the Department of Agriculture, Water and the Environment of changes to the management regime, and * annual reporting in accordance with the requirements of the Australian Government Guidelines for the Ecologically Sustainable Management of Fisheries – 2nd Edition (2007). |
| (8) A condition may relate to reporting or monitoring. | **Meets – condition 3 relates to reporting.** |
| (9) The Minister must, by instrument published in the *Gazette*, revoke a declaration if he or she is satisfied that a condition of the declaration has been contravened. | **Not applicable**  The Southern Cross Botanicals Sea Kelp Fishery is a new wildlife trade operation. |
| (11) A copy of an instrument under section 303FN, or this section is to be made available for inspection on the internet. | **Meets – the wildlife trade operation instrument will be made available on the Department of Agriculture, Water and the Environment’s website.**  The wildlife trade operation instrument for the Southern Cross Botanicals Sea Kelp Fishery made under section 303FN and the conditions under section 303FT will be registered as a notifiable instrument and made available through the Department of Agriculture, Water and the Environment’s website. |

**Part 16 – Precautionary principle and other considerations in making decisions**

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| **Section 391 Minister must consider precautionary principle in making decisions** | **Comment** |
| (1) Minister must take account of the precautionary principle in making a decision, to the extent that the decision is consistent with other provisions under this Act.  (2) The precautionary principle is that lack of full scientific certainty should not be used as a reason for postponing a measure to prevent degradation of the environment where there are threats of serious or irreversible environmental damage. | **Meets – precautionary measures are considered to be in place to prevent serious or irreversible environmental damage being caused by the Southern Cross Botanicals Sea Kelp Fishery.**  The precautionary principle is incorporated into the *Fisheries Management Act 1994* (NSW) and has been applied to the Southern Cross Botanicals Sea Kelp Fishery. Through the implementation of the conditions outlined in Section 4, any potential risks to biodiversity will be further reduced. |

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# Section 4: Summary of Issues Requiring Conditions

| **Issue** | **Condition** |
| --- | --- |
| **General Management**  Export approval decisions relate to the management arrangements in force at the time of any decision(s) made under the EPBC Act. To ensure that the decision(s) remain valid and export approval continues uninterrupted, the Department of Agriculture, Water and the Environment needs to be advised of any changes that are made to the management regime and make an assessment that the new arrangements are equivalent or better, in terms of ecological sustainability, than those in place at the time of the original decision(s). This includes operational and legislated amendments that may affect the sustainability of the target species or negatively impact on byproduct, bycatch, EPBC Act protected species or the ecosystem. | **Condition 1:**  Southern Cross Botanicals must ensure that the operation of the NSW Southern Cross Botanicals Beach-cast Sea Kelp Fishery is carried out in accordance with the management regime for the NSW Southern Cross Botanicals Beach-cast Sea Kelp Fishery in force under:   1. the *Fisheries Management Act 1994* (NSW); 2. permits issued by the NSW Department of Primary Industries to suppliers of Sea Kelp to Southern Cross Botanicals for the harvest of Sea Kelp, and 3. the NSW Southern Cross Botanicals Beach-cast Sea Kelp Fishery wildlife trade operation application (2019).   **Condition 2:**  Southern Cross Botanicals must inform the Department of Agriculture, Water and the Environment of any intended material changes to the NSW Southern Cross Botanicals Beach-cast Sea Kelp Fishery management arrangements that may affect the assessment against which *Environment Protection and Biodiversity Conservation Act 1999* decisions are made. |
| **Annual Reporting**  It is important that Southern Cross Botanicals report to the Department of Agriculture, Water and the Environment annually to enable monitoring of the performance and progress of implementation of the conditions and recommendations. Annual reports should be in accordance with Appendix B of the *Guidelines for the Ecologically Sustainable Management of Fisheries - 2nd Edition 2007* and include a description of the Southern Cross Botanicals Beach-cast Sea Kelp Fishery, management arrangements in place, recent catch data for all sectors of the fishery, interactions with EPBC Act protected species, and progress in implementing the Department of Agriculture, Water and the Environment’s conditions. Electronic copies of the guidelines are available from Department of Agriculture, Water and the Environment’s website at <http://www.environment.gov.au/resource/guidelines-ecologically-sustainable-management-fisheries>. | **Condition 3:**  Southern Cross Botanicals must provide a report annually, by 1 May each year, to the Department of Agriculture, Water and the Environment on the NSW Southern Cross Botanicals Beach-cast Sea Kelp Fishery. The report must include:   1. dates, species, locations, method of harvest and quantities of Sea Kelp received by Southern Cross Botanicals; 2. a copy of the current permit issued by the NSW Department of Primary Industries to the supplier(s) providing Sea Kelp to Southern Cross Botanicals, and 3. any interactions with, and steps taken to mitigate impacts on the EPBC Act listed shorebird – Hooded Plover (eastern) (*Thinornis rubricollis rubricollis*). |

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