

## Black-throated diver

### *Gavia arctica*

#### Status

Amber listed: BR, SPEC 3 (V)  
Schedule 1 of WCA 1981  
Annex I of EC Wild Birds Directive

#### National monitoring

Annual survey of breeding black-throated divers at raft sites and paired natural sites (RSPB).

National surveys: 1985 (RSPB/SNH), 1994 (RSPB/SNH), 2004.

Annual counts of wintering birds in the Moray Firth (RSPB/BP).  
WeBS.

#### Population and distribution

Black-throated divers breed almost exclusively on the larger freshwater lochs of mainland north-west Scotland and the Outer Hebrides, where there are estimated to be 150–160 breeding pairs. The population may have declined slightly in the last 20 years (*88–91 Atlas*), and breeding success has been shown to be relatively low, mainly due to predation and nest flooding (Campbell and Mudge 1989). Encouragingly, a proportion of the Scottish population has used artificial nesting rafts (Hancock 1994) with a resulting increase in breeding success. Approximately 1,300 black-throated divers winter around Britain's coast, tending to concentrate in the larger sandy bays and inlets, especially off the Scottish west coast.

#### Ecology

Black-throated divers breed on lochs in north and west Scotland, in a few cases as far south as Argyll. Breeding generally occurs on larger lochs or occasionally on smaller pools near larger lochs. Birds require areas of shallow water for feeding, and prefer vegetated islands without steeply sloping sides or sheltered and undisturbed parts of the mainland for nesting. More than one territory may occur on larger or more productive lochs. Adults return to breed in March/April and will remain until late August/September.

#### Breeding season survey – population

These methods are based on the RSPB black-throated diver survey instructions to fieldworkers (Jackson and Hancock 1994). Sites are defined as monitoring sites where birds are known to have bred (these are monitored on an annual basis); or other sites.

##### Information required

- number of summering territories
- number of breeding pairs.

##### Number and timing of visits

Two or more between 23 April and 23 July.

### **Time of day**

Any time of day.

### **Weather constraints**

Avoid adverse weather conditions as choppy water makes the birds more difficult to see.



### **Sites/areas to visit**

Lochs in north and west Scotland.

### **Equipment**

- Schedule 1 licence
- 1:25,000 OS map of the area
- recording form/map.

### **Safety reminders**

Ensure someone knows where you are going and when you expect to return. Take a compass and always carry a survival bag, waterproofs, whistle, extra clothing, food and first-aid kit in remote areas. Take extra care when working close to water and if any boat trips are necessary make sure that at least two people are present and that you wear life-jackets.

### **Disturbance**

Do not visit active nests. You can usually observe out of sight from the birds. Observers are not required to search all shorelines on foot and every effort should be made to collect complete data without any disturbance to a sitting bird. Egg-collectors are a serious threat to this species.

### **Methods**

Visit monitoring sites between 7 and 31 May. If breeding is confirmed, you do not need to make further visits except to assess breeding success (see below). If you locate a pair without eggs or young, you should make a further visit before 15 June, to confirm occupancy. If you do not locate any birds, check all shores and all water and make at least two subsequent visits within two weeks to confirm occupancy.

Visit other sites twice, once in the period 23 April – 7 June, and once during 8 June – 23 July. If you confirm breeding on the first visit (ie adults with eggs or young), you do not need to make any further visits to the territory.

On each visit, spend at least two hours checking all areas of water and all shores for birds. When checking shorelines, look for a sitting, brooding or prospecting/nest-building bird. Where there are islands or a complex shoreline, you may need to carry out a partial perimeter walk. However, in most cases, you can achieve complete coverage by scanning from a number of viewpoints. At large territories, or where there are many islands, coverage by boat on a calm day is most efficient. Mark on the recording map the location, time and number of any adult black-throated divers observed. Record their behaviour on the other side of the recording map.

An example recording form is shown in Figure 1.

A summering territory is one where:

- a pair of adults is observed at the same site on two or more visits

- a pair of adults is observed on one visit and a single adult on one or more other visits to the same site
- a single adult is observed at the same site on two or more visits.

The number of breeding pairs is the number of summering territories where breeding is confirmed, ie an incubating adult, a nest with eggs, or chicks are seen on any of the visits.

If you see any young chicks, record their number and size. Size chicks by comparing the water-line length with that of a nearby adult. They usually look about 20–25% of adult length shortly after hatching.

In addition, record the state of the water surface (choppy, moderate or calm); the percentage of the water surface and the shoreline checked; visibility (poor, moderate or good) and predators or human disturbance (eg fishing boats).

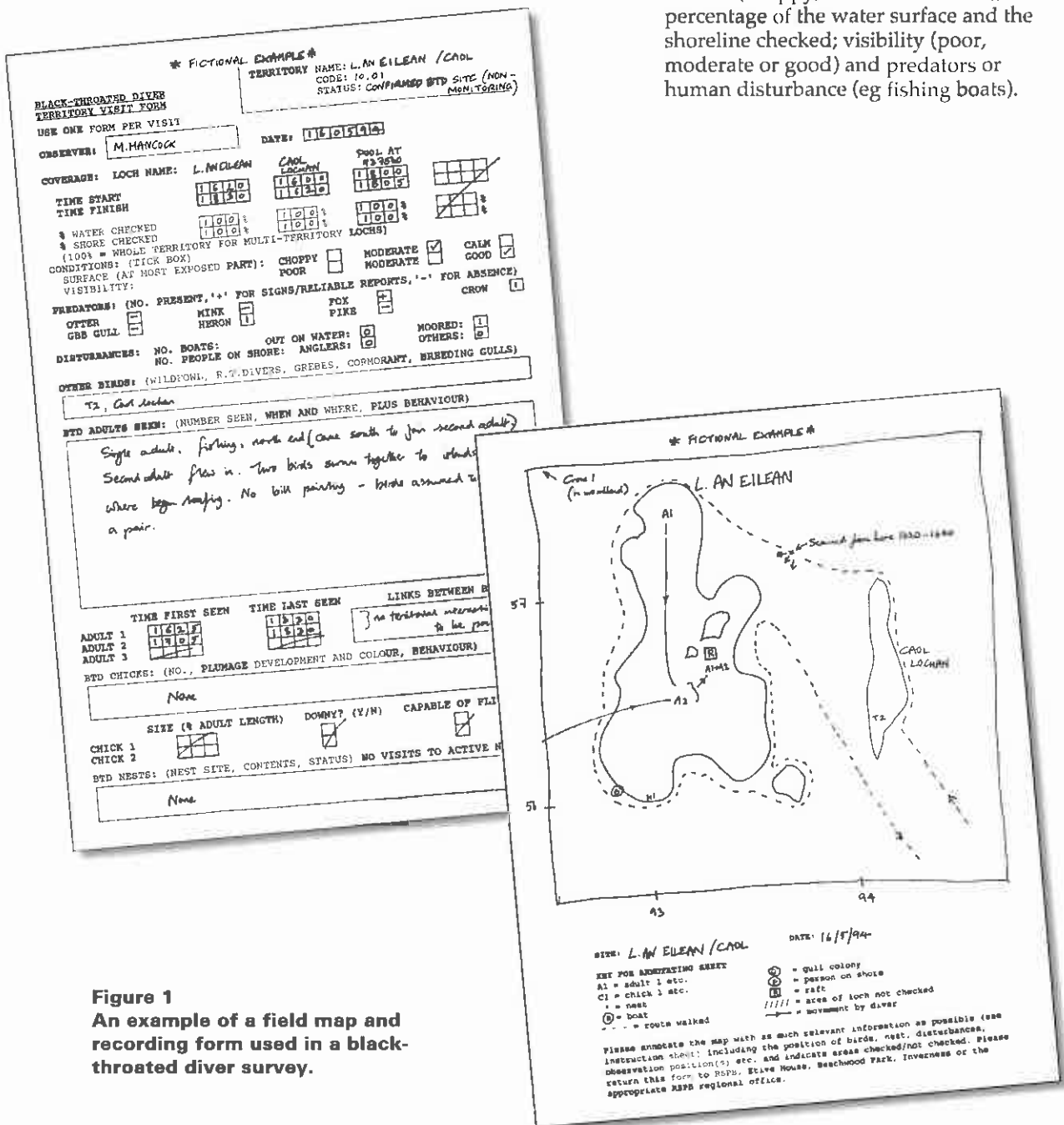


Figure 1  
An example of a field map and recording form used in a black-throated diver survey.

## Breeding season survey – productivity

### Information required

- number of viable young per pair.

### Number and timing of visits

Usually only one. Subsequent visit(s) may be necessary if small chick(s) are still present.

### Time of day

Any time of day.

### Weather constraints, Sites/areas to visit

As for the population survey (above).

### Disturbance

It is especially important not to disturb adults with young. It should be possible to get all necessary information by observing from a distance.

### Methods

Scan all water and shores (see above) to locate any young present. Chicks are often far from their parents and difficult to see, so even if you locate the adults and there are no young with them, you should still carefully scan the whole of the water surface and all shores. Make a further visit if young are less than two-thirds grown.

Mark on a recording map the number of adults and the number and size of the chicks present, the date and time when you saw them and where they were during the observation period. Size chicks by comparing the water-line length of the chick with that of a nearby adult. They usually appear to be about 20–25% of adult length shortly after hatching. Viable young are those over two-thirds grown (roughly one month old). If you are unsure whether any adults observed have young, record their behaviour on the reverse of the recording map. Calculate the number of viable young per pair by dividing the total number of viable young recorded by the total number of summering territories.

Record additional information as for the population survey (see above).

## Winter survey

WeBS.

Survey methods for *Inshore marine waterfowl* and *Waterfowl and seabirds at sea* are outlined in the generic survey methods section.

## References

- Campbell, L H and Mudge, G P (1989) Conservation of black-throated divers in Scotland. *RSPB Conservation Review* 3: 72–74.  
Hancock, M (1994) *Black-throated Diver Newsletter*. RSPB unpubl.  
Jackson, D and Hancock, M (1994) *Black-throated Diver Survey Instructions*. RSPB unpubl.