

Client Name: Statkraft UK Ltd.

Site Name: Carn Fearna

Date: 10th November 2023

Summary of Ecology Surveys

Introduction

This letter report summarises the ecology surveys and results undertaken for the proposed Carn Fearna Wind Farm ('proposed development').

The following ecology surveys have been undertaken:

- Habitat Surveys (Extended Phase 1 Habitat Survey and National Vegetation Classification 'NVC' Survey);
- Protected Terrestrial Mammal Surveys;
- Preliminary (Bat) Roost Appraisal (PRA); and,
- Bat Activity Surveys.

A Fish Habitat Survey is scheduled to be undertaken in November 2023.

All surveys have been (or will be) undertaken by experienced field surveyors who have carried out ecological surveys of these types across Scotland.

Information regarding the ecology surveys will be included in Technical Appendices to accompany an application for the proposed development. This will also include information gathered from desk study sources, including the Highland Biological Recording Group (HBRG) and publically available ecological information from other nearby wind farm applications (most notably the previous Carn Gorm application).

Methodology & Results

Habitat Surveys

An extended Phase 1 Habitat Survey and NVC survey were undertaken in August 2023.

The survey area for both surveys was the Site and out to 250 m where accessible. The extended Phase 1 habitat Survey was undertaken in accordance with the UK industry standard Phase 1 Habitat Methodology (JNCC, 2010¹). Evidence (or potential evidence) of protected species within the survey area was recorded.

The NVC Survey was undertaken following the guiding principles detailed within the 'National Vegetation Classification: User's Handbook' (Rodwell, 2006²). The NVC survey comprised all noteworthy habitats within the survey area. The survey concentrated on those areas where plant communities were deemed likely to form Annex 1 habitats and / or represent Groundwater

¹ JNCC (2010) *Handbook for Phase 1 habitat survey – a technique for environmental audit*.

² Rodwell, J. S. (2006). *National Vegetation Community Users' Handbook*. JNCC, Peterborough.

Dependent Terrestrial Ecosystems (GWDTEs). In each quadrat sample area, data was collected on the presence and abundance of vascular plant species using the Domin scale. These data were then analysed and classified to an NVC vegetation community, where possible, using the keys in Rodwell (various) British Plant Communities Volumes 1 to 5, aided by analysis using the Modular analysis of Vegetation Information System (MAVIS) created by the UK Centre for Ecology and Hydrology.

Figure 1 shows the results of the extended Phase 1 Habitat Survey, and **Figure 2** the results of the NVC Survey.

Characteristic habitats within the Site are heaths (principally wet heaths) and blanket bog, with some areas forming wet heath/bog mosaics. The habitats present include some 'priority peatlands' (M15, M17 & M19 bog), as defined by current NatureScot guidance (2023³).

Some signs of terrestrial mammals were recorded during the habitat surveys, and this information is provided in the next section.

Protected Terrestrial Mammal Surveys

In June and September 2023, terrestrial mammal surveys were undertaken, in accordance with NatureScot guidance (2023⁴). This comprised searches for the following key species:

- Pine marten *Martes martes* - search undertaken within, and out to 250m (where access allows) from, the Site. The survey comprised searches for scats and possible den sites;
- Badger *Meles meles* - search undertaken within, and out to 100m (where access allows) from, the Site. The survey comprised a search for field signs and sett locations;
- Otter *Lutra lutra* and Water Vole *Arvicola amphibius* - search undertaken along watercourses within, and out to 200m and 50m (where access allows for otter and water vole respectively) from, the Site. The survey comprised checks of water banks for evidence of otter and water vole, including droppings/scats, burrows/holts and feeding stations/remains;
- Scottish wildcat *Felis silvestris* – search undertaken within suitable habitats within, and out to 250m (where access allows) from, the Site. The survey comprised searches for possible den sites, prints and scats; and,
- Red squirrel *Sciurus vulgaris* – search undertaken within suitable habitats within 50m of the Site. This comprised searches for dreys and other field signs indicative of squirrel presence, such as feeding remains.

Evidence (principally droppings) of water vole was identified along the watercourses at the following locations: NH42541 61483, NH42437 63154, NH42481 62886, NH 43008 62243 and NH 43028 62196.

Evidence of pine marten (scat) was recorded at two locations: NH 41457 63860 and NH 41583 61575.

Evidence of badger (latrine) was recorded at NH 40972 64265. A suspected badger sett was also recorded within the survey area but given its sensitivity the location of this is withheld.

In addition, a mountain hare *Lepus timidus* was recorded north of Carn Loch an Tuirc, with multiple mountain hare droppings across the survey area.

³ NatureScot (2023) *Advising on peatland, carbon-rich soils and priority peatland habitats in development management*. June 2023.

⁴ NatureScot (2023) *Pre-application guidance for onshore wind farms*. September 2023.

Survey results are provided in **Figure 3**. Note, sensitive information (badger sett location) is excluded from **Figure 3**.

Preliminary (Bat) Roost Appraisal (PRA)

During the extended Phase 1 Habitat Surveys a PRA; a daytime inspection of trees (and any other features, e.g. buildings) within the indicative turbine area, and out to 200m (plus turbine blade length from proposed turbines, thus ~290m from the proposed turbines) where access allows, for potential to support bat roosts in accordance with NatureScot (2021⁵) guidance, was undertaken. The PRA was undertaken from ground-level and with the use of binoculars.

Figure 4 shows the survey area for the PRA.

No features with potential to support roosting bats was identified within the survey area.

Bat Activity Surveys

Surveys followed NatureScot guidance (2021⁵) and used ground-level static detectors to record bat activity within the survey area, for a period of 10 nights with suitable weather conditions, in each of three seasons (spring: May, summer: Jun-mid-Aug, and autumn: mid-Aug-Oct).

Fourteen static detectors were placed out in the approximate location of the proposed wind turbines, which exceeds the number required based on the NatureScot guidance (2021⁵), for a proposed development of up to 14 turbines.

Note, the results have not yet been analysed, but surveys recorded a modest range of bats, including common pipistrelle *Pipistrellus pipistrellus*, noctule *Nyctalus noctula* and soprano pipistrelle *Pipistrellus pygmaeus*.

Figure 5 shows the indicative locations of the bat static detectors.

Fish Habitat Surveys

A Fish Habitat Survey is scheduled for November 2023, and will consider the potential for watercourses to support the following species of conservation significance: eel, salmonids, freshwater pearl mussel *Margaritifera margaritifera* and other protected species, and identify any requirement for species-specific surveys.

Habitat classification will be based on the Scottish Fisheries Co-ordination Centre's Habitat Surveys Training Course Manual (SFCC, 2007⁶) and the Environment Agency's Restoration of Riverine Salmon Habitats Guidance Manual (Hendry & Cragg-Hine, 1997⁷) and a review of key habitat requirements for other species of conservation significance (e.g. Maitland, 2003⁸; Hendry & Cragg-Hine, 2003⁹).

⁵ NatureScot (2021) *Bats and onshore wind turbines: survey, assessment and mitigation*. Version: August 2021. Document jointly prepared with Natural England, NRW, RenewableUK, Scottish Power Renewables, Ecotricity Ltd., the University of Exeter and the Bat Conservation Trust (BCT).

⁶ Scottish Fisheries Coordination Centre (2007) *Electrofishing Team Leader Training Manual*. Scottish Fisheries Coordination centre, Fisheries Research Services, Pitlochry, Perthshire.

⁷ Hendry, K. & Cragg-Hine, D. (1997) *Restoration of Riverine Salmon Habitats: A Guidance Manual*. R&D Technical Report W44. Environment Agency, Bristol.

⁸ Maitland P.S. (2003) *Ecology of the River, Brook and Sea Lamprey*. Conserving Natura 2000 Rivers Ecology Series No. 5. English Nature, Peterborough.

⁹ Hendry, K. & Cragg-Hine, D. (2003) *Ecology of the Atlantic Salmon*. Conserving Natura 2000 Rivers Ecology Series No. 7. English Nature, Peterborough.

The survey area will include all watercourses within the Site and accessible sections out to 100m from the Site.

Figure 6 shows the survey area and those watercourses that will be appraised during the fish habitat surveys.

Figure 1: Extended Phase 1 Habitat Survey Results.

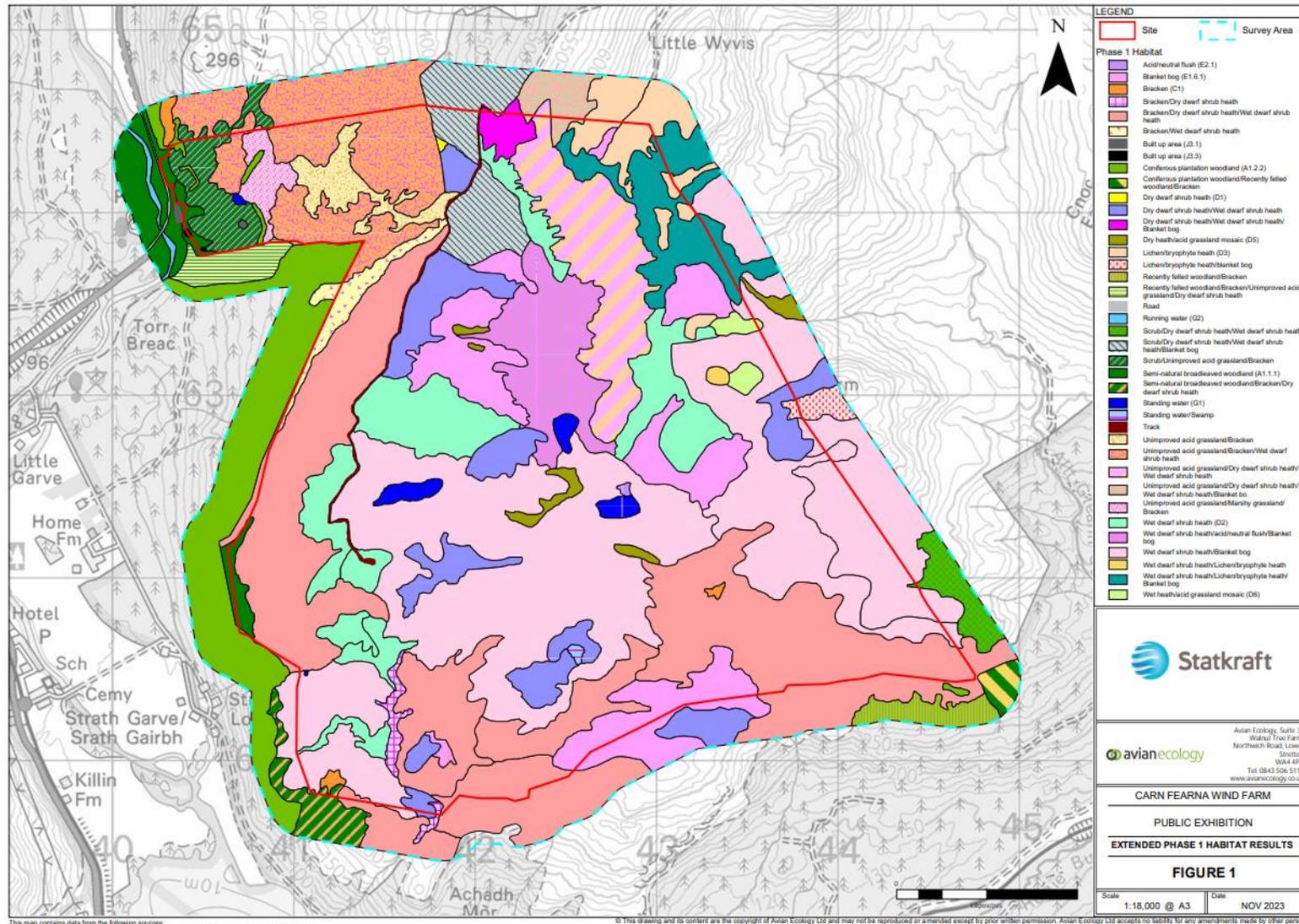
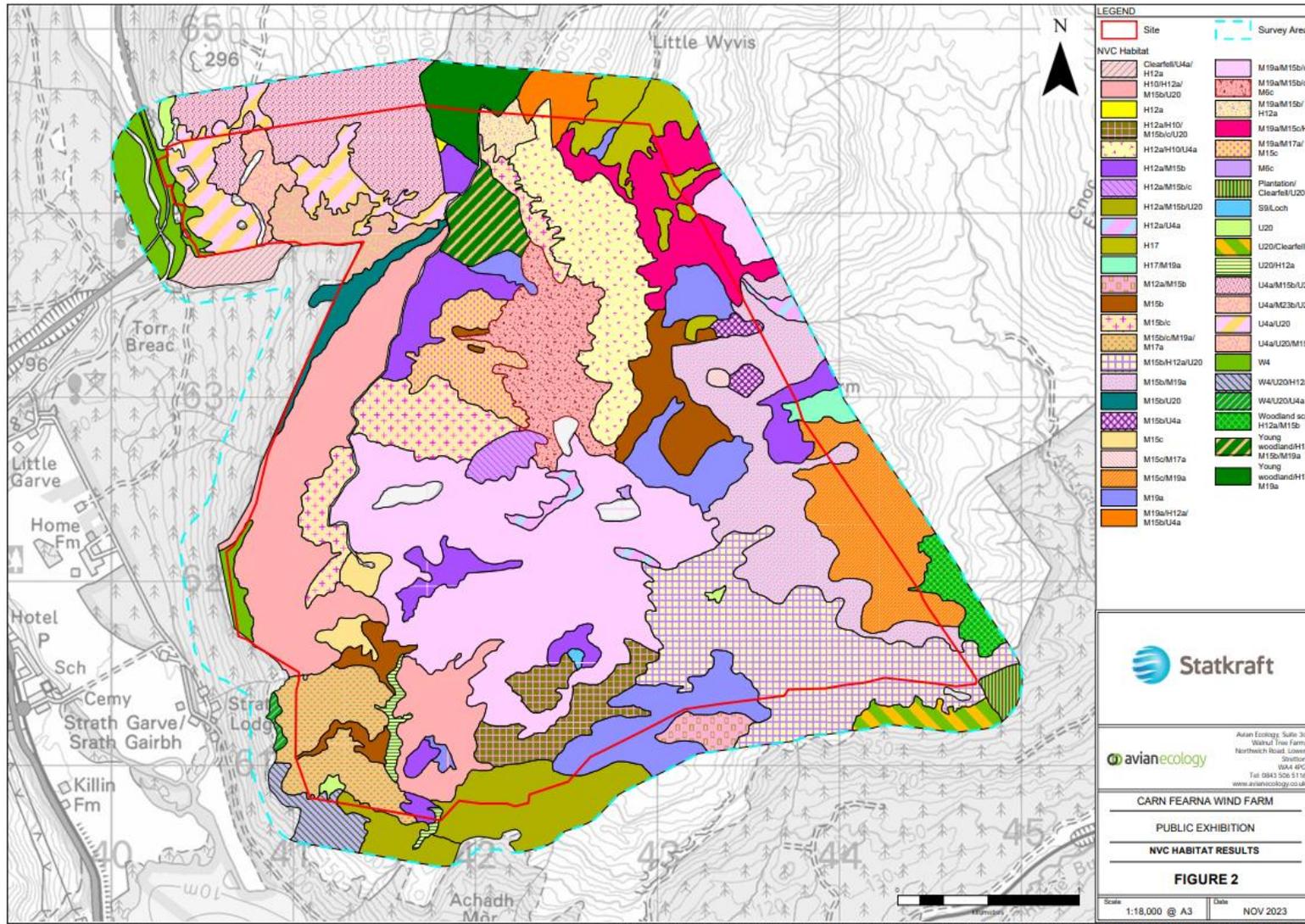


Figure 2: NVC Survey Results.



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Figure 3: Protected Terrestrial Mammal Survey Results.

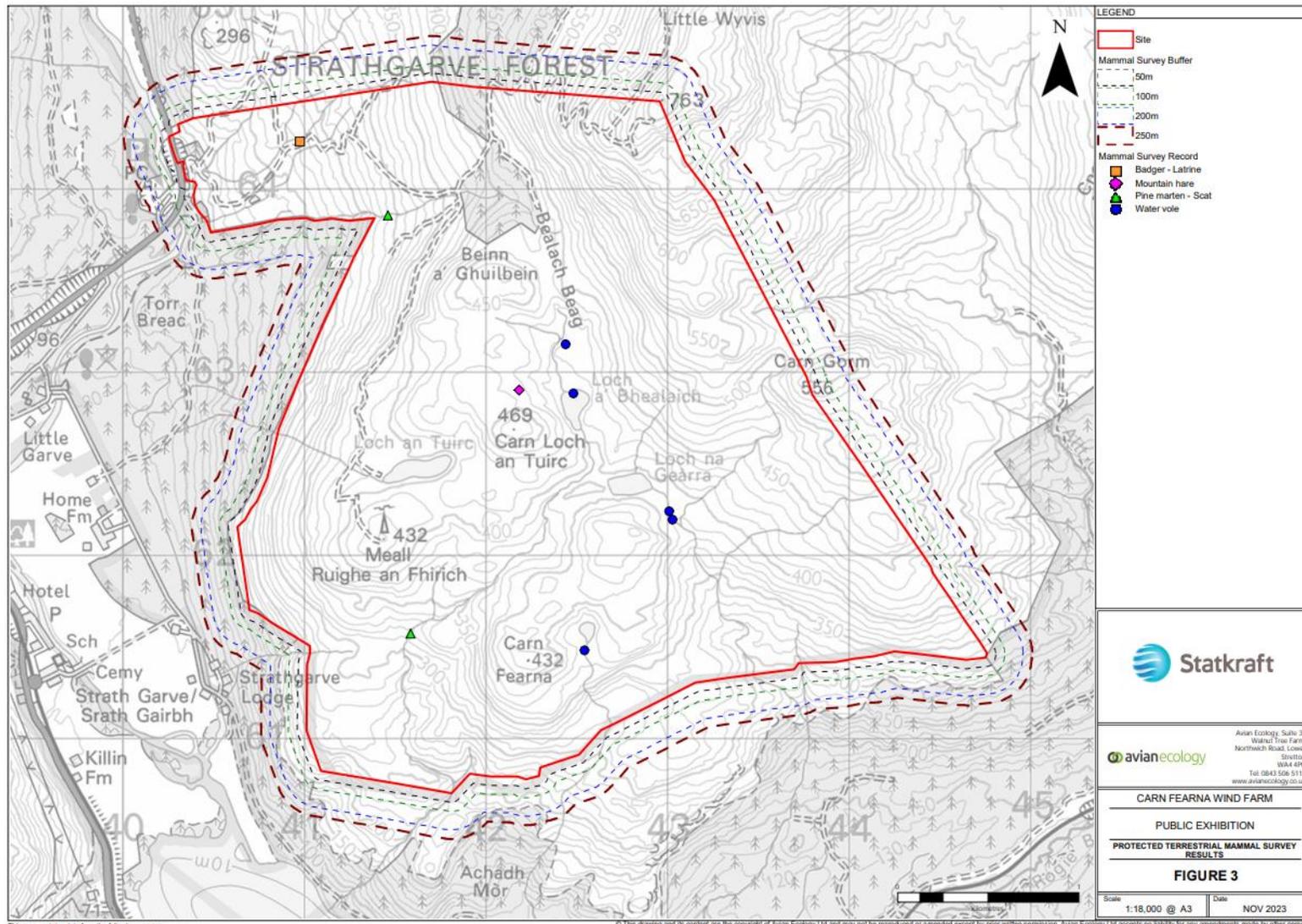
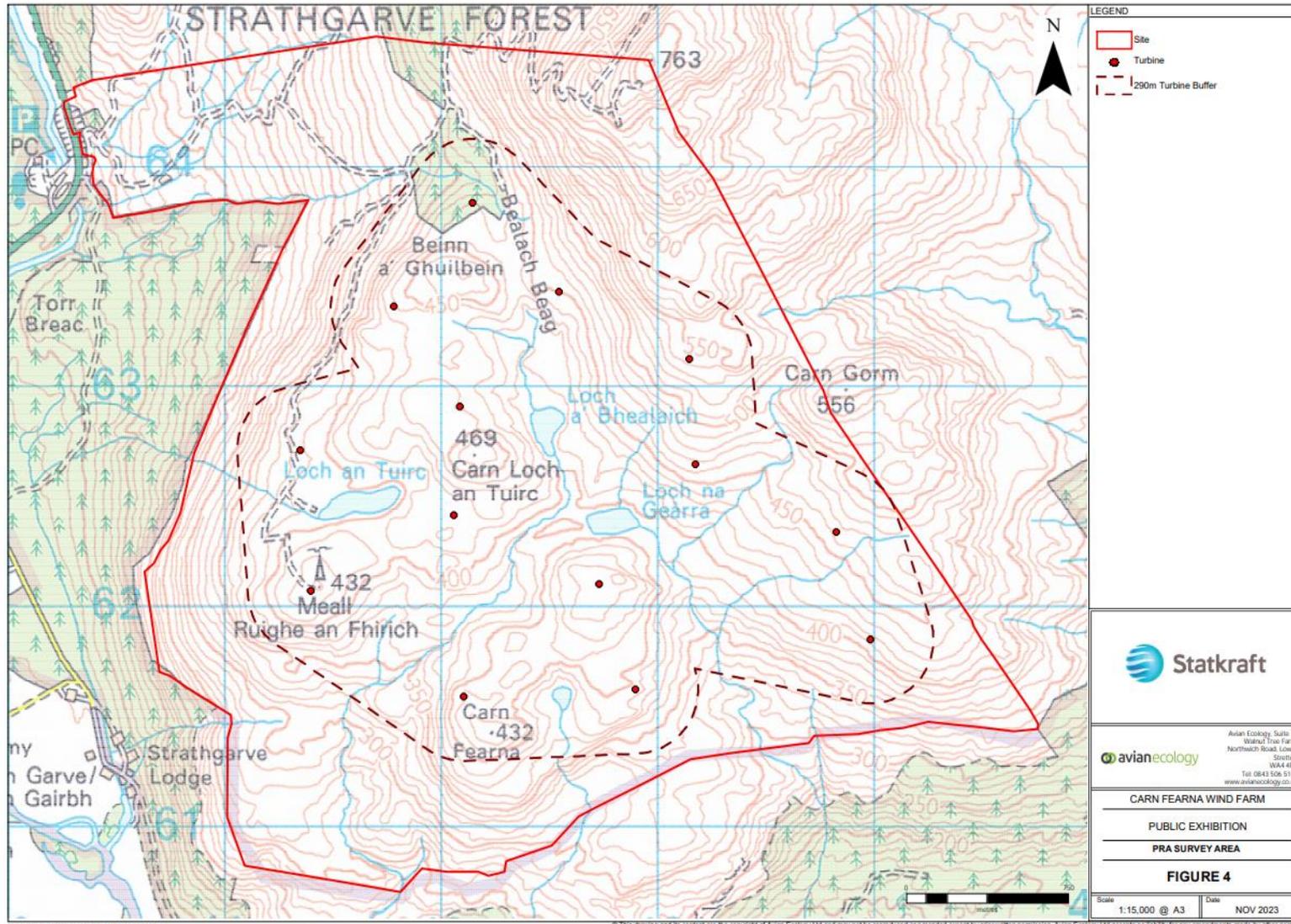


Figure 4: PRA Survey Area.



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Figure 5: Bat Static Detector Locations for Bat Activity Surveys.

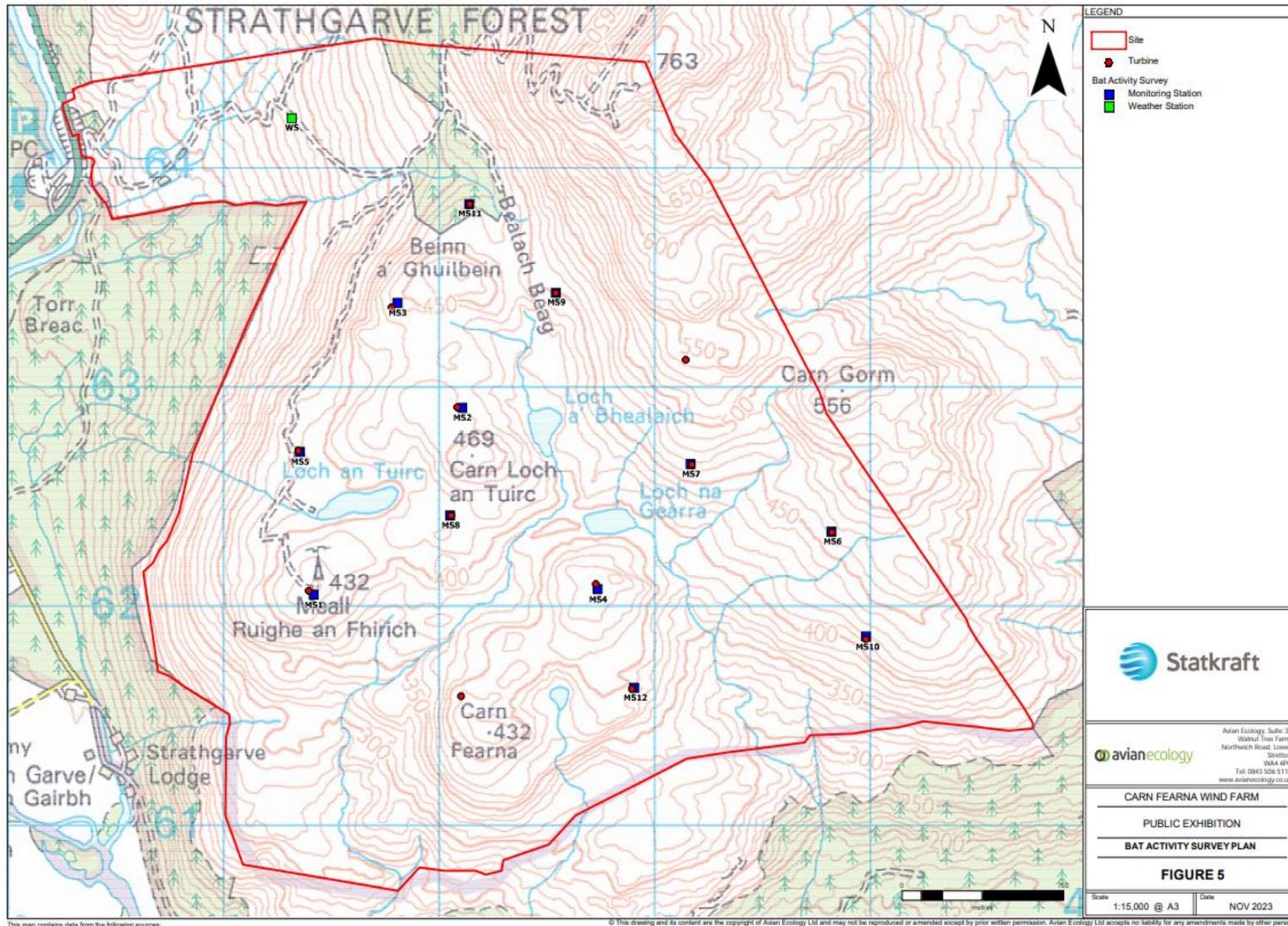


Figure 6: Fish Habitat Survey Area.

