

Information Sheet on Ramsar Wetlands (RIS)

Categories approved by Recommendation 4.7, as amended by Resolution VIII.13 of the Conference of the Contracting Parties.

Note for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
2. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Bureau. Compilers are strongly urged to provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of maps.

1. Name and address of the compiler of this form:

Rachel Kelleher
PO Box 20025
Te Rapa
Hamilton

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Designation date

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Site Reference Number

2. Date this sheet was completed/updated:

24 November 2004

3. Country:

New Zealand

4. Name of the Ramsar site:

Kopuatai Peat Dome

5. Map of site included:

Refer to Annex III of the *Explanatory Note and Guidelines*, for detailed guidance on provision of suitable maps.

a) hard copy (required for inclusion of site in the Ramsar List): Yes, attached

b) digital (electronic) format (optional): Available if required as JPEG image of whole map and/or GIS shapefile

6. Geographical coordinates (latitude/longitude):

175° 334'E long 37° 254' S lat

7. General location:

Include in which part of the country and which large administrative region(s), and the location of the nearest large town.

Located on the Hauraki Plains in the North Island of New Zealand, 70 km north east of Hamilton and bounded by the Piako and Waitoa Rivers and Elstow Canal

8. Elevation: (average and/or max. & min.)

3 metres above sea level

9. Area: (in hectares)

10,201 hectares

10. Overview:

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

The Kopuatai Peat Dome is the largest raised (domed) bog in natural condition left in New Zealand and is therefore of considerable ecological and conservation value. It is also the largest lowland restiad bog in New Zealand still retaining its original vegetation.

11. Ramsar Criteria:

Circle or underline each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11).

1 • 2 • 3 • 4 • 5 • 6 • 7 • 8

12. Justification for the application of each Criterion listed in 11. above:

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

The wetland is of special value as the habitat of plants or animals at a critical stage of their biological cycles. *Sporadanthus traversii*, dominant on much of the peat dome, is endemic to New Zealand, as well as having a status of vulnerable.

13. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

a) biogeographic region:

b) biogeographic regionalisation scheme (include reference citation):

14. Physical features of the site:

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

Peat began developing within a small graben (the Kopuatai depression) 13,500 years ago and at present, the depth of the peat has been measured at up to 12 metres deep towards the centre, thinning out to 1-2 metres near the edge. The underlying base sediments comprise mainly river silts, volcanic material and sand.

There are two main types of wetlands in Kopuatai – peat land and mineralised wetland. The peat land is acidic, low nutrient with its only water supply being rain. In contrast, the mineralised area is river influenced, occasionally flooded and consequently of far higher nutrient content.

Within the peat dome there are several lagoons with a water depth of 1-2 metres and a maximum of 3 metres. Mean annual rainfall is 1112mm and the mean temperature ranges from 13.4°C in January to 8.7°C in July. Frosts occur 52 days/year and fog 32 days/year.

15. Physical features of the catchment area:

Describe the surface area, general geology and geomorphological features, general soil types, general land use, and climate (including climate type).

Streams rising in the Hapuakohe Ranges to the west feed into the Piako River which meanders through the flat plains before flowing into the Firth of Thames to the north. The plains were once extensive swamplands until draining activities began in the 1900's, with a number of canals constructed to assist the flow of water off the farm land. Much of the catchment is well developed with 85% under pasture. The largest remaining wet area is the Kopuatai Peat Dome.

16. Hydrological values:

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

The hydrology of the peat dome is poorly understood and little is known of the interconnection of the peat dome and the waters of the surrounding catchment. However, the bog is a raised peat bog so probably has a hydrological regime dominated by rainfall with little interaction between the dome and rivers bounding the bog. The physical features of Kopuatai along with adjoining swamplands are

considered to be very important for flood control and protection as they provide storage for flood water from the Piako/Waitoa catchments.

A number of research studies have been carried out by science students at Waikato University.

17. Wetland Types

a) presence:

Circle or underline the applicable codes for the wetland types of the Ramsar "Classification System for Wetland Type" present in the Ramsar site. Descriptions of each wetland type code are provided in Annex I of the *Explanatory Notes & Guidelines*.

Inland: L • M • N • O • P • Q • R • Sp • Ss • Tp • Ts • U • Va •
Vt • W • Xf • Xp • Y • Zg • Zk(b)

Human-made: 1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9 • Zk(c)

b) dominance:

List the wetland types identified in a) above in order of their dominance (by area) in the Ramsar site, starting with the wetland type with the largest area.

U
Xf
Ts
M
2

18. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site.

The most important vegetation types are dominated by the endemic, nationally vulnerable species of the giant jointed rush (*Sporadanthus ferrugineus*). This giant rush covers about 2000 ha mostly towards the east and south. Also found in this Oligotrophic zone is manuka (*Leptospermum scoparium*), Tamingi (*Epacris pauciflora*), mosses and liverworts (*Lycopodium sp.*) and *Spaghnum sp.* The predominant vegetation found in the mesotrophic areas are sedges (*Cladium* and *Baumea*) and rushes (*Schoenus*). Along the mineralised fringes more aggressive exotic plant species have invaded the area. Large areas are covered in crack willow (*Salix sp.*) and a great diversity of dicot herbs, native monocots and ferns make up the ground cover under the willows. An ecologically important forest remnant of kahikatea (*Dacrycarpus dacrydioides*) occurs in the south-west corner of Kopuatai.

The waters of Kopuatai contain a number of important fish species including the endemic black mudfish (*Neobanna diversus*). The black mudfish along with the longfin (*Anguilla dieffenbachia*) and shortfin (*Anguilla australis*) eels are probably the only fish to be found in the peat dome proper. The mineralised fringe areas and the rivers contain various native species including inanga, both species of eel and mullet. Exotic fish form a large part of the population. These include species such as rudd, bullhead catfish, goldfish and mosquito fish. Inanga (*Galaxias maculatus*) are abundant as these wetlands are an important spawning area for the species. Other quite common species include the common smelt (*Retropinna retropinna*) as well as common bullies (*Gobiomorphus cotidianus*). Flounder (*Rhombosolea leporine*) are also to be expected in the rivers.

Fifty four species of birds have been recorded in Kopuatai – 27 of these are protected, 17 unprotected and 10 are game birds. The threatened native and endemic species found within the wetland are the Australasian bittern (*Botaurus poiciloptilus*), North Island fernberd (*Bowdleria punctata vealeae*), banded rail (*Rallus philippensis assimillis*), marsh crake (*Porzana pusilla affinis*) and spotless crake (*Porzana tabuensis*)

plumbea). Many species of common waterfowl utilise the more fertile and biologically productive mineralised open water areas.

Introduced mammals are also present in the Kopuatai Peat Dome, the most predominant being possum, mustelids, cats, rodents and the occasional wild pig, all of which have a detrimental effect on the native fauna and flora.

The most notable invertebrate inhabiting the dome is the large orbweb spider (*Eriophora heroine*). Little research has been done within Kopuatai with regards to invertebrates.

19. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS*

One of the most notable plant species at Kopuatai is the giant jointed rush *Sporodanthus ferrugineus*, while locally common it is endemic to the Waikato area and is only present at Kopuatai and two other small peatbog remnants.

Threatened species recorded at Kopuatai:

Lycopodium serpentinum: frequently found in the open peat bog areas

Cyclosorus interruptus: fern occasionally recorded in the mineralised areas

Utricularia australis: floating bladderwort scattered through the peat dome

Calochilus robertsonii: an endemic orchid known to be at Kopuatai and the Torehape peat areas.

20. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

Australasian Bittern (*Botaurus poiciloptilus*) – The total New Zealand population of this native species is possibly less than 1000 of which 200-250 may dwell in the wetland. This is the major breeding area in the Waikato. Bittern are recorded from most types of vegetation but a high proportion occurs in mineralised swamp areas. They have a vulnerable status.

Spotless Crane (*Porzana tabuensis plumbea*) – These birds are in low numbers and restricted largely to swamp margins, particularly between pastureland and peat bogs where vegetation standing in water enables them to avoid predators.

North Island Fernbird (*Bowdleria punctata vealeae*) – Some thousands of pairs of this endemic and regionally vulnerable species inhabit the wetland, forming one of the largest populations in New Zealand. Since they are territorial and poor fliers, fernbirds are totally dependent on vegetation for cover.

Marsh Crane (*Porzana pusilla affinis*) – These birds are in low numbers throughout the wetland.

Grey Teal (*Anas gibberifrons*) – Swamp areas of the wetland are important wintering and breeding habitats for grey teal, a native and absolutely protected species. Winter-spring populations vary between 2000-3000 birds. Several breeding areas have been provided by community efforts.

Black Mudfish (*Neochanna diversus*) – Found throughout the wetland in permanent and temporary water bodies, these small endemic galaxiid fish are swamp dwellers with indeterminate status. They are regarded as being of national importance.

21. Social and cultural values:

e.g., fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values.

The area is used primarily for conservation with some recreational shooting of game birds in mineralised areas. Ongoing scientific research is encouraged.

22. Land tenure/ownership:

(a) within the Ramsar site:

Kopuatai Peat Dome is gazetted as a Wetland Management Reserve under the Conservation Act 1987 and managed by the Department of Conservation.

(b) in the surrounding area: Mainly freehold agricultural land (diary and cropping), some flood protection areas.

23. Current land (including water) use:

(a) within the Ramsar site:

The fringe and shallower areas and those with good road access are used mainly for grazing with small areas used to crop maize. There are seven temporary grazing concessions over 235 hectares of the Kopuatai Wetland Management Reserve. Fishing – mainly eeling, is carried out on the river channels.

(b) in the surroundings/catchment:

The vegetation surrounding the dome is mainly pasture with manuka, blackberry, gorse, rushes and willows and is used for grazing and cropping. . Some peat mining is taking place on the areas adjoining the dome.

24. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:

(a) within the Ramsar site:

Invasion by plant pests in particular grey willow (*Salix cinerea*), royal fern (*Osmunda regalis*), reed canary grass (*Phalaris arundinacea*), *Glyceria maxima*, unauthorised drainage channels constructed.

(b) in the surrounding area:

Continuing drainage of the surrounding area poses the most serious threat to the wetland. The Piako River has been channelised and unnaturally low water levels exist. Peat mining is not seen as a serious threat but there is ongoing threat from fires.

25. Conservation measures taken:

List national category and legal status of protected areas, including boundary relationships with the Ramsar site; management practices; whether an officially approved management plan exists and whether it is being implemented.

- Hydrological management
- Possum control – as part of Animal Health Board Tb vector control
- Restorative planting
- Fencing out of grazing animals
- Gamebird habitat restoration
- Plant pest control

26. Conservation measures proposed but not yet implemented:

e.g. management plan in preparation; official proposal as a legally protected area, etc.

- Development of a site specific management plan.

27. Current scientific research and facilities:

e.g., details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

- Ongoing vegetation and hydrological monitoring

- Research into the impact and feasibility of controlling royal fern *Osmunda regalis*
- Annual monitoring of black mudfish populations
- Annual control of plant pest species including a large aerial control programme

28. Current conservation education:

e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

- Part of a wetland trail established by the National Wetland Trust
- Booklet on the Ramsar sites in New Zealand covering the Kopuatai Wetland to be published in February by the National Wetland Trust and funded by the Department of Conservation

29. Current recreation and tourism:

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

Duckshooting is the largest recreational activity in the Kopuatai with ducks and swans being the main gamebirds of interest.

Fishing by local people occurs on the Piako River

30. Jurisdiction:

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept of Agriculture/Dept. of Environment, etc.

Territorial: Waikato Regional Council
Hauraki District Council and Matamata-Piako District Council

Functional: Department of Conservation

31. Management authority:

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

Tony Roxburgh,
Waikato Area Manager
Department of Conservation
Box 20025
Te Rapa
HAMILTON

32. Bibliographical references:

scientific/technical references only. If biogeographic regionalisation scheme applied (see 13 above), list full reference citation for the scheme.

De Lange, P.J., 1989: Late Quaternary development of the Kopuatai Peat Bog, Hauraki lowlands and some palaeo-environmental inferences. Unpublished MSc thesis, University of Waikato, Hamilton, NZ.

Irving, R., Skinner, M. and Thompson, K., 1984: Kopuatai Peat Dome: a vegetation survey. Department of Lands and Survey, Hamilton, NZ.

Maggs, C.R., 1995: Peat hydrology of the Kopuatai Peat Dome. Environment Waikato, Hamilton, NZ