



Water Vole Survey Report:

Watercourse and lake at
Park Gardens,
Begelly,
Pembrokeshire,
SA68 0AA

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Summary

I & G Ecological Consulting Ltd were commissioned to undertake a water vole (*Arvicola terrestris*) assessment of water features at Park Gardens, Begelly, Pembrokeshire (Fig.1). The survey is to support a planning application for a Tourist Attraction comprising a number of accommodation units (currently 22), and associated infrastructure, including communal parking area and reception building.

There is a man-made lake on the northern section of the site which drains to an un-named watercourse running through wet woodland to the east.



Figure 1. Aerial image of the site with the approximate site boundary is shown in red. (from Apple® Maps).

The survey was undertaken on the 4th May 2025. No signs of water vole were observed on either the lake or the watercourse. Habitat suitability on the lake is mainly “Suitable but Poor”, with the watercourse providing “Negligible” habitat.

Given the isolated nature of the site and the lack of water vole populations in Pembrokeshire, it is considered that water vole are not a material consideration in this application.

1. INTRODUCTION

The survey relates to proposals to support a planning application for a Tourist Attraction at Park Gardens, Begelly, Pembrokeshire (Fig.1). Comprising a number of accommodation units (currently 22), and associated infrastructure, including communal parking area and reception building.

This report presents the findings of a desk study and a site appraisal undertaken in May 2025. The report outlines the ecological constraints/opportunities associated with the site in relation to water vole.

2. METHODOLOGY

A desk-based survey and an ecological site survey were undertaken to determine the suitability of the site for water vole, and establish how they may be utilizing the lake and adjacent river catchment.

The un-named stream was surveyed from the downstream point where it exits the development boundary (SN 12002 07374) to a point above the outlet from the lake (SN 12006 07604) where ground conditions prevented further access. The entire edge of the lake and the minor waterbodies at the southern end were also surveyed. The survey was conducted during the optimal survey period, in a period of settled, mild weather.

The survey was undertaken in line with current recommendations (Dean 2021). The watercourse and lake were surveyed from both within the channel and from the top of bank. A thorough search was made for signs of water vole activity – feeding piles, latrines, runways and burrow systems. Relevant signs were mapped and photographed.

Habitat was assessed for its suitability for water vole based on the “Best practice guidelines” (Strachan, Moorhouse & Gelling 2011; Dean 2021) together with surveyor experience. A range of hydrological and physical features were assessed e.g. water depth, flow, channel width, bank profile and bank structure (earth, rock, concrete, etc.). The type, width and density of bankside and marginal vegetation and therefore its ability to provide cover from predators and feeding resource was also noted. Habitat suitability was mapped as either: Optimal, Good, Suitable but Poor or Negligible.

This assessment was based upon:

- flow rate of water bodies - water voles prefer static to moderate flowing water bodies;
- water depth - water voles prefer water bodies to have a depth of at least 0.3m;
- suitability of vegetation - water voles require stands of emergent vegetation or tall grasses on which to feed; areas of heavily shaded, wooded bank provide little suitable feeding habitat;
- the composition of habitat types - availability of non-linear foraging habitat may provide refuge from mink predation even where mink is present;
- bank suitability - water voles require areas of soft bank in which to excavate their burrows, overly rocky bank habitat is unsuitable; and

- the status of mink in the local area.



Figure 2. Area surveyed (Google)

3. Desk Study

- Water vole, though historically present in suitable habitat along much of the south Wales's coast, were assumed to have been lost from this area due to habitat degradation and mink predation by the 1990's. Survey work in the late 1990's and early 2000's found no evidence of extant populations.
- The nearest known populations are on the Duke's Meadow and Railsgate Pill that drain the Pendine area of west Carmarthenshire.
- The author is unaware of any records from this area of Pembrokeshire, and no records were returned from the LRC data search or the NBN.

4. SURVEY RESULTS

Habitat throughout the surveyed section is of varying quality for water vole (Fig. 3).

Channel and bank characteristics and adjacent land use along the sections is summarized in Table 1.

Reach	Width	Depth	Bank Height	Profile	Habitat LHB	Habitat RHB	Other
1 to 2	1.0	0.2	1	Good	Wet woodland	Wet woodland	Heavily shaded. No instream vegetation. Banks mainly liverworts and mosses
3	n/a	0.2	0.05	Poor	Wet woodland	SI	Heavily sedimented and shaded pools
4	n/a	1.5	0.7	OK	Wet woodland	n/a	Rush dominated
5	n/a	0.3	0.2	Poor	Reedbed	n/a	Relatively open
6	n/a	0.3	0.7	Poor	SI	n/a	Mown/grazed shallow margins with little bank

Table 1. all measurements in metres

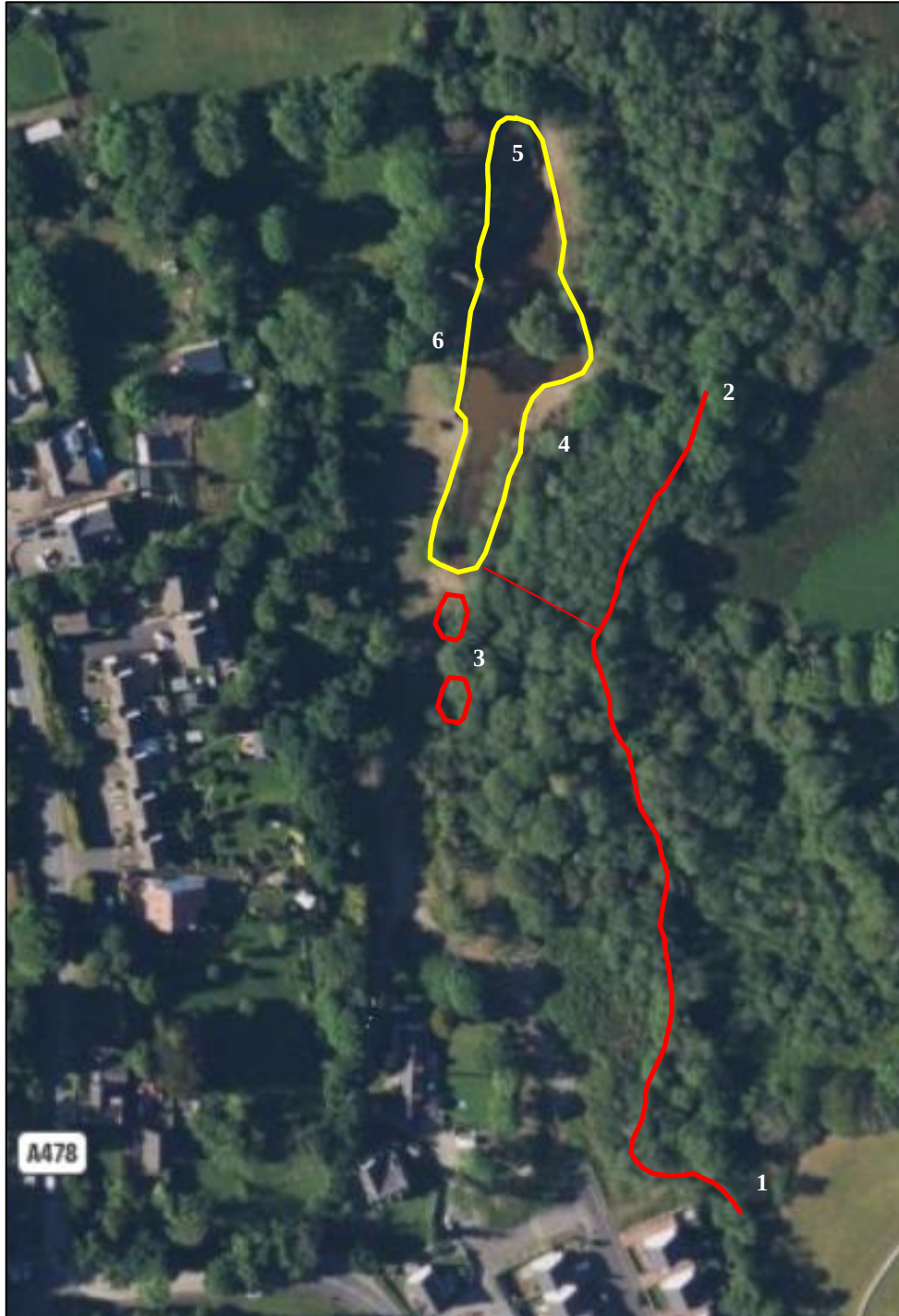


Figure 3. Habitat Suitability (Google)

Negligible — Suitable but poor — Good — Optimal



Reach 1 to 2

The stream flows through dense wet woodland and is heavily shaded. Channel width varies between 1 and 1.5m, depths are mainly shallow with occasional pools. Channel bed is composed of fine gravels and occasional pebbles. Banks are composed of clay and profiles and heights are good, but poorly vegetated due to shading. Habitat is ideal for mink. No signs of water vole were observed in this section. This reach would allow for water vole to disperse but provides **negligible** habitat (Fig. 5 - 7).



Fig. 5



Fig. 6



Fig.7

A shallow seepage/ditch connects the stream to the lake, flowing through shaded woodland with an understory of bramble, nettle and hemlock water-dropwort (Fig. 8)



Fig. 8

Reach 3

Two seasonal waterbodies are present immediately south of the lake. These are heavily sedimented, shallow, shaded and with no banks for burrowing. They may provide limited foraging opportunities but their habitat value is **negligible** (Figs 9-10).



Fig. 9



Fig.10

Reach 4

The eastern bank of the lake provides good burrowing opportunities for water vole with relatively steep clay banks and a good uplift above water levels. Water depths are good. The bankside vegetation is dominated by soft rush, providing good cover but poor feeding opportunities. Marginal vegetation is poor, restricted to blocks of reedmace, and the top of bank is previously mown and open. Shading from the adjacent woodland and bankside trees further reduces the habitat value for water vole. No signs of water vole were observed in this section. This section of the lake provides **suitable but poor** water vole habitat (Fig. 11-13).



Fig.11



Fig.12



Fig.13

Reach 5

At the top end of the lake is an area of reedbed. This would provide suitable areas to forage, but is relatively open and would provide a low degree of cover from predators. No evidence of water vole was observed, and this area would provide **suitable but poor** water vole habitat (Fig.14).



Fig.14

Reach 6

The western lake shore has a shallower profile with little uplift of bank above water level making burrowing opportunities limited. Marginal vegetation is more diverse with reed and reedmace fringing the bank edge. Bankside vegetation is more palatable

but is grazed by Canada geese, and has been mown in a strip beyond the bank edge providing low cover. No evidence of water vole was observed, and this area would provide **suitable but poor** water vole habitat (Fig.15-16).



Fig.15



Fig.16

5. CONCLUSIONS

No evidence of current or historical water vole presence were observed during the survey.

Habitat along the stream is negligible. While the lake could support limited populations, habitat quality is variable and burrowing opportunities are currently limited to the eastern bank.

Water vole populations fluctuate widely outside their core area, with local extinctions, due to disease, predation etc. and then recolonization from the core populations nearby as juveniles disperse – so called meta-population dynamics. The site is isolated and there are no known populations of water vole in the wider area. The adjacent wet woodland provides suitable habitat for mink.

It is considered that water vole are not a material consideration for this application.

LEGISLATION

Water vole and the Law.

Water voles are listed under Schedule 5 of the Wildlife & Countryside Act 1981, receiving full protection since 2008. The Wildlife & Countryside Act 1981 (as amended), lists the following offences: -

- Intentionally kill, injure or take water voles (Section 9 (1)).
- Possess or control live or dead water voles or derivatives (Section 9 (2)).
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection (Section 9 (4) (a & c)).
- Intentionally or recklessly disturb water voles whilst occupying a structure or place used for that purpose (Section 9 (4) (b)).
- Sell water voles or offer or expose for sale or transport for sale (Section 9 (5)).
- Publish or cause to be published any advertisement which conveys the buying or selling of water voles (Section 9 (5)).

Water vole are considered of 'principle importance' under Section 7 of the Environment (Wales) Act 2016. This places a duty on every public authority, in exercising its functions, to have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.

Under the National Planning Policy Framework (NPPF April 2012), the presence of any Protected Species are a material planning consideration. The ODPM 06/2005: Biodiversity and Geological Conservation – Statutory Obligations and Their Impact within the Planning System, provide additional advice and support the NPPF.

Water vole are also protected by;

- Natural Environment and Rural Communities Act 2006 and now the Environment (Wales) Act 2016.
- In addition water vole is a UK Biodiversity Action Plan species and is also listed as a Species of Principal Importance and states that Local Authorities should ensure that they are protected from the adverse effects of development. Where appropriate, by using the planning conditions or obligations.

Environment Act (Wales) 2016

This act has replaced the section 40 duty in the Natural Environment and Rural Communities Act 2006 (NERC Act 2006), in relation to Wales, and applies to those authorities that fell within the previous duty. It came into force in May 2016.

Section 6 of the Act places a duty on public authorities to 'seek to maintain and enhance biodiversity' so far as it is consistent with the proper exercise of those functions. In so doing, public authorities must also seek to 'promote the resilience of ecosystems'. Under Section 6 public authorities will be required to report on the actions they are taking to improve biodiversity and promote ecosystem resilience.

Section 7 of the Act places a duty on public authorities to take steps to maintain and enhance biodiversity. This section replaces the duty in section 42 of the NERC Act 2006. The Section 7 Priority Species under this act is a list of the living organisms of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales. The Section 7 Priority Habitats is a list of the habitats of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales.

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