



Purple sandpiper *Calidris maritima*

Status

Amber listed: BR, WI
SPEC 4 (S)
Schedule 1 of WCA 1981

National monitoring

Rare Breeding Birds Panel.
WeBS.

Population and distribution

This species has been known to breed in the UK since 1978 (Dennis 1983), though only in Scotland and in very low numbers. The preferred breeding habitat is open ground on mountain tops. There are an estimated 21,300 individuals wintering along the UK coastline (*Population Estimates*).

Ecology

Purple sandpipers breed on open ground on hillsides, mountains and arctic tundra. A clutch of 3–4 eggs is laid during May–July. There is one brood (*Red Data Birds*), of which the male takes sole charge. The attending male is, as a rule, very alert, meeting any intruder at a distance of 50 m or more from the young, calling anxiously (Bengtson 1970). The young fledge by July to mid-August.

Breeding season survey – population

Information required

- estimated number of pairs
- maps showing boundaries of the areas covered.

Number and timing of visits

A minimum of two, mid-May to mid-August. At least one visit should be in late May or early June.

Time of day

Any time.

Weather constraints

If possible survey on calm, clear days.

Sites/areas to visit

With so few breeding birds in such a vast area of suitable habitat, the only practical way of surveying this species is to survey those areas of Scotland known or suspected to have held breeding purple sandpipers since 1978. The habitat used by nesting birds in Scotland is similar to that used in Scandinavia: alpine vegetation on high plateaux. This short

vegetation is dominated by sedges, mosses and lichens interspersed with rock screes and gravel.

Equipment

- 1:25,000 OS map of the survey area
- 1:10,000 field maps of the survey area
- Schedule 1 licence.

Safety reminders

A reliable person should know where you are and when you are due back. Take a compass, survival bag, waterproofs, whistle, extra clothing, first-aid kit and food.

Disturbance

There is no need to locate nests, which are in any case very hard to find. The whereabouts of any breeding birds should be kept confidential to help prevent disturbance by birdwatchers or egg-collectors.

Methods

Mark the site and all surrounding suitable habitat on the map. Survey the whole site by walking parallel transects 200 m apart. At large sites, it may be necessary to have more than one person surveying adjacent areas, to cover the ground more quickly.

At regular intervals (at least every 100 m) scan in every direction with binoculars as far as the terrain or weather allows, and listen for calls and songs. Use vantage points (eg rocks or hillocks) wherever possible. When individuals or pairs are encountered, determine whether or not these are new birds. It may be necessary to retrace your steps to check on the continued presence of any birds located previously.

The behaviour of the male can provide information on territorial/ breeding status: song-flights are part of territorial behaviour, 'rodent-running' is used to distract observers away from the nest or chicks, and alarm-calls are given when guarding chicks (Bengtson 1970). Pairs may stand together and give single-wing lifts at the approach of the observer (Bengtson 1970). At the end of incubation the female generally departs, so single birds seen in July are usually males with chicks, or failed breeders.

The location and behaviour of any purple sandpipers should be marked on the field maps using standard BTO symbols (see Appendix 1). Note also the time of the observation, behaviour and flight line (in relation to the boundaries of the survey area) of the birds.

After each visit transfer all records to a master visit map. Remove duplicate registrations of birds made in adjacent survey areas by other observers.

Using information on the master visit map, estimate the number of pairs by summing the number of displaying males, pairs seen together, and any additional broods/nests. Also report the number of visits made.

Breeding season survey – breeding success

To estimate population size and breeding success simultaneously, combine the second visit of the population survey with the first visit of the breeding success survey.

Information required

- number and size of any broods seen.

Number and timing of visits

Two visits, one in late June or early July (when young broods should be around), the other in late July (when broods are older).

Time of day, Weather constraints, Sites/areas to visit, Equipment, Safety reminders

As for the population survey (above).

Disturbance

As for the population survey. Take extra care to avoid drawing the attention of predators to the chicks.

Methods

This method only provides crude estimates of breeding success; at best the number of broods and their sizes, at worst the number of broods with at least one chick.

Cover the whole survey area by walking transects 200 m apart, as for the population survey. Record any birds seen on field maps using standard BTO symbols (see Appendix 1) and cross reference any additional notes with the mapped symbols. On the late June/early July visit, note the number and size of any broods seen. Whenever possible, estimate the size of the chicks in relation to an adult and describe the amount of down/feathering on the chicks, this helps to discriminate between broods. On the last visit in late July, the chicks are likely to be quite widely dispersed and the only way to count the whole brood is to sit and watch for a period.

Knowing the number of pairs from the population survey, breeding success can simply be estimated as the proportion that produced broods of at least one chick. If the sizes of all broods are known, success can be estimated as the mean number of chicks per pair.

Winter survey

WeBS.

See *Generic wintering bird monitoring methods* in the generic survey methods section.

References

- Bengtson, S A (1970) Breeding behaviour of the purple sandpiper *Calidris maritima* in West Spitsbergen. *Ornis Scand.* 1: 17–25.
Dennis, R H (1983) Purple sandpipers breeding in Scotland. *British Birds* 76: 563–566.