

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 for the future development of the List of Wetlands of International Importance* (Ramsar Wise Use Handbook 7, 2nd edition, as amended by COP9 Resolution IX.1 Annex B). A 3rd edition of the Handbook, incorporating these amendments, is in preparation and will be available in 2006.
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.

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

Miljøfaglig Utredning AS commissioned by Norwegian
Directorate for Nature Management, Tungasletta 2, 7485
Trondheim
Tlf +47 73580500
Fax: +47 73580501
E-mail: postmottak@dirnat.no

FOR OFFICE USE ONLY.

DD MM YY

--	--	--

Designation date

--	--	--	--	--	--

Site Reference Number

2. Date this sheet was completed/updated:

March 2012

3. Country:

Norway

4. Name of the Ramsar site:

Nordre Tyrifjorden Wetlands System: Karlsrudtangen
(International No. 802, National No. 15)

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
- i) 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:

None

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 is the same as for Karlsrudtangen Nature Reserve.

8. Geographical coordinates (latitude/longitude):

60° 08'N 10° 10'E

9. General location:

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

The site is 8 km south-west of Hønefoss and about 40 km north-west of Oslo, in Ringerike municipality in the county of Buskerud in south-east Norway.

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

62-66 m.a.s.l.

11. Area: (in hectares)

87 ha

12. General overview of the site:

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

Karlsrudtangen Nature Reserve is situated at the mouth of the river Sokna, where it flows into Tyrifjorden, the inner part of Nordfjorden. Sokna is a slow meandering river towards its mouth. Here

there area a couple of large islands (Storeøya and Vesleøya) with well-developed shore vegetation, sandbanks and mudbanks, flood channels, boggy areas and woodland liable to flooding (*Alnus incana* and *Salix cinerea* scrub). Most of the reserve (65 ha) is shallow water.

Together with other protected areas in the delta landscape in Nordre Tyrifjorden and other proposed protected areas within the wetland complex, the area has an important function as a breeding site for water birds, and as a staging site for water birds during spring and autumn migration, as well as a breeding site for wetland birds. There may be over a thousand wildfowl in the area during spring migration. Of particular note are the areas function as a staging site for the Svalbard population of Pink-footed Goose *Anser brachyrhynchus* and as a staging site for Whooper Swans *Cygnus cygnus* both in spring and autumn. There may also be large numbers of wildfowl in autumn, in particular large numbers of whooper swan, Eurasian Wigeon *Anas penelope* and Goosander *Mergus merganser*. During the spawning season for Smelt in October and November up to 230 Goosanders have been recorded in the reserve.

There are 15 fish species in Tyrifjorden, amongst others an important population of Trout *Salmo trutta*. Karlsrudtangen and the lower reaches of the river Sokna are important spawning grounds for Smelt *Osmerus eperlanus* and Pike *Esox lucius*.

Several regionally rare plant species have been recorded, including species associated with the nationally threatened freshwater shore vegetation. The alder woods have several red-listed fungi species.

13. 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 • 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. The area ought to be considered together with the other reserves in Nordre Tyrifjord which together with the mouth of the Storelva river form one of Norway's largest inland deltas, with an interesting geomorphology. The delta landscape at Averøya and Karlsrudtangen comprises slow-flowing meandering river, oxbow lakes in various stages of succession, channels and drift walls along the Tyrifjord. There are large islands with sandy beaches and waterside meadows by Averøya and Karlsrudtangen, and these have an interesting vegetation. Off these areas are large expanses of fine-grained mudbanks with well-developed annual vegetation on exposed banks (*Nanocyperetalia*).
- Criterion 2. Several nationally and regionally threatened species breed in the area, including Common Tern *Sterna hirundo*. The area is however of greatest importance to several red-listed species on passage, including Smew *Mergus albellus*, Hen Harrier (VU) *Circus cyaneus*, Ruff *Philomachus pugnax* (VU), Garganey *Anas querquedula* (EN) and **Bean Goose** *Anser fabalis* (VU) See also points 21 and 22. Red list categories is given according to the national red list 2010.
- Criterion 3. Undeveloped inland deltas have become less common due to in-filling in connection with industry and such like. Therefore it is important to look after the remaining examples of this type, and thus protect the regional biodiversity. The Nordre Tyrifjorden wetland system has a well developed annual vegetation on exposed banks (*Nanocyperetalia*) and submerged meadows which are typical for river deltas below the marine limit in southern Norway, as well as bog and rich fen vegetation associated with oxbow lakes under succession. These vegetation communities contain a number of rare and threatened species which are in need of protection together with their habitats. The wetland fauna in Nordre Tyrifjorden includes

both rare species as well as species which are typical or representative for the biogeographical region.

Criterion 4 The area has an important function as a breeding site for water birds, and as a staging site for water birds during spring and autumn migration, as well as a breeding site for wetland birds. There may be over a thousand wildfowl in the area during spring migration. Of particular note are the areas function as a staging site for the Svalbard population of Pink-footed Goose *Anser brachyrhynchus* and as a staging site for Whooper Swans *Cygnus cygnus* both in spring and autumn. There may also be large numbers of wildfowl in autumn, in particular large numbers of Whooper Swan, Eurasian Wigeon *Anas penelope* and Goosander *Mergus merganser*. During the spawning season for Smelt in October and November up to 230 Goosanders have been recorded in the reserve. See also point 22.

Criterion 6: Several thousand Pink-footed Geese *Anser brachyrhynchus* are regular in spring (1% of the Svalbard population is 420 birds according to Waterbird Population Estimates 4th Ed. 2002). Up to 4500 Pink-footed Geese is registered in the spring (this also include areas outside the Ramsar-site).

Criterion 8. The invertebrate fauna is little studied. Tyrifjorden has a varied fish fauna, and several species have important spawning and rearing areas in Karlsrudtangen Nature Reserve, such as Smelt *Osmerus eperlanus* and Pike *Esox lucius*. See also point 22.

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:

1. Boreonemoral vegetation zone, transitional zone (Bn-OC).
2. Boreal

b) biogeographic regionalisation scheme (include reference citation):

1. Zonal division showing the variation in vegetation from south to north and from the lowlands to the mountains, and sectional graduation showing the variation between the coast and inland (In: Moen, A. 1998. Nasjonalatlas for Norge; vegetasjon. Statens kartverk, Hønefoss).
 2. Biogeographical regions of Europe, European Environment Agency, 2005
-

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.

Geology	The bedrocks are of nutrient-poor Precambrian basement rocks. The Sokna valley had sea and fjord deposits in the valley bottom. Alluvial deposits are sandy (deposited over fine-grained sea deposits).
Geomorphology	Sokna has a slightly meandering course in the lower reaches which are part of the delta. There is also an obvious bank on the inner side of one of the river bends in the lower reaches. Towards the Tyrifjord are sandy beaches with sandy walls behind. At the river mouth on both sides there are spits out into the fjord with flood sediments which show that the suspended matter is transported via the river. The delta is shaped as a "birds-foot delta" although the formation not obvious.
Substrate / soil type	The outer part of the delta areas is made up of fine-grained material (sand, silt and clay), whereas farther up the river is more sandy. Locally there is some peat

	and accumulations of organic material.
Water quality	Tyrixfjorden is a typical clear water lake with little humus and has a good ionic composition. Water pH is between 6.8 – 7.2. Sokna has a lower pH (6.2) due to the chalk-poor bedrocks in the catchment and from acid rainfall. There is a moderate amount of nutrient salts, and levels of intestinal bacteria are high.
Water depth / fluctuations	Water depth within the protected areas is between 0 – 2 m. Large areas of mud are exposed when water levels in Tyrixfjorden are low. The watercourse has a regulation regime of 1 m, and water levels are lowest in spring.
Climate	The area has a slightly continental climate, with relatively warm summers and cold winters and moderate annual precipitation (500 – 700 mm).

17. 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).

The Sokna river has a catchment area of 640 km². The catchment spans the farming communities in the river valley to the vast woods and alpine areas at Vassfaret, on the border of the counties of Buskerud and Oppland. The whole catchment area is made up of basement rock, with hard and nutrient poor rocks. It stretches from the boreonemoral zone to the low alpine zone. Most of the area is coniferous forest, although in the north there is upland birch woodland, mires and bare mountains. The town of Sokna is the only settlement within the catchment area. The valley contains alluvial deposits of varying might above fine grained sea and fjord deposits up to the marine limit (which is north of Sokna town). The northern part of the catchment area has higher annual precipitation and a cooler climate than the lower reaches by Tyrixfjorden.

18. Hydrological values:

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

The transport of sediment from the Sokna river are responsible for the building up of the delta. The area functions as a sediment trap and is important for fixing of nutrients (in particular those containing phosphorus and nitrogen). The large watershed makes the rivers important in alleviating floods, but extensive drainage of mires in the lower reaches have resulted in more frequent flooding, especially in spring. The remaining, undrained mires and wetland areas in the catchment area are therefore very important in reducing flooding.

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 • 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.

L, O, Xf, M

20. General ecological features:

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

Karlsru dtangen Nature Reserve is a delta area with a couple of large islands, flood channels, waterside meadows, mudbanks and shallow waters. The riverbank vegetation is relatively intact, with *Salix cinerea* scrub and alder/bird-cherry woodland on the west side of Sokna, whereas old pine wood and birch woodland dominate the east side. The vegetation in the waterside meadows is mainly composed of *Calamagrostis canescens* on the drier parts and a belt of *Carex acuta* and *Equisetum fluviale* and along the waters edge. The mudbanks in the outer delta have rich formations of freshwater shore vegetation, whereas aquatic vegetation occurs in sheltered bays within the islands and channels.

The invertebrate fauna is little studied. Tyrifjorden has a varied fish fauna, and several species have important spawning and rearing areas in Karlsru dtangen Nature Reserve, such as smelt *Osmerus eperlanus* and pike *Esox lucius*.

21. 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.*

The mudbanks and shallow waters at Karlsru dtangen have a well developed annual vegetation on exposed banks (*Nanocyperetalia*), including the regionally threatened *Crassula aquatica*. *Rubus arcticus* which is regionally threatened grows in waterside meadows within the reserve. The red-list species *Deschampsia cespitosa* spp. *glauca* grows in the waterside meadows. *Bidens cernua* (DC) has been recorded in one pool by Karlsrud, presumably within the reserve. The red-listed fungus *Russula alnetorum* occurs in grey alder/bird-cherry woodland along the west side of Sokna.

22. 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.*

Birds:

Nordre Tyrifjorden, and in particular the area around Nordfjorden/Karlsru dtangen, is an important staging site in spring for the Svalbard population of Pink-footed Goose *Anser brachyrhynchus*. As many as 4500 individuals have been counted in April. Fewer rest in the area during autumn. The reserve is also staging site for nationally rare and red-listed species during migration, including up to 312 Whooper Swans *Cygnus cygnus* before the water freezes in autumn and almost as many in spring, Great Crested Grebe *Podiceps cristatus* (up to 23 in spring), Bean Goose *Anser fabalis* (up to 22 in spring), Northern Pintail *Anas acuta* (up to 18), Northern Shoveler *Anas clypeata* (up to 8), Smew *Mergus albellus* (up to 6, perhaps the most important staging site in spring and autumn in south-east Norway), and 5-10 Common Crane *Grus grus* (April to September). Nationally and regionally rare and/or threatened species which nest include Great Crested Grebe (0 – 10 pairs, depending upon water levels), Little Plover *Charadrius dubius* (1-2 pairs), Common Tern *Sterna hirundo* (0-2 pairs) and Lesser Spotted Woodpecker *Dendrocopos minor* (1 pair). In addition the red-listed Spotted Crake *Porzana porzana* may occasionally breed. Several pairs of Osprey *Pandion haliaetus* hunt in the area (these nest on nearby slopes), as well as Hobby *Falco subbuteo* and Marsh Harrier *Circus aeruginosus* in the breeding season.

Fish:

Of particular interest is the presence of spawning Smelt *Osmerus eperlanus* in Karlsru dtangen and the lower reaches of the Sokna river, although this species has switched to spawning sites farther south in Tyrifjorden.

Crustaceans:

There is a scattered population of European Crayfish *Astacus astacus* (EN) in Tyrifjorden, including the west side of Nordfjorden bordering the reserve.

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:

The area is regionally important for recreational activities including fishing and birdwatching.

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: Private
- (b) in the surrounding area: Private

25. Current land (including water) use:

(a) within the Ramsar site:

The reserve is much used for hobby fishing. Hunting is not permitted. Some water is extracted from the Sokna river to irrigate farmland. The waterside meadows at Karlsrudtangen were formerly grazed by cattle, and this practice has recently been restarted as part of the management plan for the area.

(b) in the surroundings/catchment:

Tyrifjord is regulated for production of hydroelectricity. The reserve is surrounded by intensively managed farmland. There is farmland along the catchment area along the river, although most of the area is woodland and countryside, and in the north mainly bare mountains. There is one major settlement (Sokna) along the watercourse, and a good deal of scattered dwellings.

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:

Regulation of Tyrifjorden affects water levels and the geomorphological processes within the reserve. Overgrowing of waterside meadows due to reduction in livestock grazing has had a negative effect on the natural values within the reserve, although this situation has now been reversed due to measures taken as part of the management plan for the area.

Canadian pondweed *Elodea canadensis* is a North American water plant which was imported to Europe around 1836. It was first recorded in Tyrifjorden in 1976. Canadian pondweed has not become a problem in Karlsrudtangen as the shores are very exposed to the elements such that the species has not established a foothold.

(b) in the surrounding area:

In recent years changes in farming practices, treatment of run-off from farming, and treatment of domestic waste water has led to a reduction in plant nutrients. This has affected the area's productivity and probably caused a reduction in biomass of benthic organisms and consequently a reduction in available food for staging birds.

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 area was designated as a nature reserve on 28th June 1985.

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?:

The management authorities have approved a management plan for the reserve, and practices within the plan are being carried out on a continual basis. The management plan will be revised in connection with the ongoing process to expand the Ramsar sites in Tyrifjorden.

d) Describe any other current management practices:

28. Conservation measures proposed but not yet implemented:

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

The Norwegian Ornithological Society (NOF) has proposed protection for several sites in Nordre Tyrifjorden Wetlands System, including the lower reaches of Storelva and Nordfjorden such that the five existing protected areas can be linked to form one large site. In addition the society has proposed that several of the shallow waters and islands farther west in Tyrifjorden, in Steinfjorden and along Randselva and Begna receive protection.

29. Current scientific research and facilities:

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

The Hole and Ringerike branch of the Norwegian Ornithological Society (NOF) carry out annual monitoring of breeding and wintering waterbirds in Nordre Tyrifjorden, as well as recording of passage movements of pink-footed geese and great cormorants.

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.

The local game management association (Ringerike Viltneimnd) have produced a booklet about Nordre Tyrifjorden, which includes a section on Karlsrudtangen nature reserve.

31. Current recreation and tourism:

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

The area is a popular for birdwatching, and each spring local ornithologists organise an annual trip for members of the general public. Fishing by boat occurs in Nordfjorden.

32. Jurisdiction:

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

Norwegian Directorate for Nature Management (DN), Tungasletta 2, 7485 Trondheim

Ph +47 73580500

Fax +47 73580501

Email: postmottak@dirnat.no

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 site is managed by the County Governor of Buskerud, which is under the instruction of DN.

Address: County Governor of Buskerud, Statens Hus, Postboks 1604, 3007 Drammen, Norway. Phone +47 32 26 66 00. E-mail: postmottak@fmbu.no

34. Bibliographical references:

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

Botanical / management plans:

Brandrud, T. E. 1998. Biologisk mangfold i verneområder på Ringerike: Vann- og sumpvegetasjon, samt sopppflora i tilknytning til kroksjøer langs Storelva og deltaet i Nordre Tyrifjorden. *NIVA Rapport* Lnr. 3856-98: 1-44. (In Norwegian with English abstract – on water- and swamp vegetation and fungi in oxbow lakes and the delta in Nordre Tyrifjorden)

Fylkesmannen i Buskerud, Miljøvernavdelingen 1997. Karlsrudtangen naturreservat i Ringerike kommune. Forvaltningsplan. *Fylkesmannen i Buskerud, Miljøvernavdelingen Rapport* nr. 5-1997. 36 s. (In Norwegian – management plan for Karlsrudtangen nature reserve)

Hanssen, E. W. 1999. *Vurdering av våtmarksområder i Nordre Tyrifjorden med Storelva og Begna. Deres betydning for biologisk mangfold - spesielt våtmarksfugler - og andre naturverdier*. Oppdragsrapport for Fylkesmannen i Buskerud, Miljøvernavdelingen. 61 s. (In Norwegian – on biodiversity (especially wetland birds) in Nordre Tyrifjord area).

Freshwater ecology / fish / invertebrates:

Berge, D. (red.) 1983. *Tyrifjorden. Tyrifjordundersøkelsen 1978-1981. Sammenfattende sluttrapport*.

Tyrifjordutvalget. 156 s. (In Norwegian – on water quality and freshwater biology in Tyrifjorden)

Elgmork, K. (red.) 1969. Verneverdige områder på Ringerike av interesse for naturvitenskapelig forskning og undervisning. Avgrensning og verneverdi. Univeristetet i Oslo. 41 s. (In Norwegian – on areas of conservation value in Ringerike municipality of interest for research and education).

Birds:

Anker-Nilssen, T. 1983. Ringerike Feltstasjon, Averøya. Stasjonsrapport for 1982. *Vår Fuglefauna* 6: 136-137. (In Norwegian – report for Averøya field station 1982).

Larsen, B. H., Ree, V., Brandt, M. og Myrmo, K. 2005. *Sjøfuglene i Steinsfjorden og Tyrifjorden – resultater fra 10 års overvåking av hekkebestander og hekkesuksess*. Fylkesmannen i Buskerud, miljøvernavdelingen Rapport 2-2005: 1-36. (In Norwegian – on breeding seabirds in Steinsfjorden and Tyrifjorden 1992-2001).

Ree, V. 1995a. Nordre Tyrifjorden-området i Buskerud - en av Norges viktigste innlandslokaliteter for våtmarksfugl. *Vår Fuglefauna* 18: 15-19. (In Norwegian – on the importance of the Nordre Tyrifjorden Wetland system for waterbirds).

Ree, V. 1995b. *Fuglelivet i og ved Nordre Tyrifjorden. En presentasjon av reservater og nærliggende våtmarker i ornitologisk sammenheng*. Ringerike Viltneemnd, Hønefoss. (In Norwegian – a presentation of bird life in the reserves of Nordre Tyrifjord and their surroundings).

Geomorphology:

Erikstad, L., Reitan, O., Stabbetorp, O. og Ytrehorn, O. 1999. Ringeriksbanen - en landskapsøkologisk analyse av konsekvensene for ulike traséer gjennom Hole og Ringerike kommuner. *NINA Oppdragsmelding 606*: 1-44. (In Norwegian with English abstract – on landscape and delta processes).

Please return to: **Ramsar Convention Bureau, Rue Mauverney 28, CH-1196 Gland, Switzerland**
Telephone: +41 22 999 0170 • Fax: +41 22 999 0169 • e-mail: ramsar@ramsar.org