

Ramsar Information Sheet

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Australia Ginini Flats Subalpine Bog Complex



Designation date 1 Site number 7 Coordinates 3 Area 3

date 1 March 1996 mber 793 nates 35°31'29"S 148°46'53"E Area 350,00 ha

https://rsis.ramsar.org/ris/793 Created by RSIS V.1.6 on - 9 August 2018

Color codes

Fields back-shaded in light blue relate to data and information required only for RIS updates.

Note that some fields concerning aspects of Part 3, the Ecological Character Description of the RIS (tinted in purple), are not expected to be completed as part of a standard RIS, but are included for completeness so as to provide the requested consistency between the RIS and the format of a 'full' Ecological Character Description, as adopted in Resolution X.15 (2008). If a Contracting Party does have information available that is relevant to these fields (for example from a national format Ecological Character Description) it may, if it wishes to, include information in these additional fields.

1 - Summary

Summary

Ginini Flats Subalpine Bog Complex Ramsar Site is located in the Namadgi National Park in the Australian Capital Territory (ACT), Australia.

The Ginini Flats Subalpine Bog Complex consists of a composite of subalpine sphagnum bogs and associated wet heath and wet grassland habitats occupying a series of interconnected wetlands known as West Ginini, Ginini Flats, Morass Flats and Cheyenne Flats within Namadgi National Park in the ACT, Australia. The Ginini Flats Subalpine Bog Complex is in the upper reaches of the Cotter River catchment in the Murrumbidgee River Drainage Basin in south-eastern Australia. The Cotter River catchment is the primary water source for Canberra, ACT, the capital city of Australia. The site is located at the northern extreme of the climatic range for sphagnum bog wetlands in the Australian Alps. The 'Alpine Sphagnum Bogs and Associated Fens' ecological community and the Northern Corroboree frog (Pseudophryne pengilleyi) community on site are both nationally threatened. The site is also of hydrological importance due to the role the wetlands play in maintaining water quality and, to a lesser extent, moderating runoff.

2 - Data & location

- 2.1 Formal data
- 2.1.1 Name and address of the compiler of this RIS

Compiler 1

| Name | Kathryn Tracy/Lisa Evans |
|--------------------|--|
| Institution/agency | Australian Capital Territory Government Environment and Planning Directorate |
| Postal address | GPO Box 158, Canberra ACT 2601 |
| E-mail | Kathryn.Tracy@act.gov.au |
| Phone | +61 2 6207 5111. |
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2.1.2 - Period of collection of data and information used to compile the RIS

| From year | 1996 | |
|-----------|------|--|
| To year | 2016 | |

2.1.3 - Name of the Ramsar Site

| Official name (in English, French or | Ginini Flats Subalpine Bog Complex |
|--------------------------------------|------------------------------------|
| Spanish) | |
| Unofficial name (optional) | Ginini Flats Wetland Complex |

2.1.4 - Changes to the boundaries and area of the Site since its designation or earlier update

| ^(Update) A Changes to Site boundary Yes No O |
|---|
| ^(Update) The boundary has been delineated more accurately 🗹 |
| ^(Update) The boundary has been extended |
| ^(Update) The boundary has been restricted |
| (Update) B. Changes to Site area the area has increased |
| (Update) The Site area has been calculated more accurately 🗹 |
| ^(Update) The Site has been delineated more accurately 🗹 |
| ^(Update) The Site area has increased because of a boundary extension |
| ^(Update) The Site area has decreased because of a boundary restriction |
| |

2.1.5 - Changes to the ecological character of the Site

^(Update) 6b i. Has the ecological character of the Ramsar Site (including applicable Criteria) changed since the previous RIS?

2.2 - Site location

2.2.1 - Defining the Site boundaries

b) Digital map/image

<1 file(s) uploaded>

Former maps 0

Boundaries description

Following technological advances since the nomination of the site in 1995, the boundary is being updated.

The previous area was incorrectly documented as 125 ha and only included the areas of wetland complex and open flats, instead of the whole catchment. The original boundary (which should have been 323.6 ha) was an estimate based on small scale mapping. The area has been more accurately delineated through improved mapping, on-ground surveys and ground truthing. The new boundary encompasses a larger area of 350 ha.

The revised boundary description is as follows:

The boundary commences at point A (35° 32' 01.69"S, 148° 46' 35.55"E) on the map, lying 10 m east of the eastern road edge of Mt Franklin Road.

From point A it follows Mt Franklin road maintaining its position 10 m east from the eastern road edge, heading in a north easterly, then north westerly direction (circumventing Mt Ginini, which lies to the west) to ACT border at point B (at the point nearest to 35° 31' 17.91"S, 148° 46' 04.85"E).

From point B the boundary heads in a northerly direction along the border of ACT, to the most north westerly point of the site, still on ACT border, at point C (at the point nearest to 35° 30' 54.21"S, 148° 46' 0.99"E).

From there the boundary heads in an easterly direction from ACT border and runs 10 m inside (below and to the south of) the catchment ridgeline through point D (35° 30' 57.66"S, 148° 46'46.16E), where it crosses Ginini Creek, to point E (35° 31' 03.277"S, 148° 47'19.39"E). From point E the boundary heads in a generally southerly direction, paralleling (and 10 m below and to the west of) the ridgeline to point F. Between points E and G the ridgeline boundary changes from Ginini Flats ridgeline to Cheyenne Flats ridgeline (still part of the wetlands complex) near point G (35° 31' 21.17"S, 148° 47' 42.78"E).

From point G the boundary continues in a southerly direction to Point H at the most south easterly point of the site (35° 32' 15.93"S, 148° 47' 13.90"E). The boundary line then heads generally west to point I (35° 32' 17.88"S, 148° 47'06.72"E). Near point I the boundary crosses an unnamed tributary of Stockyard Creek. From point I the boundary then heads in a generally westerly direction to point J (35° 32' 14.04"S, 148° 45.59"E). From point J the boundary continues on in a straight line to meet the starting point 10 m off the eastern road edge of Mt Franklin road (point A), encompassing the southern end of Cheyenne Flats.

2.2.2 - General location

| a) In which large administrative region does the site lie? | Australian Capital Territory | | | | | | | |
|--|--|--|--|--|--|--|--|--|
| b) What is the nearest town or population centre? | Ginini Flats Ramsar Complex is located 40 kilometres south west of Canberra, which had a resident population of 385,996 in 2014 (ABS, 2016). | | | | | | | |
| 2.2.3 - For wetlands on national bound | daries only | | | | | | | |
| a) Does the wetland extend onto the te | a) Does the wetland extend onto the territory of one or more other countries? Yes O No O | | | | | | | |
| b) Is the site adjacent to another designated Ramsar Site on the Yes O No (Internitory of another Contracting Party? | | | | | | | | |
| 2.2.4 - Area of the Site | | | | | | | | |
| Official area, in hectares (ha): | 350 | | | | | | | |
| Area, in hectares (ha) as calculated from GIS boundaries | 350.19 | | | | | | | |

2.2.5 - Biogeography

| Biogeographic regions | | | |
|---------------------------|-------------------------------|----------------------|--|
| Regionalisation scheme(s) | | Biogeographic region | |
| Other scheme (provide | Murray Darling Basin Division | | |
| name below) | | | |

Other biogeographic regionalisation scheme

Australian Drainage Divisions and River Basins

3 - Why is the Site important?

3.1 - Ramsar Criteria and their justification

Criterion 1: Representative, rare or unique natural or near-natural wetland types

| Hydrological services provided | The Ginini Flats Subalpine Bog Complex is of hydrological importance due to the role the wetlands play in maintaining water quality and moderating runoff. The Ginini Flats Subalpine Bog Complex is located in the Cotter River catchment which is the primary water supply for the city of Canberra. |
|-----------------------------------|--|
| Other ecosystem services provided | The ecosystem services of the site and the benefits derived from them include the provision of drinking water catchment to the city of Canberra; climate regulation through being a carbon sink; filtration of flow through the wetland; erosion protection from frost heave; recreation and tourism; spiritual and inspirational services; scientific and educational services; source of biodiversity; peat soil formation and nutrient cycling. |
| Other reasons | The Ginini Flats Wetland Complex incorporates one wetland type as defined by the Ramsar Classification System for Wetland Type (Ramsar Convention 2008): U - Nonforested peatlands which includes shrub or open bogs, swamps and fens. See Justification for criterion 3 for more details on this wetland type. |

Criterion 2 : Rare species and threatened ecological communities

Criterion 3 : Biological diversity

The Ginini Flats wetland complex is at the northern biophysical limit of this habitat type within the Murray– Darling Drainage Division and is of importance in maintaining the genetic and ecological diversity of a number of endemic and restricted species found in subalpine wet heaths and bogs. The Ginini Flats wetland complex is a composite of subalpine sphagnum bogs and associated wet heath and wet grassland habitats occupying a series of interconnected wetlands. The Ginini Flats Wetland Complex is known to include a nationally listed ecological community (Alpine Sphagnum Bogs and Associated Fens) and threatened fauna species: the Northern Corroboree frog (Pseudophryne pengilleyi). Sites with extensive bog development dominated by Sphagnum are uncommon on the mainland of Australia. Significant plant species associated with the wetlands include the peat moss (Sphagnum

Australia. Significant plant species associated with the wetlands include the peat moss (Sphagnum cristatum), alpine plum pine (Podocarpus lawrencei), alpine ballart (Exocarpos nanus), dwarf buttercup (Ranunculus millanii), silver caraway (Oreomyrrhis argentea), and Craspedia sp.

Criterion 4 : Support during critical life cycle stage or in adverse conditions

Criterion 9 : >1% non-avian animal population

3.2 - Plant species whose presence relates to the international importance of the site

| Scientific name | Common name | Criterion 2 | Criterion 3 | Criterion 4 | IUCN Red List | CITES Appendix I | Other status | Justification |
|--------------------|-------------|-------------|-------------|-------------|---------------------|------------------|--------------|--|
| Sphagnum cristatum | Peat moss | | × | | | | | Characteristic of bogs in the ACT. ACT bogs are listed under the EPBC Act. |

Criterion 3 continues to be met based on the presence of regionally significant species, and nationally significant flora species and vegetation communities. The Ginini Flats Subalpine Bog Complex is at the northern biophysical limit for this habitat type, and is of importance in maintaining the genetic and ecological diversity of a number of endemic and restricted species found in subalpine wet heaths and bogs. Sites with extensive bog development dominated by Sphagnum are uncommon on the mainland of Australia.

3.3 - Animal species whose presence relates to the international importance of the site

| Phylum | Scientific name | Common name | Speciesqualifiesundercriterion2469 | Species contributes under criterion 3 5 7 8 | Pop. Size Period of pop. Est. | % occurrence 1) | IUCN Red List | CITES Appendix I | CMS Appendix I | Other Status | Justification |
|---------------------------|----------------------------|-----------------------------|------------------------------------|---|----------------------------------|-----------------------|---------------------|------------------------|----------------------|---|---|
| Others | | | | | | | | | | | |
| CHORDATA / AMPHIBIA | Pseudophryne pengilleyi | Northern Corroboree frog | | | 50 2015 | 50 | EN Star | | | Listed as critically endangered under the Australian Environment Protection and Biodiversity Conservation Act. | The population at Ginini Flats was one of the largest known populations of this uncommon species, however it is now almost locally extinct due to Amphibian Chytrid fungus. The population is being supported by the release of captive bred individuals. |

1) Percentage of the total biogeographic population at the site

Criterion 2 and 4 continue to be met as Ginini Flats Subalpine Bog Complex provides important habitat for the Northern Corroboree frog (Pseudophryne pengilleyi). The Northern Corroboree frog is an endemic species found only at high altitudes in the Southern Highlands between Smiggin Holes in Kosciusko National Park (NSW) and the northern end of the Brindabella Range near Canberra (ACT). The numerous pools scattered throughout the bogs and wet heaths at Ginini Flats provide an important variety of potential breeding sites for the species. Suitable ponds are formed by a high water table accompanied by suitable hydrological conditions such as low flow rates. Females briefly enter the bogs to lay approximately 25 eggs above the water line in these nests. The eggs continue to develop in the nest over a two month period until a phase of suspended development is triggered. Tadpoles of the northern corroboree frog can hatch in autumn if there is sufficient rainfall and the tadpoles develop in the pools over winter. After hatching, tadpoles feed on small amounts of organic detritus and, later as frogs, small invertebrates including black ants (Carey et al., 2003). The frogs move from the bog communities to shelter under logs and amongst leaf litter in surrounding woodland over the winter.

3.4 - Ecological communities whose presence relates to the international importance of the site

| Name of ecological community | Community qualifies under Criterion 2? | Description | Justification |
|--|---|---|---|
| Alpine Sphagnum Bogs and Associated Fens | V | The ecological community can usually be defined by the presence or absence of Sphagnum spp., the most common of which is Sphagnum cristatum. Refer to ECD at 6.1.2ii for comprehensive description. | Listed as an endangered ecological community under the Australian Environment Protection and Biodiversity Conservation Act. |

4 - What is the Site like? (Ecological character description)

4.1 - Ecological character

Key components and processes :

Biophysical setting - The underlying geology consists of deformed granitic rocks of Silurian age overlain by Ordovician metasediments, which are extensively folded.

Hydrology - The site is located at the headwaters of Ginini Creek which forms the base of a small catchment of 410 ha that has relatively high rainfall (circa 1250 mm/yr).

Peat formation - The peat is comprised of two main layers, the surface, living Acrotelm that experiences fluctuations in water levels and the lower, anaerobic Catotelm which is typically saturated.

Vegetation - The peatland provides a variety of vegetation types within the wetland complex including sphagnum bogs, wet heath and wet grassland (or fen). On top of the living Sphagnum layer there is substantial variation in vegetation composition in the bog complex, including a mosaic of bog, wet heath, wet herbfield, sedgeland, dry heath and tall wet heath.

Water quality - The surface water within the site is unpolluted and slightly acidic, and has low conductivity and very low turbidity. Frogs - At Ramsar designation in 1996, the Northern Corroboree frog (Pseudophryne pengilleyi) was recognised as important value of the site

which was believed to hold one of the largest known populations of this species.

Mammals, birds and reptiles - Vertebrate fauna species recorded in the area, are wetland dependent and are expected to have been present around the time of listing include broad toothed rat (listed as vulnerable under the Australian Environment Protection and Biodiversity Conservation Act), Latham's snipe, alpine water skink and mountain swamp skink.

Fish - The native mountain Galaxias (Galaxias olidus) inhabits the small streams that bisect the site. There is no evidence that exotic fish species have colonised the site.

Invertebrates - The site contains habitats that support invertebrates.

Key ecosystem services:

Wetland products - The site is part of Cotter River Catchment - the primary water supply source for Canberra.

Climate regulation - Peat may be a significant carbon sink or source depending on climatic and hydrological conditions.

Erosion protection - Protection of soil surface from frost heave and accelerated erosion processes.

Water quality maintenance – Water filtration, buffering of nutrients and sediments.

Biodiversity - Supports a significant subject of regional flora species and an ecologically significant vegetation community.

Soil formation - Supports peat soil formation.

Recreation and tourism - Skiing, walking and wildflower viewing.

Spiritual and inspiration - The wetland is likely to have been used on route to traditional harvest sites for Bogong moths by Aborigines. Scientific and educational - Studies on the northern corroboree frog and provision of eggs for captive breeding. Paleological studies of vegetation, climate and fire histories in peat sediments. Monitoring of restoration trials of post fire recovery techniques in sphagnum bogs. Further information on the natural variability in the ecological character of the site is contained in the Ecological Character Description attached at 6.1.2ii.

4.2 - What wetland type(s) are in the site?

Inland wetlands

| Wetland types (code and name) | Local name | Ranking of extent (1: greatest - 4: least) | Area (ha) of wetland type | Justification of Criterion 1 |
|--|-------------------------------|--|------------------------------|------------------------------|
| Fresh water > Marshes on peat soils >> U: Permanent Non- forested peatlands | Pp3 Peat bogs and fen marshes | 1 | 65 | Rare |

Other non-wetland habitat

| Other non-wetland habitats within the site | Area (ha) if known |
|--|--------------------|
| Temperate Montane Grassland | |
| | |
| Subalpine Woodland | 291 |
| | |

4.3 - Biological components

4.3.1 - Plant species

Other noteworthy plant species

| Scientific name | Common name | Position in range / endemism / other |
|--------------------|--------------|---|
| Baloskion australe | | Unique to montane bogs and fens community |
| Richea continentis | Candle Heath | Unique to montane bogs and fens community |

Invasive alien plant species

| Scientific name | Common name | Impacts | Changes at RIS update |
|------------------|----------------|--------------------------|-----------------------|
| Rumex acetosella | Sheep's sorrel | Actually (minor impacts) | No change |

4.3.2 - Animal species

Other noteworthy animal species

RIS for Site no. 793, Ginini Flats Subalpine Bog Complex, Australia

| Phylum | Scientific name | Common name | Pop. size | Period of pop. est. | %occurrence | Position in range /endemism/other |
|-----------------------|----------------------|---------------------------------|-----------|---------------------|-------------|---|
| ARTHROPODAIINSECTA | Acripeza reticulata | Mountain grasshopper | | | | |
| CHORDATAACTINOPTERYGI | Galaxias olidus | Mountain galaxias | | | | |
| CHORDATAAVES | Gallinago hardwickii | Latham's Snipe | | | | Found in a range of habitats in Australia including bogs |
| ARTHROPODAINSECTA | Kosciuscola tristis | Alpine Chameleon Grasshopper | | | | |
| CHORDATA/MAMMALIA | Mastacomys fuscus | Broad-toothed rat | | | | This species is endemic to sub-alpne bogs and fens in NSW, Vic and the ACT. |

Invasive alien animal species

| Phylum | Scientific name | Common name | Impacts | Changes at RIS update |
|-------------------|-----------------------|-----------------|--------------------------|-----------------------|
| CHORDATAMAMMALIA | Equus ferus | feral horse | Potentially | unknown |
| CHORDATA/MAMMALIA | Oryctolagus cuniculus | European Rabbit | Potentially | unknown |
| CHORDATA/MAMMALIA | Sus scrofa | feral pig | Actually (minor impacts) | No change |
| ARTHROPODAINSECTA | Vespula germanica | European wasp | Potentially | unknown |
| CHORDATAMAMMALIA | Vulpes vulpes | fox | Actually (minor impacts) | No change |

Optional text box to provide further information

Some species could not be added to the species lists above as they were either identified only to genera or the species name was not available in the drop down list. These were: Carduus sp Hypodioeris sp. Yeelanna sp. Lycosa sp. Eulamprus koscuiskoi Niveoscinus rawlinsonii Polyzosteria viridisma Acripeza reticulate The Ecological Character description at 6.1.2ii provides details.

4.4 - Physical components

4.4.1 - Climate

| Climatic region | Subregion |
|-----------------------|---|
| C: Moist Mid-Latitude | Cfb: Marine west coast (Mild with no dry season, |
| | warm summer) |

The Mt Ginini meteorological data for precipitation is restricted to a short period of time and is not reliable. Rainfall interpretation from climatic maps undertaken by Osborne (1990) concluded that average annual rainfall is in the vicinity of 1250 mm; around half of the rainfall of many other sphagnum bog sites in the Australian Alps.

Ginini Flats Subalpine Bog Complex is situated at the northern extreme of the climatic range for sphagnum bog wetlands in the Australian Alps. Given the wetland is already at the limit of climatic tolerance, the greatest threat to it relates to the global scale process of climate change and the myriad impacts and potential positive feedback mechanisms that can occur. Climate change has the potential to alter all critical components and processes, for example hydrology, peat formation, vegetation, habitat availability, water quality, groundwater recharge, and thus the services that characterise the ecological character of the wetland.

4.4.2 - Geomorphic setting

| a) Mnimum elevation above sea level (in metres) | |
|---|--|
| a) Maximum elevation above sea level (in metres) | |
| Entire | river basin 🗆 |
| Upper part o | friver basin 🗹 |
| Middle part of | friver basin 🗆 |
| Lower part of | friver basin 🗆 |
| More than one | river basin 🗆 |
| Notir | river basin 🗆 |
| | Coastal |
| Please name the river basin or basins. If the site lies in a sul | b-basin, please also name the larger river basin. For a coastal/marine site, please name the sea or ocean. |
| The Ginini Flats Subalpine Bog Complex is in the southleastern Australia. | e upper reaches of the Cotter River catchment in the Murrumbidgee River Drainage Basin in |

4.4.3 - Soil

Organic 🗹

(Update) Changes at RIS update No change
Increase O Decrease O Unknown O

No available information

Please provide further information on the soil (optional)

Ginini Flats Subalpine Bog Complex has relatively high rainfall (around 1250 mm/yr) and has freely draining alpine humus soils that are typical of much of the Australian Alps subalpine areas. Key threats affecting the integrity of the soil in the Ramsar Site include soil erosion and frost heave.

4.4.4 - Water regime

| Water permanence | |
|-------------------------|-----------------------|
| Presence? | Changes at RIS update |
| Usually permanent water | |

Source of water that maintains character of the site

| Presence? | Predominant water source | Changes at RIS update |
|----------------------------------|--------------------------|-----------------------|
| Water inputs from rainfall | | unknown |
| Water inputs from surface water | | unknown |
| Water inputs from groundwater | | unknown |

Water destination

| Presence? | Changes at RIS update |
|-------------------------|-----------------------|
| Feeds groundwater | No change |
| To downstream catchment | No change |
| | |

Stability of water regime

| Presence? | Changes at RIS update | |
|-----------------------------|-----------------------|--|
| Water levels largely stable | unknown | |

Please add any comments on the water regime and its determinants (if relevant). Use this box to explain sites with complex hydrology,

Ginini Flats Subalpine Bog Complex is located at the headwaters of the Ginini Creek, part of the Middle Cotter Catchment within the Cotter River Catchment (the primary water supply for the city of Canberra). The Cotter River Catchment extends over 481 square kilometres and includes three sublcatchments: the Upper Cotter (Corin Dam Catchment), Middle Cotter (Bendora Dam Catchment to Corin Dam) and the Lower Cotter (Cotter Dam Catchment to Bendora Dam). Ginini Flats Subalpine Bog Complex is located at the headwaters of the Ginini Creek which forms the base of a small catchment of 410 ha that rises from 1520 mASL to a maximum elevation at the summit of Mt Ginini of 1762 mASL

Ginini Flats Subalpine Bog Complex has relatively high rainfall (circa 1250 mm/yr). Ginini Flats Subalpine Bog Complex is of locallscale hydrological importance due to the role the wetlands play in maintaining water quality and, to a lesser extent, moderating runoff.

| (ECD) Connectivity of surface waters and of groundwater | Surface water and groundwater fed wetland. |
|--|--|
| (ECD) Stratification and mixing regime | N/A |

4.4.5 - Sediment regime

| S | iediment regime unknown 🗹 |
|----------------------------------|--|
| (ECD) Water turbidity and colour | Water flowing through and out of the wetland has very low turbidity because of the intact, dense catchment vegetation. |
| | |
| (ECD) Light - reaching wetland | occasional pools. |
| (ECD) | |
| (ECD) Water temperature | Seasonally dependant. Wetland can have snow cover in winter. |

4.4.6 - Water pH

| Circumneutral (pH: 5.5-7.4) 🗹 | |
|---|--|
| ^(Update) Changes at RIS update No change O Increase O Decrease O Unknown ● | |
| Alkaline (pH>7.4) ☑ | |
| (Update) Changes at RIS update No change O Increase O Decrease O Unknown 🖲 | |
| | |
| e provide further information on pH (optional): | |

Pleas

pH has remained relatively stable at Ginini Flats Subalpine Bog Complex, ranging from 4.5-9.5 pH from 1999 to 2010.

4.4.7 - Water salinity

Fresh (<0.5 a/l)

 $^{(Update)}$ Changes at RIS update No change O Increase O Decrease O Unknown OUnknown

4.4.8 - Dissolved or suspended nutrients in water

Oligotrophic 🗹

(Update) Changes at RIS update No change O Increase O Decrease O Unknown O

Unknown 🗖

(ECD) Water conductivity Low conductivity

4.4.9 - Features of the surrounding area which may affect the Site

Please describe whether, and if so how, the landscape and ecological

characteristics in the area surrounding the Ramsar Site differ from the i) broadly similar (ii) significantly different O site itself:

4.5 - Ecosystem services

4.5.1 - Ecosystem services/benefits

| Provisioning Services | | | | | | | | |
|-----------------------|---|--------------------------------|--|--|--|--|--|--|
| Ecosystem service | Examples | Importance/Extent/Significance | | | | | | |
| Fresh water | Drinking water for humans and/or livestock | High | | | | | | |

Regulating Services

| Ecosystem service | Examples | Importance/Extent/Significance |
|--------------------------------------|---|--------------------------------|
| Maintenance of hydrological regimes | Groundwater recharge and discharge | Medium |
| Erosion protection | Soil, sediment and nutrient retention | Medium |
| Pollution control and detoxification | Water purification/waste treatment or dilution | Medium |
| Climate regulation | Regulation of greenhouse gases, temperature, precipitation and other climactic processes | Medium |
| Hazard reduction | Flood control, flood storage | Medium |

Cultural Services

| Ecosystem service | Examples | Importance/Extent/Significance |
|-----------------------------|---|--------------------------------|
| Recreation and tourism | Nature observation and nature-based tourism | High |
| Spiritual and inspirational | Inspiration | High |
| Spiritual and inspirational | Spiritual and religious values | High |
| Scientific and educational | Major scientific study site | |
| Scientific and educational | Type location for a taxon | Medium |
| Scientific and educational | Long-term monitoring site | Low |
| Scientific and educational | Important knowledge systems, importance for research (scientific reference area or site) | Medium |

Supporting Services

| Ecosystem service | Examples | Importance/Extent/Significance |
|-------------------|---|--------------------------------|
| Biodiversity | Supports a variety of all life forms including plants, animals and microorganizms, the genes they contain, and the ecosystems of which they form a part | High |
| Soil formation | Accumulation of organic matter | Medium |
| Nutrient cycling | Storage, recycling, processing and acquisition of nutrients | Medium |
| Nutrient cycling | Carbon storage/sequestration | Medium |

Outside the site: 386,000

4.5.2 - Social and cultural values

i) the site provides a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and Duse that maintain the ecological character of the wetland

- ii) the site has exceptional cultural traditions or records of former $\hfill\square$ civilizations that have influenced the ecological character of the wetland
 - iii) the ecological character of the wetland depends on its interaction with local communities or indigenous peoples
- iv) relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological Character of the wetland

<no data available>

4.6 - Ecological processes

| (ECD) Primary production | N/A |
|--------------------------|---|
| (ECD) Nutrient cycling | Peat bogs such as Ginini Flats can be important components of aquatic and terrestrial systems as they are able to influence ecosystem function by storage of organic matter, alteration of hydrology and interception or transformation of nutrients. |

5 - How is the Site managed? (Conservation and management)

5.1 - Land tenure and responsibilities (Managers)

5.1.1 - Land tenure/ownership

| Public ownership | | | | | | | |
|---------------------------------------|------------------------|-------------------------|--|--|--|--|--|
| Category | Within the Ramsar Site | In the surrounding area | | | | | |
| Provincial/region/state government | × | × | | | | | |

Provide further information on the land tenure / ownership regime (optional):

Ginini Flats Subalpine Bog Complex is encompassed within the Namadgi National Park in the Australian Capital Territory (ACT), which is managed by Parks and Conservation Service (PCS), a branch within the ACT Government, Environment and Planning Directorate. The western edge of the site extends close to the boundary between the ACT and NSW. Bimberi Nature Reserve is located on the NSW side of the border, offering similar protection to that of a national park. All of the upper and middle sub-catchments of the Ginini Flats Subalpine Bog Complex are protected in Namadgi National Park.

5.1.2 - Management authority

| Please list the local office / offices of any agency or organization responsible for managing the site: | ACT Parks and Conservation Service Environment and Planning Directorate ACT Government Murrumbidgee River Corridor Parks and Conservation Depot. 1541 Cotter Rd Casuarina Sands ACT 2611 |
|---|--|
| Provide the name and title of the person or people with responsibility for the wetland: | Tim Chaseling, Area Manager |
| Postal address: | GPO Box 158 Canberra ACT 2601 |

E-mail address: tim.chaseling@act.gov.au

5.2 - Ecological character threats and responses (Management)

5.2.1 - Factors (actual or likely) adversely affecting the Site's ecological character

Transportation and service corridors

| Factors adversely affecting site | Actual threat | Potential threat | Within the site | Changes | In the surrounding area | Changes |
|-------------------------------------|----------------|------------------|-----------------|-----------|-------------------------|-----------|
| Roads and railroads | unknown impact | unknown impact | | No change | × | No change |

Human intrusions and disturbance

| Factors adversely affecting site | Actual threat | Potential threat | Within the site | Changes | In the surrounding area | Changes |
|-------------------------------------|----------------|------------------|-----------------|-----------|-------------------------|-----------|
| Recreational and tourism activities | | | × | | | |
| Unspecified/others | unknown impact | | × | No change | | No change |

Natural system modifications

| Factors adversely affecting site | Actual threat | Potential threat | Within the site | Changes | In the surrounding area | Changes |
|-------------------------------------|---------------|------------------|-----------------|---------|-------------------------|---------|
| Fire and fire suppression | | | × | | | |

Invasive and other problematic species and genes

| Factors adversely affecting site | Actual threat | Potential threat | Within the site | Changes | In the surrounding area | Changes |
|---------------------------------------|---------------|------------------|-----------------|---------|-------------------------|---------|
| Invasive non-native/ alien species | | | × | | | |

Climate change and severe weather

| Factors adversely affecting site | Actual threat | Potential threat | Within the site | Changes | In the surrounding area | Changes |
|-------------------------------------|----------------|------------------|-----------------|-----------|-------------------------|-----------|
| Droughts | unknown impact | | × | No change | × | No change |
| Temperature extremes | unknown impact | | × | No change | × | No change |
| Unspecified | unknown impact | | ×. | No change | × | No change |

Please describe any other threats (optional):

The Ginini Flats Subalpine Bog Complex is protected within a National Park, limiting potential human threats to the site such as development and upper catchment impacts. Threats to the ecological character of Ginini Flats Subalpine Bog Complex include climate change, fire, feral animals, weeds, chytrid fungus and changes to catchment infrastructure. National legal designations

| Designation type | Name of area | Online information url | Overlap with Ramsar Site |
|------------------|--------------|------------------------|---------------------------------|
| National Park | Namadgi | | whole |

5.2.3 - IUCN protected areas categories (2008)

| la Strict Nature | Reserve | |
|---|---------|--|
| Ib Wilderness Area: protected area managed mainly for wil | derness | |

Il National Park: protected area managed mainly for ecosystem protection and recreation

- III Natural Monument: protected area managed mainly for conservation of specific natural features
- IV Habitat/Species Management Area: protected area managed mainly for conservation through management intervention
- VProtected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation
- VI Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems

5.2.4 - Key conservation measures

Legal protection

| Measures | Status | |
|------------------|-------------|--|
| Legal protection | Implemented | |
| _ : | | |

Habitat

| Measures | Status |
|---|-------------|
| Hydrology management/restoration | Implemented |
| Catchment management initiatives/controls | Implemented |
| Habitat manipulation/enhancement | Implemented |

Species

| Measures | Status | |
|---|-------------|--|
| Threatened/rare species management programmes | Implemented | |
| Reintroductions | Implemented | |
| Control of invasive alien plants | Implemented | |
| Control of invasive alien animals | Implemented | |

Human Activities

| Measures | Status | |
|--|-------------|--|
| Livestock management/exclusion (excluding fisheries) | Implemented | |
| Fisheries management/regulation | Implemented | |
| Research | Implemented | |

5.2.5 - Management planning

Is there a site-specific management plan for the site? In preparation

Has a management effectiveness assessment been undertaken for the site? Yes O No O

If the site is a formal transboundary site as indicated in section Data and location > Site location, are there shared management planning Yes O No processes with another Contracting Party?

URL of site-related webpage (if relevant): http://www.tams.act.gov.au/__data/assets/pdf_file/0007/387934/WEB_Namadgi_National_Park_Summary.pdf

5.2.6 - Planning for restoration

Is there a site-specific restoration plan? No, the site has already been restored

Further information

Restoration was undertaken post the 2003 fires. Restoration has been finalised.

RIS for Site no. 793, Ginini Flats Subalpine Bog Complex, Australia

5.2.7 - Monitoring implemented or proposed

| Monitoring | Status | |
|-------------------------|-------------|--|
| Plant community | Implemented | |
| Animal community | Implemented | |
| Water regime monitoring | Proposed | |

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

Please refer to the bibliography contained in the bibliography contained in the Ginini Flats Wetland Complex Ramsar Site management plan at 6.1.2v.

6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3) <no file available>

ii. a detailed Ecological Character Description (ECD) (in a national format) <1 file(s) uploaded>

iii. a description of the site in a national or regional wetland inventory <no file available>

iv. relevant Article 3.2 reports <no file available>

v. site management plan <1 file(s) uploaded>

vi. other published literature

<no file available>

6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:





Peat flow (ACT Government, 11-02-2013)

6.1.4 - Designation letter and related data

Designation letter <1 file(s) uploaded>

Date of Designation 1996-03-01