

Glen Aros, proposed woodland creation: bird survey

**GLEN AROS, ARGYLL
PROPOSED WOODLAND
CREATION**

UPLAND BIRD SURVEY

Nov. 2021

V3

A report to:
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1 INTRODUCTION AND METHODS

This report presents the results of an upland bird survey by Lawrence Environmental Consultants in relation to the woodland proposal at Glen Aros, Isle of Mull, Argyll (grid reference NR 550 440). This included three survey visits of the moorland bird technique with Schedule 1 listed raptor surveys. The main aim is to provide a baseline audit of summer breeding birds for the landowner and agent and to advise on the SRDP proposals under the remit of FS as well as any independent initiatives by the owners. This report is not an impact assessment.

The moorland bird survey was undertaken during the near-dawn period on the 4th May; June 15th & July 6th 2021 (N F1-3 20-50% cloud 10-16°C; NE F1-2 50-100% cloud 11-16°C; 19°C; S F1-2 50% cloud; 15°C). The methodology of Brown & Shepherd (1993) was followed with an amendment that included the near dawn start time (05.15) to increase the detection of songbirds. The bird survey area encompassed a buffer of c. 100-250 m beyond the boundary marked in Figure 1 to cover c. 640 ha. This excluded the strip to the northeast below the C Road to Aros River which was added to the application after the July site bird surveys were completed. Schedule 1 surveys were undertaken on May 5th; June 16th; July 5th and 8th 2021.

Based on liaison with local members of the raptor study group, hen harriers are known to nest within the site and Golden eagles were last recorded nesting c. five years prior to 2004 (Dr. A. Fielding; P. Haworth & M. Owers; Dave Sexton RSPB pers. comm. 2021). One 2x2km square has been surveyed under the BTO national surveys in 2019 & 2020 which covered the central moorland area at Glen Aros¹ (Mr. E. Miles; B. Darvill BTO). The ornithological context for the 2x2km grid squares on and around the project can be provided by the RSPB's indicative map of likely breeding bird sensitivities (Bright et. al. 2006)². The majority of the proposal is located within tetrads of high sensitivity with the tetrad that includes Glen Aros House & Farm ranked at a lower band of high. Note that the data sets underpinning these categories are more than a decade old. At its closest the Cnuic Agus Cladach Mhuile (Mull Coast & Hills) Special Protection Area/SSSI for golden eagles lies 3km to the southwest of Glen Aros. The Nature Scotland guidance for SRDP applications

¹ The survey format is designed for National trends in bird populations and the data is not site-specific, map based registrations.

² Although the sensitivity refers to wind energy, there are no species omissions that could be relevant to other land use changes such a woodlands/forestry.

for native woodland on or near SPAs was followed and no additional surveys were advised.

There was forest harvesting activity in the Killiechronan Forest to the southwest and timber movements (over the River Aros bridge) from plantations to the north. Neither of these activities were likely to have resulted in significant disturbance effects concurrent with the survey. The lack of a survey visit in April could under-represent some species, but is not a major shortcoming. The missing coverage to the northeast of the C road to Gruline will have undercounted territories of species such as common sandpiper, whitethroat, willow warbler, cuckoo, grey wagtail, dipper and songthrush. It is not suitable for upland waders (apart from common sandpiper in the riparian zone) and suboptimal for nest sites of hen harrier or short-eared owl. The generic shortcomings relate to timing for some waders and their detection in relatively dry periods in early summer (Hoodless et. al. 2006). The moorland bird survey technique under-represents red grouse territories (in suitable habitats) by a factor of 6-8. Nocturnal species such as owls & nightjar were covered with two dusk visits for the former group, but Long-eared owl are likely to have gone undetected.

The setting of the survey area starts with inbye pasture near sea level, proceeds westwards over the stepped ridges to the summit at Creag Mhor moorland (at 180m a.s.l). The majority of the landscape is wet heath, blanket mire on level basins with rush pasture on the slopes, acid grassland on the summits. Centuries of pastoral landuse have resulted in graminoid domination (principally Purple Moor Grass) over most of the moorland semi-natural plant communities. There is broadleaved riparian woodland along Aros River as well as Allt na Criche & Allt na Saile. Birch and hazel woodland is present in stock fenced enclosures along the Gruline C road (legacy enclosures) and native woodland is present on ridges and flanks to the south and southeast. There are mixed conifer/ broadleaved policy woodlands around the Estate's dwellings and inbye fields. Since c. 2020, sheep have been restricted to the inbye pasture so the upland vegetation has been released of grazing pressure (apart from low level grazing of cattle plus relatively high numbers of red deer). There is a relatively high proportion of the moorland and native woodlands with either scattered or dense bracken.

2 RESULTS

2.1 RAPTORS 2021

There were no contacts with either species of eagle within the survey boundary although there were possible signs of their presence (inverted lamb pelt on Cnoc na Sroine in May)³. There were no signs that Creag Mhor was an active eagle roost/day perch in 2021. The nearest white-tailed sea eagle pair were present to the south of Glen Aros in 2021 (D. Sexton pers. comm.), but failed to nest or lay eggs which has been a repeated outcome for this range.

There were two active hen harrier nest territories and an additional area where individuals prospected early in the summer (or a polygynous male from one of the nearby territories) Figures 1 & 3. Of these, observations indicated possibly just one successful nest to the north with a minimum of three fledged juveniles (Figure 1). These occurred in two of the three known nest locations that have been monitored intermittently over the past three decades (P. Howarth pers. comm. 2021, raptor study group records Figure 1).

There were three short-eared owl territories with the two in the centre and north of the survey area successful (assumed to have fledged juveniles based on food drops in July 2021) (Figure 1).

There were a minimum of six to seven buzzard territories either within or overlapping the survey area (Figure 1).

Similarly there was a minimum of one pair of kestrel that occupied a territory within the survey area.

Sparrowhawk were recoded hunting over various sectors of the site and it is estimated that three or more territories that overlap the forestry/woodland margins of Glen Aros.

It is likely that tawny and barn owl nest in the mature woodlands/farm buildings at Glen Aros, but these were not confirmed by the 2021 surveys.

2.2 MOORLAND BIRDS 2021

Wildfowl, Waders & Grouse

There were three pairs of feral Greylag geese nesting within the survey boundary (Figure 2).

³ Great black-backed gulls also process lambs this way.

There were very few contacts with waders within the survey area. One curlew territory was located on the level mire in the northern sector and unexpectedly there were no contacts with snipe⁴. Based on dawn as well as nocturnal surveys elsewhere in upland Argyll in March/April one would expect that the site would host transient flocks of golden plover on migration. Typically these flocks utilise the level blanket mire in coastal sites long the western seaboard which represents an important migration flyway for golden plover (Annex 1 species). Due to the lack of early/mid summer survey time along Aros River it is likely that common sandpiper are present as a breeding wader within the extended survey boundary.

There was no evidence (from even signs) that the Glen Aros moorlands have retained a red grouse population.

Songbirds

The survey area supports a relatively diverse range of songbirds typical of coastal moorland on Mull, but none occurred at unusually high density (Figure 2). This included whinchat (13 pairs)⁵, stonechat (5 pairs), whitethroat (6 pairs) and willow warbler (>45 territories) (Figure 2). Species such as lesser redpoll and siskin were active in flight over the survey site and nested in the native woodland and scrub habitats. Approximately four cuckoo territories were present and meadow pipit occurred at a density of c. 22km⁻² with around 7 skylark territories on the upper moorland summits. Both grey and pied wagtail nested within the survey boundary. Although non were sighted, there is a dipper nest box under the FLS bridge over the Aros River.

Both barn swallow and house martin foraged over the lower sectors of the survey areas and along with starlings nested in sheds at the farm and other buildings.

Ubiquitous woodland songbirds occupied the riparian woodlands and adjacent plantations and included: song thrush, blackbird, mistle thrush, robin, spotted flycatcher, blackcap, wren, great, blue, long-tailed and coal tits, siskin, dunnock and chaffinch.

Raven and hooded crows and were present during the surveys and there are likely to be more than five nest sites for the latter.

⁴ The number of nest sites is likely to have been under-recorded based on suitable rush-dominated flushes, plus unusually dry periods for much of the summer.

⁵ RSPB birds of conservation concern 2015 red list are underlined.

3 CONCLUSIONS & SITE DESIGN CONSTRAINTS

- 3.1 The breeding bird community within the Glen Aros application area is typical of recovering moorland following two centuries of pastoral use in this part of the coastal, western Highlands (Natural Heritage Zone 6).
- 3.2 **Golden Plover, other waders & wildfowl:** On a precautionary basis the summit blanket mire is likely to represent an important stop-off site for golden plover on migration and the most sensitive locations will coincide with the northern/central two hen harrier areas in Figure 3. The key advice is to maintain lines of sight from the main level areas as their value will be compromised by screening by woodland (trees above the skyline within c. 100-200m). The presence of snipe, common sandpiper, curlew and greylag geese is unlikely to be compromised as long as open sectors within some of the rush flushes and blanket mire are maintained. This proposed habitat mix would also benefit summer breeding and over-wintering populations of woodcock.
- 3.3 **Golden & White-tailed Sea eagles:** The survey area historically included a golden eagle territory (Killiechronan range, not within the SPA), but it is assumed that afforestation to the west in the 1980's along with similar less optimal forestry habitat to the north and south has rendered the Glen Aros site area unsuitable for nesting. The Killiechronan pair of golden eagles nest at c. 6.5km to the west within their core territory and are thought to utilise/incorporate the Glen Aros moorlands as a peripheral part of their range (D. Sexton pers. comm.). This suggests that the Glen Aros moorland and woodland of c. 6km² is of relatively moderate importance in terms of the overall island population. The lack of a red grouse population, the absence of rabbits on the upper sectors away from coastal inbye fields and only a residual hare population is likely to limit re-establishment of nesting golden eagles at Glen Aros. Based on the likely impacts on avian prey populations and the sightings and signs of mammals⁶ the conversion of the survey area to a mix of open ground and native woodland is unlikely to result in a negative effect on the island's breeding golden eagles or the SPA population. Their absence has indirect impacts as it raises the quality of this moorland habitat for both of the smaller raptor species in Section 3.4 below (inter-guild predation especially of fledged juveniles).

⁶ An audit of mammalian eagle prey was not undertaken. Feral cat, pine marten, Irish Hare and European moles are present.

There is a long-established, local White-tailed sea eagle pair that have nested since the early 2000's c. 1.5km to the south. This pair have not nested successfully over this time period and this may be a function of age or infertility. In the future the replacement of one or both members of this pair is predicted to result in a successful breeding range. The nearest pair c. 5.5km to the north have also been recorded using the Glen Aros moorland (D. Sexton pers. comm.). The moorland at Glen Aros is therefore likely to have a supporting role for one pair and a partial role for a second range. It is predicted that their presence on the site will continue, but may be reduced by the change in pastoral management (hill sheep removed with deer excluded over the medium term). Examples of similar landuse changes elsewhere on Mull indicates that current proposal is unlikely to alter the viability of the local or neighbouring breeding territories or the island's population. It is advised to partially mitigate the effects to the proposal with land management that may increase the natural prey base (for both eagle species). It is not thought that there is a shortage of nest sites for the White-tailed sea eagles, so provision of a nest platform would be of marginal benefit.

- 3.4 **Hen harrier & short-eared owl:** The 6km² of moorland and native woodland at Glen Aros is sufficient to support two/three breeding pairs of both these raptors but is relatively isolated⁷ from other, optimal hunting habitat (possibly NW to Crannich/Ledmore). The location at Glen Aros is part of the optimal habitat for hen harrier on Mull and their density at c. 0.5pairs/km² is close to the maximum (Greary et. al. 2018). The 2021 short-tailed vole population appeared to be at a low or moderately low level. Based on the current habitat recovery, it is expected that additional pairs could nest in closer proximity and have a high fledging success rate during peaks in the vole population cycle. Hence the survey area is ranked as important for the functioning of the relatively unique hen harrier and short-eared owl populations on Mull (20-40 hen harrier pairs-Fielding et. al. 2011; Geary et. al. 2018). A well designed native woodland land use change here would be unlikely to compromise the island populations of either species⁸. The change to the open habitat songbird population through canopy closure could limit hen harrier at Glen Aros to one or two nest territories in future. Maintenance of open areas in Figure 3 as well as corridor links⁶ to

⁷ Close-cropped inbye and hill park pasture (e.g. NE from Glen Aros House to Aros Mains – An Claigionn) is a negative factor in the determination/location of hen harrier nest territories (Loc. cit.).

⁸ Radio tracking of nesting Short-eared owls indicates territory sizes of c. 190ha which is theoretically exceeds the moorland of 6km² at Glen Aros with the current three pairs.

the surrounding open habitats would mitigate these losses partially. (Note that this prediction presupposes the continued array of adjacent, suitable hunting habitat and there will also be periodic changes during restocking of the adjoining commercial plantations).

- 3.5 **Songbirds:** The ornithological diversity of the site includes six of the UK songbird species of higher conservation concern (e.g. whinchat, spotted flycatcher, lesser redpoll, skylark, songthrush, mistle thrush, starling) as well as cuckoo. The key invertebrate-rich flush habitat⁹ that supports birds such as Whinchat well as amphibians and reptiles has been identified and it is advised to include these areas in the open ground design and implementation of the proposals. The woodland specialists such as spotted flycatcher are likely to increase over the medium term (>30-50 years) of woodland development whereas pioneer woodland will increase local populations of redpoll and tree pipit temporarily up to a similar time frame. The existing oak & birch-dominated mature woodlands at Glen Aros will provide a close, donor source for the spread of other woodland specialists in future (e.g. woodcock, tawny owl, great spotted woodpecker, nuthatch, wood warbler, spotted flycatcher, redstart, tree creeper).
- 3.6 The density of open-habitat songbirds such as meadow pipit and skylark is an important resource for the breeding hen harriers. These and some of the other species also represent a breeding resource for cuckoo which occurred at a relatively high density in 2021. On balance even an open-structured native woodland would constrain this species of raptor via some reduction in the open-habitat, avian prey resource (3.4 above), but would not alter the site's carrying capacity for cuckoo.
- 3.7 Future maturation/expansion of the native woodland is likely to increase the density of species such as tree pipit¹⁰ and increase breeding habitat for lesser redpoll, blackcap and willow warbler. Dominance by birch is likely to have fewer benefits to bird diversity compared with the establishment by pioneer species such as hawthorn, blackthorn, juniper, hazel, bird cherry and Scot's pine. Currently invasive non-native species such as *Rhododendron ponticum* and self-seeded Sitka spruce do not represent a negative feature to the various bird communities at Glen Aros, but they are spreading in some sectors. The mature

⁹ Groundwater Dependent Terrestrial Ecosystems (SEPA 2014).

¹⁰ On the assumption of open spaces grazed by deer in the medium/long term.

stands of Sycamore, Beech and Larch over the lower slope around the Estate buildings are likely to add to the ornithological diversity of the site.

- 3.8 The do-nothing scenario (deer grazing alone) would result in the further spread of bracken and scattered native woodland on the free draining, non-/low peat soils. This is expected to result in subtle changes in the diversity and density of the red-listed songbirds over the medium term to long term. Hen harrier and short-eared owl nesting populations may remain unchanged over the medium term.

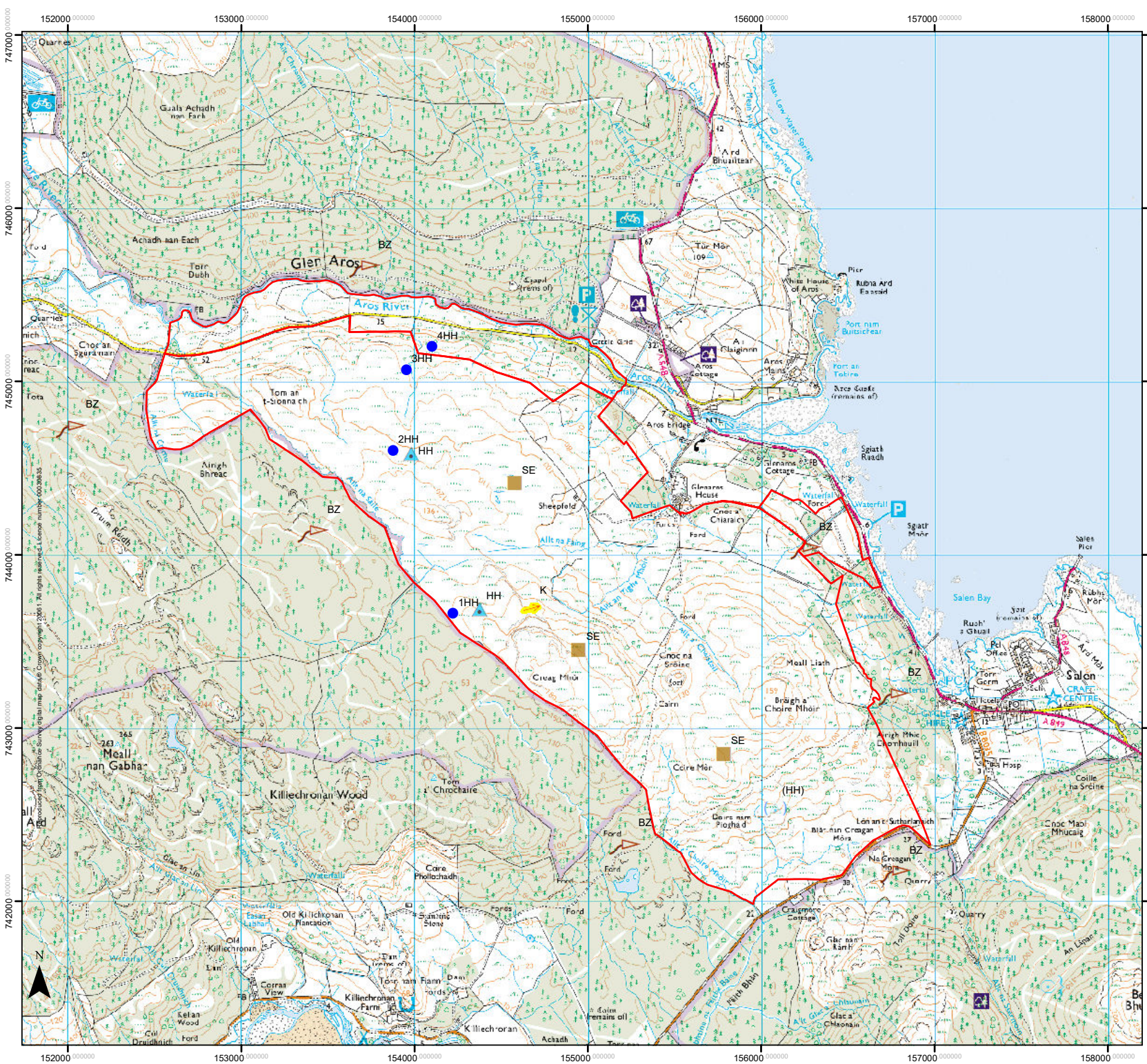
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Figure 1. The distribution of breeding raptors at Glen Aros in 2021. Indicative locations/territories shown. Confidential.

Figure 2. The distribution of breeding waders, wildfowl & songbirds at Glen Aros in 2021. Indicative locations/territories shown.

Figure 3. Key ornithology constraint zones at Glen Aros.



Glen Aros, Mull Biodiversity Audit

CONFIDENTIAL

- Indicative locations 2021:
- Bird records
Species
- Short-eared owl
 - Hen harrier
 - Hen harrier- present, not nested
 - White-t sea eagle
 - Kestrel
 - BZ
- Historical raptor study group records:
- Historical hen harrier nest locations 2015/16
Maximum 3 territories in 2016

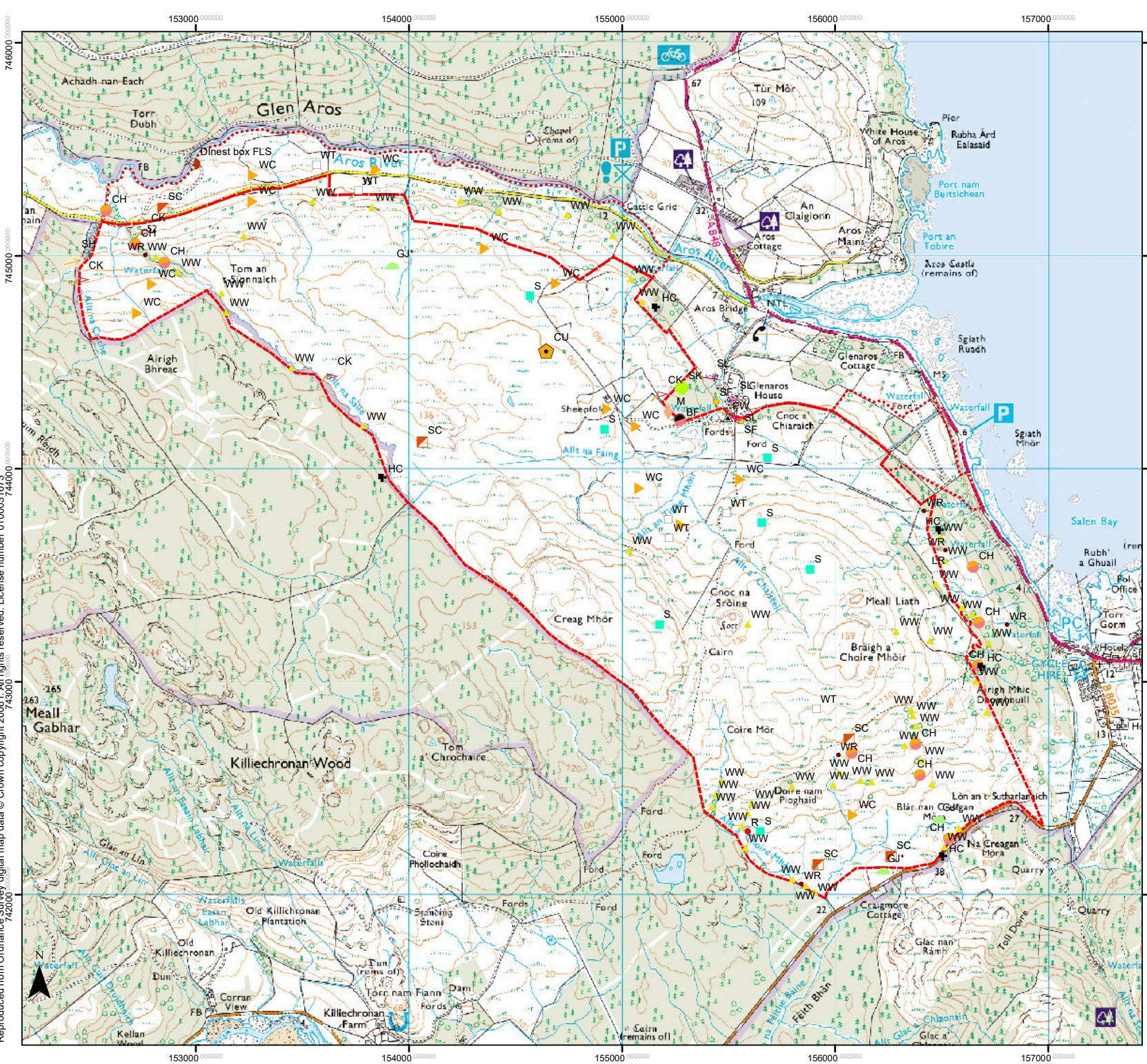
Key:
 Glen Aros Boundary _ Temp

1:21,270 Scale @ A3 24 Nov 2021

0 100 200 400 600 800 1,000 m

Figure 1. Breeding raptors
Indicative locations





Glen Aros, Mull Biodiversity Audit

- Approximate locations
- other species
 - Greylag goose
 - ▲ Common sandpiper
 - Curlew
 - ▲ Sparrowhawk
 - ▲ Cuckoo
 - ▲ House martin
 - Barn swallow
 - Spotted flycatcher
 - Hooded crow
 - Dipper
 - Skylark
 - Mistle thrush
 - ▲ Pied wagtail
 - Goldcrest
 - Coal tit
 - Blue tit
 - Robin
 - Meadow pipit
 - Wheatear
 - ▲ Whinchat
 - Stonechat
 - Wren
 - Whitethroat
 - ▲ Willow warbler
 - Bullfinch
 - Chaffinch
 - Siskin
 - ▲ Lesser redpoll
 - Reed bunting

Meadow pipit not shown:
counted/km2

- Survey area
- Bird survey boundary
 - Glenaros Additional Ecology Survey Areas

1:17,300 Scale @ A3 13 Sep 2021

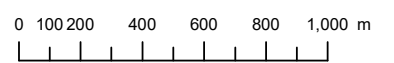


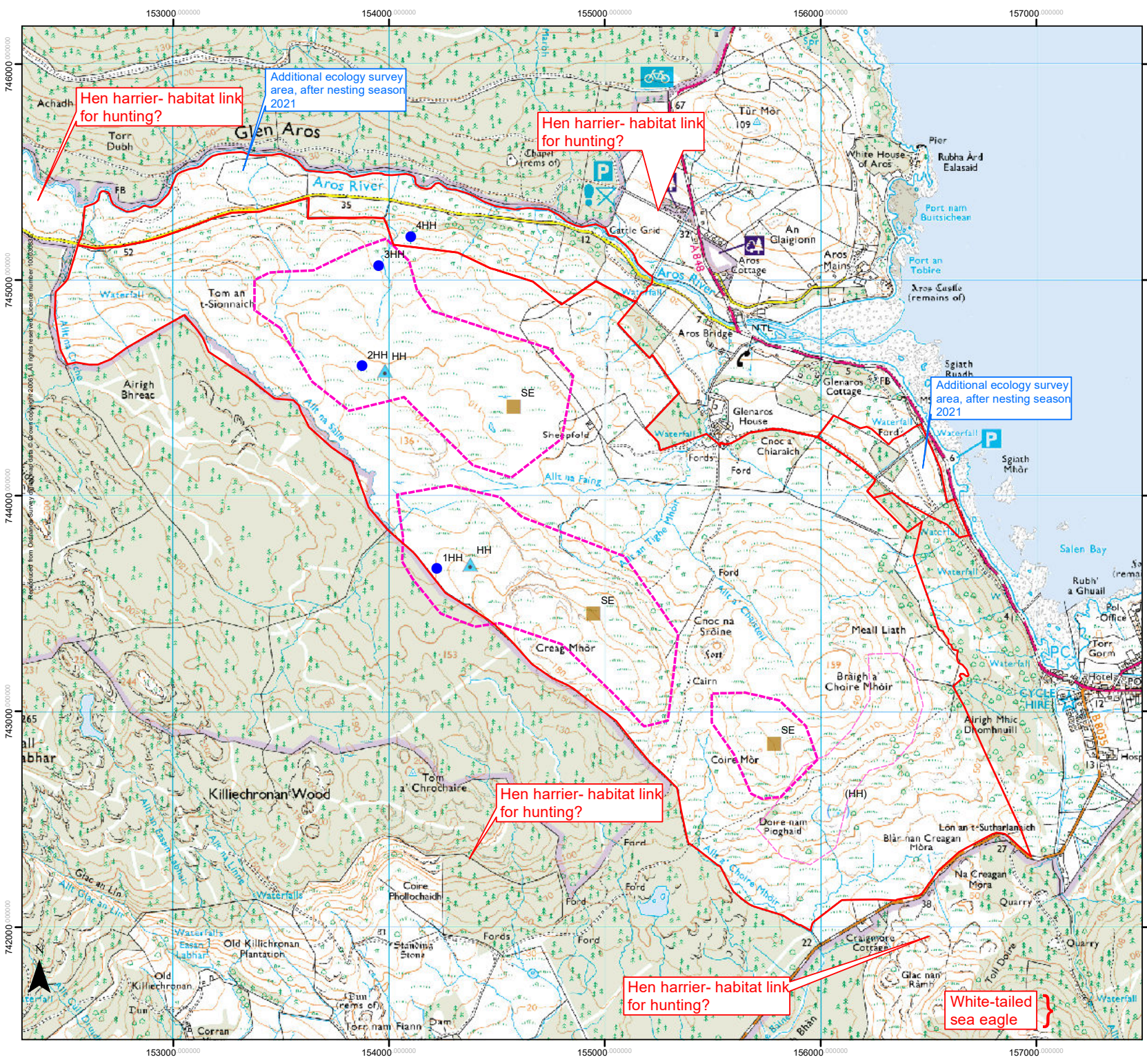
Figure 2. Breeding wildfowl & Songbirds- Indicative locations



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153000 154000 155000 156000 157000

153000 154000 155000 156000 157000



Glen Aros, Mull Biodiversity Audit

CONFIDENTIAL

Indicative locations 2021:

Bird records

Species

■ Short-eared owl

▲ Hen harrier

(▲) Potential Hen harrier territory

● Historical hen harrier nest locations 2015/16

Indicative core areas -raptor territories combined

■ proven breeding

■ present, but not breeding

South eastern hen harrier:
individuals present sporadically
early summer 2021. No evidence
of attempted nesting.

Areas not related to radio-tracked,
full territory sizes for either species.
e.g. Short-eared owl =190ha
compared with c. 16-60 ha on map.

White-tailed sea eagle- full range=
c. 3-5km along coast & inland.

Key:

■ Glen Aros boundary

1:17,082 Scale @ A3 24 Nov 2021

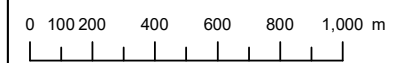


Figure 3. Breeding raptors
Indicative sensitive habitat

