was noted, as was the importance of collecting related information which might provide pointers towards the reasons for any changes.

2. On reasons for declines

- Could any of the reported declines be redistributions? Are there areas of increase and, if so, how do these differ from the many areas of declines?
- The losses of waders have been related to changes in agricultural land-use, notably drainage and other intensification of agriculture. Abandonment of agriculture is possibly important also. Further studies to identify mechanisms relating to food, nesting requirements and avoidance of predators, and the bottlenecks to productivity, were mentioned.
- A need was identified for studies on the effects of land-use change on the timing of the start and end of the breeding period, and its effects on breeding success.

3. What WSG can do

- Document the importance of the habitat for waders (as started by the Review of Breeding Waders in Europe).
- Document the effect of habitat change on birds.
- Form a WSG project on wet grasslands, to coordinate the necessary work. (This was agreed by WSG and its Executive Committee.)
- Offer its expertise to help wet grassland protection. (This is carried forward below by a series of recommendations.)

Recommendations

compiled by

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In order to make available, to those wishing to conserve wet grassland habitat, the conclusions of recent research, the workshop developed a set of recommendations relating these results to politics to this end. The meeting also stressed that attention here was focussed on breeding grounds; conservation measures at staging and wintering areas would need to be taken in account in addition.

If the aim of land-managers and relevant agencies is to conserve habitat for waders breeding in wet grasslands, the following measures are to be recommended.

1. All remaining semi-natural wet grassland should be safeguarded as nature reserves or other protected areas in which management for nature conservation has priority. In some areas, effective management may be possible only through site-ownership by conservation bodies.
2. Also outside protected areas, traditional low-intensity farming should be encouraged. This should include financial support for pastoral and mixed farming and the related rural communities, to prevent both intensification of agriculture and abandonment of farming.
3. Financial support should be provided also to encourage the return of intensive arable areas to low-intensity pastoral or mixed systems. Policies encouraging shifts from cereal-growing to other land-uses should allow the use of grazing animals in areas of actual or potential nature conservation importance.
4. No financial support should be given in wet grassland areas of nature conservation importance for the intensification of agriculture nor for new arterial drainage works or installation or replacement of field drains. The implementation of EEC policies for rural areas should give priority to nature conservation rather than agricultural production.
5. Water abstraction from water courses and aquifers which would lower the water levels in grasslands that hold breeding waders should not be permitted.
6. The 'wise use' of lowland peatlands for low-intensity grazing systems should be en-

couraged in preference to short-term, high-intensity systems leading to soil-loss.

7. Wet grassland areas should be managed consistently, as short-term changes in management prevent wader density and productivity reaching adequate levels.
8. In all areas (protected areas and outside) in which support for nature conservation management is provided, there should be agreed aims and management. These aims, whether related to birds or other nature conservation aspects, should be specified. This management should be monitored (and provision for monitoring included in the budget). The monitoring should be planned both to check on effective use of resources and to allow refinement of management prescriptions.
9. In all wet grassland areas managed for breeding waders, prescriptions should stress water management, and should take account of the following aspects:

a) At least intermittent surface-flooding should be permitted in winter. Water levels should be lowered in spring to provide areas for nesting and to permit agricultural management, but water levels must not be allowed to drop below levels at which wader feeding places such as temporary pools, ditch margins and areas of grassland with moist soil become too scarce to permit successful foraging. (These and other management measures emulate more natural conditions. For example, in studies in Britain, the Netherlands and Germany, suitable water levels for foraging need to be maintained for approximately three months from the start of the breeding season. Later, water levels can be lowered if necessary.)

b) Inorganic fertilizers should not be used on wet grasslands, and applications of manure and slurry should be strictly controlled. The only herbicides used should be those targetted at weed species that must be removed to maintain the health of livestock or that are required by law to be controlled, or those needed for conservation reasons.

c) Wader breeding success is directly reduced by trampling losses of eggs and chicks resulting from high densities of cattle and/or an early start of grazing in spring (enabled by fertilizers (see b) and over-stocking also by the provision of food). Generally, the grazing should not start until, on average, 80% of the females of the latest nesting species present have laid their first clutches. (This needs specification on the basis of local information.) Whilst the presence of livestock can be directly harmful to wader breeding success, grazing or cutting of grass is essential to the maintenance of the vegetation structure and food required by the birds. If grassland management is solely by grazing, then minimum levels of grazing shoud be specified by reference to research data specific to the region and grassland type. On many land-holdings a grazing plan could be made in which high-level grasslands would be used for early grazing and stock moved later in the season to important areas for breeding waders. (For example in the areas mentioned in 8., grazing at stocking levels in excess of 2 cattle/ha (or equivalent) should be avoided during the two months after the start of the wader breeding season.)

d) Mowing for hay or silage should not take place within two months of the start of the wader breeding season (as determined locally). In many areas, hay-cutting creates habitats suitable for waders and other breeding and wintering birds. In such areas, therefore, suitably timed hay-cutting should be encouraged, rather than silage production.

e) Those helminthicides and other chemicals which destroy the invertebrate fauna of livestock dung should not be used.

f) Maintenance of drainage ditches should be undertaken in such a way as to retain or create shallowly flooded feeding sites for waders and wildfowl at the margins.

g) Financial support for farmers to lower the intensity of farming should be conditional on the implementation of management prescriptions tuned to local conditions. These prescriptions should be developed by the statutory nature conservation body and agricultural department after consultation with experts on the habitat requirements of breeding waders. The Wader Study Group can advise on such experts.

10. Supports should be provided for studies monitoring the condition of wet grasslands and their bird populations; for research on ways of conserving them; and for disseminating knowledge widely.