

GOULD ECOLOGY LTD

Ecological Consultants

**Proposed New
Fruit Processing Area**

**Land off the A474 - Neath Road,
Cilybebyll, Rhos,
Neath Port Talbot SA8 3JB**

**Appraisal of Ecological Impacts to
Fforest Goch Bog SSSI**

September 2022



Document Information

Project Details	Proposed New Fruit Processing Area
Client	Mr Marc O'Mahoney
Document Type	Ecological Appraisal in relation to adjacent SSSI - Desk Study

Previous Ecological Studies
Preliminary Ecological Appraisal: Land off the A474 - Neath Road, Cilybebyll, Rhos, Neath Port Talbot SA8 3JB. A report prepared for: Messrs David and Marc Mahoney By 4 Seasons Ecology, December 2021

Document Version	Details	By	Date
1	Prepared	Richard Gould	7 th Sept 2022
	Checked	Richard Gould	8 th Sept 2022
	Issued to Client		8 th Sept 2022

Disclosure

"The information which we have prepared and provided is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's (CIEEM) Code of Professional Conduct. I confirm that the opinions expressed are our true and professional bona fide opinions"

Signed



Richard Gould

Contents

	Page
Executive Summary	3
1. Introduction & Background	4
2. Fforest Goch Bog SSSI Description	5
3. Appraisal of Ecological Impacts to the SSSI	6
4. Mitigation	11
5. Conclusions	11
References	12
<i>Figure 1: Site Location</i>	4
<i>Figure 2: Proposed Site Plan</i>	7
<i>Figure 3: OS Map showing landform and existing drainage channels</i>	8
<i>Table 1: Summary of Potential Ecological Impacts to the SSSI</i>	10

Executive Summary

In September 2022, Gould Ecology were commissioned to prepare a desk based study in order to assess potential ecological impacts to the Fforest Goch Bog SSSI in relation to a proposed new Fruit Processing Area.

The study concluded that risks of adverse impacts to the SSSI could be caused through inadvertent damage during the construction phase or through pollution caused during construction or in the long term.

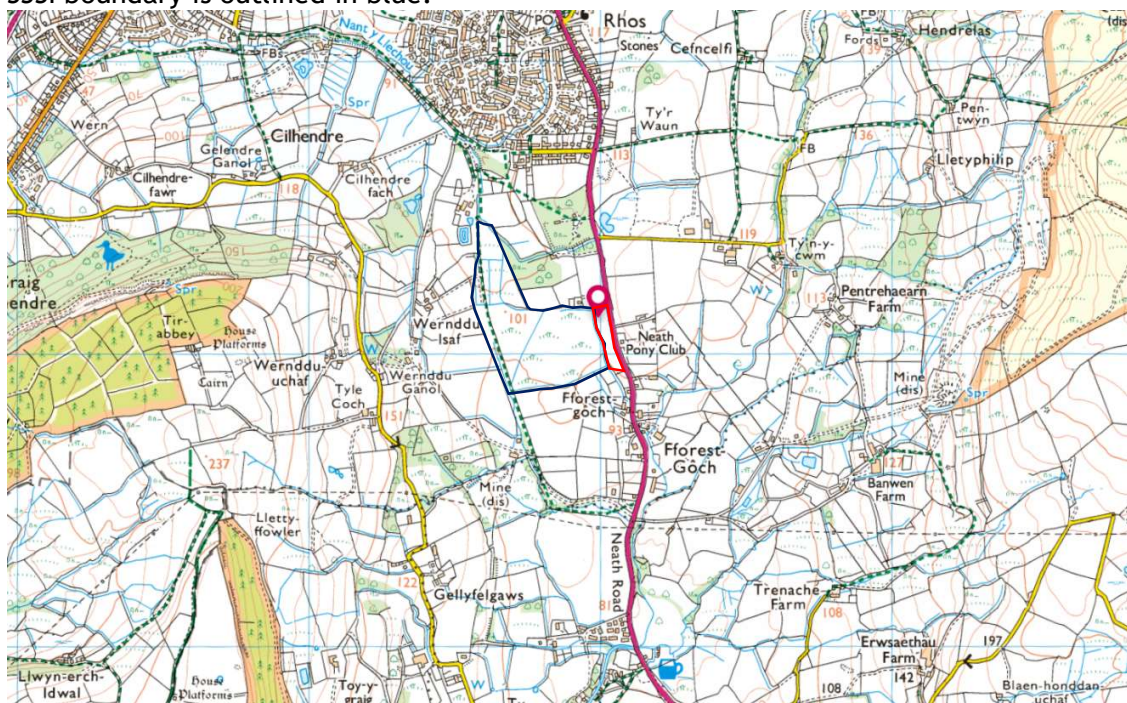
However, risks of pollution or changes to hydrology were considered to be very low, as the land-form and existing drainage channels would be likely to carry water from the site away from the SSSI.

Any risks of adverse impacts to the SSSI shall be avoided by implementation of appropriate construction phase working methods, and through the design of appropriate toilet facilities.

1 Introduction and Background

- 1.1 In September 2022, Gould Ecology were commissioned by Mr Marc O'Mahoney to provide an appraisal of potential ecological impacts to the Fforest Goch Bog SSSI in relation to a proposed new Fruit Processing Area on land off the Neath Road, Cilybebyll, Rhos, Neath Port Talbot SA8 3JB.
- 1.2 The application site is located within a strip of land adjacent to the *Fforest Goch Bog Site of Special Scientific Interest (SSSI)*, which borders to the site to the west. The proposed location of the new Fruit Processing Shed is at the north-west corner of the plot (OS Grid. Reference SN 74012 02136), as shown in Figure 1, below.

Figure 1: Site Location in relation to Fforest Goch Bog SSSI - The application site boundary is outlined in red, with the proposed shed location shown by the pin. The SSSI boundary is outlined in blue.



- 1.3 A Preliminary Ecological Appraisal for the site was prepared by 4 Seasons Ecology in December 2021, and submitted with the planning application which indicated that the risk of adverse impacts associated with the project would be negligible, provided inadvertent damage by contractors was avoided.
- 1.4 However, the Planning Authority has stated that *“The applicant has failed to demonstrate that the development would not result in any detrimental impact on the adjoining SSSI. As a result of insufficient information, the proposed development fails to accord with Policies SP15, EN6 and EN7 of the of the Neath Port Talbot LDP “*
- 1.5 The purpose of this document is to provide the information requested by the Planning Authority. Section 2 provides a description of the important features of the Fforest Goch Bog SSSI, Section 3 provides an appraisal of potential ecological impacts to the

SSSI that could result from development of the proposed Fruit Processing Area and Section 4 describe measures that would be required to avoid or mitigate any adverse impacts.

- 1.6 This document was prepared by Richard Gould ACIEEM, MA, BSc(Hons) of Gould Ecology Ltd, a Pembrokeshire-based ecological consultancy. Richard is an ecological consultant with over 17 years of experience which includes protected species works, habitat surveys and ecological impact assessments in West Wales.
- 1.7 This document was based upon desk study methods only, comprising a review of the project plans, use of OS maps and overhead imagery, previous ecological appraisal report (4 Seasons Ecology, 2021) and SSSI citation and management advice documents.

2 Fforest Goch Bog SSSI Overview

- 2.1 The Fforest Goch SSSI is located immediately adjacent to the application site boundary, as shown in Figure 1, above.
- 2.2 The Fforest Goch Bog SSSI is a rain fed (ombrogenous) raised bog. The bog comprises a layer of deep peat (former over many thousand years) with a surface layer of bog and marshy grassland vegetation. The bog is considered 'active' as the vegetation layer is continuing to form peat. Active bogs are rare habitats of high nature conservation value which form over very long timescales and can be difficult to restore if damaged.
- 2.3 The SSSI citation states that *'the main habitats present at the site are lowland raised bog and marshy grassland with an edging of scrub on the westerly side.... The bog has a characteristic domed profile, with two high points. Failed attempts at drainage can be clearly seen around and within the site, most notably a choked drain bisecting the mire. This drain appears to have split a single dome into the two bog domes that can now be seen.'*
- 2.4 The bog supports a range of vegetation associated with changes in wetness gradients, including heaths, cotton-grasses, sedges, purple-moor grass and bog-mosses. The site also supports round-leaved sundew *Drosera rotundifolia* and a rare liverwort *Cladopodiella fluitans*.
- 2.5 The Fforest Goch Bog is considered *'by far the best and much the least disturbed example of a very rare habitat in West Glamorgan and Llanelli, with only three other possible sites known in this area.'* (Fforest Goch Bog - Your Special Site and Its Future, CCW).
- 2.6 Bog habitats are particularly sensitive to changes in hydrology, and can also be damaged by changes to management, tree planting, excavation works or use of vehicles.
- 2.7 CCW/NRW advice for the site states that management of the SSSI should aim to preserve its special features, and must avoid any damaging activities, such as

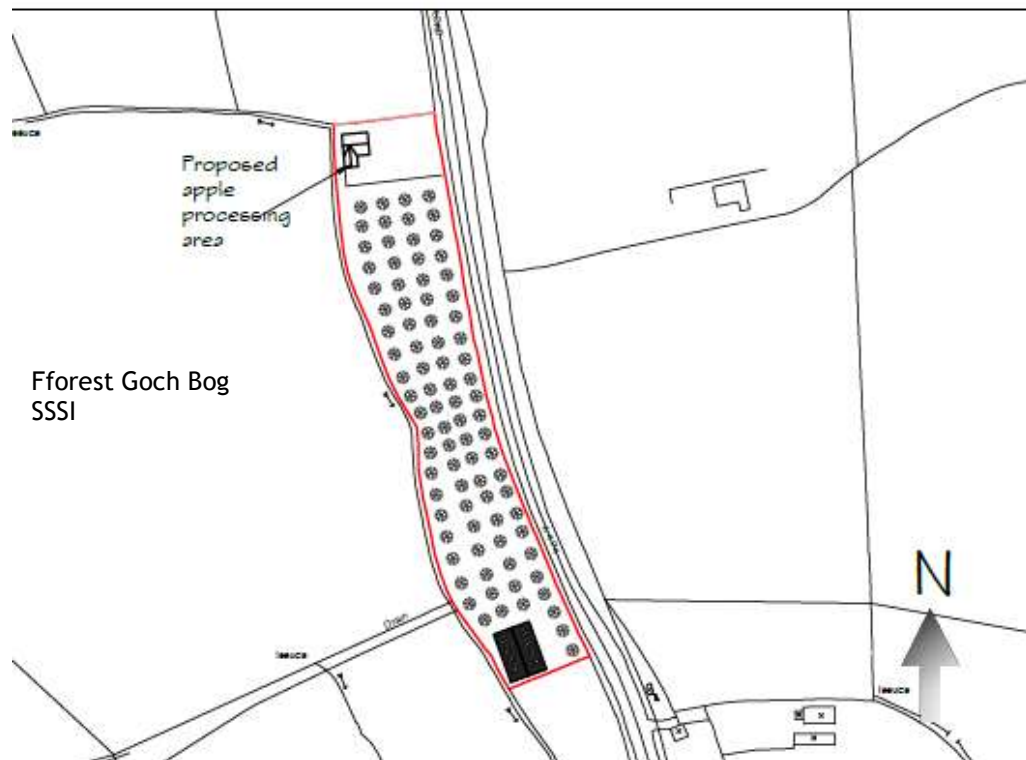
drainage, burning or over-grazing. Low intensity grazing with cattle is appropriate for retaining the bog vegetation.

- 2.8 A more extensive list of activities with potential to damage the bog habitat (for which consent for NRW would be required) is provided in the document '*Site of Special Scientific Interest - Operations Requiring Consent from CCW - Fforest Goch Bog*', which includes changes to agricultural management practices (such as grazing, ploughing, seeding, cultivating); dumping or spreading of materials, release of animals, killing, injuring or taking any wild animal or taking of eggs; removal of plants or plant material, vegetation management/ tree removal; tree planting; drainage or modification of water-courses; changes to drains or water-courses; alterations to water levels and tables; mineral extractions; creation of/ changes to vehicle tracks; storage of materials or erection of permanent or temporary structures.
- 2.9 In terms of developments within adjacent land, potentially damaging activities would include actions which cause changes to hydrology of the SSSI, potential sources of pollution to the SSSI or physical damage or disturbance to the SSSI.
- 2.10 The boundary of the project site with the SSSI is demarcated by a hedge with trees and wet ditch which drains around the SSSI boundary to the south

3 Appraisal of Ecological Impacts to the Fforest Goch SSSI

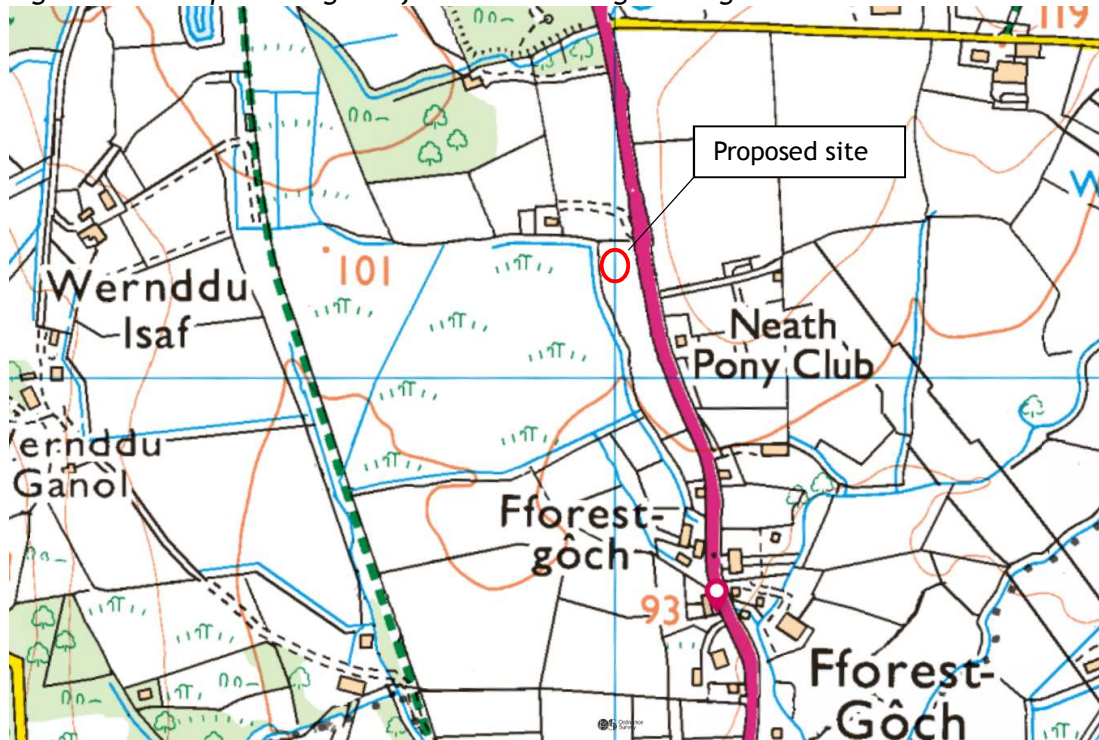
Summary of Proposed Project Actions

- 3.1 Details of the proposed project are shown in the drawing '*Land At Neath Road, Fforest Goch, Pontardawe - Proposed Fruit Processing Area. Drawing No. TAL22/16/01*' by Tecta Associates Ltd.
- 3.2 The proposals would include construction of a new fruit processing shed in the north-west corner of the plot (13m x 10m at greatest extent), as shown in Figure 2, below.
- 3.3 The shed will be timber framed and timber clad with a roof of black corrugated panels. The foundations will be of strip concrete, concrete raft or concrete pad stones. Vehicle access would be provided from the road on the eastern margin using gravel on soil.
- 3.4 The construction would include the use of a 1.5 tonne excavator to level the ground and create the foundation holes.
- 3.5 Project operations would include washing and pressing of apples, bottling and storage of apple juice and office administration. A washing area for personnel would also be provided.

Figure 2: Proposed Site Plan*Aspect and Drainage*

- 3.6 The location of the proposed shed is on approximately the same height above sea level as the SSSI. A drainage ditch occurs along the hedge on the boundary between the SSSI and project site, which drains to the south.
- 3.7 The bog is rain-water fed and its domed shape would likely cause water to drain from the site centre to the ditches on the margins. The bog does not appear to be fed by ground-water flows.
- 3.8 Due to the land-form and presence of the intervening drainage ditch, it is considered unlikely that run-off or ground water would move from the development site into the SSSI, or that excavations for the new building would cause significant changes to the hydrological conditions of the SSSI.

Figure 3: OS Map showing landform and existing drainage channels



Construction Phase Impacts

- 3.9 During construction, a localised area of excavation would be required for the footprint of the new shed. The excavation works would not directly affect the SSSI and would be very unlikely to affect the hydrology of the SSSI, as discussed in 3.7 and 3.8, above.
- 3.10 In addition, areas within the plot would be required for vehicle parking and storage of materials during construction. Provided these were situated away from the SSSI, no direct disturbance or impacts relating to hydrology would be anticipated.
- 3.11 The construction phase could potentially generate polluting materials such as cement, oils, petroleum products, paints, timber treatments etc. If any such material were to be released to the SSSI, this could result in adverse impacts to the SSSI (probably localised and relative small in scale). Therefore, working methods shall include methods for pollution prevention during the construction phase.
- 3.12 Due to the proximity of the project site from the SSSI, there would be potential for inadvertent or reckless damage to the SSSI during the construction phase. However, this could be avoided by appropriate construction phase working methods (including briefing of construction personnel, designation of appropriate areas for storage of materials, vehicle parking, provision of suitable washing areas and toilet facilities).

Operational Phase Impacts

- 3.13 During operation, the processing of apples would represent a very low risk of pollution or other adverse impacts. Risks of pollution could occur if arrangements for sewerage were poorly designed. However, this would be avoided through appropriate location and design of such facilities.
- 3.14 Changes to the drainage of the project site could be caused by the construction of the shed and associated hard surfaces. However, it would be unlikely that any such changes would affect the hydrology of the adjacent SSSI due to the land-form and presence of an intervening drainage ditch on the boundary (which would direct any excess water to the south along the site margin). In addition, arrangements shall be made to capture and store run-off water from rain and apple-harvesting.

Table 1: Summary of Potential Ecological Impacts to the SSSI

Project Element / Action	Potential Impact	Risk	Potential Scale of Impact	Mitigation
Inadvertent damage to SSSI during construction	Damage caused to the SSSI through driving or parking heavy machinery or materials storage	Low	Moderate - significant damage to localised areas could be caused	Contractor briefing and provision of suitable facilities within the project site
Washing of equipment / leakage of construction materials or vehicle fuel	Pollution to SSSI caused by run-off	Low - unlikely to reach SSSI due to current drainage conditions	Moderate - likely to be localised	Designated area for materials storage and washing. Careful methods to be used for disposal of liquids
Toilet facilities for construction personnel	No provision of facilities could lead to contractors utilising SSSI. Poor siting or design of facilities could lead to pollution	Moderate	Low - impact likely to be short duration and localised	Provision of suitable toilet and washing facilities for construction personnel.
Pollution caused by inappropriate sewerage arrangements during operation	Ongoing pollution of the SSSI in the worst case	Low - unlikely to reach SSSI due to current drainage conditions	High - ongoing pollution of the SSSI could potentially have significant and long duration impacts	Toilet facilities to be designed to avoid risk of pollution to SSSI
Changes to hydrology of SSSI due to changes of drainage at the site	Changes to hydrology could affect plant communities.	Negligible - changes to drainage at the site unlikely to affect the SSSI due to intervening drainage ditch	N/A	No mitigation required in relation to the SSSI - Rainwater and water from apple-washing shall be harvested

4 Mitigation

Mitigation for Construction Phase Impact

- 4.1 Prior to the start of works, site personnel shall be briefed on the sensitive nature of the adjacent SSSI and the site boundaries. Personnel shall be advised that the SSSI must not be accessed or used for any purpose.
- 4.2 Personnel shall be briefed on the location of designated areas on site for vehicle parking, materials storage, re-fuelling of machinery, washing facilities and methods used for the storage and disposal of potentially polluting liquids such as oils, paints, fuel etc.

Construction Phase Methods

- 4.3 Designated areas for parking, re-fuelling of equipment and materials storage shall be provided at least 7m from the ditch marking the boundary with the SSSI.
- 4.4 All oils, liquids, paints etc. shall be stored in sealed containers in a designated area of the site.
- 4.5 Toilet facilities for construction personnel shall comprise porta loos, and shall be located near to the roadside boundary of the plot (and at least 7m from the ditch marking the boundary with the SSSI).

Mitigation for Operational / Long term Impacts

- 4.6 Toilet facilities shall be provided in the form of a composting toilet or sewage treatment plant.
- 4.7 The facility should be located at least 7m from the boundary of the SSSI and should be of a design that would avoid the risk of pollution or leakage.
- 4.8 Any sewage treatment plant should be of approved design (i.e. discharges only clear water) and composting toilets should be designed so that leakage of polluted water does not occur.
- 4.9 Any sewage treatment plant or compost toilet must be appropriately maintained for the duration of operation.

5 Conclusions

- 5.1 The proposed new Fruit Processing Shed represents a relatively small scale risk of adverse impacts to the adjacent SSSI, which shall be avoided by the implementation of suitable working methods and the appropriate design of toileting facilities.

REFERENCES

Preliminary Ecological Appraisal: Land off the A474 - Neath Road, Cilybebyll, Rhos, Neath Port Talbot SA8 3JB. A report prepared for: Messrs David and Marc Mahoney, 4 Seasons Ecology, December 2021

Site of Special Interest Citation, Fforest Goch Bog, CCW - downloaded from <https://naturalresources.wales/guidance-and-advice/environmental-topics/wildlife-and-biodiversity/protected-areas-of-land-and-seas/find-protected-areas-of-land-and-sea/?lang=en>

Fforest Goch Bog - Your Special Site and Its Future, CCW - downloaded from <https://naturalresources.wales/guidance-and-advice/environmental-topics/wildlife-and-biodiversity/protected-areas-of-land-and-seas/find-protected-areas-of-land-and-sea/?lang=en>

'Site of Special Scientific Interest - Operations Requiring Consent from CCW - Fforest Goch Bog', CCW - downloaded from <https://naturalresources.wales/guidance-and-advice/environmental-topics/wildlife-and-biodiversity/protected-areas-of-land-and-seas/find-protected-areas-of-land-and-sea/?lang=en>