Proposed wader populations workshop for 1998 WSG Conference

One of WSG's responsibilities in acting as a Specialist Group for Wetlands International is to provide expert guidance on wader population sizes and trends. These are included in a three-yearly update of global waterfowl populations used in implementing the Ramsar Convention and Bonn Convention African-Eurasian Waterbird Agreement. New estimates are due by the end of 1998.

WSG made an excellent start in preparing some new population estimates at its 1996 workshop in Belgium. Completion of these was deferred pending the restructuring of the Wetlands International Wader Counts Database and the possible development of a wader flyway atlas, within which population updates would be included. Full implementation of the wader atlas project is now delayed, but the planned workshop will contribute to the atlas process.

We now hope to hold a follow-up workshop to the 1996 workshop, on Monday 19 October 1998 at the WSG annual conference in Keszethely, Hungary. Details of the workshop are now being planned, but the workshop would aim to:

- test the capacity of the restructured Wader Database to produce population size and trend estimates;
- update and confirm new size and trend estimates for European East Atlantic Flyway populations, from both the 'national totals' approach used in the 1996 workshop and indexing outputs from the wader database;
- compile new estimates for African East Atlantic Flyway populations, drawing on recent surveys of major coastal wetlands;
- assess to what extent, and when, population estimates for Black Sea/ Mediterranean/E. Africa populations, and inland populations might be attempted.

We intend that the workshop would involve the national wader count co-ordinators network, wader species experts, wader database managers and those with wader survey data for African coastal wetlands, and will be open to all participants in the WSG conference.

We will be contacting the key potential participants shortly with more information. Full details of the workshop will be included in the August *WSG Bulletin*, and will be sent to all those registering for the WSG conference.

Nick Davidson & David Stroud

1997 WSG MEETING: ABSTRACTS OF TALKS

Drafting of European Commission Management Action Plans for Redshank, Curlew, Black-tailed Godwit and Jack Snipe

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In 1996, the European Commission (DGXI) initiated a review of the status, distribution and abundance of migratory birds species of unfavourable conservation status which are presently listed on Annex II of the Council Directive 79/409/EEC (and are therefore huntable in EU Member States). The review exercise included an assessment of hunting pressure and conservation actions and, as a result, the ORNIS Committee (which includes representatives from all Member States) selected nine key species which were recognised as requiring management plans as a matter of urgency because of the inconsistency between their unfavourable conservation status and their continued status as legal quarry under EU law. Such management action plans would directly assess the scientific information available on these species, particularly in relation to hunting and conservation management. The plans will primarily identify priority measures for conservation action to restore these particular species to favourable conservation status.

At a meeting held at the European Commission in February 1997, it was decided that the process would be taken forward by two Member States, namely the National Environmental Research Institute (NERI), Denmark and the Office National de la Chasse (ONC), France. NERI proposes to develop plans for Pintail *Anas acuta*, Jack Snipe *Lymnocryptes minimus*, Curlew *Numenius arquata*, Redshank *Tringa totanus* and Black-tailed Godwit *Limosa limosa*, whilst ONC will develop plans for Garganey *Anas quequedula*, Woodcock *Scolopax rusticola*, Turtle Dove *Streptopelia turtur* and Skylark *Alauda arvensis*.

The management action plans for each species will follow the format already agreed by the ORNIS Committee Scientific Working Group in November 1996. However, the plans themselves will need to be based upon the collective wisdom of the wader research community, and will depend very heavily on extensive consultation with the Wader Study Group and networks of expert contacts with a sound working knowledge of each of the species concerned from throughout the Member States. Information from the existing review will form the basis for the analysis, but extensive literature reviews and consultation with NGOs, government agencies and experts throughout the flyways will be necessary to draft the final management plans. The first step will be to focus particular emphasis upon these four wader species at the ***Breeding Waders in Europe 2000*** workshop simply to establish the latest information on population estimates, national and population trends, habitat use and site networks for these species. A more detailed workshop to provide technical input to the development of the plans will probably be held towards the end of the year.

Coastal waterfowl - the Great Unknown

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The winter 1984/85 Winter Shorebird Count (WSC) was a great success and remains the only comprehensive survey of the non-estuarine coastline of the UK. The counts provided very valuable population data for waders away from the more regularly monitored estuarine environment. To build on the success of the WSC, a new more extensive Europe-wide survey is being planned. The European Non-Estuarine Coastal Waterfowl Survey (NEWS) will be taking place between December 1997 and January 1998, and aims to estimate the population size of waders and possibly ducks on the East Atlantic Flyway coastlines. The new survey will basically repeat the original WSC survey, which covered 90 % of Britain's shoreline, as well as covering as much of the non-estuarine coastline in Europe as possible. There will also be some additional data from several African countries.

A UK pilot survey was undertaken in 1994/95 to assess the methodology and covered 8.5 % of the UK coastline. Preliminary analyses of the data collected from 509 sections, counted both for the WSC and during the pilot survey, suggest significant decreases in the numbers of Ringed Plover, Turnstone and Purple Sandpiper since the 1984/85 survey (Browne, S. J., Austin, G.E. & Rehfisch, M.M 1996. Evidence of decline in the United Kingdoms non-estuarine coastal waders. *Wader Study Group Bull. 80: 25-27*). If this decline is repeated throughout the UK, it is likely to give cause for some concern. The complete NEWS survey should allow us to get a clearer overall picture. The data collected from all the participating countries will also help to update the East Atlantic Flyway and north-west European waterfowl population estimates.

Breeding success in Avocets

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Avocets nest in colonies. Soon after hatching, the adults guide the chicks to feeding grounds up to several kilometres off the colony sites. The breeding success of Avocets thus is potentially influenced by factors operating in different ways on the clutches and on the chicks. The aim of a long term study (1988-1997) on breeding success of Avocets on the Wadden Sea coast of Schleswig-Holstein in Germany was to investigate which were the most important factors affecting breeding success of the species.

The main cause of failure of clutches on saltmarshes was flooding. In all other habitats, most eggs were lost due to predation. The presence or absence of foxes explained much of the inter-annual variation. Other egg predators (gulls, crows) had less effect. In contrast to the eggs, the mortality of chicks was mainly influenced by weather. Habitat also had an effect on the chick survival. Hatching success had only a relatively small effect on breeding success. Breeding success (number of fledglings per breeding pair) was significantly correlated with weather. Due to the strong weather influence on breeding success the annual reproductive output in different parts of the North Sea population of Avocets was

expected to be correlated. Evidence for this will be presented.

Low tide counts of waterfowl: past, present and future

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As part of the Wetland Bird Survey (funded by BTO, WWT, RSPB and JNCC) a rolling programme of Low Tide Counts has been implemented in the UK. Contract work has allowed the further development of low tide counts methodology. Ongoing research is geared towards making comparisons between different surveying strategies, assessing the need for methodological developments and the problem of surveying very large estuaries. Will technology help with the way that the data are gathered, analysed and presented ?

The remote detection of buried bivalves by Knots: behavioural and morphological observations of the possible sensory mechanism

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It remains a mystery how Knots *Calidris canutus* are able to detect their favourite hard-shelled prey in soft sediments so efficiently. In operant conditioning experiments we were able to demonstrate that Knots could even detect bivalves buried in sand beyond the reach of their bills. Knots also detected the presence of deeply buried stones! This excludes mechanisms uniquely based on vision, acoustics, smell, taste, vibrational signals emitted by prey, temperature gradients and electromagnetic fields. The sensory mechanism most likely involves the perception of counter-pressure gradients generated by remote encounters of probing bills with inanimate objects buried in soft sediments. A failure of Knots to discriminate between food and non-food trays with dry sand suggests that pore water may be involved in the pressure build-up. In Knots, as in other sandpipers, the bill tip contains large numbers of sensory organs specialised to detect pressure differences, called Herbst corpuscles. However, unique to Knots, these Herbst corpuscles are localised in highly asymmetric cups within the bony matrix of the bill tip. We suggest that this arrangement gives the neccessary directionality to the perceived 'landscapes' of counter-pressures.

Do raptors determine wader densities?

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Models based on physical attributes of estuaries or their sediments explained 51%-91% of the variance in densities of different waterfowl species on estuaries. Raptor numbers improved the models for certain species and can be related to differences in long-term population trends on UK estuaries.

Gender identification in the Dunlin *Calidris alpina*

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Even though male Dunlins tend to be smaller than females, have more contrasting plumage colours and behave differently, it can often be difficult to identify the sex of a Dunlin. This is partly due to the large variation within and between populations and the mixing of different populations during migration.

In this study, the sex of the breeding and migratory Dunlins has been identified with different methods. Results from genetic analyses are compared with morphological measurements and plumage colours, and the reliability of the different methods will be discussed.

Variation in survival rates of Oystercatchers *Haematopus ostralegus* in the Waddensee area (The Netherlands)

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From 1980 to 1996, 15,306 individual Oystercatchers were ringed in the Dutch Waddensee area between April and September, by Jan Hulscher and colleagues at the University of Groningen, by Bruno Ens and colleagues at the Dutch Institute for Forestry and Nature Research, and by many other Dutch ringers.

Estimations of survival rate were done with the MARK software (White *et al.* 1997) which takes into account separately the birds found dead and the birds seen alive and released. Resulting estimates showed that age is the prime factor influencing the survival rate of Oystercatchers. The number of cold days (*i.e.* with a mean temperature <0°C) has the second most important effect. Cold winters affect young birds more severely than adult birds, thus affecting the age structure of Oystercatcher populations.

Project 'Tringa glareola 2000' - migration of Wood Sandpiper through Europe

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The migration of Wood Sandpipers through Europe is a field still open for study, especially the migration of this species along the south-eastern flyway and the migration pattern of populations breeding in Siberia. This is because the species migrates over land and is dispersed over many wetland areas, making studies on its migration difficult. Only the well-organised co-operation of many ringing stations, observers and birdwatchers would allow the migration pattern of the Wood Sandpiper to be studied. Material collected during this research programme could be used not

only for scientific but also for nature protection purposes, because the concentrations of Wood Sandpiper and other wader species would serve as a measure of the quality of the wetlands.

In spring 1997, the Waterbird Research Group KULING started an international research programme which aimed to learn about the flyways and wintering areas of different migratory groups of Wood Sandpiper. Also, other parameters of its passage such as migration dynamics, phenology of migration, migration speed, resting time at stopover sites, and occurrence at the same sites in subsequent years are the subject of the study. The project considers both spring and autumn migration and will be continued until autumn 2000. The main method of the study is marking Wood Sandpipers with combinations of four colour rings consisting of two rings above the tarsal joint on each leg (the metal ring is not an element of the code). Codes mark season, locality and pentad of migration. In addition, caught birds will be dyed on the belly (adults with red and immatures with yellow) in Finland through autumn and in Italy through spring. This would allow the migration of these groups to be followed through Europe and increase the efficiency of reading colour-ring codes. So far, 13 ringing stations from Finland, Poland, Germany, Ukraine, Hungary and Italy are taking part in the project. The programme of co-operative ringing at many points will be supported by counts and observations of Wood Sandpipers at stopover sites. The project is aiming for the establishment of a network of regularly monitored wetland localities which could provide the material for comparisons of the migration dynamics and raise the number of observations of colour-marked birds. The action will be widely announced among ornithologists and birdwatchers all over Europe in order to encourage a careful watching of Wood Sandpipers. All bird stations, ringing groups and individual observers are welcome to join this study.

Primary moult and body mass variations in Grey Plovers *Pluvialis squatarola* wintering in Italy

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Very little is known about Grey Plovers *Pluvialis squatarola* wintering in Italy and the central Mediterranean. Available information for the Palearctic breeding populations mainly comes from northern Europe and west Africa.

Between 1990-96, during regular catching activities carried out in the Lagoon of Venice and in the Po Delta, north-eastern Italy, 114 adults, 16 second-years and 65 first-years were ringed. Adults started primary moult soon after their arrival in August. The first adult with complete moult was observed on 5 October and the last one in active moult on 21 December. The estimate of moult parameters, calculated with the method of Underhill & Zucchini, gave the following results: mean start date 18 August (s.e ±.= 5.9), mean duration 93 days (s.e.± = 8.1), mean finish date 19 November (s.e.± = 4.1), standard deviation 21.8 (s.e.± = 2.6). Three adults out of 14 trapped in January-February were in suspended moult (all at pin. 8). In March, nine out of 25 were resuming primary moult, the lowest observed point of moult resumption was at pin. 6. A pressure for an immediate onset of the moult, which starts as soon as the birds settle in the winter quarters, and a relatively high frequency of pre-winter moult suspension, can be explained as an adaptation to the relatively short time available before the start of adverse weather conditions.
The presence of hard winter seasons in northern Italy was confirmed by body mass patterns of adults and first-years, both showing a distinct mid-winter fattening, with peak values in December-January averaging 250 g. From November onwards, body mass values of the two age classes were not significantly different. Age-related differences in body mass at mid-winter are well known for waders and described for the Grey Plovers wintering at the Wash. The fact that adults and first-years at our study area respond in the same way to weather stress suggests that body mass differences can be interpreted as the result of different feeding efficiency or resource exploitation only at local level and are not a general feature of the species or populations.