



Document: Form 114	Site Environmental Management Plan	
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A9 Dornoch Bridge

Site Environmental Management Plan

	Name	Organisation	Signature	Date
Prepared By	Redacted	BEAR Scotland	Re	17/10/2018
Checked By	Redacted	BEAR Scotland	Reda	18/10/2018
Client:	Transport Scotland			

Distribution		
Organisation	Contact	Copies
BEAR Scotland	Redacted	1

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SITE ENVIRONMENTAL MANAGEMENT PLAN (SEMP)

The objective of this SEMP is to ensure prevention of pollution to land, air or water and compliance with current environmental legislation, and to provide a benchmark for best practice. For the avoidance of doubt, pollution prevention procedures include, but are not necessarily limited to: all aspects of traffic, plant and materials management, waste management, surface water and drainage management and asphaltic and concrete management. Consideration of Disruption due to Construction is considered within the individual mitigation topics. *The SEMP must be included in the site file and used as toolbox talk during site induction for all site personnel. All site personnel must sign to confirm they have received toolbox talk.*

SENSITIVE RECEPTORS

- Designated sites: Dornoch Firth and Loch Fleet SPA and Ramsar, Dornoch Firth and Morrich More SAC, Moray Firth pSPA, Moray Firth SAC, River Evelix SAC and River Oykel SAC.
- Ecological features such as otters, birds, marine habitats and aquatic species;
- Vehicular road users and non-motorised road users (NMUs); and
- Cultural heritage assets.

AIR AND CLIMATE

(responsibility for mitigation measures: BEAR Scotland Limited & Contractor)

- Plant, machinery and vehicles associated with the works will have engines switched off when not in use in order to minimise emissions;
- Machinery and vehicles will have been serviced regularly;
- A traffic management plan will be in place to control the length of time that traffic needs to idle;
- Dust generated from construction activities will be minimised as far as possible via wetting down;
- Large material stockpiles will not be required and drop heights will be minimised to avoid excessive dust generation;
- Any skips holding waste on site will be covered to prevent dust movement; and
- Any loose materials will be covered during transportation to and/or from site.

CULTURAL HERITAGE AND MATERIAL ASSETS

(responsibility for mitigation measures: Contractor)


- Confine work related activities to the existing footprint of Dornoch Bridge;
- The site will be left clean and tidy following all schemes and cyclic maintenance activities.

BIODIVERSITY

(responsibility for mitigation measures: BEAR Scotland Limited & Contractor)

Designated sites

- The site supervisor will give appropriate toolbox talks prior to work commencing. These talks will highlight any sensitive features, including the designated sites and their qualifying features.
- In line with good practice, the contractor will follow the updated and relevant Guidance for Pollution Prevention (GPPs) including GPP 5 (Works and maintenance in or near water). Pollution Prevention Guidance (PPGs) will be followed if no corresponding GPP is available.
- Oils, fuels and chemicals will be stored in fully bunded areas.

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- Spill kits will be available on site (including on jack-up barges) and workers trained in their use.
- The contractor will produce a contingency plan for dealing with spills or environmental incidents.
- Any waste generated will be removed from site and either recycled or disposed of in compliance with Waste Management Regulations.

Wintering birds (*Dornoch Firth and Loch Fleet SPA and Dornoch Firth and Loch Fleet Ramsar*)

With the following additional mitigation measures implemented throughout the works, the SIAA concluded that there would be no adverse effect on the conservation objectives for wintering birds:


- During the overwintering period (October to March) flood lighting will be directed away from the Firth and intertidal areas at all times
- During the overwintering period (October to March) lighting will kept to a minimum
- Should hydro-demolition work be required during the overwintering period (October to March) then it will only be carried out between the hours of 08:00 to 18:00.
- Should hydro-demolition work be required during the overwintering period (October to March) then it will be preceded by a 'soft start' in general activities, thus allowing a 'ramping-up' of noise levels.
- During the overwintering period (October to March), normal working operations will be constrained to the hours of 07:00 to 19:00 unless there is an urgent need to extend operations.
- If works are required to be carried out overnight the most disruptive activities will be scheduled for the earlier part of the evening.
- Where reasonably practicable, workers will avoid accessing the intertidal shores around the bridge at all times of the year.

Otter (*Dornoch Firth & Loch Fleet Ramsar and Dornoch Firth & Morrich More SAC*)

With the following additional mitigation measures implemented throughout the works the SIAA concluded that there would be no adverse effect on the conservation objectives for otter:

- Flood lighting will be directed away from the Firth and intertidal areas at all times
- Between October to March lighting will kept to a minimum
- Should hydro-demolition work be required between October to March then it will only be carried out between the hours of 08:00 to 18:00.
- Should hydro-demolition work be required between October to March then it will be preceded by a 'soft start' in general activities, thus allowing a 'ramping-up' of noise levels.
- Where reasonably practicable, workers will avoid accessing the intertidal shores around the bridge at all times of the year.
- If works are required to be carried out overnight the most disruptive activities will be scheduled for the earlier part of the evening.
- Site personnel will be required to be vigilant for the presence of otters on site and should they be seen, work will be immediately stopped in the vicinity and the supervisor informed who will then seek specialist advice.
- Where machinery is left on site overnight, it will be checked at the start of each shift for the presence of otter. Should they be seen, work will be immediately stopped in the vicinity of the machinery and the supervisor informed who will then seek specialist advice.

Prior to works commencing, the BEAR environment team will determine whether pre-construction otter surveys will be required to establish if otters are present in habitat surrounding the proposed working area. Depending on

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the findings of the surveys a management approach will be adopted according to the scenario. Measures might include:

- The Otter Toolbox talk will be included in the Site Environmental Management Plan (SEMP) and delivered to site personnel prior to commencement of works;
- A “soft start” will be implemented on the works each day. This will involve checking under/around vehicles and the immediate work area and then switching on vehicles prior to works commencing, with the aim of ensuring no otters or other species, are in the vicinity of works before vehicular movement and there is a gradual increase in noise;
- Any excavations, entrances to pipes/drains or areas where an animal could be trapped will be covered over at the end of each shift and following completion of the works to avoid animals falling into them and becoming trapped.

LANDSCAPE / LAND


(responsibility for mitigation measures: Contractor)

- Land required for building the compound area will be confined to the minimum required area, and the contractor will agree the location of the compound if it is outwith the traffic management area;
- The site will be kept clean and tidy during and following maintenance works;
- All waste will be removed from site, with a preference for recycling, otherwise disposal at a licensed waste facility in compliance with Waste Management Regulations;
- Vehicles and large machinery/equipment will be kept as clean as possible and switched off when not in use;
- Mitigation detailed in the Waste, Materials and Use of Resources and Water sections will be strictly adhered to.

NOISE

(responsibility for mitigation measures: BEAR Scotland Limited & Contractor)

- The owners and occupiers of the residential/commercial properties located within 300m of Dornoch Bridge will be informed of the works at least 14 days in advance of the works commencing;
- All plant and machinery will be switched off when not in use;
- The Being a Good Neighbour toolbox talk will be included in the SEMP and delivered to site personnel prior to works.
- The Best Practicable Means, as defined in Section 72 of the Control of Pollution Act 1974, will be employed at all times to reduce noise to a minimum;
- Scour repair work will not take place at night during normal operations;
- Night works may be required for the cyclical maintenance works but this will depend on design requirements and the contractor’s programme and method of works. If required, the Highland Council Environmental Health Officer will be consulted prior to the works and evening and night-time working will be completed as quickly and efficiently as practicable;
- Where practicable, the successful contractor will try and ensure the most disruptive activities (e.g. milling/ planing) are carried out within daylight hours;
- All plant will be operated in a mode that minimises noise emissions and will have been maintained regularly to comply with relevant national and international legislation;
- Where fitted and Health and Safety requirements allow, white noise reversing alarms will be used on plant to reduce noise impact;


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- All site personnel will be fully briefed in advance of works regarding the need to minimise noise during the night-time period and of the site-specific sensitivities;
- Residents will be provided with a 24-hour contact number within the consultation letter;
- Temporary staff toilets/site compound will be located as far as is practicable from sensitive receptors;
- If generators are required, these will be located as far away from residences as reasonably practicable.

POPULATION AND HUMAN HEALTH

(responsibility for mitigation measures: Contractor)


- The needs of NMU traffic will be considered within the design of the Traffic Management Plan; and
- NMU access over the Cromarty Bridge will be maintained during and following the maintenance works as far as is practicable;
- Mitigation measures outlined in the Air Quality and Climate and Noise sections will be strictly adhered to.
- A Traffic Management Plan will be developed to minimise disruption to vehicle traveller;
- Traffic will be controlled by temporary traffic lights, allowing vehicles to continue to use one lane of Cromarty Bridge during the construction phase;
- Motorists will be informed of works and likely delays via the Traffic Scotland website, media releases and by variable message and fixed signs; and
- Mitigation measures outlined in the Air and Climate and Noise sections will be strictly adhered to.

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WATER

(responsibility for mitigation measures: BEAR Scotland Limited & Contractor)

- A Marine Licence will be secured and all conditions will be adhered to;
- If required, an appropriate SEPA CAR licence will be obtained for all discharges into the Firth and the conditions of the licence will be complied with throughout the course of the works;
- Relevant Construction Industry Research and Information Association (CIRIA) guidance and SEPA's Pollution Prevention Guidelines (PPGs) and Guidance for Pollution Prevention (GPPs) will be followed including PPG 1, 6, 7, 8, 13, 18, 21 and 22. Particular attention will be paid to GPP 5: Works and maintenance in or near water, PPG 6: Working at construction and demolition sites and PPG 21: Pollution incident response planning;
- In the event of a pollution incident occurring, SNH, SEPA and BEAR Environment Team will be notified within 24 hours of the event;
- A contingency plan will be put in place to minimise the risk from pollution incidents or accidental spillages and all necessary containment equipment will be available on site and staff trained in its use;
- Sediment traps and sedimentation mats will be used where required during construction to prevent sediments and chemicals entering the water environment;
- All re-fuelling will take place at a designated re-fuelling site, away from the Firth and any road drains within the area of works;
- Oils, fuels and chemicals will be stored in bunded areas off the bridge at the best practice requirement of 110% of containment capacity of the volume stored. Drip trays will be used and maintained when dispensing;
- Spill trays will be fitted to all stationary construction plants;
- Waste will be stored in designated areas, isolated from surface water drains and any area that discharges into the water environment;
- All skips will be covered, or enclosed and waste materials will be removed from site by licenced waste carriers;
- Works will be encapsulated in a double-skinned membrane to filter hydro-demolition water. Solid waste captured will be bagged and removed from site to a licenced landfill site by licenced waste carriers;
- Containment will be in place for hydro-demolition and a sump pit will be used to catch run-off water;
- Fresh concrete will be poured in such a manner that no concrete is lost or can enter the marine environment. Visqueen sheeting and debris netting will be installed during fresh concrete pouring and around the area being broken out;
- Gully cleaning vehicles are to be used which will vacuum water and debris from the gullies, and vacuum trucks will be emptied at licenced facilities;
- Bird guano will be double bagged to prevent spillage and will be taken to a licenced facility;
- All milling works will be carried out during suitable periods of weather to ensure that waste material is not blown or washed in the water.
- Debris netting is to be installed around the area being milled as required;
- Edge protection and debris netting to be installed to ensure materials can't be knocked over the edge of the bridge during construction of the new parapet.

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SOILS & GEOLOGY

(responsibility for mitigation measures: BEAR Scotland Limited & Contractor)

- Mitigation detailed within the Water section will minimise the risk of potential contamination of soils and geology through spillages.

WASTE, MATERIALS AND USE OF NATURAL RESOURCES

(responsibility for mitigation measures: Contractor)

Waste generated as a result of each activity will range from grit to bird guano and is described below.

Bridge levelling

No waste materials are anticipated.

Drainage cleaning

Waste from the drainage system will be removed by a gully vacuum truck and disposed of at licenced waste disposal facility.

Bird guano removal

Bird guano will be double bagged to prevent spillage and removed off site for disposal to landfill.

Concrete repairs

After mortar works, any residual concrete washwater must be collected and removed from site as special contaminated water.

Parapet repairs

Waste materials from the replacement will include the old parapets themselves as well as debris from the works. Protection will be provided in the form of edge and debris netting to limit waste entering the marine environment.

Bearing renewal


Some waste material in the form of debris may result from the replacement of the bearings. Debris netting will be used to minimise waste material from entering the marine environment.

Expansion joint renewal

Waste materials from the replacement will include the old expansion joints themselves as well as debris from the works. Protection will be provided in the form of edge and debris netting and visqueen sheeting to limit waste entering the marine environment.

Resurfacing

Road planings will be re-used or recycled under a SEPA Paragraph 13(a) waste exemption.

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All waste will be removed from site and disposed of safely and legally, preferably by recycling or re-use. Planings will be disposed of under a SEPA paragraph 13(a) exemption. All temporary traffic signs and road cones will be removed from site on completion of works. Waste water generated from hydro-demolition must be disposed of legally under the conditions of the CAR registration or simple licence. Sufficient time will be required prior to the works commencing to allow for the 4 month consultation period for a CAR licence

Mitigation proposed:

- The sub-contractor will adhere to waste management legislation and ensure they comply with their Duty of Care;
- The sub-contractor will provide all information on quantities of waste (including recycled and re-used) and transportation of materials required by the Operating Company;
- Re-use and recycling of waste is encouraged and the sub-contractor will be required to fully outline their plans and provide documentary evidence for waste arising from the works (e.g. waste carriers licence, transfer notes and waste exemption certificates) as well as filling in the sub-contractor's waste return spreadsheet; and
- Mitigation measures described in the Water section will be adhered to.

GENERAL

(responsibility for mitigation measures: BEAR Scotland Limited & Contractor)

All activities:

- The site supervisor will give toolbox talks prior to work commencing. These talks will highlight any sensitive features, including the designated sites and their qualifying features.
- In line with good practice, the contractor will follow the updated and relevant Guidance for Pollution Prevention (GPPs) including GPP 5 (Works and maintenance in or near water). Pollution Prevention Guidance (PPGs) will be followed if no corresponding GPP is available.
- Oils, fuels and chemicals will be stored in fully bunded areas.
- Spill kits will be available on site and workers trained in their use.
- The contractor will produce a contingency plan for dealing with spills or environmental incidents.
- Any waste generated will be removed from site and either recycled or disposed of in compliance with Waste Management Regulations.

Bridge Levelling

- Debris netting to be installed around the bearing to ensure that no materials fall into the estuary during bridge levelling.

Resurfacing

- Ensure that all milling works are carried out during suitable periods of weather to ensure that waste material is not blown or washed into the water.
- Gullies and drainage points will be blocked with heavy duty plastic during spraying of surface binder to prevent entry into the water environment. They will be removed as waste on completion of works.
- Debris netting is to be installed around the area being milled.


Minor concrete repairs

Large repair

- Thickened sheets will be installed around the area being broken out.
- Hydro demolition will be contained using protective sheeting and a sump pit to catch run off water.

Small repair

- Debris netting will be installed around the area being broken out.
- Containment of the working platform using the debris netting and flooring layers.

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- If working from a platform beneath the bridge the floor will be layered with materials to fully contain the water
- Debris material and work water will be pumped back up to the bridge deck, where it will then be collected and removed from site by licensed waste carriers; or, the water will be filtered and pH reduced before discharging in to the marine environment.
- Fresh concrete will be poured in such a manner that no concrete is lost or can enter the marine environment.
- All waste concrete will be removed from site by licenced waste carriers.
- All waste concrete will be removed from site by licensed waste carriers.
- Fresh concrete will be poured in such a manner that no concrete is lost or can enter the marine environment.

Drainage Cleaning

- Vacuum trucks will be emptied at licensed facilities.

Parapet Repairs

- Edge protection to be installed to ensure materials can't be knocked over the edge of the bridge.
- Debris netting or 'Envirowrap' to be used to stop waste and small items falling into the aquatic environment.

Bird Guano Removal


- Bird guano will need to be double-bagged to prevent spillage.
- Guano will be taken to a licensed facility for disposal.

Bearing Renewal

- Debris netting or 'Envirowrap' to be installed around the bearing to ensure no materials enter the aquatic environment.

Expansion joint renewal

- Hydro demolition will require containment and a sump pit to catch run-off water.
- Thickened sheets will be installed around the area being broken out.
- Debris material will be collected and removed from site by licensed waste carriers
- All water will be pumped in to a 'silt buster' where it will be filtered, and pH reduced. Water will then either be pumped into a storage tank and disposed of under licence or discharged into the marine environment. The contractor will ensure that the conditions of a SEPA CAR licence are adopted, should one be required.
- Fresh concrete will be poured in such a manner that no concrete is lost or can enter the marine environment.
- All waste concrete will be removed from site by licenced waste carriers.

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APPENDIX A: TOOLBOX TALK

REF No: TTN-011
Revision: 2
Date: 19/04/13

TOOLBOX TALK Working with Otters



WHAT ARE OTTERS AND HOW DO I RECOGNISE THEM?

- Otters have long slender bodies with short legs and a thick tapered tail. Their body is about one metre long.
- They have dark brown fur on the back with a pale underside.
- Their head is flattened with a broad muzzle, small eyes and ears.
- Otters swim low in water with only nose and eyes above water.
- Droppings are deposited on rocks and logs along watercourses and are made up of a mass of fish bones and scales.
- Footprints are dog-size, webbed with five toes and are approximately 50mm across.



WHERE MIGHT I EXPECT TO FIND THEM?

- Otters are found across the UK and occur in both rural and urban areas, including major cities.
- They will use any size watercourse. Places where they are found include rivers, canals, lakes and reservoirs, estuaries, coasts, streams, ponds, bogs, marshes and woodland.
- Otters may use a variety of places as holts or sheltering places, for instance under tree roots or boulders or old rabbit burrows.



WHEN MIGHT I EXPECT TO FIND THEM?

- Otters are active all year round – they are most active during the night and are cautious, so sightings are rare. It is more likely that you will see signs of otters such as droppings or worn pathways along watercourses and footprints.

Because Everyone Accepts Responsibility

REF No: TTN-011
Revision: 2
Date: 19/04/13

TOOLBOX TALK

Working with Otters



- Otter cubs can be born in any month of the year.

Activity	J	F	M	A	M	J	J	A	S	O	N	D
Adults active												
Birth of young												

WHAT DO I DO IF I FIND ONE?

It is ILLEGAL to kill, injure or disturb an otter or damage its habitat without a licence.

- Otters are fully-protected against killing, capture, injury and disturbance, and any places they use for shelter or protection (i.e. holts or dens) are protected against damage, destruction or obstruction.
- If an otter or its shelter is found on site after works have started, works in the area must stop immediately to avoid the law being broken.

WHAT ELSE MIGHT I SEE?


- Otters are often confused with mink (which is not protected in the UK). However, mink are much smaller than otter; they have a darker coat and are of slimmer build.

PENALTIES

Breaking the law can lead to fines of up to £5000 per offence and, potentially, prison sentences of up to six months. Removing a tree or boulder that was being used as an otter holt can lead to prosecution. Any vehicle used to commit the offence may be forfeited. Both the company and/or individuals can be held liable.

IN ANY DOUBT AS TO THE IDENTITY OF A SPECIES YOU HAVE FOUND, DO NOT DISTURB THE ANIMALS OR DAMAGE ANY HOLES. STOP WORKS IMMEDIATELY TO AVOID BREAKING THE LAW, AND SEEK ADVICE FROM YOUR SUPERVISOR.

Because Everyone Accepts Responsibility

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TOOLBOX TALK

Working with Otters



VALIDATION OF TOOLBOX TALK

After employees have received the toolbox talk information the following questions should be asked to ensure that they have listened and understood the necessary information.

The questions can be asked to a group or an individual. If the incorrect answer is given the trainer should reprise the relevant section.

Q1. Where might you expect to find an otter?

Q2. When might you expect to find an otter?

Q3. What are the potential penalties if the law is broken?

Upon completion of this toolbox talk all attendees should sign the section below.


NAME (PRINT)	Signature	NAME (PRINT)	Signature

Trainer:	(Print Name)	(Signature)	Date:
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Because **E**veryone **A**ccepts **R**esponsibility

Register of Personnel Receiving Site Environmental Management Plan Toolbox Talk


NAME	COMPANY	SIGNATURE	DATE

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NAME	COMPANY	SIGNATURE	DATE

Inducted by:

Date:


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APPENDIX B: OTTER DISTURBANCE LICENCE




Scottish Natural Heritage
 Species Licensing
 Great Glen House
 Leachkin Road
 Inverness
 IV3 8NW
 01463 725364
 e-mail: licensing@snh.gov.uk

Animal Licence		
Licence Number: 118944	Valid from : 10-APR-18	Valid to : 31-DEC-19
This Licence has been amended from Licence Number : 92624		
Licence Holder : Redacted		
Address:	Inveralmond Road Inveralmond Industrial Estate Perth PH1 3TW	
Additional Persons		
Name	Role	Additional Conditions
BEAR Scotland North West Unit Staff	Agent	
This Licence is Granted under the following Legislation:		
The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended): Regulation 44 (2) (e)		
Project Details		
This licence permits the disturbance of otter for the purpose of preserving public health and safety in North West Scotland in areas covered by the North West Unit of BEAR Scotland. All works must be carried out in accordance with the document entitled: "BEAR Scotland NW Trunk Roads Operations and Otters: An Otter Species Protection Plan" by Redacted and subsequent correspondence agreed in writing between SNH Licensing Team and the licence holder, but subject to modifications or amendments imposed by the conditions of this licence.		
Activities, species and locations covered by this licence are listed in Annex 1		
Conditions		
1	All working methods, mitigation and compensation measures must be carried out in accordance with those set out in the licence application and supporting documents as listed in the project details of this licence, and any subsequent correspondence agreed in writing between SNH Licensing Team and the licence holder, but subject to any modifications or amendments imposed by this licence.	
2	All workers must be briefed about the likelihood of otters being found on site, the terms of this licence, and what to do if otter are	

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	found at any time.
3	This licence does not permit damage or destruction or obstruction of access to any otter shelter.
4	If evidence of breeding or young is found within 200m of the development site at any time, no further works must be carried out until all cubs can be shown to be sufficiently mobile to make use of alternative holts, unless agreed by an SNH licensing officer. (The SNH website provides more guidance under Otters and Development - Click Here).
5	Protection zones as defined in the licence application and supporting documents listed in the project details of this licence, must be clearly marked out on the ground prior to any works commencing on site.
6	All vegetation clearance and/or tree felling works within protection zones must be carried out by hand (including the use of chainsaws and hand-held power tools), or if harvesting machines are being used they must be operated from outside protection zones. All trees must be felled away from holt entrances, and all timber must be lifted out, processed and stacked, outwith protection zones.
7	The licence holder may employ agents or assistants to work under the terms of this licence.
8	While engaged in work authorised by this licence, the licence holder and agents must be able to produce a copy of this licence to any Police Officer, authorised person, or official of SNH on demand.
9	The licence holder must provide SNH licensing team with annual licence returns due one year from the start date of the licence and detailing any action carried out under this licence. The final return must be submitted within one month of the expiry of this licence. Please send this information by email (including your licence number in the subject line of the email) to: licensing@snh.gov.uk . using the form found here: Click Here .
Notes	
Licence holders or any other persons covered by this licence should note the following;	
1	This licence is granted subject to compliance with the conditions as specified. Anything done otherwise than in accordance with the terms of the licence may constitute an offence.
2	Agents may work independently of the licence holder. It is the responsibility of the licence holder to ensure that agents have the appropriate training and experience and that they understand the terms and conditions of this licence.
3	Assistants must work under the personal supervision of the licence holder or agents. The number of assistants that can be appropriately supervised is at the discretion of the licence holder or agent.
4	Nothing in this licence shall confer any right of entry on to land or property.
5	This licence may be modified or revoked at any time by SNH.

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6	This licence only exempts any legal provision contained in the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended).
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This licence is granted subject to compliance with the terms and conditions specified

Licence no:118944

Authorised on behalf of Scottish Natural Heritage by: Redacted Date: 10-APR-2018

Licence no:118944


Annex 1: Permitted activities

Action	Purpose	Species	Location	Grid Reference	Method
Disturb	Preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment.	Otter	North West Scotland in areas covered by the North West Unit of BEAR Scotland	-	N/A


This licence is granted subject to compliance with the terms and conditions specified

Licence no:118944


Authorised on behalf of Scottish Natural Heritage by: Redacted Date: 10-APR-2018

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APPENDIX C: OTTER SPECIES PROTECTION PLAN


	<p>Transport Scotland North West Unit</p> <p>Otter Species Protection Plan</p>	
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BEAR Scotland NW Trunk Roads Operations and Otters:
An Otter Species Protection Plan

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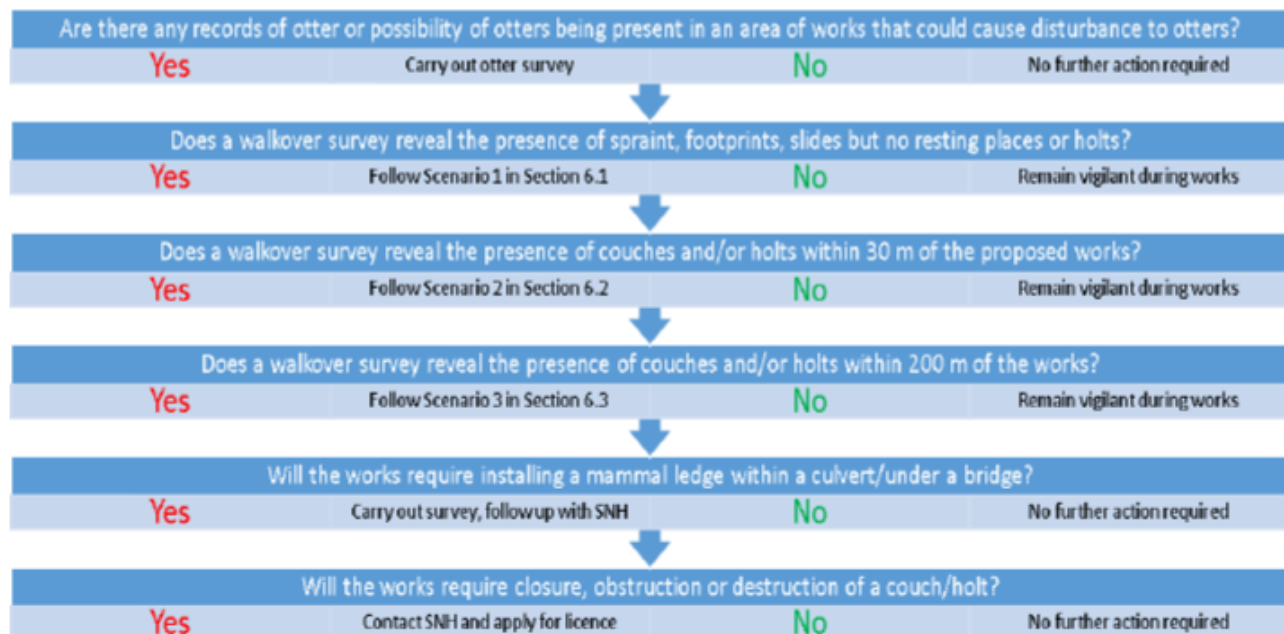
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Flow Diagram Showing Decision Process



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1 Introduction

This species protection plan has been prepared by BEAR Scotland and SNH. It is intended to support an application for an organisational otter licence to cover those trunk road operations which have the potential to affect Eurasian otter (*Lutra lutra*).

1.1 Otters in Scotland

Scotland has an internationally important population of otters and they are also listed on the Scottish Biodiversity List as a species of importance for the purpose of conservation of biodiversity in Scotland¹.

Almost any watercourse or water body is likely to be used by otters at some point in time. The Scottish population makes use of two distinct types of habitat: freshwater habitats, including lochs and rivers, and coastal habitats mainly along the west and north coast of Scotland and the Western Isles and Shetland. There is considerable variation amongst populations in both habitat types and like any animal, otters change their range and habitat use in response to changing environmental conditions.

In the freshwater environment, otters are largely nocturnal and occur at very low population densities. For a female, the typical home range is around 20 km of river, stream and loch-shore with males covering up to 39 km (Kruuk, 2006). The sexes tend to live apart for most of the time but in both types of environment, the otter is territorial and ranges may overlap, especially those of females (SNH, Kruuk, 2006).

A high proportion of the Scottish otter population, 50% or more, are coastal-dwelling. This has often led to them being incorrectly referred to as 'sea otters', a North American species of otter. They are exactly the same species as those found further inland, but take advantage of the productive coastal waters to feed on bottom-dwelling fish and crustaceans (SNH). The productive waters are also key to allowing a higher density of otters to be sustained. Coastal otters are more active during daylight hours than their freshwater counterparts. Home ranges also tend to be smaller in the coastal environment often being as small as 4 to 5 km of coastline. As in the freshwater environment, sexes tend to live apart but male territories can overlap those of several females in coastal areas.


1.2 Otters and the Law

The otter is a European protected species, listed in Annexes II and IV of the EC Habitats Directive. It is fully protected in the UK under the Conservation (Natural Habitats, &c.) Regulations 1994, as amended. Where otters are qualifying features of a Special Area of Conservation, designated under the EC Habitats Directive, their habitats are also protected. They are also legally protected under Appendix II of the Bern Convention 1979.

In summary, under this legislation, it is illegal to:

- Deliberately or recklessly capture, kill or injure otters;

¹ The UK Biodiversity Action Plan was succeeded by the UK Post-2010 Biodiversity Framework in July 2012.

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- Deliberately or recklessly harass or, in certain circumstances, disturb otters;
- Damage or destroy a breeding site or resting place for otters.

A person is not guilty of the above offences if they are carried out in accordance with a derogation licence, which can only be issued under strict conditions.

1.3 BEAR Scotland

BEAR Scotland Ltd. is appointed as the Agent to Transport Scotland for the Term Contract for Management and Maintenance of the Scottish Trunk Road Network for the North West Unit. The North West 4G contract between BEAR Scotland and Transport Scotland commenced in April 2013 and currently extends to 2020. The vast majority of maintenance operations and construction undertaken by BEAR Scotland falls under Permitted Development under the Roads (Scotland) Act 1984.

Under the contract, BEAR Scotland are responsible for:

- Planned maintenance/design (e.g. resurfacing, earthworks, traffic signs, safety barriers, bridge maintenance and replacements);
- Network management (e.g. community and local authority liaison, 24/7 365 days/year control room);
- Emergency and incident response (e.g. specially trained operatives available 24/7, remove hazards from carriageway, reduce congestion caused by incidents);
- Routine and cyclic operations (e.g. gully cleaning and drainage repairs, grass cutting and weed spraying, inspection);
- Winter service (e.g. salting of trunk roads, snow ploughs).

2 Context

BEAR Scotland is a regular holder of otter derogation licences, with more than 20 applications granted in 2016. SNH Species Licensing have agreed with BEAR Scotland that a more appropriate approach would be to secure an otter derogation licence that covers activities on the NW Unit.

2.1 What the organisational licence will cover


This licence will cover all works on the BEAR Scotland North West Unit that are likely to:

- Disturb otters whilst they are using resting/breeding sites.

The licence will not cover the obstruction or destruction of otter resting places, holts or natal holts. Where obstruction or destruction of otter resting places is required, SNH will be consulted and a separate derogation licence will be applied for.

2.2 Trunk road operations that may disturb otters or resting sites

Various trunk road operations have the potential to disturb otters using breeding/resting sites along the NW network. Disturbance of otter resting places or breeding sites is the most frequent risk to be considered by the BEAR Scotland Environment Team. These structures are still protected even when otters are not present.

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The main types of trunk road operations that may disturb otters using resting/breeding sites are listed as follows (not exhaustive):


- Road resurfacing;
- Installation of vehicle restraint systems and barriers;
- Repair of carriageway defects, including retaining walls;
- Road drainage repairs;
- Bridge/culvert replacement;
- Bridge/culvert scour repairs;
- Bridge expansion joint replacement;
- Bridge parapet replacement.

3 Environment Team Capabilities and Survey Licences

The NW BEAR Scotland Environment Team have qualified and appropriately licensed ecologists who carry out otter surveys, as well as agents named on specific survey licences who are allowed to work independently. They are:

Staff member	Qualifications	Survey licence number
Redacted Environmental Manager	BSc.(Hons) MSc. MCIEEM, CEnv	62278
Redacted	BSc. (Hons), HND with Distinction	57786
Redacted	BSc. (Hons) MRes, Associate Member IFM, Pending Associate Member CIEEM	Agent on 62278
Redacted	BSc. (Hons) MSc. Pending Graduate Member CIEEM	Agent on 62278

This list of licensed members of staff will be subject to change over time. The list is correct as of April 4th 2018.

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4 Survey and Site Assessment

4.1 Desk-based Assessment

Before any trunk road project can go ahead, an Environmental Assessment Request detailing the proposed works is submitted to the Environment Team by the BEAR Scotland Design Engineer. This is then subject to a screening process, including a desk-based assessment. Based on information gained from this assessment, the Environment Team determine carry out surveys to establish whether otters are present in habitat surrounding the proposed working area. This is necessary to assess the potential impacts of the proposed works on the otter population in the area and to develop mitigation measures.

Where the proposed works are within, or have connectivity with, a Special Area of Conservation where otters are a qualifying feature of the site, the Environment Team will consult SNH.

4.2 Survey Methods

Field surveys are undertaken by experienced ecologists based on methodology contained in Volume 10, Section 4 of the Design Manual for Roads and Bridges (DMRB) and in 'Monitoring the Otter *Lutra lutra*' (Chanin, 2003). Surveys involve searching a minimum of 200 m beyond the working area for signs of otter, including the presence of holts, lying-up sites or couches, spraint and footprints. The locations of all otter signs found within the study area are recorded using a hand-held GPS.

Where possible, surveys are not undertaken during or following periods of heavy rainfall.

4.3 Survey Results

Signs normally encountered in the field on the North West trunk road network, include:

- Field signs, including spraint, footprints and feeding remains;
- Otter slides;
- Sightings;
- Couches (un-covered resting places above ground);
- Non-breeding holts (underground resting places with at least one chamber);
- Natal holts.


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Figure 4.1 Spraint on rock near Onich



Figure 4.2 Otter footprints in wet sand



Figure 4.3 Active otter couch/holt near Skye Bridge

If a holt is identified, a wildlife camera may be set-up by a licensed otter surveyor to monitor use of the holt. Suspected natal holts will also be monitored using a wildlife camera to determine usage. If evidence of breeding or young is found within 200 m of the construction site, SNH will be consulted prior to any works being carried out.


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Figure 4.4 Otter leaving holt on Skye, camera trapped under licence 62278

5 Evaluating Impacts on Otters


The main potential impact on the otter population in the vicinity of works will arise from the visual and noise disturbance due to increased human activity and the presence of machinery and vehicles. Generally, the affected resting places are adjacent to the trunk roads which have a high level of disturbance and background noise all year round. Therefore it is likely that the level of impact will be less than that which would occur at an isolated site.

Any pollution from, for example, silt, fuel or oil could have an impact on water quality, potentially having an effect on otters and their prey.

Resting places will not be damaged or obstructed by the works, however, otters making use of these areas may be disturbed as a result of construction. With mitigation in place, the level of impact arising from these works will be reduced and it is considered unlikely that a significant effect at a national or international level will occur.

6 Management Approaches

In relation to otters and trunk road operations, there are a number of different scenarios that are commonly encountered during maintenance works across the NW network. They range from finding signs (i.e. spraint and footprints) to actual sightings of otters. The appropriate management approach must be identified for each type of scenario. These scenarios are set out in the following section, along with mitigation measures to minimise the risk to otters in each case.

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6.1 Scenario 1: Spraint, footprints and/or feeding remains identified but no resting places/holts found

- 'Working with Otters' Toolbox Talk to be provided to all site personnel prior to commencement of construction. This will be included in a Site Environmental Management Plan to be kept on site;
- The work area will be checked at the start of each shift for the presence of resting otters. In addition, before being used, machinery will be checked at the start of each shift for the presence of resting otters;
- Should otters or fresh signs of otters be discovered during works, work will be immediately stopped in the vicinity and the supervisor informed. Advice will be sought from the BEAR Scotland Environment Team;
- Pollution prevention measures will be strictly enforced on site and the Scottish Environment Protection Agency (SEPA) Pollution Prevention Guidelines (PPGs), and Guidance for Pollution Prevention (GPPs) in particular GPP 5 "Works and maintenance in or near water" will be strictly adhered to;
- Suitable emergency spill kit(s) will be provided on site, staff trained in their use and a contingency plan will be put in place to deal with environmental incidents;
- Refuelling and material storage areas, where required, must be fully bunded and secure and be located, if space is available, at least 10 m from watercourses, lochs, canals and drainage entry points, in order to comply with SEPA GPP 5 and minimise pollution risk;
- No wash water (or any other substance) to be discharged into watercourses, lochs, canals, transitional waters, coastal waters or road drainage system;
- Any excavations created will be covered over at the end of each shift and following completion of the works to avoid otters falling into them and becoming trapped;
- Any entrances to pipes/drains that are in the process of being constructed will be suitably protected to prevent otter access;
- All waste will be removed from site either for re-use, recycling or disposal in accordance with waste management regulations.

6.2 Scenario 2: Couches and/or holts identified within 30 m of the works

In addition to the measures in 6.1, the following mitigation will be adhered to where resting places and/or holts are found within 30 m of the works:


- Black infra-red camera trapping will be carried out under licence to determine the status of the holt i.e. if non-breeding or breeding. The use of infra-red minimises disturbance to otters;
- If a breeding holt is identified, SNH will be consulted as soon as practicably possible for further advice on how to proceed;

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- No works will be carried out until the status of the holt has been established and it has been determined that all young, if present, are independently able to move to another holt;
- All conditions/advice given by Species Licensing will be complied with during the course of the works;
- If the structure is found to be used for non-breeding purposes, all conditions of the organisational otter licence will be complied with during the course of the works and a copy of the licence will be kept on site for inspection at any time;
- The site supervisor will brief all persons on site as part of the induction process to ensure that everyone is aware of the presence of otter, the mitigation measures, their legal obligations and the licensing conditions imposed on them;
- Where work on bridges is required, the thoroughfare for otters passing underneath the bridge will be maintained at all times;
- An exclusion zone will be marked out around the shelter prior to work commencing consisting of orange semi-rigid barrier fencing or high visibility tape. This will be 30m where possible but if the works are closer than this distance, the exclusion zone will be as near as possible to a minimum of 30 m. The fencing will be fixed in place allowing for as large a buffer as possible between the works and the resting places. This 'red zone' will be clearly marked as out of bounds to personnel throughout the course of the works and will be removed on completion of the works;
- A copy of the Site Environmental Management Plan, detailing mitigation measures required will be kept on site;
- Works will be carried out mainly during daylight hours but there may be cases where night-time working is required due to safety reasons;
- If night-time working is required, any lighting required will be directed away from water bodies and resting places as far as reasonably practicable;
- In such cases, works may be carried out under the direct supervision of an experienced ecologist if necessary;
- Staff to remain vigilant for sightings of otter during the course of the works;
- If otter are encountered during night-time working, works will cease in the immediate vicinity until the Environment Team can give advice;
- If the works are expected to take place over a prolonged period of time, repeat otter surveys will be carried out every 3 months.

6.3 Scenario 3: Couches/holts identified within 200 m of the works

In addition to the measures in 6.1, the following measures will be adhered to where resting places and/or holts are found within 200 m but more than 30 m from the works:

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- Black infra-red camera trapping will be carried out under licence to determine the status of the holt i.e. if non-breeding or breeding. The use of infra-red minimises disturbance to otters;
- If a breeding holt is identified, SNH will be consulted as soon as practicably possible for further advice on how to proceed;
- No works will be carried out until the status of the holt has been established and it has been determined that all young, if present, are independently able to move to another holt;
- All conditions/advice given by Species Licensing will be complied with during the course of the works;
- A copy of the Site Environmental Management Plan, detailing mitigation measures required will be kept on site;
- Works will be carried out mainly during daylight hours but there may be cases where night-time working is required due to safety reasons;
- If night-time working is required, any lighting required will be directed away from water bodies and resting places as far as reasonably practicable;
- In such cases, works may be carried out under the direct supervision of an experienced ecologist if necessary;
- Staff to remain vigilant for sightings of otter during the course of the works;
- If otter are encountered during night-time working, works will cease in the immediate vicinity until the Environment Team can give advice;
- If the works are expected to take place over a prolonged period of time, repeat otter surveys will be carried out every 3 months.

7 General enhancement measures for otters

Roads can pose a particular problem for otters and can lead to significant numbers of casualties and mortalities. Road deaths are more likely when rivers are in spate and instead of being able to safely follow the watercourse through culverts or under bridges, otters cross over roads. BEAR Scotland collect data on otter road deaths to identify hotspots where further measures could prevent/reduce road mortalities. There are a couple of simple measures that BEAR Scotland use to do this.

Mammal ledges have also been installed at culverts and bridges where otter deaths had been previously recorded and where it was possible to do so. Where possible, these ledges should be fitted in conjunction with a dry otter tunnel so that otters have safe access across the road when watercourses are in spate.

Before these measures can be installed, the BEAR Scotland Environment Team carry out thorough otter surveys and in the case of installing mammal ledges at culverts, liaise with SEPA regarding Controlled Activities Regulations (CAR) requirements. Installation of mammal ledges is usually classed as an environmental service under CAR.

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These activities may be covered under the organisational otter licence but if the main scope of works do not fall within the scenarios in section 6, SNH will be consulted for advice before any works are carried out.

8 What the licence will not cover

The organisational licence will only cover the scenarios set out in section 6. The licence will not cover incidences where:


- Couches/holts are obstructed;
- Couches/resting places need to be closed to enable works to go ahead;
- A holt needs to be destroyed to enable works to go ahead.

In these exceptional cases, SNH Species Licensing will be contacted and an application for a specific otter derogation licence will be made.

The organisational licence will only cover activities and operations on the NW Unit. It does not extend to the BEAR Scotland North East Unit.

9 Annual licence returns

Annual licence returns for the NW Unit will be made to SNH as a condition of the organisational otter licence. The submission date will be agreed with SNH.

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