

*Great Crested Newt (*Triturus cristatus*) Survey Report*

at

Southolt Hall, Southolt, Suffolk.

Carried out for:

Mark Beckham
c/o Beech Architects

1st

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CONTENTS

1	EXECUTIVE SUMMARY	1
2	INTRODUCTION	2
	BACKGROUND.....	2
	LEGISLATIVE CONTEXT.....	2
	SURVEY OBJECTIVES.....	3
	SITE DESCRIPTION.....	3
	GREAT CRESTED NEWT ECOLOGY	5
3	METHODS	6
	DESK STUDY	6
	GREAT CRESTED NEWT SURVEY	6
4	RESULTS.....	8
	DESK STUDY	8
	GCN SURVEY.....	8
5	CONCLUSIONS AND RECOMMENDATIONS.....	9
6	REFERENCES.....	10
	APPENDIX I – SITE MAPS	11
	APPENDIX II – SURVEY IMAGES.....	12
	APPENDIX III – HSI RESULTS & POND DESCRIPTIONS	13
	APPENDIX IV – SURVEY RESULTS	14

1 Executive Summary

- 1.1 Abrehart Ecology was commissioned by Mark Beckham, to conduct a great crested newt (*Triturus cristatus*) survey as part of a Protected Species Assessment at Southolt Hall Barns, Southolt (hereafter referred to as the Site).
- 1.2 The Site is approximately 0.07 ha and comprised of barns surrounded by grassland, hardstanding, and trees, within the grounds of Southolt Hall.
- 1.3 Surveys were undertaken to assess the presence or likely absence of great crested newts at the Site, or within 500m of the Site. A total of six surveys were carried out between the 18th May 2021 and 14th June 2021, following guidelines set out by Natural England.
- 1.4 Surveys recorded a 'low' population of great crested newts within ponds on/near to the Site. Therefore, it is a recommend that a **detailed site specific reasonable avoidance measures (RAMS) report is produced prior to the start of works.**

2 Introduction

Background

- 2.1 A great crested newt survey of Southolt Hall, Southolt, was undertaken on behalf of Mark Beckham in May and June 2021, following an initial Preliminary Ecological Appraisal (PEA) on the 8th December 2021 and an eDNA survey on the 23rd April 2021.
- 2.2 The survey was to form an assessment of the ecological impacts that proposed work on the Site may have on great crested newt populations in the area. Proposals include a barn conversion.
- 2.3 Data provided by Suffolk Biological Information Service concluded there was one record of GCN within 2km of the Site; from approximately 700m north-east of the site.
- 2.4 The survey aimed to ascertain the presence or likely absence of great crested newts using the Site, or within 500m, so that appropriate mitigation could be carried out if needed (such as the application for a Natural England (NE) European Protected Species (EPS) Mitigation Licence).

Legislative Context

- 2.5 Great crested newts are a European Protected Species and a Species of Principle Importance in England under Section 41 of the NERC Act (2006). They are fully protected under UK and European legislation, making it is an offence to intentionally or recklessly:
 - Kill, injure, or take great crested newts (or their eggs);
 - Possess, sell, transport or control alive or dead great crested newt or any part of them;
 - Damage or destroy any breeding or resting place; or
 - Obstruct access to a resting or shelter place.
- 2.6 Great crested newts are also listed on the Local Biodiversity Action Plan, as Suffolk is believed to be a stronghold for this species.
- 2.7 If great crested newts are recorded within 500m of the Site, then a license must be obtained from Natural England prior to undertaking any work which may affect them.

Survey Objectives

2.8 The objectives of this survey were:

- To determine the presence or likely absence of great crested newts within ponds on and surrounding the Site;
- Produce a population estimate, should great crested newts be recorded; and
- To make suggestions for habitat improvement, precautionary measures and mitigation, if required as part of a licence application.

Site description

2.9 The Site is located at the southern end of an access track leading to Southolt Hall, north of the village of Southolt, Suffolk.

2.10 The Site It is approximately 0.07 ha in extent and is formed of an agricultural barn and stables, with planted trees, hardstanding yards and access tracks, and grassland surrounding it. The surrounding landscape is dominated by agricultural land, pockets of woodland, and scattered small villages (see Figure 1).

2.11 A map showing pond locations can be found in Appendix I.

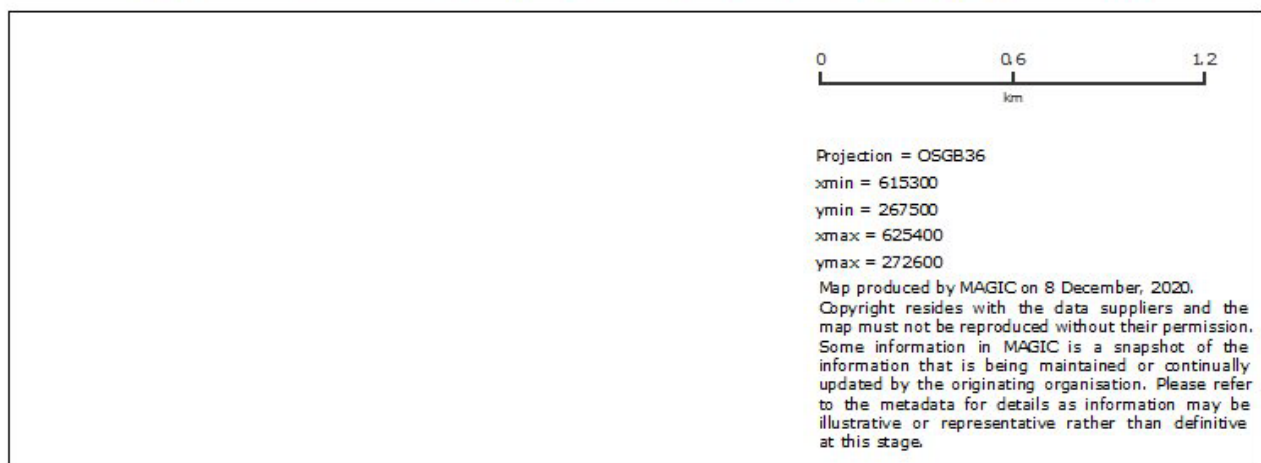


Figure 1. Site location.

Great Crested Newt Ecology

- 2.12 Great crested newts are distributed throughout the UK but are absent from Ireland. Despite a wide distribution, populations have reduced or disappeared from sites across Europe as a result of habitat loss and changes in farming practices (Froglife, 2017).
- 2.13 The great crested newt is the largest newt in the UK, reaching a length of up to 17cm. Male great crested newts develop a jagged crest along their backs during breeding season with a break at the base of the abdomen and a silvery flash along the centre of the tail. Both males and females have dark skin, with a 'warty' appearance, and orange underside with irregular black markings and white speckling. During their terrestrial phase the male loses his crest, however the female retains her orange tail stripe (Froglife, 2017; Inns, 2009).
- 2.14 Like other UK amphibian species, great crested newts use suitable waterbodies for breeding (often between March and June). Large ponds, with egg laying substrate (weeds, aquatic plants, grasses etc.) and no fish are favoured sites (Froglife, 2017). Whilst in their aquatic phase, great crested newts feed on invertebrates and tadpoles, relying on smell and vision to find their prey (Beebee, 2013).
- 2.15 Courtship and mating take place at night and female newts lay eggs individually on plant leaves, which are folded to protect the egg. Adults leave breeding ponds in July, with young newts remaining within ponds until August (Inns, 2009).
- 2.16 During their terrestrial phase (late summer, autumn, and winter) great crested newts feed on invertebrates and spend the majority of winter months sheltering beneath rocks, buried in mud, or within compost heaps (Froglife, 2017). Favoured terrestrial habitats include deciduous woodland, mature hedgerows, and undisturbed grassland (Inns, 2009).

3 Methods

Desk Study

- 3.1 Data obtained from the Suffolk Biodiversity Information Service was used to conduct a standard data search for any information regarding statutory and non-statutory sites and records of protected and priority species (including great crested newts) within a 2km radius of the Site.

Great Crested Newt Survey

Habitat Assessment

- 3.2 Habitats recorded throughout the Site were suitable to support amphibians, including great crested newts, during their terrestrial and breeding phases – as both commuting habitat and shelter and hibernating opportunities. Within the barns were damaged brickwork, voids, and damaged flooring that could support and conceal sheltering newts.
- 3.3 In addition to this, there were potential breeding opportunities surrounding the Site. The large moat/pond, and smaller ponds had shallow areas and potential displaying and egg-laying habitats for great crested newts. Although the larger pond regularly supported ducks and geese and contains fish, the smaller ponds were more suitable and denser reed growth within the moat provided shelter from these species.
- 3.4 Pond 1: A pond “L” shaped adjacent to Southolt Hall, that ended on a brick wall footbridge. This was partially shaded by bankside trees bamboo growth, scrub, and adjacent buildings. Aquatic macrophytes included celery-leaved buttercup (*Ranunculus sceleratus*), water mint (*Menta aquatica*) and yellow iris (*Iris pseudacorus*). A moorhen was seen using the pond, but no ducks were recorded. The eDNA results from 29th April 2021 for Pond 1 were negative.
- 3.5 Pond 2: A very large pond (or moat) in the grounds of Southolt Hall. There were two areas of reed (*Phragmites australis*) growth, providing potential cover for sheltering amphibians and nesting birds, mallards and a reed bunting was seen using the reedbed south of Southolt Hall. The banks and margins supported smaller areas of emergent vegetation (hard rush (*Juncus inflexus*) and branched bur-reed (*Sparganium erectum*)). Marginal areas were shallow, providing potential display habitat for breeding GCN; however, the dominant vegetation recorded was filamentous algae. Anecdotal evidence suggested that the pond contained good numbers of fish and is regularly used by wildfowl. The eDNA results from 29th April 2021 for Pond 2 were negative.
- 3.6 Pond 3: Located between two fields, this pond was surrounded by, and shaded by, scrub and broadleaf trees. It presented some blanket weed on the surface but also contained emergent vegetation such as water mint (*Menta aquatica*) typically used by female GCN for egg laying. It was connected to a ditch on its western margin, although this was dry at the time of survey. The eDNA results from 29th April 2021 for Pond 3 were positive.

Field Surveys

- 3.7 Six survey visits were undertaken by ecologists Sorrel Kiamil BSc MSc GradCIEEM (Natural England great crested newt license WML-CL08), Toby Abrehart (Natural England great crested newt license WML-CL08), on the 18th May 2021, 25th May 2021, 29th May 2021, 3rd June 2021, 8th June 2021 and 14th June. The survey was conducted following methods described by Natural England; Table 1 details the methods used during the surveys.

3.8 Great crested newt population estimates were classified following guidelines as described in Table 2.

Table 1: Great Crested Newt Survey Methods (Langton et al. 2001).

Method	Description
Bottle Trapping	An overnight survey involving the setting of traps in the evening and collecting them early in the morning.
Torching	Slowly searching a pond by torchlight (using spot lamps of one million candlepower) after dusk.
Egg Searching	Examining submerged, folded, vegetation for newt eggs.

Table 2: Great Crested Newt Population Status (Langton et al. 2001).

Survey Method	Population Score		
	Low	Good	Exceptional
Seen or netted (day)	<5	5-50	>50
Counted at night	<10	10-100	>100

4 Results

Desk Study

- 4.1 The Suffolk Biological Records Centre (now Suffolk Biological Information Service) returned one record of great crested newts within 2km of the Site; from approximately 700m north-east of the Site.

GCN Survey

- 4.2 Great crested newts were recorded in one surveyed pond (Pond three). A maximum count per survey of one adult male was recorded within pond three.
- 4.3 A peak count of one adult male newt was recorded whilst torching on the 18th May 2021, 29th May 2021 and a peak count of one adult male trapping on the 8th June 2021 indicating that a 'low' population exists in the local area.
- 4.4 Multiple Stickleback fish (*Gasterotenus aculaeatus*) were returned from every trap in Pond 2 on each survey date.
- 4.5 A map of pond locations and full results sheets can be found in Appendix I and IV respectively.

Survey Limitations

- 4.6 Survey start dates were delayed due to ongoing low temperatures in May 2021.

5 Conclusions and Recommendations

- 5.1 To determine the presence or likely absence of great crested newts in and around the Site (and produce a population estimate), six surveys were undertaken between the 18th May 2021 and the 14th June 2021 by experienced, licenced surveyors of ponds within 500m of the Site (ponds not ecologically separated from the Site).
- 5.2 Great crested newt adults were recorded within Pond three, approximately 180m north east of the Site. A peak count of one adult was recorded on the 18th May 2021, 29th May 2021 and 8th June 2021 indicating that a 'low' population of great crested newts exists within 500m of the Site.
- 5.3 The proposed development will include a barn conversion 180m northeast of Pond three. Due to the low population and the distance from the site the Natural England rapid risk assessment was used to determine if a license is required. The result of this was Amber due to the pond being within 100-250m from the breeding pond and between 0.01 – 0.1 ha of land being lost or damaged. Using non-licensed avoidance measures tools will reduce the risks of an offence being committed. It is recommended that a **detailed site specific reasonable avoidance measures (RAMS) report is produced prior to the start of works.** See appendix for full rapid risk assessment outcome.

6 References

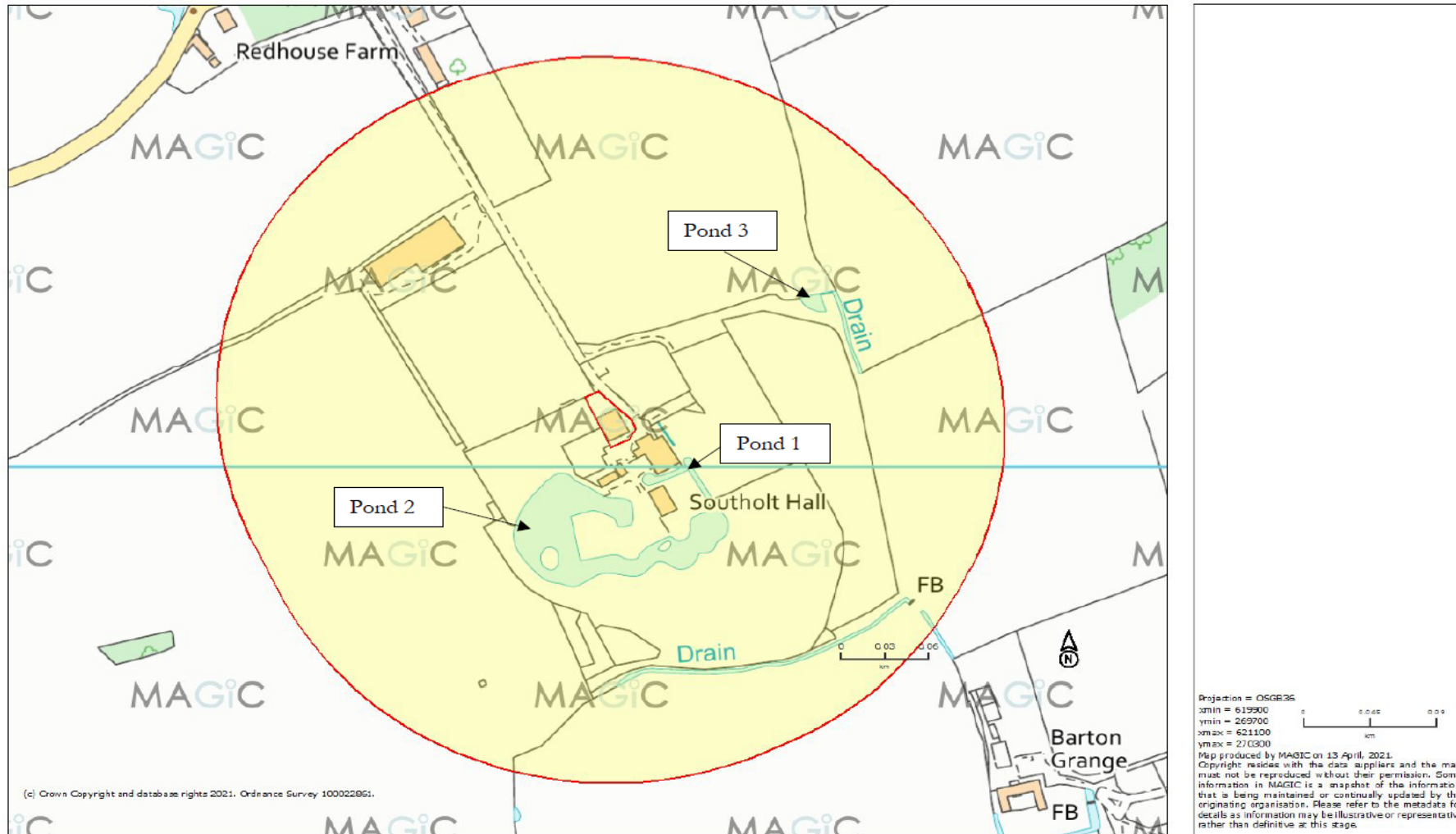
Literature

- Abrehart Ecology Ltd (2020). Preliminary Ecological Appraisal of the land at Southolt Hall Barn. Carried out for Mark Beckham
- Abrehart Ecology Ltd (2021) Great Crested Newt eDNA Survey Report for the ponds at Southolt Hall Barn. Carried out for Mark Beckham
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- Gent, A.H. and Gibson, S.D., eds. (1998) Herpetofauna Workers' Manual. Peterborough, Joint Nature Conservation Committee.
- HSI Calculator ©Owen Crawshaw, 2015.
- Inns, H. (2009) Britain's Reptiles and Amphibians. Wild Guides Ltd, Parr House, 63 Hatch Lane, Old basing, Hampshire, RG24 7EB, UK.
- Langton, T.E.S., Beckett, C.L., and Foster, J.P. (2001) Great Crested Newt Conservation Handbook, Froglife, Halesworth.
- Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). Herpetological Journal 10 (4), 143-155.

Websites

- <http://www.froglife.org/amphibians-and-reptiles/great-crested-newt/>
- <http://www.magic.gov.uk.html>

Appendix I – Site Maps



Appendix II – Survey Images

Pond 1



Pond 2



Pond 3



Pond 3



Pond 3



Appendix III – Rapid risk assessment results

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	0.01 - 0.1 ha lost or damaged	0.01
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	Minor disturbance of newts	0.5
	Maximum:	0.5
Rapid risk assessment result:	AMBER: OFFENCE LIKELY	

"Amber: offence likely" indicates that the development activities are of such a type, scale and location that an offence is likely. In this case, the best option is to redesign the development (location, layout, methods, duration or timing; see **Non-licensed avoidance measures tool**) so that the effects are minimised. You can do this and then re-run the risk assessment to test whether the result changes, or preferably run your own detailed site-specific assessment. Bear in mind that this generic risk assessment will over- or under-estimate some risks because it cannot take into account site-specific details, as mentioned in caveats above. In particular, the exact location of the development in relation to resting places, dispersal areas and barriers should be critically examined. Once you have amended the scheme you will need to decide if a licence is required; this should be done if on balance you believe an offence is reasonably likely.

Appendix IV – Survey Results

Survey 1: 18th May 2021

Pond	Air Temperature (°C)	Water Temperature (°C)	Vegetation cover (0-5)	Turbidity (0-5)	Bottle Trapping			Torching			Netting			Egg Search	Other/Notes
					Male	Female	Juvenile	Male	Female	Juvenile	Male	Female	Juvenile	Found Yes/No	
1	9	6	2	2	0	0	0	0	0	0	-	-	N		
2	9	6.5	2	1	0	0	0	0	0	0	-	-	N		
3	9	6	2	2	0	0	0	1	0	0	-	-	N		

Survey 2: 25th May 2021

Pond	Air Temperature (°C)	Water Temperature (°C)	Vegetation cover (0-5)	Turbidity (0-5)	Bottle Trapping			Torching			Netting			Egg Search	Other/Notes
					Male	Female	Juvenile	Male	Female	Juvenile	Male	Female	Juvenile	Found Yes/No	
1	8	6	2	2	0	0	0	0	0	0	-	-	N		
2	8	6.5	2	1	0	0	0	0	0	0	-	-	N	Traps all contained Stickleback fish.	
3	8	6	2	2	0	0	0	0	0	0	-	-	N		

Survey 3: 29th May 2021

Pond	Air Temperature (°C)	Water Temperature (°C)	Vegetation cover (0-5)	Turbidity (0-5)	Bottle Trapping			Torching			Netting			Egg Search	Other/Notes
					Male	Female	Juvenile	Male	Female	Juvenile	Male	Female	Juvenile	Found Yes/No	
1	8	6	2	2	0	0	0	0	0	0	-	-	N		
2	8	6.5	2	1	0	0	0	0	0	0	-	-	N	Traps all contained Stickleback fish.	
3	8	6	2	2	0	0	0	1	0	0	-	-	N		

Survey 4: 3rd June 2021

Pond	Air Temperature (°C)	Water Temperature (°C)	Vegetation cover (0-5)	Turbidity (0-5)	Bottle Trapping			Torching			Netting			Egg Search	Other/Notes
					Male	Female	Juvenile	Male	Female	Juvenile	Male	Female	Juvenile	Yes/No	
1	18	7	2	2	0	0	0	0	0	0	-	-	N		
2	18	8	2	2	0	0	0	0	0	0	-	-	N	Traps all contained Stickleback fish.	
3	18	9	2	2	0	0	0	0	0	0	-	-	N		

Survey 5: 8th June 2021

Pond	Air Temperature (°C)	Water Temperature (°C)	Vegetation cover (0-5)	Turbidity (0-5)	Bottle Trapping			Torching			Netting			Egg Search	Other/Notes
					Male	Female	Juvenile	Male	Female	Juvenile	Male	Female	Juvenile	Yes/No	
1	15	7	2	2	0	0	0	0	0	0	-	-	N		
2	15	8	2	2	0	0	0	0	0	0	-	-	N	Traps all contained Stickleback fish.	
3	15	9	2	2	1	0	0	0	0	0	-	-	N		

Survey 6: 14th June 2021

Pond	Air Temperature (°C)	Water Temperature (°C)	Vegetation cover (0-5)	Turbidity (0-5)	Bottle Trapping			Torching			Netting			Egg Search	Other/Notes
					Male	Female	Juvenile	Male	Female	Juvenile	Male	Female	Juvenile	Yes/No	
1	16	7	2	2	0	0	0	0	0	0	-	-	N		
2	16	9	2	2	0	0	0	0	0	0	-	-	N	Traps all contained Stickleback fish.	
3	16	9.5	2	2	0	0	0	0	0	0	-	-	N		