

Questionnaire: SHARKS MEMORANDUM OF UNDERSTANDING NATIONAL REPORTING 2018

Language: English

I. General information

Year:

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Signatory:

› Australia

Report submitted by:

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II. Objectives of the Conservation Plan

Objective A: Improving understanding of migratory shark populations through research, monitoring and information exchange

A 1. Which of these Annex I species are found in your waters?

Alopias superciliosus
Alopias vulpinus
Anoxypristis cuspidata
Carcharhinus falciformis
Alopias pelagicus
Carcharodon carcharias
Cetorhinus maximus
Isurus oxyrinchus
Isurus paucus
Lamna nasus
Manta alfredi
Manta birostris
Mobula eregoodootenkee

Mobula japonica
Mobula thurstoni
Pristis clavata
Pristis pristis
Pristis zijsron
Rhincodon typus
Sphyrna lewini
Sphyrna mokarran

A 2. Is your government compiling relevant data for improving understanding of migratory shark populations through research, monitoring and information exchange for species in Annex 1?

Please select only one option

Yes

Please choose all species for which your government is compiling data from the list below:

Alopias pelagicus
Alopias superciliosus
Alopias vulpinus
Anoxypristis cuspidata
Carcharhinus falciformis
Carcharodon carcharias
Cetorhinus maximus
Isurus oxyrinchus
Isurus paucus
Lamna nasus
Manta alfredi
Manta birostris
Mobula eregoodootenkee
Mobula japonica
Mobula thurstoni
Pristis clavata
Pristis
Pristis zijsron
Rhincodon typus
Sphyrna lewini
Sphyrna mokarran

***Alopias pelagicus* - please indicate for this species, for which aspects data are compiled and provide details on research, initiatives, programmes and monitoring activities:**

- Population demographics (defined as size, dynamics, structure and abundance)
- Critical seasons
- Critical life stages
- Essential marine habitats
- Distributional range
- Migration corridors
- Behaviour and ecology
- Threats to conservation
- Identifying species that are most vulnerable to human activities and fisheries
- Other
- Provide information about research, initiatives, and programmes etc.:
Australian fisheries undertake risk assessments of various fishing activities to Thresher Sharks as part of ecological risk assessments. Australian government researchers, and researchers funded by the government, have studied and published data on the details marked above for this species.

The Australian Shark Information System (ASIS) funded by the Australian government is reassessing the status of all Australian shark and rays species, including an assessment of fisheries interactions, to produce an Australian Shark Report Card.

- Provide information about monitoring activities:
Australian fisheries collect incidental catch data on this species, and other thresher shark species.

Jurisdictions in Australia have systems in place for collecting data on recreational fishing of shark species, including through recreational fishing surveys undertaken by state and territory governments.

***Alopias superciliosus* - please indicate for this species, for which aspects data are compiled and provide details on research, initiatives, programmes and monitoring activities:**

- Population demographics (defined as size, dynamics, structure and abundance)
- Critical seasons
- Critical life stages

- Essential marine habitats
- Distributional range
- Migration corridors
- Behaviour and ecology
- Threats to conservation
- Identifying species that are most vulnerable to human activities and fisheries
- Other

Provide information about research, initiatives, and programmes etc.:

Australian fisheries undertake risk assessments of various fishing activities to Thresher Sharks as part of ecological risk assessments. Australian government researchers, and researchers funded by the government, have studied and published data on the details marked above for this species.

The Australian Shark Information System (ASIS) funded by the Australian government is reassessing the status of all Australian shark and rays species, including an assessment of fisheries interactions, to produce an Australian Shark Report Card.

Provide information about monitoring activities:

Australian fisheries collect incidental catch data on this species, and other thresher shark species.

Jurisdictions in Australia have systems in place for collecting data on recreational fishing of shark species, including through recreational fishing surveys undertaken by state and territory governments.

Alopias vulpinus - please indicate for this species, for which aspects data are compiled and provide details on research, initiatives, programmes and monitoring activities:

- Population demographics (defined as size, dynamics, structure and abundance)
- Critical seasons
- Critical life stages
- Essential marine habitats
- Distributional range
- Migration corridors
- Behaviour and ecology
- Threats to conservation
- Identifying species that are most vulnerable to human activities and fisheries
- Other

Provide information about research, initiatives, and programmes etc.:

Australian fisheries undertake risk assessments of various fishing activities to Thresher Sharks as part of ecological risk assessments. Australian government researchers, and researchers funded by the government, have studied and published data on the details marked above for this species.

The Australian Shark Information System (ASIS) funded by the Australian government is reassessing the status of all Australian shark and rays species, including an assessment of fisheries interactions, to produce an Australian Shark Report Card.

Provide information about monitoring activities:

Australian fisheries collect incidental catch data on this species, and other thresher shark species.

Jurisdictions in Australia have systems in place for collecting data on recreational fishing of shark species, including through recreational fishing surveys undertaken by state and territory governments.

Anoxypristis cuspidata - please indicate for this species, for which aspects data are compiled and provide details on research, initiatives, programmes and monitoring activities:

- Population demographics (defined as size, dynamics, structure and abundance)
- Critical seasons
- Critical life stages
- Essential marine habitats
- Distributional range
- Migration corridors
- Behaviour and ecology
- Threats to conservation
- Identifying species that are most vulnerable to human activities and fisheries
- Other

Provide information about research, initiatives, and programmes etc.:

Narrow Sawfish is listed as a Migratory species under national environmental law, making the species a Matter of National Environmental Significance. The species is protected in Australian waters under state/territory and/or national legislative mechanisms. Australian government researchers, and researchers funded by the government, have studied and published data on the details marked above for this species.

Recent Australian Government research findings suggest maternal natal philopatry and possible male-biased dispersal in areas of northern Australia and Papua New Guinea for Narrow Sawfish.

The Australian Shark Information System (ASIS) funded by the Australian government is reassessing the status of all Australian shark and rays species, including an assessment of fisheries interactions, to produce an Australian Shark Report Card.

Provide information about monitoring activities:

Australian fisheries collect incidental catch data on this species, and other sawfish species.

Jurisdictions in Australia have systems in place for collecting data on recreational fishing of shark species, including through recreational fishing surveys undertaken by state and territory governments.

Carcharhinus falciformis - please indicate for this species, for which aspects data are compiled and provide details on research, initiatives, programmes and monitoring activities:

- Population demographics (defined as size, dynamics, structure and abundance)
- Critical seasons
- Critical life stages
- Essential marine habitats
- Distributional range
- Migration corridors
- Behaviour and ecology
- Threats to conservation
- Identifying species that are most vulnerable to human activities and fisheries
- Other
- Provide information about research, initiatives, and programmes etc.:
Silky Shark is listed as a Migratory species under national environmental law, making the species a Matter of National Environmental Significance. The species is protected in Australian waters under state/territory and/or national legislative mechanisms. Australian government researchers have studied and published data on the details marked above for this species.

The Australian Shark Information System (ASIS) funded by the Australian government is reassessing the status of all Australian shark and rays species, including an assessment of fisheries interactions, to produce an Australian Shark Report Card.

- Provide information about monitoring activities:
Australian fisheries collect incidental catch data on this species.

Jurisdictions in Australia have systems in place for collecting data on recreational fishing of shark species, including through recreational fishing surveys undertaken by state and territory governments.

Carcharodon carcharias - please indicate for this species, for which aspects data are compiled and provide details on research, initiatives, programmes and monitoring activities:

- Population demographics (defined as size, dynamics, structure and abundance)
- Critical seasons
- Critical life stages
- Essential marine habitats
- Distributional range
- Migration corridors
- Behaviour and ecology
- Threats to conservation
- Identifying species that are most vulnerable to human activities and fisheries
- Other
- Provide information about research, initiatives, and programmes etc.:
White Shark is listed as a Migratory and a Threatened species under national environmental law, making the species a Matter of National Environmental Significance. The species is protected in Australian waters under state/territory and/or national legislative mechanisms.

Australia has commissioned research on close-kin genetic analysis to develop population estimates for the two distinct populations of White Shark occurring in Australian waters. These estimates put the eastern Australian population at around 750 adults (range 470-1,030); total population in the east, including juveniles, at around 5,460 (range:2,909-12,802); and the southern-western Australian population at around 1,460 adults (range 750-2,250). This research indicates that adult white shark populations in Australia remain low and approximately stable, with no significant increases or decreases in adult abundance since the onset of protection in the late 1990s.

The New South Wales Government is currently funding research on juvenile White Sharks using baited remote underwater video to examine growth rates of tagged animals and monthly variation in abundance and size at a known nursery area to assess the influence of environmental variables. The Government is also currently funding and/or assisting research into White Shark foraging ecology and movements.

The South Australian Government has collaborated on research in movement patterns and habitat use by White Sharks with a focus on the southern-western Australian population.

The Australian Shark Information System (ASIS) funded by the Australian government is reassessing the status of all Australian shark and rays species, including an assessment of fisheries interactions, to produce an Australian Shark Report Card.

- Provide information about monitoring activities:
Baseline estimates of numbers of mature individuals have been made for Australian waters. Australian fisheries collect incidental catch and interaction data on this species.

Cetorhinus maximus - please indicate for this species, for which aspects data are compiled and provide details on research, initiatives, programmes and monitoring activities:

- Population demographics (defined as size, dynamics, structure and abundance)
- Critical seasons
- Critical life stages
- Essential marine habitats
- Distributional range
- Migration corridors
- Behaviour and ecology
- Threats to conservation
- Identifying species that are most vulnerable to human activities and fisheries
- Other
- Provide information about research, initiatives, and programmes etc.:

Basking Shark is listed as a Migratory species under national environmental law, making the species a Matter of National Environmental Significance. The species is protected in Australian waters under state/territory and/or national legislative mechanisms. Australian government researchers, and researchers funded by the government, have studied and published data on the details marked above for this species.

The Australian Shark Information System (ASIS) funded by the Australian government is reassessing the status of all Australian shark and rays species, including an assessment of fisheries interactions, to produce an Australian Shark Report Card.

- Provide information about monitoring activities:
While quite rare, Australian fisheries collect incidental catch and interaction information for this species if an interaction does occur.

Isurus oxyrinchus - please indicate for this species, for which aspects data are compiled and provide details on research, initiatives, programmes and monitoring activities:

- Population demographics (defined as size, dynamics, structure and abundance)
- Critical seasons
- Critical life stages
- Essential marine habitats
- Distributional range
- Migration corridors
- Behaviour and ecology
- Threats to conservation
- Identifying species that are most vulnerable to human activities and fisheries
- Other
- Provide information about research, initiatives, and programmes etc.:

Australian fisheries undertake risk assessments of various fishing activities to Mako and Porbeagle sharks as part of ecological risk assessments. Shortfin Mako is listed as a Migratory species under national environmental law, making the species a Matter of National Environmental Significance. An exemption under law allows recreational fishers to retain the species in accordance with state/territory regulated bag limits. Commercial fishers are permitted to retain the species if the species is dead when brought up to the boat however live individuals are required to be released. Australian government researchers, and researchers funded by the government, have studied and published data on the details marked above for this species.

The South Australian Government is collaborating in research to define Shortfin Mako shark movement and habitat use in the southwest Pacific Ocean (in Australian and New Zealand waters). The Government has also collaborated on research into the connectivity of populations of this species across the southern hemisphere.

Tasmanian Government research published in 2015 on the post-release survival of Shortfin Mako captured in game fishing activities found that an overall survival rate of 90 per cent in released individuals.

The Australian Shark Information System (ASIS) funded by the Australian government is reassessing the status of all Australian shark and rays species, including an assessment of fisheries interactions, to produce an Australian Shark Report Card.

- Provide information about monitoring activities:
Australian fisheries collect incidental catch data on this species.

Jurisdictions in Australia have systems in place for collecting data on recreational fishing of shark species, including through recreational fishing surveys undertaken by state and territory governments.

Isurus paucus - please indicate for this species, for which aspects data are compiled and provide details on research, initiatives, programmes and monitoring activities:

- Population demographics (defined as size, dynamics, structure and abundance)
- Critical seasons
- Critical life stages
- Essential marine habitats
- Distributional range
- Migration corridors
- Behaviour and ecology
- Threats to conservation
- Identifying species that are most vulnerable to human activities and fisheries
- Other
- Provide information about research, initiatives, and programmes etc.:

Australian fisheries undertake risk assessments of various fishing activities to Mako and Porbeagle sharks as part of ecological risk assessments. Longfin Mako is listed as a Migratory species under national environmental law, making the species a Matter of National Environmental Significance. An exemption under law allows recreational fishers to retain the species in accordance with state/territory regulated bag limits. Commercial fishers are permitted to retain the species if the species is dead when brought up to the boat however live individuals are required to be released. Australian government researchers, and researchers funded by the government, have studied and published data on the details marked above for this species.

The Australian Shark Information System (ASIS) funded by the Australian government is reassessing the status of all Australian shark and rays species, including an assessment of fisheries interactions, to produce an Australian Shark Report Card.

- Provide information about monitoring activities:
Australian fisheries collect incidental catch data on this species.

Jurisdictions in Australia have systems in place for collecting data on recreational fishing of shark species, including through recreational fishing surveys undertaken by state and territory governments.

Lamna nasus - please indicate for this species, for which aspects data are compiled and provide details on research, initiatives, programmes and monitoring activities:

- Population demographics (defined as size, dynamics, structure and abundance)
- Critical seasons
- Critical life stages
- Essential marine habitats
- Distributional range
- Migration corridors
- Behaviour and ecology
- Threats to conservation
- Identifying species that are most vulnerable to human activities and fisheries
- Other
- Provide information about research, initiatives, and programmes etc.:

Australian fisheries undertake risk assessments of various fishing activities to Mako and Porbeagle sharks as part of ecological risk assessments. Porbeagle is listed as a Migratory species under national environmental law, making the species a Matter of National Environmental Significance. An exemption under law allows recreational fishers to retain the species in accordance with state/territory regulated bag limits. Commercial fishers are permitted to retain the species if the species is dead when brought up to the boat however live individuals are required to be released. Australian government researchers, and researchers funded by the government, have studied and published data on the details marked above for this species.

The Australian Shark Information System (ASIS) funded by the Australian government is reassessing the status of all Australian shark and rays species, including an assessment of fisheries interactions, to produce an Australian Shark Report Card.

- Provide information about monitoring activities:
Australian fisheries collect incidental catch data on this species.

Jurisdictions in Australia have systems in place for collecting data on recreational fishing of shark species, including through recreational fishing surveys undertaken by state and territory governments.

Manta alfredi - please indicate for this species, for which aspects data are compiled and provide details on research, initiatives, programmes and monitoring activities:

- Population demographics (defined as size, dynamics, structure and abundance)
- Critical seasons
- Critical life stages
- Essential marine habitats
- Distributional range
- Migration corridors
- Behaviour and ecology
- Threats to conservation
- Identifying species that are most vulnerable to human activities and fisheries
- Other
- Provide information about research, initiatives, and programmes etc.:

Reef Manta Ray is listed as a Migratory species under national environmental law, making the species a Matter of National Environmental Significance. The species is protected in Australian waters under state/territory and/or national legislative mechanisms. Australian government researchers, and researchers funded by the government, have studied and published data on the details marked above for this species.

The New South Wales Government is currently assisting research into the feeding ecology and sensory biology of pelagic elasmobranchs with a focus on Manta and Mobula rays.

The Australian Shark Information System (ASIS) funded by the Australian government is reassessing the status of all Australian shark and rays species, including an assessment of fisheries interactions, to produce an Australian Shark Report Card.

- Provide information about monitoring activities:

Australian fisheries collect incidental catch data on this species.

***Manta birostris* - please indicate for this species, for which aspects data are compiled and provide details on research, initiatives, programmes and monitoring activities:**

- Population demographics (defined as size, dynamics, structure and abundance)
- Critical seasons
- Critical life stages
- Essential marine habitats
- Distributional range
- Migration corridors
- Behaviour and ecology
- Threats to conservation
- Identifying species that are most vulnerable to human activities and fisheries
- Other
- Provide information about research, initiatives, and programmes etc.:

Giant Manta Ray is listed as a Migratory species under national environmental law, making the species a Matter of National Environmental Significance. The species is protected in Australian waters under state/territory and/or national legislative mechanisms. Australian government researchers have studied and published data on the details marked above for this species.

The New South Wales Government is currently assisting research into the feeding ecology and sensory biology of pelagic elasmobranchs with a focus on Manta and Mobula rays.

The Australian Shark Information System (ASIS) funded by the Australian government is reassessing the status of all Australian shark and rays species, including an assessment of fisheries interactions, to produce an Australian Shark Report Card.

- Provide information about monitoring activities:
Australian fisheries collect incidental catch data on this species.

***Mobula eregoodootenkee* - please indicate for this species, for which aspects data are compiled and provide details on research, initiatives, programmes and monitoring activities:**

- Population demographics (defined as size, dynamics, structure and abundance)
- Critical seasons
- Critical life stages
- Essential marine habitats
- Distributional range
- Migration corridors
- Behaviour and ecology
- Threats to conservation
- Identifying species that are most vulnerable to human activities and fisheries
- Other
- Provide information about research, initiatives, and programmes etc.:

M. eregoodootenkee is listed as a Migratory species under national environmental law, making the species a Matter of National Environmental Significance. The species is protected in Australian waters under state/territory and/or national legislative mechanisms. Australian government researchers, and researchers funded by the government, have studied and published data on the details marked above for this species.

The New South Wales Government is currently assisting research into the feeding ecology and sensory biology of pelagic elasmobranchs with a focus on Manta and Mobula rays. The Government is also providing samples for research into the biology and foraging ecology of *M. eregoodootenkee*.

The Australian Shark Information System (ASIS) funded by the Australian government is reassessing the status of all Australian shark and rays species, including an assessment of fisheries interactions, to produce an Australian Shark Report Card.

- Provide information about monitoring activities:
Australian fisheries collect incidental catch data on this species.

***Mobula japonica* - please indicate for this species, for which aspects data are compiled and provide details on research, initiatives, programmes and monitoring activities:**

- Population demographics (defined as size, dynamics, structure and abundance)
- Critical seasons
- Critical life stages
- Essential marine habitats
- Distributional range
- Migration corridors
- Behaviour and ecology
- Threats to conservation
- Identifying species that are most vulnerable to human activities and fisheries
- Other
- Provide information about research, initiatives, and programmes etc.:

M. japonica is listed as a Migratory species under national environmental law, making the species a Matter of National Environmental Significance. The species is protected in Australian waters under state/territory and/or

national legislative mechanisms. Australian government researchers, and researchers funded by the government, have studied and published data on the details marked above for this species.

The New South Wales Government is currently assisting research into the feeding ecology and sensory biology of pelagic elasmobranchs with a focus on Manta and Mobula rays.

The Australian Shark Information System (ASIS) funded by the Australian government is reassessing the status of all Australian shark and rays species, including an assessment of fisheries interactions, to produce an Australian Shark Report Card.

- Provide information about monitoring activities:
Australian fisheries collect incidental catch data on this species.

***Mobula thurstoni* - please indicate for this species, for which aspects data are compiled and provide details on research, initiatives, programmes and monitoring activities:**

- Population demographics (defined as size, dynamics, structure and abundance)
- Critical seasons
- Critical life stages
- Essential marine habitats
- Distributional range
- Migration corridors
- Behaviour and ecology
- Threats to conservation
- Identifying species that are most vulnerable to human activities and fisheries
- Other
- Provide information about research, initiatives, and programmes etc.:

M. thurstoni is listed as a Migratory species under national environmental law, making the species a Matter of National Environmental Significance. The species is protected in Australian waters under state/territory and/or national legislative mechanisms. Australian government researchers, and researchers funded by the government, have studied and published data on the details marked above for this species.

The New South Wales Government is currently assisting research into the feeding ecology and sensory biology of pelagic elasmobranchs with a focus on Manta and Mobula rays.

The Australian Shark Information System (ASIS) funded by the Australian government is reassessing the status of all Australian shark and rays species, including an assessment of fisheries interactions, to produce an Australian Shark Report Card.

- Provide information about monitoring activities:
Australian fisheries collect incidental catch data on this species.

***Pristis clavata* - please indicate for this species, for which aspects data are compiled and provide details on research, initiatives, programmes and monitoring activities:**

- Population demographics (defined as size, dynamics, structure and abundance)
- Critical seasons
- Critical life stages
- Essential marine habitats
- Distributional range
- Migration corridors
- Behaviour and ecology
- Threats to conservation
- Identifying species that are most vulnerable to human activities and fisheries
- Other
- Provide information about research, initiatives, and programmes etc.:

Australian fisheries undertake risk assessments of various fishing activities to sawfish as part of ecological risk assessments. Fishery independent research and surveys are also targeted at this species. Dwarf Sawfish is listed as a Migratory and Threatened species under national environmental law, making the species a Matter of National Environmental Significance. The species is protected in Australian waters under state/territory and/or national legislative mechanisms. Australian government researchers, and researchers funded by the government, have studied and published data on the details marked above for this species.

The Australian Shark Information System (ASIS) funded by the Australian government is reassessing the status of all Australian shark and rays species, including an assessment of fisheries interactions, to produce an Australian Shark Report Card.

- Provide information about monitoring activities:
Australian fisheries collect incidental catch data on this species, and other sawfish species.

Jurisdictions in Australia have systems in place for collecting data on recreational fishing of shark species, including through recreational fishing surveys undertaken by state and territory governments.

***Pristis pristis* - please indicate for this species, for which aspects data are compiled and provide details on research, initiatives, programmes and monitoring activities:**

- Population demographics (defined as size, dynamics, structure and abundance)
- Critical seasons

- Critical life stages
- Essential marine habitats
- Distributional range
- Migration corridors
- Behaviour and ecology
- Threats to conservation
- Identifying species that are most vulnerable to human activities and fisheries
- Other
- Provide information about research, initiatives, and programmes etc.:
Australian fisheries undertake risk assessments of various fishing activities to sawfish as part of ecological risk assessments. Fishery independent research and surveys are also targeted at this species. Largetooth Sawfish is listed as a Migratory and Threatened species under national environmental law, making the species a Matter of National Environmental Significance. The species is protected in Australian waters under state/territory and/or national legislative mechanisms. Australian government researchers, and researchers funded by the government, have studied and published data on the details marked above for this species.

The Australian Shark Information System (ASIS) funded by the Australian government is reassessing the status of all Australian shark and rays species, including an assessment of fisheries interactions, to produce an Australian Shark Report Card.

- Provide information about monitoring activities:
Australian fisheries collect incidental catch data on this species, and other sawfish species.

Jurisdictions in Australia have systems in place for collecting data on recreational fishing of shark species, including through recreational fishing surveys undertaken by state and territory governments.

Pristis zijsron - please indicate for this species, for which aspects data are compiled and provide details on research, initiatives, programmes and monitoring activities:

- Population demographics (defined as size, dynamics, structure and abundance)
- Critical seasons
- Critical life stages
- Essential marine habitats
- Distributional range
- Migration corridors
- Behaviour and ecology
- Threats to conservation
- Identifying species that are most vulnerable to human activities and fisheries
- Other
- Provide information about research, initiatives, and programmes etc.:
Australian fisheries undertake risk assessments of various fishing activities to sawfish as part of ecological risk assessments. Fishery independent research and surveys are also targeted at this species. Green Sawfish is listed as a Migratory and Threatened species under national environmental law, making the species a Matter of National Environmental Significance. The species is protected in Australian waters under state/territory and/or national legislative mechanisms. Australian government researchers, and researchers funded by the government, have studied and published data on the details marked above for this species.

The Australian Shark Information System (ASIS) funded by the Australian government is reassessing the status of all Australian shark and rays species, including an assessment of fisheries interactions, to produce an Australian Shark Report Card.

- Provide information about monitoring activities:
Australian fisheries collect incidental catch data on this species, and other sawfish species.

Jurisdictions in Australia have systems in place for collecting data on recreational fishing of shark species, including through recreational fishing surveys undertaken by state and territory governments.

Rhincodon typus - please indicate for this species, for which aspects data are compiled and provide details on research, initiatives, programmes and monitoring activities:

- Population demographics (defined as size, dynamics, structure and abundance)
- Critical seasons
- Critical life stages
- Essential marine habitats
- Distributional range
- Migration corridors
- Behaviour and ecology
- Threats to conservation
- Identifying species that are most vulnerable to human activities and fisheries
- Other
- Provide information about research, initiatives, and programmes etc.:
Fishery independent research and surveys are also targeted at Whale Shark. The species is listed as a Migratory and Threatened species under national environmental law, making the species a Matter of National Environmental Significance. The species is protected in Australian waters under state/territory and/or national legislative mechanisms.

Australian government researchers, and researchers funded by the government, have studied and published data on the details marked above for this species.

The Australian Shark Information System (ASIS) funded by the Australian government is reassessing the status of all Australian shark and rays species, including an assessment of fisheries interactions, to produce an Australian Shark Report Card.

- Provide information about monitoring activities:
While rare, Australian fisheries collect any interaction information with this species.

Sphyrna lewini - please indicate for this species, for which aspects data are compiled and provide details on research, initiatives, programmes and monitoring activities:

- Population demographics (defined as size, dynamics, structure and abundance)
- Critical seasons
- Critical life stages
- Essential marine habitats
- Distributional range
- Migration corridors
- Behaviour and ecology
- Threats to conservation
- Identifying species that are most vulnerable to human activities and fisheries
- Other
- Provide information about research, initiatives, and programmes etc.:
Scalloped Hammerhead is listed as Conservation Dependent under national environmental law, which means the species is the focus of a 'plan of management' within Australian waters which provides for halting decline and supporting recovery of the species. As part of this 'plan of management', information will be collected to monitor catch and effort and keep track of recovery rates. Australian government researchers, and researchers funded by the government, have studied and published data on the details marked above for this species. Current Australian Government funded research is focusing on defining the connectivity of Australia's hammerhead shark populations with those occurring in other nation's waters, such as Indonesia, Papua New Guinea and island of the Pacific. This project is still ongoing.

The Australian Shark Information System (ASIS) funded by the Australian government is reassessing the status of all Australian shark and rays species, including an assessment of fisheries interactions, to produce an Australian Shark Report Card.

- Provide information about monitoring activities:
Australian fisheries collect species-specific catch data for this species.

Jurisdictions in Australia have systems in place for collecting data on recreational fishing of shark species, including through recreational fishing surveys undertaken by state and territory governments.

Sphyrna mokarran - please indicate for this species, for which aspects data are compiled and provide details on research, initiatives, programmes and monitoring activities:

- Population demographics (defined as size, dynamics, structure and abundance)
- Critical seasons
- Critical life stages
- Essential marine habitats
- Distributional range
- Migration corridors
- Behaviour and ecology
- Threats to conservation
- Identifying species that are most vulnerable to human activities and fisheries
- Other
- Provide information about research, initiatives, and programmes etc.:
Australian government researchers, and researchers funded by the government, have studied and published data on the details marked above for this species.

The New South Wales Government is providing samples for genetic research to provide population estimation and research to examine parasite loads in Great Hammerheads. The Government is also providing samples for research into the trophic ecology and geographic patterns of Great Hammerheads offshore from eastern Australia.

The Australian Shark Information System (ASIS) funded by the Australian government is reassessing the status of all Australian shark and rays species, including an assessment of fisheries interactions, to produce an Australian Shark Report Card.

- Provide information about monitoring activities:
Australian fisheries collect species-specific catch data for this species

Jurisdictions in Australia have systems in place for collecting data on recreational fishing of shark species, including through recreational fishing surveys undertaken by state and territory governments.

Objective B:

Ensuring that directed and non-directed fisheries for shark are

sustainable

B1. Are species listed in Annex I caught in your nation's waters (as target or incidental catch) and in what quantity?

Please select only one option

Yes

Please select from the list below

Alopias pelagicus
Alopias superciliosus
Alopias vulpinus
Anoxypristis cuspidata
Carcharhinus falciformis
Isurus oxyrinchus
Isurus paucus
Lamna nasus
Manta alfredi
Manta birostris
Mobula eregoodootenkee
Mobula japanica
Mobula thurstoni
Pristis clavata
Pristis pristis
Pristis zijsron
Sphyrna lewini
Sphyrna mokarran

Alopias pelagicus

Please indicate for this species, the amount caught as targeted and/or incidental catch, the unit (e.g. kg, tons) and specification (e.g. dry, dressed, frozen):

Incidental catch

› low quantity

For incidentally caught specimens, please provide details on their fate:

- Safe release alive
- Discard dead
- Retained on board
- Landed
- Traded nationally
- Traded internationally
- Please provide further information as required:

Alopias superciliosus

Please indicate for this species, the amount caught as targeted and/or incidental catch, the unit (e.g. kg, tons) and specification (e.g. dry, dressed, frozen):

Incidental catch

› low quantity

For incidentally caught specimens, please provide details on their fate:

- Safe release alive
- Discard dead
- Retained on board
- Landed
- Traded nationally
- Traded internationally
- Please provide further information as required:

Alopias vulpinus

Please indicate for this species, the amount caught as targeted and/or incidental catch, the unit (e.g. kg, tons) and specification (e.g. dry, dressed, frozen):

Incidental catch

› low quantity

For incidentally caught specimens, please provide details on their fate:

- Safe release alive
- Discard dead
- Retained on board
- Landed
- Traded nationally
- Traded internationally
- Please provide further information as required:

Anoxypristis cuspidata

Please indicate for this species, the amount caught as targeted and/or incidental catch, the unit (e.g. kg, tons) and specification (e.g. dry, dressed, frozen):

Incidental catch

› low quantity

For incidentally caught specimens, please provide details on their fate:

- Safe release alive
- Discard dead
- Retained on board
- Landed
- Traded nationally
- Traded internationally
- Please provide further information as required:

Carcharhinus falciformis

Please indicate for this species, the amount caught as targeted and/or incidental catch, the unit (e.g. kg, tons) and specification (e.g. dry, dressed, frozen):

Incidental catch

› very rare

For incidentally caught specimens, please provide details on their fate:

- Safe release alive
- Discard dead
- Retained on board
- Landed
- Traded nationally
- Traded internationally
- Please provide further information as required:

Carcharodon carcharias

Please indicate for this species, the amount caught as targeted and/or incidental catch, the unit (e.g. kg, tons) and specification (e.g. dry, dressed, frozen):

Incidental catch

› rare

For incidentally caught specimens, please provide details on their fate:

- Safe release alive
- Discard dead
- Retained on board
- Landed
- Traded nationally
- Traded internationally
- Please provide further information as required:

Isurus oxyrinchus

Please indicate for this species, the amount caught as targeted and/or incidental catch, the unit (e.g. kg, tons) and specification (e.g. dry, dressed, frozen):

Incidental catch

› medium quantity

For incidentally caught specimens, please provide details on their fate:

- Safe release alive
- Discard dead
- Retained on board
- Landed
- Traded nationally
- Traded internationally
- Please provide further information as required:

Isurus paucus

Please indicate for this species, the amount caught as targeted and/or incidental catch, the unit (e.g. kg, tons) and specification (e.g. dry, dressed, frozen):

Incidental catch

› low quantity

For incidentally caught specimens, please provide details on their fate:

- Safe release alive
- Discard dead
- Retained on board
- Landed
- Traded nationally
- Traded internationally
- Please provide further information as required:

Lamna nasus

Please indicate for this species, the amount caught as targeted and/or incidental catch, the unit (e.g. kg, tons) and specification (e.g. dry, dressed, frozen):

Incidental catch

› low quantity

For incidentally caught specimens, please provide details on their fate:

- Safe release alive
- Discard dead
- Retained on board
- Landed
- Traded nationally
- Traded internationally
- Please provide further information as required:

Manta alfredi

Please indicate for this species, the amount caught as targeted and/or incidental catch, the unit (e.g. kg, tons) and specification (e.g. dry, dressed, frozen):

Incidental catch

› low quantity

For incidentally caught specimens, please provide details on their fate:

- Safe release alive
- Discard dead
- Retained on board
- Landed
- Traded nationally
- Traded internationally
- Please provide further information as required:

Manta birostris

Please indicate for this species, the amount caught as targeted and/or incidental catch, the unit (e.g. kg, tons) and specification (e.g. dry, dressed, frozen):

Incidental catch

› low quantity

For incidentally caught specimens, please provide details on their fate:

- Safe release alive
- Discard dead

- Retained on board
- Landed
- Traded nationally
- Traded internationally
- Please provide further information as required:

Mobula eregoodootenkee

Please indicate for this species, the amount caught as targeted and/or incidental catch, the unit (e.g. kg, tons) and specification (e.g. dry, dressed, frozen):

Incidental catch

For incidentally caught specimens, please provide details on their fate:

- Safe release alive
- Discard dead
- Retained on board
- Landed
- Traded nationally
- Traded internationally
- Please provide further information as required:

Mobula japonica

Please indicate for this species, the amount caught as targeted and/or incidental catch, the unit (e.g. kg, tons) and specification (e.g. dry, dressed, frozen):

Incidental catch

› low quantity

For incidentally caught specimens, please provide details on their fate:

- Safe release alive
- Discard dead
- Retained on board
- Landed
- Traded nationally
- Traded internationally
- Please provide further information as required:

Mobula thurstoni

Please indicate for this species, the amount caught as targeted and/or incidental catch, the unit (e.g. kg, tons) and specification (e.g. dry, dressed, frozen):

Incidental catch

› low quantity

For incidentally caught specimens, please provide details on their fate:

- Safe release alive
- Discard dead
- Retained on board
- Landed
- Traded nationally
- Traded internationally
- Please provide further information as required:

Pristis clavata

Please indicate for this species, the amount caught as targeted and/or incidental catch, the unit (e.g. kg, tons) and specification (e.g. dry, dressed, frozen):

Incidental catch

› low quantity

For incidentally caught specimens, please provide details on their fate:

- Safe release alive
- Discard dead
- Retained on board
- Landed

- Traded nationally
- Traded internationally
- Please provide further information as required:

Pristis pristis

Please indicate for this species, the amount caught as targeted and/or incidental catch, the unit (e.g. kg, tons) and specification (e.g. dry, dressed, frozen):

Incidental catch

› low quantity

For incidentally caught specimens, please provide details on their fate:

- Safe release alive
- Discard dead
- Retained on board
- Landed
- Traded nationally
- Traded internationally
- Please provide further information as required:

Pristis zijsron

Please indicate for this species, the amount caught as targeted and/or incidental catch, the unit (e.g. kg, tons) and specification (e.g. dry, dressed, frozen):

Incidental catch

› low quantity

For incidentally caught specimens, please provide details on their fate:

- Safe release alive
- Discard dead
- Retained on board
- Landed
- Traded nationally
- Traded internationally
- Please provide further information as required:

Sphyrna lewini

Please indicate for this species, the amount caught as targeted and/or incidental catch, the unit (e.g. kg, tons) and specification (e.g. dry, dressed, frozen):

Incidental catch

› medium quantity

For incidentally caught specimens, please provide details on their fate:

- Safe release alive
- Discard dead
- Retained on board
- Landed
- Traded nationally
- Traded internationally
- Please provide further information as required:

Sphyrna mokarran

Please indicate for this species, the amount caught as targeted and/or incidental catch, the unit (e.g. kg, tons) and specification (e.g. dry, dressed, frozen):

Incidental catch

› medium quantity

For incidentally caught specimens, please provide details on their fate:

- Safe release alive
- Discard dead
- Retained on board
- Landed

- Traded nationally
- Traded internationally
- Please provide further information as required:

B2. What management measures (please be as specific as possible) are in place for species listed on Annex 1 of the MoU, and when were they implemented?

Please select only one option

Management measures are in place

Please provide details

21 species listed in Annex 1 of the MOU occur within Australian waters. 16 of these species listing are listed as 'Migratory' and therefore identified as matters of national environment significance under national environmental law, the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), and are afforded total protection in Commonwealth waters. Another species, *Sphyrna lewini*, is listed as conservation dependent under the EPBC Act, which means the species is the focus of a 'plan of management' within Australian waters which provides for halting decline and supporting recovery of the species.

The Australian Government affords sharks protection through a suite of complementary measures.

The Second National Plan of Action for the Conservation and Management of Sharks 2012 (Shark-plan 2) is Australia's overarching policy for guiding and coordinating engagement in shark conservation and management. The second iteration of this plan was released in July 2012 following a review of Shark-plan 1, reaffirming Australia's commitment to shark conservation. The plan met Australia's commitment as a member of the United Nations Food and Agriculture Organization, to the International Plan of Action for the Conservation and Management of Sharks (IPOA-Sharks).

Shark-plan 2 identifies research and management actions across Australia for the long-term sustainability of sharks, including actions to help minimise the impacts of fishing on sharks. Shark-plan 2 was developed with state, Northern Territory and Australian Government agencies in consultation with key non-government stakeholders. A Shark-plan Representative Group (SRG) oversees and reports on the implementation of the operational strategy for Shark-Plan 2. A copy of Shark-plan 2 can be accessed at:

<http://www.agriculture.gov.au/fisheries/environment/sharks>

The Australian Government Department of the Environment works closely with Commonwealth and state fisheries management agencies to ensure that fishing activities do not have an unsustainable impact on sharks. All Commonwealth-managed fisheries and those state fisheries which export product or operate in Commonwealth waters are required to be assessed under the EPBC Act.

Shark finning is not permitted in Commonwealth managed fisheries. Similar measures are in place to encourage full retention in state and territory managed fisheries. The Australian Government advocates at Regional Fisheries Management Organisations for sustainable management practices for shark fishing, including banning the use of wire traces and the implementation of anti-finning measures such as landing sharks with their fins naturally attached.

In addition to being listed as "Migratory" under the EPBC Act, the White Shark, whale shark, largetooth sawfish, dwarf sawfish and green sawfish are also listed as "Threatened" species. Species that are listed as "Threatened" under the EPBC Act may have recovery plans developed in order to guide research and conservation actions aimed at recovery. For instance, the White Shark has a recovery plan which was reviewed and updated in 2013. It can be accessed at:

<http://www.environment.gov.au/resource/recovery-plan-white-shark-carcharodon-carcharias>

A recovery plan for the three sawfish species (*Pristis pristis*, *Pristis zijsron*, *Pristis clavata*) was released in 2015. It can be accessed at: <http://www.environment.gov.au/biodiversity/threatened/publications/recovery/sawfish-river-sharks-multispecies-recovery-plan>

A review of the whale shark recovery plan was finalised in 2014. The plan has now ceased to be in force due to sunset provisions but a Conservation Advice was published for the species in October 2015 that outlines conservation actions. The Conservation Advice can be accessed at: <http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl>.

B3. Has your country prohibited the taking of species listed in CMS Appendix I?

Please select only one option

Yes

Please describe protection measures and reasons for any exceptions made and provide references to policy documents (legislation, management plans etc.).

All 13 CMS Appendix I shark species occurring within Australian waters (*Anoxypristis cuspidata*, *Carcharodon carcharias*, *Cetorhinus maximus*, *Rhincodon typus*, *Pristis clavata*, *Pristis pristis*, *Pristis zijsron*, *Manta alfredi*, *Manta birostris*, *Mobula eregoodootenkee*, *Mobula japonica* and *Mobula thurstoni*) are prohibited from take. All these species are listed 'Migratory' and some are listed as 'Threatened' under the EPBC Act, and therefore all are matters of national environmental significance and afforded protection nationally.

Objective C:

Ensuring to the extent practicable the protection of critical habitats and migration corridors and critical life stages of sharks

C1. Does your country protect habitats of species listed on Annex 1 of the MoU?

Please select only one option

Yes

Has your government planned any measures to protect habitats of species listed on Annex 1 of the MoU?

› Yes, see below

Please describe the measures taken to protect the area, at which time the area was protected and the size of the area.

› The Australian Government is committed to maintaining the National Representative System of Marine Protected Areas (NRSMPA). The Government manages 60 marine protected areas within the NRSMPA, including: 58 Australian Marine Parks, the Great Barrier Reef Marine Park and the Heard Island and McDonald Islands Marine Reserve that together cover about 3.2 million square kilometres.

Five new management plans for the Coral Sea Marine Park and the 43 marine parks across the Temperate East, South-west, North-west and North marine regions came into effect on 1 July 2018. The management plan for 14 marine parks in the South-east marine region came into effect in July 2013. Australian Marine Parks are managed to provide for protection and conservation of marine biodiversity and other natural, cultural and heritage values; and ecologically sustainable use and enjoyment of natural resources within the parks. The Government has committed \$56.1 million over four years to 2020–2021 for marine park management and from 2020–2021, ongoing funding of \$5.3 million a year.

Some specific shark research and monitoring projects currently being undertaken within Australian Marine Parks include research into the connectivity of sharks between isolated coral reefs in the Coral Sea and Great Barrier Reef (Great and Scalloped Hammerheads, Silvertip Reef Shark, Leopard Shark, Grey Reef Shark, White tipped Reef Shark and Tiger Shark).

In addition there are several research projects being undertaken across many Australian Marine Parks that improve understanding of marine biodiversity, including sharks, through visual census and Baited Remote Underwater Videos.

Please indicate, which species listed in Annex 1 benefit from the above measures/protected habitat.

Alopias pelagicus
Alopias superciliosus
Alopias vulpinus
Anoxypristis cuspidata
Carcharhinus falciformis
Carcharodon carcharias
Cetorhinus maximus
Isurus oxyrinchus
Isurus paucus
Lamna nasus
Manta alfredi
Manta birostris
Mobula eregoodootenkee
Mobula japanica
Mobula thurstoni
Pristis clavata
Pristis pristis
Pristis zijsron
Rhincodon typus
Sphyrna lewini
Sphyrna mokarran

Objective D:

Increasing public awareness of threats to sharks and their habitats, and enhance public participation in conservation activities

D1. Is your government taking steps to improve public knowledge on migratory sharks?

Please select only one option

Yes

Please select from the options below, on which aspects your government is raising awareness and provide further details as appropriate in the text boxes:

- A - Sharks importance in the ecosystem
- B - Threats to sharks
- C - Threats to marine and coastal habitats
- D - This Memorandum of Understanding
- E - International conservation policies regarding sharks
- Other

Objective E:

Enhancing national, regional and international cooperation

E1. Has your country identified areas where cooperation among States is required for successful conservation and management activities?

Please select only one option

Yes

Please describe:

› Internationally, Australia has encouraged the adoption of best practice shark management in Regional Fisheries Management Organisations (RFMOs). This includes promoting internationally anti-finning measures, such as encouraging the full utilization of harvested sharks. Australia also strongly advocates for improving the understanding of the markets for and trade in shark products.

Australia will host the 5th International Whale Shark Conference 28-31 May 2019.

E2. Has your country engaged with other States to address these areas?

Please select only one option

Yes

Please describe:

› Yes, through RFMOs. Australia engages with the following RFMOs, and that engagement includes issues related to shark conservation and management:

- Commission for the Conservation of Southern Bluefin Tuna (CCSBT)
- Indian Ocean Tuna Commission (IOTC)
- Southern Indian Ocean Fisheries Agreement (SIOFA)
- South Pacific Regional Fisheries Management Organisation (SPRFMO)
- Western & Central Pacific Fisheries Management Commission (WCPFC).

Australia is leading the development of ecological risk assessments for deep-water sharks in SPRFMO and SIOFA.

Australia is also active in other multilateral and regional forums which consider fisheries issues, including:

- Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR)
- United Nations Food and Agriculture Organization Committee on Fisheries (COFI)
- Pacific Ocean fora, (including Pacific Islands Forum Fisheries Agency, US Tuna Treaty and Secretariat of the Pacific Community)

E3. Has there been any cooperation between your country and other countries on developing institutional capacity and/or competencies?

Please select only one option

Yes

Please select from the options below, the respective areas of cooperation and provide further details as appropriate in the text boxes:

- Shark identification
- Management and conservation techniques
- Habitat protection
- Coordination with other stakeholders
- Implementation of this Memorandum of Understanding
- Other

III. Please provide any additional information relevant to the Conservation Plan for species listed on Annex 1, or in general, provide any information about what you know about sharks in your waters.

Please describe:

Since 2004, Australia has implemented a National Plan of Action for the Conservation and Management of Sharks to provide guidance to fisheries and conservation managers and the public on shark issues. The second iteration of this plan (Shark-plan 2), was released in July 2012 following a review of Shark-plan 1, reaffirming Australia's commitment to shark conservation. Shark-plan 2 identifies how Australia will manage and conserve sharks, and ensure that Australia meets international conservation and management obligations. A copy of Shark-plan 2 can be accessed at:

<http://www.agriculture.gov.au/fisheries/environment/sharks>

SRG oversees and reports on the implementation of the operational strategy for Shark-plan 2. The SRG meets annually and includes representatives from various levels of Australian governments, commercial and recreational fishing sectors and environmental non-government organisations.

A review of Shark-plan 2 in 2018 indicated that, although the actions outlined in Shark-plan 2 (if fully implemented) have addressed Australia's commitment to implement the IPOA-Sharks, jurisdictional shark conservation measures for sharks are independent of Shark-plan 2 and are driven by legislation requirements and treaty obligations. For instance, existing Australian Government legislation such as the EPBC Act and the *Commonwealth Fisheries Harvest Strategy Policy*, Australian obligations to international conventions including the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and CMS, and state and Northern Territory fisheries legislation were found to be the primary drivers of shark management initiatives. In 2017, SRG endorsed the outcomes of the review and reaffirmed the importance of Shark-plan as an effective reporting and networking tool for fisheries managers and other stakeholders on shark management in Australia. SRG agreed to retain Shark-plan in its current form while streamlining reporting to better focus on outcomes.

IV. Have you identified any gaps or needs in the field of research, capacity building, training, data collection etc. relevant to the conservation of Annex 1 species?

Please describe: