

**Provision of habitat and resting areas for otter through
introduction of brush bundles and otter holts
- Monitoring Report**



Action C7

LIFE09 NAT/IE/000220 BLACKWATER SAMOK

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I.R.D. Duhallow Ltd.



Contents

Executive Summary	3
Background	4
Site Description.....	5
Methods.....	7
Results & Conclusions.....	8
References.....	10
Appendix.....	12
Appendix 1 Creation and installation of holts	12
Appendix 2 Location of holts and log piles	16
Appendix 3 Rowls Aldworth Site	17
Appendix 4 Rowls Langford North Site	18
Appendix 5 Kilberrihert (a)Site	19
Appendix 6 Kilberrihert (b)Site	20
Appendix 7 Bawnmore South Site.....	21
Appendix 8 Curragh (a) Site	22
Appendix 9 Curragh (b) Site.....	23
Appendix 10 Cloontycommade:	24
Appendix 11 Paal East Site.....	25
Appendix 12 Otter signs	26

Executive Summary

Surveys established that otters were found to be widespread in the River Allow catchment. However, low occurrences or absences were noted in some areas and a targeting of these areas for the placement of otter holts was undertaken.

A total of 10 artificial otter holts were constructed at the IRD Duhallow headquarters and assembled on site at predetermined locations based on the surveys referred to above.

Suitability of the receiving site was determined against a range of habitat and disturbance criteria before placement was carried out.

During the first year of placement, some form of mammal activity was noted for 6 out of the 9 holts monitored. Activity was lower in subsequent years and it is hypothesised that the sites became overgrown and the entrance points less obvious to otters. Strimming and the placement of otter spraints are recommended to increase activity.

28 brush bundles were also placed throughout the catchment, mostly confined to suitable riparian areas. Willow was the dominant woody material used, although at some locations, hazel, alder and ash were also used.

The LIFE project also carried out a sustained public information and awareness campaign to highlight threats to otter, as part of Project Action D1. The high occurrence of otter road fatalities (>5 otters within the Allow catchment over a 4-year period) in particular was highlighted. Information road signage was also produced to alert motorists that they were in an area of high otter activity and to drive responsibly.

Public interest in otters was high with good attendances at workshop and responses on social media to video footage of otter captured by trap cameras (Project Action D4).

Background

The European otter (*Lutra lutra*) is listed under Annex II & IV of the EU Habitats directive (Joint Nature Conservation Committee, 2014). It is widespread in Ireland, especially along river channels and coasts (Bailey & Rochford, 2006; Chapman & Chapman, 1982), with its range covering some 75% of the total area of Ireland (Marnell, *et al.*, 2011). In the late 20th Century otter numbers fell dramatically in many European countries (National Parks and Wildlife Service, 2007). Ireland, however, still has one of Europe's most important populations (Poole, *et al.*, 2007) and the densities in Ireland are the highest in Europe (National Parks and Wildlife Service, 2007).

Areas with low densities of otters are usually as a result of habitat fragmentation (Bailey & Rochford, 2006). Suitable otter habitat can be re-created by increasing vegetation cover and buffer zones along river channels (Northern Ireland Environment Agency, n.d.). One of the project's concrete actions is to increase riparian vegetation along the rivers in the Allow catchment. Another measure to help increase otter densities in an area is to install artificial otter holts and brush bundles to serve as hidden resting areas (Northern Ireland Environment Agency, n.d.).

A baseline bridge survey (Igoe & Murphy, 2011) following the methodology of Chanin (2003) was conducted. Based on otter activity and habitat suitability 10 sites were chosen to install otter holts. Chanin (2013) stated that artificial otter holts are more suited to raising awareness among landowners than providing resting places for otters. The 28 brush bundles that were constructed were placed with this in mind; to enhance awareness of the project and its aims along with providing potential resting sites for otters in the area.

This report documents the activity recorded at each site where a holt or brush bundle was installed.

Site Description

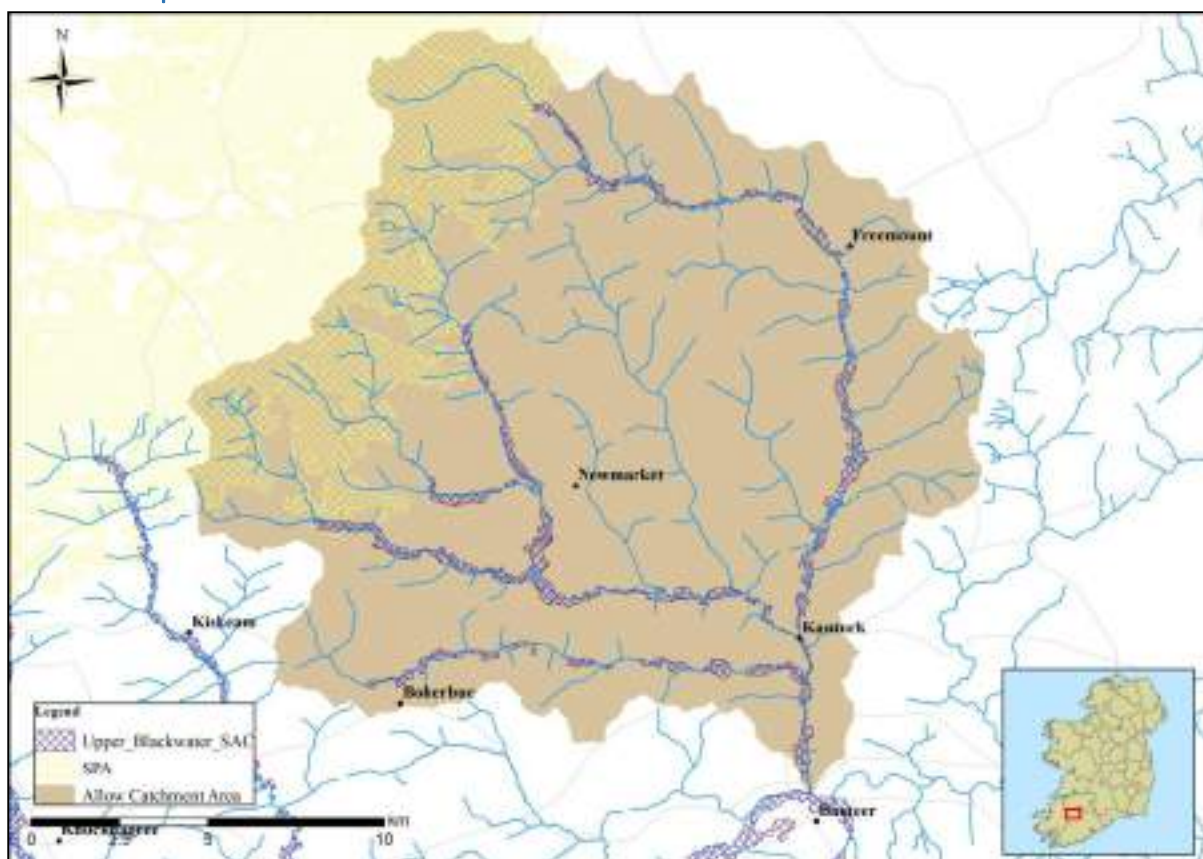


Figure 1 River Allow catchment area targeted by the DuhallowLIFE Project (LIFE09 NAT/IE/000220 Blackwater SAMOK)

The River Allow catchment is 310km² (Figure 1). The three major rivers that drain the catchment are the Allow, Dalua and Brogeen. The main agricultural land use in the catchment is pasture with dairying and sucklers forming the majority of farming practices.

The majority (70%) of the soils in the Allow catchment are deep, poorly drained mineral soils. Blanket peat covers approximately 5% of the catchment, mostly in upland reaches. Mineral alluvium is associated with the river channels, while shallow well drained mineral soils make up the remaining soil type in the catchment (EPA/Teagasc, 2006; Tedd, 2014).

The River Allow catchment rivers (Allow, Dalua, Brogeen, Glenlara and Owenkeale) form part of the Blackwater River (Cork/Waterford) Special Area of Conservation (Natura 2000 site code: 002170). These tributaries provide important habitat for Freshwater pearl mussel *Margaritifera margaritifera*, Atlantic salmon *Salmo salar* and European otter, all of which are listed in the Annex II of EU Habitats Directive.

The upper reaches of the Allow catchment contain the Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle Special Protection Area, which was designated as such for Hen Harrier *Circus cyaneus* (listed in Annex I of the EU Bird's Directive).

Methods

Preliminary surveys were conducted in 2011 to establish otter activity in the Allow catchment (Project Action E4). These followed the methodology set out by Chanin (2003). 45 bridges were surveyed for the presence of otter activity (e.g. spraint, footprints, sighting). Both river banks upstream and downstream of bridges were searched for otter activity for a distance of 50m. Particular attention was paid to prominent features which might prove attractive to otter as spraint points (i.e., boulders, logs etc.). Any ledges beneath bridges were also checked for otter activity. Data were recorded on survey sheets reproduced from Chanin (2003). Additional data were provided through walkover surveys conducted during the initial stages of the project.

The data provided by both surveys enabled the LIFE team to determine where otter activity was low or non-existent, and thus the best places to locate the artificial holts. Habitat type and whether the area was prone to flooding were also considered. Ten sites were selected (Figure 2) and, with permission from each landowner, a team of RSS participants installed the holts. The frames were constructed off-site in a workshop at the Project's headquarters at the James O'Keeffe Institute (Figure 3) with coverings and additional assembly conducted on-site (Figure 4). The design for the holts was adapted from that published by the Sussex Otters & Rivers Project (n.d.). For the baseline survey details of the surrounding habitat were also recorded.

After the sites had naturally recovered from signs of disturbance (i.e. digging, scrub removal, etc.) the holts were inspected for signs of otter activity and each year thereafter for the duration of the Project.

For areas less accessible for regular walkover surveys, such as heavily wooded riparian areas in the catchment, 28 log pile holts were installed. These were constructed on site using limbs from nearby trees (part of Project Action C5) and followed the same design that was used for the ten original holts.

The level of confirmed activity fell in subsequent years. This may be due to the vegetation at each site becoming overgrown, making the holts less visible or accessible. In Ireland, otters have large territories (Reid, et al., 2013) with females inhabiting a territory of approximately 7.5 ± 1.5 km and males occupying on average 13.2 ± 5.3 km (Ó'Neill, 2008). This large territory may also explain the change in recorded activities. Also, the increase in riparian cover may have created more habitat for otters. With regard to the 28 log piles that were installed, no activity was recorded at any of the locations.

Road fatalities is also a major problem for otters across Europe (Sleeman, 2015) and the National Roads Authority have put in place guidelines for new road schemes to mitigate against otter road kill (Smal, 2008). At least five otters were killed on roads around the Allow catchment during the lifetime of the project. As part of the public awareness Project Action (D1) signs were made to alert drivers to slow down for crossing otters (see Appendix 11). The signs were launched at an information night where wildlife enthusiasts and local landowners attended.

According to Chanin (pers. comm., 2013), artificial holts play a bigger part in raising awareness among landowners than in providing required resting sites for otters. 30 landowners gave permissions to have holts and log piles installed on their land. This clearly demonstrates the success of this particular piece of outreach and reveals that there are high levels of interest and goodwill of local landowners for the wildlife in their area.

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Appendix

Appendix 1 Creation and installation of holts



Figure 3 Frame of artificial holt constructed by RSS participants. Also in the photograph: Dr Fran Igoe of the LIFE Project



Figure 4 RSS participants installing a holt at one of the sites in Curragh, along the Dalua



Figure 5 RSS participants with covered holt in Curragh, along the Dalua.



Figure 6 Holt in Curragh ten months after installation (view of second entrance).



Figure 7 Volunteers constructing a log pile holt along the banks of the Dalua (Liscongill)



Figure 8 Finished log pile (logs were sourced from nearby tree limbs cut down by trained RSS participants)

Appendix 2 Location of holts and log piles

Table 2 Locations of the ten artificial otter holts installed along the Allow, Dalua and Brogeen

Site	River	Grid Reference (ITM)
Rowls Aldworth	Allow	531248, 616361
Rowls Langford North	Allow	531520, 617621
Kilberrihert (a)	Allow	539340, 612066
Kilberrihert (b)	Allow	539383, 612003
Bawnmore South	Allow	539542, 609571
Paal East	Brogeen	538290, 601896
Curragh (a)	Dalua	537332, 604099
Curragh (b)	Dalua	537149, 604055
Cloontycommade	Dalua	534040, 604477
Island	Dalua	532664, 604594

Table 3 Locations of the 28 log piles installed in the Allow Catchment

Site	River	Grid Reference (ITM)
Banteer	Blackwater	538365, 597599
Bawnmore South	Allow	539363, 610063
Coolacoosane	Brogeen	537338, 602396
Coolageela East	Allow	539265, 607136
Coolbane	Allow	537889, 615696
Curragh	Allow	538590, 605757
Curragh	Allow	538593, 605764
Curragh	Allow	538663, 605814
Curragh	Allow	538103, 604214
Curragh	Dalua	537231, 603737
Curragh	Dalua	537252, 603724
Curraheen	Allow	539486, 610942
Dromalour	Allow	538258, 600696
Dromcummer Beg	Allow	538475, 598871
Greenfield	Dalua	535987, 604436
Greenfield	Dalua	536830, 604210
Greenfield	Dalua	536745, 604248
Inchantotane	Glenlara	525412, 609301
Kilknockane	Allow	539460, 611712
Knockduff	Dalua	529091, 610653
Knockearagh	Allow	533148, 616915
Knocktoosh	Glashawee	530987, 618180
Knocktoosh	Glashawee	530350, 618903
Lisongill	Dalua	532466, 604653
Muckenagh	Allow	536669, 615727
Paal East	Brogeen	538225, 601986
Pulleen	Allow	538449, 602232
Rowls Langford North	Allow	531324, 616528

Appendix 3 Rowls Aldworth Site



Figure 9 Location of holt at Rowls Aldworth



Figure 10 Otter holt at Rowls Aldworth with volunteer Tom Siekaniec. Entrance is circled

Table 1 Site description for Rowls Aldworth holt

Dominant Plants	Elder, Hawthorne, Sycamore, Woodrush, Ivy
Wet/Dry Ground	Dry
Likelihood of disturbance	Low
Buried?	No
Height from river (m)	2
Distance from river (m)	3.2
River width (m)	16

Appendix 4 Rowls Langford North Site



Figure 11 Location of holt at Rowls Langford North



Figure 12 Close view of entrance to holt at Rowls Langford North

Table 2 Site Description of Rowls Langford North holt

Dominant Plants	Willow, Hawthorn, Nettle, Grasses
Wet/Dry Ground	Wet
Likelihood of disturbance	Small
Buried?	Yes
Height from river (m)	3
Distance from river (m)	4
River width (m)	3

Appendix 5 Kilberrihert (a)Site



Figure 13 Location of one of the holts at Kilberrihert (a)



Figure 14 Entrance into holt at Kilberrihert (a)

Table 3 Site description for Kilberrihert holt (a)

Dominant Plants	Willow ssp., Grasses
Wet/Dry Ground	Dry
Likelihood of disturbance	Small
Buried?	No
Height from river (m)	4
Distance from river (m)	6

Appendix 6 Kilberrihert (b)Site



Figure 15 Location of the second holt at Kilberrihert (b)



Figure 16 Entrance to one of the holts (b) at Kilberrihert with volunteer Tom Siekaniec.

Table 4 Site description for holt (b) at Kilberrihert

Dominant Plants	Willow ssp., Bramble & Grasses
Wet/Dry Ground	Wet
Likelihood of disturbance	Small
Buried?	Yes
Height from river (m)	2.5
Distance from river (m)	3.5
River width (m)	8

Appendix 7 Bawnmore South Site



Figure 17 Location of holt at Bawnmore South



Figure 18 Entrance to holt at Bawnmore South

Table 5 Site description for Bawnmore South holt

Dominant Plants	Willow, Alder, Hawthorne
Wet/Dry Ground	Dry
Likelihood of disturbance	Small
Buried?	No
Height from river (m)	2
Distance from river (m)	20
River width (m)	9.5

Appendix 8 Curragh (a) Site



Figure 19 Location of otter holt in Curragh (a)



Figure 20 Entrance to holt (a) in Curragh

Table 6 Site description for holt (a) in Curragh

Dominant Plants	Alder, Ash, Willow, Bramble
Wet/Dry Ground	Wet
Likelihood of disturbance	Medium
Buried?	No
Height from river (m)	2.5
Distance from river (m)	40

Appendix 9 Curragh (b) Site



Figure 21 Location of holt (b) in Curragh



Figure 22 Natural looking entrance to holt (b) in Curragh

Table 7 Site description for Curragh holt (b)

Dominant Plants	Alder, Bramble
Wet/Dry Ground	Dry
Likelihood of disturbance	Low
Buried?	Yes
Height from river (m)	4.5
Distance from river (m)	50

Appendix 10 Cloontycommade:



Figure 23 Location of holt in Cloontycommade



Figure 24 Entrance to holt at Cloontycommade.

Table 8 Site description of Cloontycommade holt

Dominant Plants	Willow, Alder, Hawthorne
Wet/Dry Ground	Dry
Likelihood of disturbance	Medium
Buried?	No
Height from river (m)	7
Distance from river (m)	4
River width (m)	12

Appendix 11 Paal East Site



Figure 25 Location of holt in Paal East (near Kanturk Castle)



Figure 26 One of the entrances to the holt at Paal East

Dominant Plants	Alder, Ash, Sycamore
Wet/Dry Ground	Dry
Likelihood of disturbance	Low
Buried?	No
Height from river (m)	5
Distance from river (m)	8
River width (m)	4.5

Appendix 12 Otter signs



Figure 27 Launch of 'Slow - Otters crossing' signage at an otter ecology information night hosted by the project



Figure 28 One of the signs, erected by the project alerting motorists to otters crossing in the area.