Information Sheet on Ramsar Wetlands (RIS) – 2009-2012 version

Available for download from http://www.ramsar.org/ris/key_ris_index.htm.

Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8th Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX. 22 of the 9th Conference of the Contracting Parties (2005).

Notes 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. Further information and guidance in support of Ramsar site designations are provided in the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* (Ramsar Wise Use Handbook 14, 3rd edition). A 4th edition of the Handbook is in preparation and will be available in 2009.

3. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers should provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of all maps.

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

FOR OFFICE USE ONLY.

DD MM YY

Designation date | Site Reference Number

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2. Date this sheet was completed/updated:
August 2012

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3. Country:
Samoa

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4. Name of the Ramsar site:
The precise name of the designated site in one of the three official languages (English, French or Spanish) of the Convention. Alternative names, including in local language(s), should be given in parentheses after the precise name.

Lake Lanoto'o National Park

5. Designation of new Ramsar site or update of existing site:

This RIS is for (tick one box only)**:**
a) Designation of a new Ramsar site☑; or
b) Updated information on an existing Ramsar site ❑

6. For RIS updates only, changes to the site since its designation or earlier update:

a) Site boundary and area

The Ramsar site boundary and site area are unchanged: ❑

or
If the site boundary has changed:
i) the boundary has been delineated more accurately ❑; or
ii) the boundary has been extended ❑; or
iii) the boundary has been restricted** ❑

and/or

If the site area has changed:
i) the area has been measured more accurately ❑; or
ii) the area has been extended ❑; or
iii) the area has been reduced** ❑

** **Important note**: If the boundary and/or area of the designated site is being restricted/reduced, the Contracting Party should have followed the procedures established by the Conference of the Parties in the Annex to COP9 Resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:

7. Map of site:
Refer to Annex III of the *Explanatory Note and Guidelines*, for detailed guidance on provision of suitable maps, including digital maps.

a) A map of the site, with clearly delineated boundaries, is included as:
i**) a hard copy** (required for inclusion of site in the Ramsar List): ☑;

ii**) an electronic format** (e.g. a JPEG or ArcView image) ☑;

iii) **a GIS file providing geo-referenced site boundary vectors and attribute tables** ❑.

b) Describe briefly the type of boundary delineation applied:
e.g. the boundary is the same as an existing protected area (nature reserve, national park, etc.), or follows a catchment boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows the shoreline of a waterbody, etc.

The boundary of the site follows the boundary of the national park.

8. Geographical coordinates (latitude/longitude, in degrees and minutes):
Provide the coordinates of the approximate centre of the site and/or the limits of the site. If the site is composed of more than one separate area, provide coordinates for each of these areas.

13°54'18.13" S, 171°50'02.13" W (Centre of the Ramsar Site)

9. General location:
Include in which part of the country and which large administrative region(s) the site lies and the location of the nearest large town.

The Lake Lanoto'o Ramsar Site is located in the central highlands of the island of Upolu, 15.8 km southwest of the capital city of Apia (population 37,708 – 2006 census).

10. Elevation: (in metres: average and/or maximum & minimum)
801 metres maximum

11. Area: (in hectares)
Total area is 469.9 hectares

12. General overview of the site:
Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

The site lies in the central highlands of Upolu and consists of three small crater lakes, Lakes Lanoto'o, Lanoata'ata and Lanoanea, which support fringing herbaceous marsh *Pandanus turritus* and *Eleocharis dulcis* swamp forest. The lakes are among the few remaining near-pristine lakes in the Samoas biogeographic region, and contains a significant number of endangered endemic bird species such as the Tooth-billed Pigeon (*Didunculus strigirostris)* and the Mao (*Gymnomyza samoensis),* as well as plants such as the Samoan Bush Palm (*Clinostigma samoense)*. Lake Lanoto'o is the largest permanent freshwater lake in Samoa and has a critical ecological function in maintaining the health of the watershed and water supply of the capital city, Apia.

13. Ramsar Criteria:
Tick the box under 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). All Criteria which apply should be ticked.

1	2	3	4	5	6	7	8	9
☑	☑	☑	☐	☐	☐	☐	☐	☐

14. Justification for the application of each Criterion listed in 13 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).

Criterion 1: A wetland should be considered internationally important if it contains a representative, rare, or unique example of a natural or near-natural wetland type found within the appropriate biogeographic region.

Apart from being near pristine, Lake Lanoto'o is the largest permanent freshwater lake in the Samoas biogeographic region and the herbaceous swamp and upland swamp forest found within the site are representative of these wetland types within this biogeographic region.

Criterion 2: A wetland should be considered internationally important if it supports vulnerable, endangered, or critically endangered species or threatened ecologically communities.

Scientific name	Local name	English name	IUCN status	CMS status	CITES status	National protection status
Didunculus strigirostris	Manumea	Tooth-billed Pigeon	EN	-	-	Endemic
Gymnomyza samoensis	Ma'oma'o	Mao	EN	-	-	Endemic
Clinostigma samoense	Niuvao	Samoan Bush Palm	EN	-	-	Endemic

Criterion 3: A wetland should be considered internationally important if it supports populations of plant and/or animal species important for maintaining the biological diversity of a particular biogeographic region

The forests of the Ramsar site support a significant number of endemic species, with about 12 species of endemic birds and 6 species of endemic plants, which are of national and international importance for maintaining the biological diversity of the Samoas biogeographic region. The site provides a refuge area for endangered species of flora and fauna that Samoa has currently offered to regional and global environment conservation programmes. In the event of biodiversity loss, Lanoto'o can be considered in the process of species recovery and rehabilitation programmes for sustaining populations of flora and fauna in the Samoas.

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15. 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:
Samoas

b) biogeographic regionalisation scheme (include reference citation):

Ecoregion 823 in Freshwater Ecoregions of the World (Robin Abell et al. 2008)

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16. 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.

Lake Lanoto'o, Lake Lanoata'ata and Lake Lanoanea are small freshwater lakes inside steep-sided volcanic craters. Little information is available on the water quality and hydrology of the site owing to the lack of research and monitoring of these parameters. However, a recent hydrological profiling of the Lake Lanoto'o (MNRE, 2011), revealed its maximum depth to be 17.5 metres.

The following table lists different quality characteristics of the lake tested on 28 July 2008 during a 'Freshwater Macro-faunal Biodiversity Survey' conducted at the site (Jenkins et. al, 2008):

Altitude (m)	761
Temp (°C)	23.2
pH	9.9
Conductivity (µS)	10.5
Dissolved O^2 (ppm)	NA
Salinity (ppt)	0
Turbidity (NTU)	15

Substrate	Mud
Flowtype	Still
Instream cover	Silt
Aquatic vegetation	Reeds
Riparian vegetation	Native trees / paragrass
Land use	Park
Disturbance type	Invasive fishes

The geological parent material of the soils at the site is the Salani volcanics, described by Kear and Wood (1959) as a moderately to strongly weathered olivine basalt. The soils at the site have very low natural fertility, are well drained and non-saline, topsoil and subsoil base saturation is very low, and are moderately to strongly acid (Leslie, 2010).

Land capability of the National Park:

- 10% of park area is hilly well drained land without moisture deficit. Soils have more than 25% to 50% stones at the surface with little erosion in areas under cultivation.
- An estimate 20% of the area is classified as flat to rolling, well drained uplands without moisture deficit.
- 20% of the area is hilly and steep and have moderate to severe erosion potential.
- More than 50% of the National Park is classified as unsuitable for agriculture or forestry which means it is very steep and hilly with severe erosion potential.

The total average rainfall data from 1990 to 2005 is 4291.86mm and mean annual rainfall is 357.64mm. The climate is tropical and so is generally hot and wet, marked by a distinct wet season (November to April) and dry season (May to October). The average annual temperature is 26.5ºC in coastal areas, with a decrease in temperature as the land rises inland.

17. Physical features of the catchment area:

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

The site is part of the larger Apia catchment which covers an area of 8,500 hectares and includes its two sub-catchments, Vaisigano and Fuluasou. The Vaisigano sub-catchment, located in the North central Upolu Island near the growing capital city of Apia, covers an area of 2,300 hectares and is being tapped to meet the increasing demand for drinking water and electricity (through hydropower) for Apia and the surrounding villages. The Fuluasou sub-catchment covers 4,600 hectares and is located southwest of Apia. It supplies drinking water to the North-West Upolu and a part of Apia. It features significant agricultural activities (cattle farms and small scale taro, banana and vegetable production) as well as residential areas. Soil type and Climate are the same as in section 16 above.

18. Hydrological values:

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

Lake Lanoto'o feeds the headwaters of the Fuluasou river system which flows north and is a very important source of water for the Capital City of Apia. The Lake also supplies water for the south-west side of the island of Upolu. Due to the absence of a comprehensive hydrological study for the site, the actual percentage of the Apia water supply originating from the lake has not yet been determined, but is thought to be significant.

19. 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*.

Marine/coastal: A • B • C • D • E • F • G • H • I • J • K • Zk(a)

Inland: L • M • N • <u>O</u> • P • Q • R • Sp • Ss • <u>Tp</u> Ts • U • Va •
Vt • <u>W</u> • <u>Xf</u> • 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.

O – rank 1; Xf – rank 2; W – rank 3; Tp – rank 4

20. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site, and the ecosystem services of the site and the benefits derived from them.

The Ramsar Site consists of crater lakes with herbaceous swamp dominated by *Eleocharis dulcis*, and upland swamp forest dominated by *Pandanus turritus*. The climax vegetation at the site would probably be intermediate between lowland and montane forests. According to Schuster et al. (1999), the Montane rainforest around the lakes includes species such as *Dysoxylum huntii*, *Polyscias lanutoensis*, *Elaocarpus ulianus, Myristica inutilis, Terminalia richii* and *Syzygium sa*.

The two cyclones of the early 1990's (cyclones' Ofa and Val) and more recently cyclone Heta of 2004, had left some of the site highly damaged. The dominant vegetation type consist of the two tree fern species *Cyathea affinis* and *Cyathea lunulata* in association with *Clinostigma* cf. *oncorhyncha , Myristica hypagyraea,* and *Trichospermum richii*. The abundance of the two tree fern species and *Trichospermumum richii* are indicators of severe disturbance, while the other two species (*Clinostigma* cf. *oncorhyncha and Myristica hypagyraea*) are most likely survivors relatively adapted to cyclones (Schuster et al., 1999).

21. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14, 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.*

The water chestnut (*E. dulcis)*, is an indigenous, leafless sedge which dominates the area between the actual surface water and many coastal and montane marshes in Samoa. The culms have been used to make soft sleeping mats and traditional hats but this is possibly a recent or at least recently revived craft. Its dominant appearance along the rim of the water mark make it useful as is used to make traditional hats, and acts as a barrier to stop erosion from land. The fruits of the Fasa (*Pandanus tectorius)* are used for making leis (garlands), and their roots protect small fish from predators; the inner bark of the Masame (*Glochidion ramiflorum*) is taken internally to induce late menstrual flow. The Fue laufao (*Epipremnum pinnatum*) is an endemic creeper; the U'unu (*Sarcopygme pacifica*) is an endemic genus (all three species); the Vi vao (*Reynoldia pleiosperma*) is also an endemic species.

22. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14. 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.*

The site is one of the ten national areas recommended for the conservation of birds by Park et. al. (1992) The Lake is an important area for the Pacific Black Duck (*Anas superciliosa*) and Spotless Crake also known as the Sooty Rail (*Porzana tabuensis*).

Around the Lake, bird species have established a stable community after destructions of habitat from the early 1990s' cyclones (Ofa and Val) and cyclone Heta in 2004. A number of birds endemic to Samoa are found at the site. These include the Tooth-billed pigeon (*Didunculus strigirostris*), Mao (*Gymnomyza samoensis*), Samoan starling (*Aplonis atrifusca*), Flat billed kingfisher (*Halcyon recurvirostris*), Samoan whistler (*Pachycephala flavifrons*), and the Samoan broadbill (*Myiagra Albiventris*), Samoan Triller (*Lalage Sharpei*), Red Headed Parrotfinch (*Erythrura cyaneovirens*), Scarlet Robin (*Petroica multicolor*), Samoan Flying Fox (*Pteropus samoensis*). Endemic Subspecies include White rump swiftlet (*Collocalia spodiopygius spodiopygius)*, White throated pigeon (*Columba vitiensis castaneicieps*), and many other bird species that contribute to the dispersal of important native forest flora.

23. Social and cultural values:

a) Describe if the site has any general social and/or 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:

None

b) Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning?

If Yes, tick the box ❑ and describe this importance under one or more of the following categories:

i) sites which provide a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland:

ii) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:

iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:

iv) sites where 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:

24. Land tenure/ownership:

a) within the Ramsar site: Half of Lake Lanoto'o National Park is government land and half is customary land. Current tenure of the land consists of government land (approximately 69%), customary land (26%) and freehold land (5%)

b) in the surrounding area: The surrounding areas are partly government land (approx. 55%), partly customary land (approx. 38%) and partly private (freehold) (approx. 7%). Northwest from the centre of the National Park is all government land; from the north east to the south west of the national park boundary is all customary land.

25. Current land (including water) use:
a) within the Ramsar site: The area is a conservation reserve and important water source for the capital city of Apia. The lake is a main tributary to the Fuluasou River which flows north to Apia. The Samoan Water Authority has water supply intakes in the Fuluasou river that feed a reservoir which supplies water to the capital city.

b) in the surroundings/catchment: Cattle farms, small-scale taro and banana plantations.

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26. 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:
Goldfish (*Carassius auratus*) were introduced into Lake Lanoto'o in about 1900 and their population is well established. A detailed study on the potential effects of the Goldfish on the ecological character of the lake is yet to be carried out. However, due to the absence of any historical data indicating the presence of other fish species in the lake prior to 1900, it would be logical to state at this point in time that the goldfish are of little or no threat to the ecological character of the lake.

A recent Freshwater Macro-faunal Biodiversity Survey (2008) revealed that there are Israeli tilapia *(Oreochromis niloticus)* present in the lake, however, it is not known if this was a deliberate or accidental introduction. The competitive nature of this species would be a threat to the Goldfish population of the lake.

b) in the surrounding area: The surrounding forests are being cleared for shifting agriculture and plantations, particularly in the northwest around Lake Lanoata'ata and Lake Lanoanea, and the entire area was badly affected by cyclones' Ofa in 1990 , Val in 1991 and Heta in 2004. There are also some cattle farms in the area.

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27. Conservation measures taken:
a) List national and/or international category and legal status of protected areas, including boundary relationships with the Ramsar site:
In particular, if the site is partly or wholly a World Heritage Site and/or a UNESCO Biosphere Reserve, please give the names of the site under these designations.

The Ramsar Site falls within the Apia Catchments Important Bird Area (IBA) as determined by Birdlife International. It is also considered one of the Key Biodiversity Areas for conservation priorities in Samoa (Conservation International – Pacific Island Programme, 2010).

b) If appropriate, list the IUCN (1994) protected areas category/ies which apply to the site (tick the box or boxes as appropriate):

Ia ❑;Ib ❑; II ☑; III ❑; IV ❑; V ❑; VI ❑

c) Does an officially approved management plan exist; and is it being implemented? :

There is currently a draft management plan for the site. However, the timeframe for finalising this is not known. The site is already legally protected under the Samoan National Parks and Reserves Act 1974.

d) Describe any other current management practices: None

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28. Conservation measures proposed but not yet implemented:
e.g. management plan in preparation; official proposal as a legally protected area, etc.

Rehabilitation/improvement works are planned for the site under the Samoa Integrated Water Resources Management (IWRM) project funded by the GEF and administered by the Ministry of Natural Resources

& Environment. The activities below began implementation in October 2011 and are expected to all be completed by June 2013:

- Proper signage at the car park containing information on the trek up to the lake.
- Install distance identification markers (to and from the lake)
- Improve track surface with gravel instead of topsoil.
- Replanting of native tree species
- Install safety rails where necessary for safety reasons (public/tourists)
- Construct a small working facility for the caretaker on the ridge overlooking the lake.
- Educational/warning signage (e.g. – no littering) at resting points around the lake track
- Develop tourist pamphlets
- Install a water-level monitoring station.

Some major rehabilitation works for the site are also planned under the Samoa Project on Integration of Climate Change Risk and Resilience into Forestry Management (ICCRIFS) funded by GEF-UNDP and administered by the Ministry of Natural Resources and Environment.

The annual target of the Forestry Division (MNRE) each year is to restore 100 hectares of all national parks in Samoa including Lanotoo National Park. This financial year 2012-2013, it has been proposed to restore 10 hectares of the park with native trees including maintenance work of existing restored areas.

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29. Current scientific research and facilities:
e.g., details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

A Freshwater Macro-faunal Biodiversity Survey was carried out in July 2008 through a collaboration between Conservation International, IUCN Oceania, Wetlands International Oceania, SPREP, Samoan Ministry of Natural Resources and Environment (MNRE) and the French Natural History Museum.

A flora and fauna inventory survey was carried out under a Ramsar Small Grants Fund project (2007) for the improved management of Lake Lanotoo Ramsar site. The main objective of this survey was to collect flora and fauna data from the National Park - both around and inside the Lake Lanoto'o. A copy of the survey report is available from the MNRE website at:
http://www.mnre.gov.ws/documents/projects/environment/terrestrial/Ramsar/progress%20reportBinder1.pdf

A hydrology profile of the lake and collection of hydro data has been carried out through a GEF-funded project on Integrated Water Resources Management (IWRM) for Samoa.

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30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:
e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

There is currently no visitors centre at the site however awareness materials of the site are available at the Ministry's main office in Apia. The nature trail to the lake and interpretive signage for the site were upgraded in 2009.

Schools and University field-trips occasionally visit the site, and boy-scouts and girl-guides sometimes camp in the area. It is estimated that about 80 to 100 people are visiting the National Park annually. Among all, 60% of the visitors are researchers and schools/university groups with 40% being tourists. The majority of visitors to the site are local people and these visits are primarily for educational and scientific purposes.

In May 2003, a successful nationwide awareness campaign was carried out to highlight the Ramsar designation status of Lake Lanoto'o. Further awareness activities engaging schools, government ministries and the general public were carried out at the site as part of the World Wetlands Day national celebrations in

2009 and 2012.

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

Eco-tourism and outdoor recreation activities, if controlled, could generate income for the local people and help to maintain the ecosystem in its natural condition. The lakes are frequently visited by tourists (mainly naturalists), and have good potential for tourism, approximately 80-100 people visit the lake on an annual basis. KRTA Limited (1988) made various recommendations concerning tourist development in the area, including the provision of nature trails.

A major upgrade of the Lake Lanoto'o hiking trail was carried out in 1999 through funding from the New Zealand government. Further improvements are in the pipeline (see section 28 above).

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

Ministry of Natural Resources and Environment (MNRE)
Private bag
Apia, Samoa
Fax: (685) 23176
Phone: (685) 23800

33. 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.

The Forestry Division of the MNRE has responsibility for management of the Lake Lanoto'o National Park. Main contact is:

Moafanua Tolusina Pouli
Assistant Chief Executive Officer
Forestry Division
Ministry of Natural Resources and Environment
Private bag
Apia, Samoa
Fax: (685) 23176
Phone: (685) 23800
Email: tolusina.pouli@mnre.gov.ws

34. Bibliographical references:
Scientific/technical references only. If biogeographic regionalisation scheme applied (see 15 above), list full reference citation for the scheme.

Sources: Large portions of this RIS are based or, or directly quoted from the description of this site done by Cedric Schuster in A Directory of Wetlands in Oceania, (International Waterfowl and Wetlands Research Bureau, Scott. D.A, editor, 1993).

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Jenkins, A.P., Keith, P., Marquet, G., Mailautoka, K.K., 2008. *A preliminary survey of Samoan freshwater macro-faunal biodiversity*. Wetlands International-Oceania & Paris Museum of Natural History. 32pgs

Kear, D., Wood, B.L. 1959. *The Geology and Hydrology of Western Samoa*. New Zealand Geological Survey Bulletin, No.63.

Leslie, D., 2010. *Soil Resources Interpretive Reference Manual for Samoa.* Government of Samoa, Apia, 2010.

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Schuster C., Whistler, A., Tuailemafua T.S., Butler D. 1999. *National Ecological Survey of Upland Forest Ecosystems of Samoa.* MNRE, Apia, Samoa.