Agenda item 8

Appendix 2

2025/0104/DET

Habitats regulations appraisal

HABITATS REGULATIONS APPRAISAL

Planning reference and proposal information	2025/0104/DET, Realignment of 400m of River Tromie
Appraised by	Scott Shanks, Ecological Advice Officer (Planning)
Date	03 June 2025 (original) Version 2 updated 06 August 2025 following discussion with NatureScot Version 3 updated 15 August 2025 to include River Spey – Insh Marshes Ramsar features
Checked by	Version 2 & 3 checked by Anne Elliott, NatureScot Operations Officer – Central Highland
Date	Version 2: 07/08/2025 Version 3: 18/08/2025

INFORMATION

European site details

Name of European site(s) potentially affected

1) River Spey SAC

2) Insh Marshes SAC

3) River Spey - Insh Marshes SPA

Qualifying interest(s)

1) River Spey SAC

Otter

Freshwater pearl mussel

Sea lamprey

Atlantic salmon

2) Insh Marshes SAC

Alder woodland on floodplains

Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels

Very wet mires often identified by an unstable `quaking` surface

3) River Spey - Insh Marshes SPA

Hen harrier (non-breeding)

Osprey

Spotted crake

Whooper swan (non-breeding)

Wigeon

Wood sandpiper

4) River Spey – Insh Marshes Ramsar

Mesotrophic loch

Flood plain mire

Alder Woodland

String sedge

Scandinavian small reed grass

Least water lily

Cowbane

Shady horsetail

Pillwort

Invertebrate Assemblage

Otter

Osprey

Spotted crake

Whooper Swan

Wigeon

Wood Sandpiper

Conservation objectives for qualifying interests

1) River Spey SAC

Conservation Objective 2. To ensure that the integrity of the River Spey SAC is restored by meeting objectives 2a, 2b, 2c for each qualifying feature (and 2d for freshwater pearl mussel):

2b. Restore the distribution of **freshwater pearl mussel** throughout the site

2c. Restore the habitats supporting **freshwater pearl mussel** within the site and availability of food

2d. Restore the distribution and viability of **freshwater pearl mussel** host species and their supporting habitats

2a. Restore the population of **freshwater pearl mussel** as a viable component of the site

2b. Maintain the distribution of **sea lamprey** throughout the site

2c. Maintain the habitats supporting **sea lamprey** within the site and availability of food

2a. Maintain the population of **sea lamprey** as a viable component of the site

2b. Restore the distribution of **Atlantic salmon** throughout the site

2c. Restore the habitats supporting **Atlantic salmon** within the site and availability of food

2a. Restore the population of **Atlantic salmon**, including range of genetic types, as a viable component of the site

2b. Maintain the distribution of **otter** throughout the site

2c. Maintain the habitats supporting **otter** within the site and availability of food

2a. Maintain the population of **otter** as a viable component of the site

Conservation Objective 1. To ensure that the qualifying features of the River Spey SAC are in favourable condition and make an appropriate contribution to achieving favourable conservation status.

2) River Spey - Insh Marshes SPA

To avoid deterioration of the habitats of the **qualifying species** (**Hen harrier, Osprey, Spotted crake, Whooper swan, Wigeon** and **Wood sandpiper**) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- Population of the species as a viable component of the site
- Distribution of the species within site
- Distribution and extent of habitats supporting the species
- Structure, function and supporting processes of habitats supporting the species
- No significant disturbance of the species

3) Insh Marshes SAC

Conservation Objective 2. To ensure that the integrity of Insh Marshes is restored by meeting objectives 2a, 2b and 2c for each qualifying feature.

2a. Maintain the extent and distribution of **clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels** within the site

2b. Maintain the structure, function and supporting processes of **clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels**

2c. Maintain the distribution and viability of typical species of **clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels**

2a. Maintain the extent and distribution of **very wet mires often identified by an unstable 'quaking' surface** within the site

2b. Maintain the structure, function and supporting processes of **very wet mires often identified by an unstable 'quaking' surface**

2c. Maintain the distribution and viability of typical species of **very wet mires often identified by an unstable 'quaking' surface**

2a. Maintain the extent and distribution of **alder woodland on floodplains** within the site

2b. Restore the structure, function and supporting processes of **alder woodland on floodplains**

2c. Maintain the distribution and viability of typical species of **alder woodland on floodplains**

Conservation Objective 1. To ensure that the qualifying features of Insh Marshes SAC are in favourable condition and make an appropriate contribution to achieving favourable conservation status.

4) River Spey – Insh Marshes Ramsar

2a. Maintain the extent and distribution of **Mesotrophic loch** within the site

2b. Maintain the structure, function and supporting processes of **Mesotrophic loch**

2c. Maintain the distribution and viability of typical species of **Mesotrophic loch**

2a. Maintain the extent and distribution of **Flood-plain mire** within the site

2b. Maintain the structure, function and supporting processes of **Flood-plain mire**

2c. Maintain the distribution and viability of typical species of **Flood-plain mire**

2a. Maintain the extent and distribution of **Alder woodland**

2b. Maintain the structure, function and supporting processes of **Alder woodland**

2c. Maintain the distribution and viability of typical species of **Alder woodland**

2b. Maintain the distribution of **Otter** throughout the site

2c. Maintain the habitats supporting **Otter** within the site and availability of food

2a. Maintain the population of **Otter** as a viable component of the site

To ensure that except where due to natural environmental change the following are maintained in the long term:

- Population of the **Invertebrate Assemblage** as a viable component of the site
- Distribution of the **Invertebrate Assemblage** within site
- Distribution and extent of habitats supporting the **Invertebrate Assemblage**
- Structure, function and supporting processes of habitats supporting the **Invertebrate Assemblage**
- No significant disturbance of the **Invertebrate Assemblage**

To avoid deterioration of the habitats of the **qualifying species** (**Hen harrier, Osprey,**

Spotted crake, Whooper swan, Wigeon and **Wood sandpiper**) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- Population of the species as a viable component of the site
- Distribution of the species within site
- Distribution and extent of habitats supporting the species
- Structure, function and supporting processes of habitats supporting the species
- No significant disturbance of the species

Note: The protection of **String sedge, Scandinavian Small reed grass (*Calamagrostis purpurea*), Least water lily, Cowbane, Shady horsetail** and **Pillwort** is delivered by the overlapping Insh Marshes SAC Conservation Objectives for Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels, Very wet mires often identified by an unstable `quaking` surface and Alder woodland on floodplains.

Conservation Objective 1. To ensure that the qualifying features of River Spey- Insh Marshes Ramsar are in favourable condition and make an appropriate contribution to achieving favourable conservation status.

APPRAISAL

STAGE 1:

What is the plan or project?

Relevant summary details of proposal (including location, timing, methods, etc)

The proposed realignment of 400m of the River Tromie will create a new channel to realign the historically straightened lower reach of the River Tromie, which will connect with the Invertromie Drain as the main confluence with the River Spey. The new channel starts at NH 78095 00791 and finishes at NH 77814 00953 where it will join the Invertromie Drain. The river will flow along the final 200m of the drain before joining the Spey at NH 77931 01110. The new channel will reconnect the river with its floodplain after having been constrained by stone embankments for the last 150-200 years and will reduce the risk of an uncontrolled avulsion over the right-hand bank onto the Dell of Killiehuntly farm. Fish passage and habitat will be maintained through the creation of riffles and pools, and rare invertebrate populations that are reliant upon banks of sands and gravels will be enhanced due to the new depositions of sands and gravels that will occur regularly due to the undersized channel. Regular overtopping of the rivers banks will also maintain the wetland plant communities including transition mire. The realigned channel will have greater connectivity with the floodplain and enhance wetland habitat around the realigned section. The construction period is expected to take 4-6 weeks, aiming to start in August to avoid the peak breeding bird season (March to mid-August), and the Atlantic salmon spawning season (mid-October to February).

STAGE 2:

Is the plan or project directly connected with or necessary for the management of the European site for nature conservation?

1) River Spey SAC

Yes, this project is directly connected with the management of this site for nature conservation.

i) Has the effect on all qualifying interests been considered?

Yes. Atlantic salmon, freshwater pearl mussel (FWPM), sea lamprey and otter, the qualifying interests (QIs) of the River Spey SAC, have been considered during the development of this river realignment proposal. Existing habitat condition, and the distribution and extents of the QIs, as well as their conservation objectives were used to inform the restoration design and proposed construction works (i.e. methodology and timing) to mitigate against impacts on these species. The potential impacts, design and mitigation measures undertaken and residual impacts on the QIs are further discussed in Stage 4.

ii) Is the proposal part of a fully assessed and agreed management plan

Yes, the proposal is being delivered as part of the Cairngorms Connect Floodplains and River Restoration programme. Cairngorms Connect consists of a partnership of WildLand Limited, NatureScot, Forestry and Land Scotland, and RSPB Scotland, with the

Cairngorms National Park as a supporting partner. The partnership has a 200-year vision that aims to enhance habitats, species and ecological processes across 600ha of connected land within the Cairngorms National Park. Previous works to improve habitat diversity in the River Tromie involved the installation of 9 large woody structures in 2022, which was supported by the Scottish Government's Nature Restoration Fund.

iii) Is there a clear rationale to justify the connection with the conservation objectives?

Yes. The Conservation Objectives for Atlantic salmon, FWPM, sea lamprey and otter seek to improve the population, distribution, and availability of supporting habitats for these protected species.

iv) If there is a clear rationale to justify the connection with the conservation objectives, will any benefits arising from the proposal outweigh any negative impacts?

Yes. Steps have been taken during the design development to mitigate against impacts to the SAC's qualifying interests. As noted in the response at 2ii) the proposed river realignment works along the lower extent of the River Tromie have the potential to improve habitat provision and diversity for all QIs, contributing towards improving the condition of the designated site. The design and construction methodology have been developed with proposed mitigation measures in place (see Tromie Optioneering and Final Design FINAL Report and Tromie Restoration - Method Statement Advice to inform Contractors Construction Management Plan), and the contractor will be tasked with the development of an Operational Management Plan with specific mitigations for sediment management and pollution control, control of invasive non-native species (INNS) and protected species plans, which will limit negative impacts on the QIs. However, during the construction process residual risks remain, such as best practice construction methodologies not being followed or implemented incorrectly. These mitigation measures and residual risk will be discussed further in Stage 4.

v) Have any alternative methods of implementing the proposal been explored, including building in any relevant mitigation, to demonstrate that this is a the least damaging option?

Yes. During both the design development and construction planning stages. The 'Tromie Optioneering and Final Design FINAL' report outlines 8 design options that were assessed against several factors including impacts on vegetation, fish passage and water flows. The 'Tromie Restoration Modelling and Flood Risk Assessment FINAL Report' has also considered potential increases to flood risk. The 'Tromie Restoration - Method Statement Advice to inform Contractors Construction Management Plan' report outlines required mitigation measures including sediment and pollution management measures that area to be included in the contractor's Operational Management Plan. These mitigation measures must be employed during construction to prevent this material from being mobilised into the River Tromie or the Invertromie Burn, and from there into the River Spey.

vi) **Give a Yes/No conclusion in terms of whether the plan or project is considered to directly connect with or necessary to site management for nature conservation.**

Yes. The project site is covered by the River Spey SAC designation. Therefore, realignment works along this section of the River Tromie (a tributary of the River Spey) will directly impact the River Spey SAC. However, the proposal aims to reinstate natural dynamic processes along the watercourse, enhance habitat provision and diversity both in the river and the floodplain, as well as contributing to natural flood risk management and improving climate change resilience. Therefore, it is deemed that this river realignment work is necessary for nature conservation and should improve suitable habitat diversity and potentially increase distribution of Atlantic salmon, FWPM, sea lamprey and otter within the site.

2) River Spey - Insh Marshes SPA

No, this project is not directly connected with or necessary for the management of the European site for nature conservation

3) Insh Marshes SAC

No, this project is not directly connected with or necessary for the management of the European site for nature conservation

4) River Spey - Insh Marshes Ramsar

No, this project is not directly connected with or necessary for the management of the European site for nature conservation

STAGE 3:

Is the plan or project (either alone or in-combination with other plans or projects) likely to have a significant effect on the site(s)?

1) River Spey SAC

Otter: Yes, LSE from short term effects arising during construction activity. There could be long term impacts through improved naturalisation of the riverbanks and wetland improvement works which could provide increased habitat for otters and their prey.

Freshwater pearl mussel: YES, there will be a LSE from short term effects arising during construction including fine sediment released during construction activity that could smother FWPM populations downstream of the site, within the River Spey. Pollution from construction work such as fuel spillages could also enter the watercourse and impact FWPM and host species in the River Spey SAC. Poor biosecurity measures could result in the spread of disease or invasive on-native species (INNS) that could impact FWPM populations and host species. There could be post-construction effects arising from expansion of suitable FWPM habitat, and host species habitats with potential to increase FWPM abundance and improve distribution and

encourage colonisation of the restoration site.

Sea lamprey: Yes, LSE from short term effects arising during construction activity including disturbance of existing habitat within the River Tromie through release of sediment mobilised from banks and riverbed during construction works, or pollution from construction activity such as fuel spills. There could be post-construction impacts from improved natural dynamism of the River Tromie and improved habitat for Sea Lamprey

Atlantic salmon: Yes, LSE from short term effects arising during construction activity including disturbance of existing habitat within the River Tromie through release of sediment mobilised from banks and riverbed during construction works that could smother Atlantic salmon spawning gravels downstream of the site, pollution from construction activity such as fuel spills and disturbance during spawning periods. There could be post-construction impacts from improved natural dynamism of the River Tromie and improved habitat for Atlantic salmon.

2) River Spey - Insh Marshes SPA

Hen harrier (non-breeding): Yes, LSE from short-term effects from disturbance arising during construction activity.

Osprey: Yes, LSE from short-term effects arsing during construction activity. Potential long-term effects from improvements to habitat diversity within the River Tromie, and possible positive impacts on prey species including Atlantic salmon.

Spotted crake: Yes, LSE from short-term effects arising construction activity. Spotted crake are summer visitors to the UK, returning to wintering grounds in October each year.

Whooper swan (non-breeding): Yes, LSE from short-term effects arising during construction activity. Whooper swans are a wintering species in the UK. They generally arrive back in the UK in October.

Wigeon: Yes, LSE from short-term effects arising during construction activity. The majority of wigeon in the UK are winter visitors from Scandinavia, however there are resident birds which breed in parts of Scotland including at sites within the Cairngorms National Park.

Wood sandpiper: Yes, LSE from short-term effects arriving during construction activity. Wood Sandpiper are a spring and summer migrant species, that generally leave the UK for winter in grounds in October. Potential for long-term positive effects from wetland enhancement works.

3) Insh Marshes SAC

Alder woodland on floodplains, No LSE as no tree works are proposed within the Insh Marshes SAC as part of the application, and therefore no priority alder woodland will be impacted by the proposed river realignment on the flood plain**. This QI has been scoped out of further consideration.**

Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels: No LSE. The proposed route of the River Tromie realignment will not directly impact any of the clear-water lakes or lochs within the Insh Marshes SAC. The location of the proposed confluence of the realigned River Tromie and the River Spey is over 7km upstream of Loch Insh, and so there will be negligible impacts from the potential mobilisation of sediment or

pollution this far upstream (Ref: wat-sg-90-sepa-conservation-procedure-for-sacs-spas-and-sssis.pdf). Therefore, there will be no impacts on this QI, and **this QI has been scoped out of further consideration.**

Very wet mires often identified by an unstable `quaking` surface: Yes, LSE from short-term impacts from loss of transition mire habitat where the proposed realigned River Tromie channel meets the Invertromie Burn before emptying into the Spey. However, modelling indicates that there will be a long-term significant increase in the extent of this habitat as a result of the River Tromie realignment works (Ref: Tromie Optioneering and Final Design FINAL Report).

4) River Spey - Insh Marshes Ramsar

Mesotrophic Loch: No LSE. The proposed route of the River Tromie realignment will not directly impact on Loch Insh, which is a mesotrophic Loch. The location of the proposed confluence of the realigned River Tromie and the River Spey is over 7km upstream of Loch Insh, and so there will be negligible impacts from the potential mobilisation of sediment or pollution this far upstream (Ref: wat-sg-90-sepa-conservation-procedure-for-sacs-spas-and-sssis.pdf). Therefore, there will be no impacts on this QI, and **this QI has been scoped out of further consideration.**

Flood-plain mire: Yes, LSE from short-term impacts from loss of transition mire habitat where the proposed realigned River Tromie channel meets the Invertromie Burn before emptying into the Spey. Insh Marshes is the largest transition mire in the UK. This site is representative of the flood plain mire type. However, modelling indicates that there will be a long-term significant increase in the extent of this habitat as a result of the River Tromie realignment works (Ref: Tromie Optioneering and Final Design FINAL Report).

Alder woodland, No LSE as no tree works are proposed within the River-Spey Insh Marsh Ramsar boundary as part of the application, and therefore no priority alder woodland will be impacted by the proposed river realignment on the flood plain**. This QI has been scoped out of further consideration.**

Invertebrate Assemblage: Yes, LSE from short term effects arising from loss of exposed riverine habitat along the existing channel. However there will be long term This site has a rich diversity of invertebrate species utilising a range of different habitats within the Ramsar boundary including alder woodland, birch woodland, fen and wetland habitats, and exposed riverine shingle (ERS) at the edges of watercourses. The ERS habitat along the existing channel is likely to be lost

Otter: Yes, LSE from short term effects arising during construction activity. There could be long term impacts through improved naturalisation of the riverbanks and wetland improvement works which could provide increased habitat for otters and their prey.

String sedge (*Carex chordorrhiza*), Scandinavian small-reed (*Calamagrostis purpurea*), least water lily (*Nuphar pumila*), cowbane (*Cicuta virosa*), shady horsetail (*Equisetum pratense*) and pillwort (*Pilularia globulifera*). No LSE. This is not an important location within the Ramsar for any of these plant species. RSPB Scotland monitoring indicates that no

Scandinavian small-reed is present. Cowbane and String Sedge are present further north of the development, but not with the restoration site, and the increased wetness is not likely to reach them. Least water lily is not present in the lower part of the ditch. The long-term predicted changes are not likely to affect any of these species. **These QI have been scoped out of further consideration.**

Hen harrier (non-breeding): Yes, LSE from short-term effects from disturbance arising during construction activity.

Osprey: Yes, LSE from short-term effects arsing during construction activity. Potential long-term effects from improvements to habitat diversity within the River Tromie, and possible positive impacts on prey species including Atlantic salmon.

Spotted crake: Yes, LSE from short-term effects arising construction activity. Spotted crake are summer visitors to the UK, returning to wintering grounds in October each year.

Whooper swan (non-breeding): Yes, LSE from short-term effects arising during construction activity. Whooper swans are a wintering species in the UK. They generally arrive back in the UK in October.

Wigeon: Yes, LSE from short-term effects arising during construction activity. The majority of wigeon in the UK are winter visitors from Scandinavia, however there are resident birds which breed in parts of Scotland including at sites within the Cairngorms National Park.

Wood sandpiper: Yes, LSE from short-term effects arriving during construction activity. Wood Sandpiper are a spring and summer migrant species, that generally leave the UK for winter in grounds in October. Potential for long-term positive effects from wetland enhancement works.

STAGE 4:

Undertake an Appropriate Assessment of the implications for the site(s) in view of the(ir) conservation objectives

1) River Spey SAC

Conservation Objective 2. To ensure that the integrity of the River Spey SAC is restored by meeting objectives 2a, 2b, 2c for each qualifying feature (and 2d for freshwater pearl mussel):

2b. Restore the distribution of freshwater pearl mussel throughout the site

The proposed river realignment works will contribute towards achieving this Conservation Objective. A Protected Species survey undertaken in November 2024 found no evidence of FWPM within the lower stretches of the River Tromie and a 500m buffer downstream of the site within the River Spey (350m of which was easily surveyable during the survey). This was a repeat of a survey undertaken in 2022, which also found no evidence of FWPM. The lower River Tromie survey reach was considered mostly unsuitable for pearl mussels due to unstable pebble and cobble dominated habitat, with only small marginal patches of partly stable, sub-optimal habitats present. There was no evidence of pearl mussels within the 350m reach of the River Spey, where again

substrates were classed as unstable, and the habitats were considered unsuitable. The River Tromie realignment proposal aims to create a diversity of habitats suitable for FWPM and it's host species within the realigned channel. The improved habitat diversity will improve suitability for FWPM and host species such as Atlantic salmon. This could increase suitability for FWPM and improve the probability of further colonisation of FWPM across the site.

Proposed mitigation measures included in the design process including avoiding disturbance during Atlantic salmon spawning, and mitigation measures proposed for the contractor Operational Management Plan (Ref: Tromie Restoration - Method Statement Advice to inform Contractors Construction Management Plan) as part of the proposal will minimise the construction phase risks of mobilisation of sediments, pollution or disease that could potentially impact FWPM further downstream of the project site within the River Spey.

2c. Restore the habitats supporting freshwater pearl mussel within the site and availability of food.

The proposed river realignment works will contribute towards achieving this Conservation Objective. The proposed works will improve habitat diversity for host species of FWPM (such as Atlantic salmon) through the creation of a series of pools, lateral bars and riffles, that will result in the localised deposition of a range of sediments. This will promote the expansion of suitable FWPM habitats and improve the chances of further colonisation of this section of the SAC. The proposal will improve watercourse to flood plain connectivity. The works aim to improve habitat for FWPM host species and modelling of salmonid fish passage have been considered in the design process. The proposals should result in improved nutrient exchange with the floodplain, which will provide organic matter for feeding FWPMs that might colonise through increased use of the lower reaches of the River Tromie by host salmonid species.

2d. Restore the distribution and viability of freshwater pearl mussel host species and their supporting habitats.

The proposed river realignment works will contribute towards achieving this Conservation Objective. The protected species survey work undertaken in November 2024 did not find any FWPM within the lower reach of the River Tromie, or within 350m downstream of the site within the River Spey. The works have been designed to improve habitat diversity within the lower River Tromie channel which should benefit salmonids, the host species of FWPM. Encouraging increased use of the site by breeding salmonids will increase the probability of colonisation of the site by FWPM via glochida attached to young salmonids. This could help restore the distribution and viability of freshwater pearl mussel in this section of the River Spey SAC.

2a. Restore the population of freshwater pearl mussel as a viable component of the site

The proposed River Tromie realignment works will contribute towards achieving this Conservation Objective. As noted previously, there were no FWPM found within the surveyed stretches of the River Tromie or within a 350m of the River Spey downstream of the project site, and existing habitat within the current lower River Tromie and stretch of the River Spey was assessed to be mainly unsuitable for FWPM due to the dominance of unstable pebble and cobble

habitat.

The proposed sediment management and pollution prevention controls, if correctly implemented should minimise the risk of negative impacts to any undiscovered FWPM within the River Spey further downstream of the survey site.

The realignment has been designed to improve habitat diversity to benefit salmonids (FWPM host species) and FWPM, and therefore the restoration work could help restore/ expand the FWPM population into the realigned stretch of the River Tromie (which is part of the River Spey SAC).

2b. Maintain the distribution of sea lamprey throughout the site

The proposed River Tromie realignment works will contribute towards achieving this Conservation Objective. There are currently no records of sea lamprey using the River Tromie, or it's confluence with the River Spey. Regular electro-fishing data from the River Tromie (most recently from 28/08/2022) has not recorded this species as present within the River Tromie tributary of the River Spey SAC.

The proposed sediment management and pollution prevention controls, if correctly implemented should minimise the risk of negative impacts to potential lamprey spawning areas or nursery areas for juvenile sea lamprey further downstream of the application site. The timing of the proposed works will avoid the sea lamprey spawning months (April-May), which will also mitigate against mobilised sediment smothering spawning areas.

Therefore, the proposed realignment of the River Tromie channel will not negatively impact the distribution of sea lamprey throughout the site. The project aims to increase habitat diversity within the River Tromie channel and improve suitability for Atlantic salmon (a potential host/prey species of sea lamprey). The improved habitat diversity may also benefit sea lamprey and encourage spawning within the River Tromie.

2c. Maintain the habitats supporting sea lamprey within the site and availability of food

The proposed river realignment works will contribute towards achieving this Conservation Objective. There are currently no records of sea lamprey within the River Tromie. The current lower stretches of the River Tromie have been straightened and canalised in the past, which has resulted in the loss of typical riffle and pool sequences within the river, and low habitat diversity. The proposal has been designed to increase habitat diversity within the realigned channel and improve connectivity with the floodplain. This should increase habitat suitability for spawning adults and potentially slower flowing sections suitable as nursery areas for juvenile sea lamprey. The proposal will increase habitat suitability for potential prey species such as Atlantic salmon.

2a. Maintain the population of sea lamprey as a viable component of the site

The proposed river realignment works will contribute towards achieving this Conservation Objective. As no sea lamprey have been recorded from the lower stretches of the River Tromie, this proposal will not have a direct impact on the population of sea lamprey as a viable component of the River Spey SAC. The proposed restoration works may increase the extent of suitable habitat

suitability for spawning sea lamprey within the River Tromie.

2b. Restore the distribution of Atlantic salmon throughout the site

The proposed river realignment works will contribute towards achieving this Conservation Objective. The works have been designed with a key aim of improving habitat diversity for Atlantic salmon, and to ensure that fish passage from the main channel of the Spey is maintained into the Tromie. Surveys for Atlantic salmon habitat within the lower stretches of the River Tromie (Ref: Tromie Optioneering and Final Design Report, and Aerial Imagery of River Tromie Fish Habitat) have found that suitable spawning habitats are mainly focused in upstream areas and at the confluence of the River Tromie with the River Spey where there is higher habitat diversity compared to the straightened sections. There are fewer areas suitable for fry and parr within the current lower stretch of the Tromie. The proposal will result in the loss of some spawning areas near the current confluence of the River Spey however these will be replaced by new areas suitable for spawning formed in the new channel. Habitats suitable for fry and parr are predicted to be enhanced in the new channel, and passage will also be maintained to higher quality habitats upstream.

Therefore, realignment of the lower River Tromie will increase habitat availability and diversity for Atlantic salmon within this section of the SAC. This increase in habitats suitable for salmon in the new section of the river may facilitate an increase in the population of Atlantic Salmon within the SAC.

Mitigation Measures included in the proposal will minimise the construction phase risks of disturbance during spawning time, mobilisation of sediments that could smother redds, and the release of pollution or spread of disease that could impact Atlantic salmon within the River Spey SAC.

2c. Restore the habitats supporting Atlantic salmon within the site and availability of food

The proposed river realignment works will contribute towards achieving this Conservation Objective. The proposed works will increase morphological diversity within this section of the River Tromie, creating a diversity of habitats suitable for a range of life stages of Atlantic Salmon. The current lower stretch of the River Tromie has embankments that limit connectivity with the surrounding floodplain. The proposed realignment work will improve connectivity between the river and the surrounding floodplain which should also provide a source of nutrients and food for salmon.

The project design intends that the new channel would be dynamic and there would be post-construction changes. Natural processes would operate, including transport of sediment from the Tromie, and deposition and erosion of sediment. The design intends that a channel passable to salmon would be maintained for the long term. This is essential to the salmon population of the river. The new channel was designed to have a winter and summer winter depth of at least 25cm, which would be deep enough for salmon passage up and down stream in most conditions apart from severe droughts. The deeper the water, the easier it is for salmon to move. The design with

features means that pools would be present for resting places for salmon moving upstream. If the salmon connectivity is compromised, for example with gravel deposition leading to very shallow flows in most conditions, and this is persistent, for example over six months, it will be important to take remedial action to reopen a usable channel.

Mitigation Measures included in the proposal will minimise the construction phase risks of disturbance during spawning time, mobilisation of sediments that could smother spawning sites, temporary loss of parr habitat, and release of pollution or spread of disease that could impact Atlantic salmon within the River Spey SAC. Monitoring of sediment erosion/deposition within the new channel should be undertaken post-construction to ensure that flow depths are sufficient for fish passage through the realigned channel. If monitoring identifies restricted fish-passage (both up and down the watercourse) in average flows for a period lasting more than 6 months, then adjustments should be undertaken in consultation with a geomorphologist to restore fish passage.

2a. Restore the population of Atlantic salmon, including range of genetic types, as a viable component of the site

The proposed river realignment works will partly contribute towards achieving this Conservation Objective. The restoration of this stretch of the River Tromie will increase habitat diversity suitable for Atlantic salmon. This increase in suitable habitat may in turn promote an increase in the population of Atlantic salmon within this stretch of the River Spey SAC. However, the proposed works will not influence the range of genetic types within the SAC.

Mitigation Measures included in the proposal will minimise the construction phase risks of disturbance during spawning time, mobilisation of sediments that could smother spawning sites, disturbance and temporary loss of parr habitat, and release of pollution or spread of disease that could impact Atlantic salmon within the Rive Spey SAC.

2b. Maintain the distribution of otter throughout the site

The proposed river realignment works will contribute towards achieving this Conservation Objective. Protected Species surveys undertaken in November 2024 did not find any otter holts or couches, or any other evidence of otter using the project site, however it is likely that habitats in and surrounding the project site are suitable for use by foraging otter. A further pre-construction survey for protected species is planned for the summer of 2025.

During the construction phase, otter may be a temporary inhibited from foraging across the site. Otters can have very large home ranges of around 32km for males and 20km for females (Otter | NatureScot), and therefore temporary construction work at this location is unlikely to result in significant impact on foraging otter.

The proposed works will replace the straightened lower section of the Tromie with a more diverse channel. The design of the new channel has been modelled to increase habitat diversity within the channel and improve connections with the floodplain. The proposed works aim to increase the extent and diversity of wetland habitats within and surrounding the project site that would be suitable for otter and therefore will help maintain the distribution of otter within the

River Spey SAC.

2c. Maintain the habitats supporting otter within the site and availability of food

The proposed river realignment works will contribute towards achieving this Conservation Objective. The proposed river restoration works should improve the diversity of habitats within the River Tromie that support prey species such as Atlantic salmon, and the improved connectivity with the Invertromie floodplain and the modelled retention of more water following more regular flood events should help maintain and improve the quality of habitats supporting otter and prey species.

Mitigation measures included in the proposal will minimise the construction phase risks of disturbance to spawning Atlantic salmon (otter prey species), and the mobilisation of sediment and pollution, and the spread of disease that could impact otter prey species close to the application site.

2a. Maintain the population of otter as a viable component of the site

The proposed river realignment works will contribute towards achieving this Conservation Objective. As the other conservation objectives can be met for otter with the mitigation included in the proposal, the proposed development would not hinder or prevent the maintenance of the population of otter as a viable component of site.

Conservation Objective 1. To ensure that the qualifying features of the River Spey SAC are in favourable condition and make an appropriate contribution to achieving favourable conservation status.

As all the other conservation objectives would be met, the proposed development would not prevent or hinder the condition or conservation status of the qualifying interests of the SAC, and so this conservation objective would be met.

In conclusion, the proposed mitigation measures including: timing of the works to avoid the Atlantic salmon spawning season, and the main breeding bird season, the inclusion of sediment and pollution management measures, pre-construction checks for protected species and INNS (Ref: Tromie Optioneering and Final Design FINAL Report and Tromie Restoration - Method Statement Advice to inform Contractors Construction Management Plan), will reduce the potential effects to a minimal level, so that all the conservation objectives can be met for the River Spey SAC.

2) River Spey - Insh Marshes SPA

To avoid deterioration of the habitats of the qualifying species (Hen harrier (wintering), Osprey (breeding), Spotted crake (breeding), Whooper swan (wintering), Wigeon and Wood sandpiper(breeding)) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; AND

To ensure for the qualifying species that the following are maintained in the long

term:

- Population of the species as a viable component of the site

Osprey do not nest within this area of the SPA, but they may fish within the River Spey and River Tromie. This species has a large foraging range, with males frequently foraging more than 10km from the nest site (Ref: Raptor Monitoring Scheme: Hardey *et al* (2013) Advice | Scottish Raptor Monitoring Scheme). Therefore, foraging osprey are not dependent on the project site, and temporary disturbance/inhibition of foraging close to the river realignment works will have a negligible impact on foraging activity. Therefore, there will be no impact on the population of osprey as a viable component of the site.

Spotted Crake (breeding) and **Wood Sandpiper (breeding)** are both rare summer visitors to the UK, with a small number breeding within the River Spey-Insh Marshes SPA at the time of designation. **Wigeon** are mainly a winter visitor to the UK, but a small number breed within the River Spey-Insh Marshes SPA.

Proposed mitigation measures including timing of works to avoid the breeding bird season (March to mid-August) will ensure that there would be no impact on breeding Spotted Crake, Wigeon and Wood Sandpiper at the site. Therefore, there will not be a direct impact on the population of these species are a viable component of the SPA.

Whooper Swan is a winter visitor to the UK, with the majority of Whooper Swans arriving in the UK in October each year. Proposed mitigation measures including timing of the works to avoid the salmon spawning season (mid-October to February) will also ensure that disturbance of wintering whooper swans is minimised. There will not be an impact on the population of this species as a viable component of the SPA.

Hen Harrier roost within the SPA during winter. Hen harriers are sensitive to disturbance within 750m of their roost sites. (Ref: Disturbance Distances in selected Scottish Bird Species – NatureScot Guidance | NatureScot). If hen harriers do choose to roost close to the realignment work site, timing of work activities will be limited so that works do not impact roosting hen harrier, including not starting until at least an hour after sunrise and stopping an hour before sunset. This will ensure that potential disturbance to roosting hen harriers is minimised. Therefore, there should be no direct impact on the species as a viable component of the SPA.

- Distribution of the species within the site

RSPB Scotland monitoring data for Insh Marshes indicates that **Wigeon, Wood Sandpiper** and **Spotted Crake** do not use the project area (personal communication Steve Blow), and therefore there will not be a negative impact on the distribution of any of the QIs.

Whooper Swans will occasionally use the realignment area, but generally arrive in October, and are not reliant on this area of the SPA for foraging, loafing or roosting. Therefore, temporary construction activity will not have a significant impact on whooper swan distribution within the site.

Mitigation measures included in the works include timing of construction activity to avoid the breeding bird season, and the salmon spawning season. This will limit impacts on breeding and wintering species. The River Tromie realignment project aims to improve the diversity of habitats within the River Tromie channel, improve connectivity between the channel and the floodplain, and increase the extent of wetland habitat surrounding the new channel. This should improve habitat

suitability for QI species including Osprey, Spotted Crake, Wood Sandpiper and Wigeon. During the construction phase some of the QI species may be temporarily inhibited from foraging or roosting near the project area, but this will not affect the distribution of this species within the site. here should be no negative effects on the long-term distribution of species within the SPA because of the proposed river realignment works.

- Distribution and extent of habitats supporting the species

Hen harrier roost communally within the SPA during winter. Hen harriers generally roost in rank ground vegetation, where they may build roosting platforms (approximately 1m across) by splaying out plant stems and tussocks. The birds also use natural gaps in the vegetation. There will be no negative impacts from the proposed River Tromie realignment on the extent of habitats supporting this species.

Osprey – There will be no impact on the distribution of osprey nesting sites because of this proposal**.** The River Tromie restoration project has been designed to improve habitat diversity within the lower stretch of the River Tromie, which should benefit a range of osprey prey species such as Atlantic salmon. Therefore, these river restoration improvements are likely to benefit hunting osprey by improving the quality of habitats supporting this species.

Spotted Crake and **Wood Sandpiper** are both rare summer migrants associated with fen, marsh and other habitats wetland. The river restoration work aims to improve habitat diversity within the lower Tromie, improve connectivity with the floodplain and increase the extent of wetland habitats on the floodplain, including transition mire, and marsh which are key wetland habitat used by these species. Therefore, this proposal will maintain or enhance the distribution and extent of habitats supporting this species.

Wigeon tend to breed in lowland freshwater marshes, shallow lakes and lagoons with ample submerged, floating and emerging vegetation. The river restoration work aims to improve habitat diversity within the lower Tromie, improve connectivity with the floodplain and increase the extent of wetland habitats on the floodplain, including mire, and marsh which are key wetland habitat used by these species. The extent of suitable habitats supporting this species will not be impacted by the proposed River Tromie restoration project.

Whooper Swan – are winter visitors to the UK. They spend much of their time on wate, foraging on the leaves, stems and roots of aquatic plants and algae, grasses, sedges and horsetails. In some locations they may foraging in agricultural fields taking. During the winter the species may also forage in agricultural fields taking fallen cereals, and vegetables such as potatoes and turnips. The extent of suitable habitats supporting this species will not be impacted by the proposed River Tromie restoration project.

- Structure, function and supporting processes of habitats supporting the species

Hen harrier roost communally within the SPA during winter. Hen harriers generally roost in rank ground vegetation, where they may build roosting platforms (approximately 1m across) by splaying out plant stems and tussocks. The birds also use natural gaps in the vegetation. Mitigation measures including timing of works to avoid disturbance to any roosting hen harriers within 750m of the construction work (Ref: Disturbance Distances in selected Scottish Bird Species – NatureScot Guidance | NatureScot), will ensure that there will be no negative impacts from the proposed River Tromie realignment on the structure, function and supporting processes of habitats supporting this

species.

Osprey may hunt fish in the River Tromie and River Spey. The proposed river restoration works aims to improve habitat diversity within the lower Tromie, which should benefit osprey prey species, so this work should improve the structure, function and supporting process of habitats supporting this species.

Spotted crake is a summer visitor that breeds within wetland habitats within the SPA. This species is not known to use the area of the realignment. The river restoration work aims to improve habitat diversity within the lower Tromie, improve connectivity with the floodplain and increase the extent and level of water retention on the floodplain. This should lead to an increase in the extent of wetland habitats on the floodplain, including transition mire, which is a key habitat used by Spotted Crake. Therefore, this work should improve the structure, function and supporting process of habitats supporting this species within the SPA.

Whooper swan is a winter visitor to the UK. The river restoration work aims to improve habitat diversity within the lower Tromie, improve connectivity with the floodplain and increase the extent of wetland habitats on the floodplain including marshy grassland, which may be used by foraging whooper swan. Therefore, this work should improve the structure, function and supporting process of habitats supporting this species.

Wigeon is generally a winter visitor to the UK, but small numbers of wigeon breed within the SPA. The river restoration work aims to improve habitat diversity within the lower Tromie, improve connectivity with the floodplain and increase the extent of wetland habitats on the floodplain, including transition mire and marshy grassland, which are habitats used by Wigeon where they will feed on leaves, seeds, stems and root bulbs of aquatic plants, fine grasses, horsetails and algae. Therefore, this work should improve the structure, function and supporting process of habitats supporting this species within the SPA.

Wood sandpiper is a summer visitor that breeds within wetland habitats within the SPA. While there have been no recent records of Wood Sandpiper, the river restoration work aims to improve habitat diversity within the lower Tromie, improve connectivity with the floodplain and increase the extent of wetland habitats on the floodplain, including transition mire, which should benefit Wood Sandpiper. Therefore, this work should improve the structure, function and supporting process of habitats supporting this species within the SPA

- No significant disturbance of the species

Mitigation measures included in the application including the timing of works to avoid the breeding bird season will help prevent disturbance to breeding birds including the QI species of the River Spey-Insh Marshes SPA. The construction activity is predicted to take between 4 and 6 weeks to complete, so any disturbance, or inhibition to foraging activity in proximity to the realignment site will be temporary.

RSPB Scotland monitoring data indicates that the river restoration site is not used by **Spotted Crake, Wigeon or Wood Sandpiper.**

Osprey is a mobile species with a large hunting range (Raptor Monitoring Scheme: Hardey et al (2013) Advice | Scottish Raptor Monitoring Scheme), and is unlikely to be solely dependent on the application site, and so it is considered that there will be negligible impact from the temporary

restriction of hunting range within the project site during the construction phase.

Hen Harriers roost within the SPA during winter. Breeding hen harriers may continue to roost in breeding areas into the autumn, and move to communal wintering roosts in September-October (Advice | Scottish Raptor Monitoring Scheme), therefore, there may potentially be disturbance to roosting hen harriers from construction activity.

Hen harriers are sensitive to disturbance within 750m of their roost site (Ref: Disturbance Distances in selected Scottish Bird Species – NatureScot Guidance | NatureScot). Mitigation should include not starting work until at least 1h after sunrise, and finishing at least 1h before sunset to avoid key disturbance peroids when hen harriers are moving to roosting areas.

Supporting habitats within the application site for QI species are widespread across the SPA, and so Wood Sandpiper, Spotted Crake, Wigeon, Whooper Swan are unlikely to be solely dependent on the application site, and so it is considered that there will be negligible impact from the temporary restriction of foraging habitat within the project site during the construction phase.

In conclusion, the proposed mitigation measures including: timing of the works to avoid the main breeding bird season, pre-construction checks for protected species and timing of works to avoid disturbance to roosting hen harriers will reduce the potential effects to a minimal level, so that all the conservation objectives can be met for the River Spey -Insh Marshes SPA.

3) Insh Marshes SAC

2a. Maintain the extent and distribution of very wet mires often identified by an unstable 'quaking' surface within the site.

The proposed river realignment works will contribute towards achieving this Conservation Objective. Insh Marshes is the largest transition mire in the UK. This site is representative of the floodplain mire type. The proposal will see the currently straightened lower stretch of the River Tromie realigned to connect with the Invertromie Burn/ditch. Habitats currently surrounding the Invertromie channel include transition mire, which is a Qualifying Interest habitat of the Insh Marshes SAC. The route of the new channel will pass through areas of marsh, swamp and transition mire, and will result in a likely decrease in the extent and distribution of transition mire habitat. Changes to vegetation and habitat composition around the realigned channel have been modelled as part of the realignment design (Ref: Tromie Optioneering and Final Design FINAL Report). The current extent of wet transition mire habitat around the project site is approximately 56.7 ha. Following the realignment works the extent of this habitat is predicted to be temporarily reduced to approximately 54.79ha, a decrease of 1.91ha. Medium-term habitat and vegetation changes have been modelled based on predicted post-construction increases in the depth and extent of water levels in the floodplain surrounding the realigned channel. There is predicted to be a significant increase in the extent and distribution of transition mire habitat surrounding the realigned channel from the baseline of ~56.7ha to ~72.32ha which would be an increase of around 15.62 ha.

The designated mire habitat within Insh Marshes is estimated to be approximately 416.53 ha (Ref:

Insh Marshes SAC conservation-advice-package.pdf). Therefore, an increase of 15.62ha in the extent of more habitat would equate to an increase of 3.75% in mire habitat within the SAC.

Therefore, there will be a short-term decrease in the extent of transition mire habitat after the river channel realignment work, followed by a predicted significant medium-term increase in the extent and distribution of wet transition mire in response to water level changes surrounding the realigned channel. This will ensure that the extent and distribution of designated mire habitat is maintained within Insh Marshes SAC.

2b. Maintain the structure, function and supporting processes of very wet mires often identified by an unstable 'quaking' surface.

The proposed river realignment works will contribute towards achieving this Conservation Objective. Maintenance of appropriate hydrology is important to retain the structure and function of this habitat, which has developed due to the high-water table. Natural fluctuations in water level are needed to continue to support the long-term existence of the habitat. The site should be damp or wet all year, with a higher water level when there is more water in the river in winter, and temporary flooding following heavy rain. This project aims to realign the channel of the lower River Tromie from the current straightened channel with embankments through the floodplain to meet the Invertromie Burn. The realignment work has been designed to increase the frequency of bank-topping events and increase the extent and depth of water levels in the floodplain. The increased extent of water on the floodplain will help prevent colonisation of the surrounding habitat by trees and scrub that can shade and dry-out this wetland habitat. This will help maintain the structure and function of supporting processes of this habitat.

2c. Maintain the distribution and viability of typical species of very wet mires often identified by an unstable 'quaking' surface.

The proposed river realignment works will contribute towards achieving this Conservation Objective. Insh Marshes has a complex and varied suite of swamp and mire communities, with transitional mire amongst other wetland habitats including swamp, mire fen and marshy grassland.

On Insh Marshes the transitional mires and quaking bogs habitat has the following National Vegetation Classification (NVC) types:

- M5 *Carex rostrata – Sphagnum squarrosum* mire. Typical indicator species include marsh cinquefoil (*Potentilla palustris*), Black sedge (*Carex nigra*), spiky bog-moss (Sphagnum squarrosum) and bottle sedge (*Carex rostrata*).
- S27 *Carex rostrata – Potentilla palustre* tall-herb fen. Typical indicator species can vary but frequently include bottle sedge (*Carex rostrata*), marsh bedstraw (*Galium palustre*), marsh cinquefoil (*Potentilla palustris*) and bogbean (*Menyanthes trifoliata*).

The vegetation is a relatively uniform area of S27 *Carex rostrata – Potentilla palustris* herb fen in which Sphagnum is found locally.

Insh Marshes is one of only two sites in the UK where string sedge (*Carex chordorrhiza*) is known.

The proposed river realignment is predicted to increase the extent and frequency of higher water levels surrounding the new channel, which will encourage the expansion of transitional mire habitat supporting these NVC communities. Therefore, the distribution and viability of typical species of

this habitat will be maintained. String sedge is present south-west of the realignment site (RSPB Scotland Notable Species data),and is not present within mire habitats that will be impacted by the river realignment works.

Conservation Objective 1. To ensure that the qualifying features of Insh Marshes SAC are in favourable condition and make an appropriate contribution to achieving favourable conservation status.

As all the other conservation objectives would be met, the proposed development would not prevent or hinder the condition or conservation status of the qualifying interests of the SAC, and so this conservation objective would be met.

In conclusion, the proposed river realignment works will result in a short-term decrease in the extent of very wet mires often identified by an unstable 'quaking' surface at the site by approximately 1.91ha. However, the predicted increase in the frequency and extent of higher water levels on the floodplain surrounding the new channel has been modelled to result in a medium-term increase in the extent of very wet mires and quaking bogs at the site by approximately 15.62ha. Therefore, the proposed works will result in a significant expansion of this designated habitat at the site, so that all the conservation objectives can be met for the River Spey SAC.

4) River Spey – Insh Marshes Ramsar

2a. Maintain the extent and distribution of Flood-plain mire within the site

As discussed for the Insh Marshes SAC transition mires and quaking bogs feature: The proposed river realignment works will contribute towards achieving this Conservation Objective. Insh Marshes is the largest transition mire in the UK. This site is representative of the floodplain mire type of transition mire. Key NVC habitats within this feature include M5 Carex rThe proposal will see the currently straightened lower stretch of the River Tromie realigned to connect with the Invertromie Burn/ditch. Habitats currently surrounding the Invertromie channel include transition mire, which is a qualifying interest habitat of the River Spey-Insh Marshes Ramsar. The route of the new channel will pass through areas of marsh, swamp and transition mire, and will result in a likely decrease in the extent and distribution of transition mire habitat. Changes to vegetation and habitat composition around the realigned channel have been modelled as part of the realignment design (Ref: Tromie Optioneering and Final Design FINAL Report). The current extent of wet transition mire habitat around the project site is approximately 56.7 ha. Following the realignment works the extent of this habitat is predicted to be temporarily reduced to approximately 54.79ha, a decrease of 1.91ha. Medium-term habitat and vegetation changes have been modelled based on predicted post-construction increases in the depth and extent of water levels in the floodplain surrounding the realigned channel. There is predicted to be a significant increase in the extent and distribution of transition mire habitat surrounding the realigned channel from the baseline of ~56.7ha to ~72.32ha which would be an increase of around 15.62 ha.

The designated mire habitat within Insh Marshes is estimated to be approximately 416.53 ha (Ref: Insh Marshes SAC conservation-advice-package.pdf). Therefore, an increase of 15.62ha in the

extent of more habitat would equate to an increase of 3.75% in mire habitat within the SAC.

Therefore, there will be a short-term decrease in the extent of transition mire habitat after the river channel realignment work, followed by a predicted significant medium-term increase in the extent and distribution of wet transition mire in response to water level changes surrounding the realigned channel. This will ensure that the extent and distribution of designated flood-plain mire habitat is maintained within Insh Marshes SAC.

2b. Maintain the structure, function and supporting processes of Flood-plain mire

As discussed for the Insh Marshes SAC transition mires and quaking bogs feature: The proposed river realignment works will contribute towards achieving this Conservation Objective. Maintenance of appropriate hydrology is important to retain the structure and function of this habitat, which has developed due to the high-water table. Natural fluctuations in water level are needed to continue to support the long-term existence of the habitat. The site should be damp or wet all year, with a higher water level when there is more water in the river in winter, and temporary flooding following heavy rain. This project aims to realign the channel of the lower River Tromie from the current straightened channel with embankments through the floodplain to meet the Invertromie Burn. The realignment work has been designed to increase the frequency of bank-topping events and increase the extent and depth of water levels in the floodplain. The increased extent of water on the floodplain will help prevent colonisation of the surrounding habitat by trees and scrub that can shade and dry-out this wetland habitat. This will help maintain the structure and function of supporting processes of this habitat.

2c. Maintain the distribution and viability of typical species of Flood-plain mire

As discussed for the Insh Marshes SAC transition mires and quaking bogs feature: The proposed river realignment works will contribute towards achieving this Conservation Objective. Insh Marshes has a complex and varied suite of swamp and mire communities, with transitional mire amongst other wetland habitats including swamp, mire fen and marshy grassland.

The proposed river realignment is predicted to increase the extent and frequency of higher water levels surrounding the new channel, which will encourage the expansion of transitional mire habitat supporting these NVC communities. Therefore, the distribution and viability of typical species of this habitat will be maintained.

2b. Maintain the distribution of Otter throughout the site

As discussed previously for the River Spey SAC: The proposed river realignment works will contribute towards achieving this Conservation Objective. Protected Species surveys undertaken in November 2024 did not find any otter holts or couches, or any other evidence of otter using the project site, however it is likely that habitats in and surrounding the project site are suitable for use by foraging otter. A further pre-construction survey for protected species is planned for the summer of 2025.

During the construction phase, otter may be a temporary inhibited from foraging across the site. Otters can have very large home ranges of around 32km for males and 20km for females (Otter | NatureScot), and therefore temporary construction work at this location is unlikely to result in

significant impact on foraging otter.

The proposed works will replace the straightened lower section of the Tromie with a more diverse channel. The design of the new channel has been modelled to increase habitat diversity within the channel and improve connections with the floodplain. The proposed works aim to increase the extent and diversity of wetland habitats within and surrounding the project site that would be suitable for otter and therefore will help maintain the distribution of otter within the River Spey SAC.

2c. Maintain the habitats supporting Otter within the site and availability of food

As discussed previously for the River Spey SAC: The proposed river realignment works will contribute towards achieving this Conservation Objective. The proposed river restoration works should improve the diversity of habitats within the River Tromie that support prey species such as Atlantic salmon, and the improved connectivity with the Invertromie floodplain and the modelled retention of more water following more regular flood events should help maintain and improve the quality of habitats supporting otter and prey species.

Mitigation measures included in the proposal will minimise the construction phase risks of disturbance to spawning Atlantic salmon (otter prey species), and the mobilisation of sediment and pollution, and the spread of disease that could impact otter prey species close to the application site.

2a. Maintain the population of otter as a viable component of the site

As discussed previously for the River Spey SAC: The proposed river realignment works will contribute towards achieving this Conservation Objective. As the other conservation objectives can be met for otter with the mitigation included in the proposal, the proposed development would not hinder or prevent the maintenance of the population of otter as a viable component of site.

To ensure that except where due to natural environmental change the following are maintained in the long term:

- Population of the Invertebrate Assemblage as a viable component of the site

The River Spey -Insh Marshes Ramsar and SSSI support a rich assemblage of invertebrate species associated with the wetland, aquatic, riverine and associated woodland habitats. Thirty-one Red-Data Book species are noted in the River Spey- Insh Marshes Ramsar citation. Woodland species include the Aspen hoverfly (*Hammerschmidtia ferruginea*), the Aspen catkin weevil (*Dorytomus rubrirostris*), Cousin German moth (*Protolampra sobrina*) and Rannoch Sprawler moth (*Brachionycha nubeculosa*) (the later two associated with birch), will not be impacted as there will be no impacts on trees or woodland habitat within the Ramsar. Wetland species including the Zircon reed beetle (*Donacia aquatica*), the wetland spider *Wabasso replicates* and the cranefly *Tipula marginella* are likely to benefit from the predicted expansion of transition mire habitat. Several species are associated with exposed riverine shingle (ERS) habitat. These include the Five-spot ladybird (*Coccinella quinquepunctata*), the Northern silver stiletto (*Spiriverpa lunulata)*, the Light Scottish stiletto (*Thereva inornata*), the hybotid fly (*Tachydromia acklandi*) and the cranefly (*Dicranomyia omissinervis*). Exposed riverine shingle is a dynamic habitat, with areas being lost and new areas created frequently following high-flow events. The realignment of the River Tromie down the new channel is likely to

result in the gradual loss of ERS habitat along the current canalised lower stretch of the river as vegetation colonises the stabilised exposed sediments, which will no longer be scoured by the watercourse. There will still be some flow down the original channel, which may be enough to maintain or create new areas of ERS habitat following higher winter flows. However, new ERS habitat will also be created along the route of the new channel. Species adapted to using ERS habitats should be able to quickly colonise newly created ERS habitats along the realigned channel. Therefore there should not be a significant impact on the Invertebrate assemblage as a viable component of the site.

An RSPB Ecology report on the impact of the realignment on Invertebrate communities (2024) submitted as part of the application considered the impacts on the populations of two ERS species *Spiriverpa lunulata* and *Coccinella quinquepunctata* at the site. It concluded that there would be no significant impact on these ERS species.

- Distribution of the Invertebrate Assemblage within site

There will not be a significant impact on the distribution of the invertebrate assemblage within the site. The main impacts will be on aquatic and ERS species. In the short/medium term following the realignment work there will still be ERS habitat along the current lower stretch of the River Tromie, but overtime this will likely be lost as vegetation colonises the exposed sediments. This will make it less suitable for the suite of ERS species. However new ERS habitat will quickly be created along the length of the new channel. While the current channel is constrained and straightened, the new channel has been designed to increase habitat diversity within the channel and to also over-top more regularly, depositing sediments carried in the water. ERS habitat is present in other sections of the River Tromie and the River Spey and so there will not be a significant impact on the distribution of species dependent on ERS habitats within the Ramsar. The naturalisation of the river channel and the diversity of habitat features created within the new channel should benefit aquatic invertebrates including riverflies such as the Northern February red stonefly (*Brachyptera putata*).

- Distribution and extent of habitats supporting the Invertebrate Assemblage

As discussed above, in the short to medium term following the realignment work there will still be ERS habitat along the current stretch of the River Tromie, but overtime this will likely be lost as vegetation colonises the exposed sediments. This will make it less suitable for the suite of ERS species. However new ERS habitat will be created along the length of the new smaller channel. This habitat is also present in other sections of the River Tromie and other areas within the Ramsar. The naturalisation of the river channel should improve habitat diversity for aquatic invertebrates, as well as fish. The proposed river realignment is predicted to increase the extent and frequency of higher water levels surrounding the new channel, which will encourage the expansion of transitional mire habitat in the area, which should benefit many of the wetland associated species. Therefore, there will not be a significant impact on the distribution and extent of habitats supporting the Invertebrate Assemblage.

- Structure, function and supporting processes of habitats supporting the Invertebrate Assemblage

The proposal will maintain the structure, function and supporting processes of the habitats

supporting the invertebrate assemblage. The river realignment has been designed to increase dynamism and naturalness of the river channel compared to the current straightened and canalised channel which has few riffle and pool sequences within the river, and low habitat diversity. The proposal has been designed to increase habitat diversity within the realigned channel and improve connectivity with the floodplain. This should provide a diversity of in-channel and riparian habitats supporting a diversity of invertebrate species.

Proposed mitigation measures included in the design process will minimise the construction phase risks of mobilisation of fine sediments that could smother, pollution or the spread of disease that could potentially impact aquatic invertebrates such as mayflies and stoneflies that are sensitive to changes in water quality.

- No significant disturbance of the Invertebrate Assemblage

The construction activity on site is predicted to take between 4 and 6 weeks in September to early October to complete. During this time, it is unlikely that construction activity would result in a significant disturbance to the behaviour of any of the previously mentioned invertebrates. Many ERS invertebrate species will be in larval stages within ERS habitats along the current channel in September and October. Due to the dynamic nature of riverine habitats, ERS-associated invertebrates and aquatic invertebrates are well adapted to cope with significant, rapid changes to these habitats. Adults emerging in 2026 from ERS habitats along the original channel should quickly colonise new ERS habitat formed along the new realigned channel.

To avoid deterioration of the habitats of the qualifying species (Hen harrier (wintering), Osprey (breeding), Spotted crake (breeding), Whooper swan (wintering), Wigeon and Wood sandpiper(breeding)) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; AND

To ensure for the qualifying species that the following are maintained in the long term:

- Population of the species as a viable component of the site

Osprey do not nest within this area of the River Spey-Insh Marshes Ramsar, but they may fish within the River Spey and River Tromie. This species has a large foraging range, with males frequently foraging more than 10km from the nest site (Ref: Raptor Monitoring Scheme: Hardey *et al* (2013) Advice | Scottish Raptor Monitoring Scheme). Therefore, foraging osprey are not dependent on the project site, and temporary disturbance/inhibition of foraging close to the river realignment works will have a negligible impact on foraging activity. Therefore, there will be no impact on the population of osprey as a viable component of the site.

Spotted Crake (breeding) and **Wood Sandpiper (breeding)** are both rare summer visitors to the UK, with a small number breeding within the River Spey-Insh Marshes SPA/Ramsar at the time of designation. **Wigeon** are mainly a winter visitor to the UK, but a small number breed within the River Spey-Insh Marshes Ramsar site boundary.

Proposed mitigation measures including timing of works to avoid the breeding bird season (March to mid-August) will ensure that there would be no impact on breeding Spotted Crake, Wigeon and Wood Sandpiper at the site. Therefore, there will not be a direct impact on the population of

these species are a viable component of the SPA.

Whooper Swan is a winter visitor to the UK, with the majority of Whooper Swans arriving in the UK in October each year. Proposed mitigation measures including timing of the works to avoid the salmon spawning season (mid-October to February) will also ensure that disturbance of wintering whooper swans is minimised. There will not be an impact on the population of this species as a viable component of the Ramsar site.

Hen Harrier roost within the SPA during winter. Hen harriers are sensitive to disturbance within 750m of their roost sites. (Ref: Disturbance Distances in selected Scottish Bird Species – NatureScot Guidance | NatureScot). If hen harriers do choose to roost close to the realignment work site, timing of work activities will be limited so that works do not impact roosting hen harrier, including not starting until at least an hour after sunrise and stopping an hour before sunset. This will ensure that potential disturbance to roosting hen harriers is minimised. Therefore, there should be no direct impact on the species as a viable component of the Ramsar site.

- Distribution of the species within the site

RSPB Scotland monitoring data for Insh Marshes indicates that **Wigeon, Wood Sandpiper** and **Spotted Crake** do not use the project area (personal communication Steve Blow), and therefore there will not be a negative impact on the distribution of any of the QIs.

Whooper Swans will occasionally use the realignment area, but generally arrive in October, and are not reliant on this area of the Ramsar site for foraging, loafing or roosting. Therefore, temporary construction activity will not have a significant impact on whooper swan distribution within the site.

Mitigation measures included in the works include timing of construction activity to avoid the breeding bird season, and the salmon spawning season. This will limit impacts on breeding and wintering species. The River Tromie realignment project aims to improve the diversity of habitats within the River Tromie channel, improve connectivity between the channel and the floodplain, and increase the extent of wetland habitat surrounding the new channel. This should improve habitat suitability for QI species including Osprey, Spotted Crake, Wood Sandpiper and Wigeon. During the construction phase some of the QI species may be temporarily inhibited from foraging or roosting near the project area, but this will not affect the distribution of this species within the site. here should be no negative effects on the long-term distribution of species within the Ramsar site because of the proposed river realignment works.

- Distribution and extent of habitats supporting the species

Hen harrier roost communally within the River Spey-Insh Marshes Ramsar/SPA during winter. Hen harriers generally roost in rank ground vegetation, where they may build roosting platforms (approximately 1m across) by splaying out plant stems and tussocks. The birds also use natural gaps in the vegetation. There will be no negative impacts from the proposed River Tromie realignment on the extent of habitats supporting this species.

Osprey – There will be no impact on the distribution of osprey nesting sites because of this proposal**.** The River Tromie restoration project has been designed to improve habitat diversity within the lower stretch of the River Tromie, which should benefit a range of osprey prey species such as Atlantic salmon. Therefore, these river restoration improvements are likely to benefit

hunting osprey by improving the quality of habitats supporting this species.

Spotted Crake and **Wood Sandpiper** are both rare summer migrants associated with fen, marsh and other habitats wetland. The river restoration work aims to improve habitat diversity within the lower Tromie, improve connectivity with the floodplain and increase the extent of wetland habitats on the floodplain, including transition mire, and marsh which are key wetland habitat used by these species. Therefore, this proposal will maintain or enhance the distribution and extent of habitats supporting this species.

Wigeon tend to breed in lowland freshwater marshes, shallow lakes and lagoons with ample submerged, floating and emerging vegetation. The river restoration work aims to improve habitat diversity within the lower Tromie, improve connectivity with the floodplain and increase the extent of wetland habitats on the floodplain, including mire, and marsh which are key wetland habitat used by these species. The extent of suitable habitats supporting this species will not be impacted by the proposed River Tromie restoration project.

Whooper Swan – are winter visitors to the UK. They spend much of their time on wate, foraging on the leaves, stems and roots of aquatic plants and algae, grasses, sedges and horsetails. In some locations they may foraging in agricultural fields taking. During the winter the species may also forage in agricultural fields taking fallen cereals, and vegetables such as potatoes and turnips. The extent of suitable habitats supporting this species will not be impacted by the proposed River Tromie restoration project.

- Structure, function and supporting processes of habitats supporting the species

Hen harrier roost communally within the SPA/Ramsar during winter. Hen harriers generally roost in rank ground vegetation, where they may build roosting platforms (approximately 1m across) by splaying out plant stems and tussocks. The birds also use natural gaps in the vegetation. Mitigation measures including timing of works to avoid disturbance to any roosting hen harriers within 750m of the construction work (Ref: Disturbance Distances in selected Scottish Bird Species – NatureScot Guidance | NatureScot), will ensure that there will be no negative impacts from the proposed River Tromie realignment on the structure, function and supporting processes of habitats supporting this species.

Osprey may hunt fish in the River Tromie and River Spey. The proposed river restoration works aims to improve habitat diversity within the lower Tromie, which should benefit osprey prey species, so this work should improve the structure, function and supporting process of habitats supporting this species.

Spotted crake is a summer visitor that breeds within wetland habitats within the Ramsar site. This species is not known to use the area of the realignment. The river restoration work aims to improve habitat diversity within the lower Tromie, improve connectivity with the floodplain and increase the extent and level of water retention on the floodplain. This should lead to an increase in the extent of wetland habitats on the floodplain, including transition mire, which is a key habitat used by Spotted Crake. Therefore, this work should improve the structure, function and supporting process of habitats supporting this species within the Ramsar site.

Whooper swan is a winter visitor to the UK. The river restoration work aims to improve habitat diversity within the lower Tromie, improve connectivity with the floodplain and increase the extent of wetland habitats on the floodplain including marshy grassland, which may be used by foraging

whooper swan. Therefore, this work should improve the structure, function and supporting process of habitats supporting this species.

Wigeon is generally a winter visitor to the UK, but small numbers of wigeon breed within the SPA. The river restoration work aims to improve habitat diversity within the lower Tromie, improve connectivity with the floodplain and increase the extent of wetland habitats on the floodplain, including transition mire and marshy grassland, which are habitats used by Wigeon where they will feed on leaves, seeds, stems and root bulbs of aquatic plants, fine grasses, horsetails and algae. Therefore, this work should improve the structure, function and supporting process of habitats supporting this species within the Ramsar site.

Wood sandpiper is a summer visitor that breeds within wetland habitats within the Ramsar site. While there have been no recent records of Wood Sandpiper, the river restoration work aims to improve habitat diversity within the lower Tromie, improve connectivity with the floodplain and increase the extent of wetland habitats on the floodplain, including transition mire, which should benefit Wood Sandpiper. Therefore, this work should improve the structure, function and supporting process of habitats supporting this species within the Ramsar Site.

- No significant disturbance of the species

Mitigation measures included in the application including the timing of works to avoid the breeding bird season will help prevent disturbance to breeding birds including the QI species of the River Spey-Insh Marshes Ramsar. The construction activity is predicted to take between 4 and 6 weeks to complete, so any disturbance, or inhibition to foraging activity in proximity to the realignment site will be temporary.

RSPB Scotland monitoring data indicates that the river restoration site is not used by **Spotted Crake, Wigeon or Wood Sandpiper.**

Osprey is a mobile species with a large hunting range (Raptor Monitoring Scheme: Hardey et al (2013) Advice | Scottish Raptor Monitoring Scheme), and is unlikely to be solely dependent on the application site, and so it is considered that there will be negligible impact from the temporary restriction of hunting range within the project site during the construction phase.

Hen Harriers roost within the SPA during winter. Breeding hen harriers may continue to roost in breeding areas into the autumn, and move to communal wintering roosts in September-October (Advice | Scottish Raptor Monitoring Scheme), therefore, there may potentially be disturbance to roosting hen harriers from construction activity.

Hen harriers are sensitive to disturbance within 750m of their roost site (Ref: Disturbance Distances in selected Scottish Bird Species – NatureScot Guidance | NatureScot). Mitigation should include not starting work until at least 1h after sunrise, and finishing at least 1h before sunset to avoid key disturbance periods when hen harriers are moving to roosting areas.

Supporting habitats within the application site for QI species are widespread across the Ramsar site, and so Wood Sandpiper, Spotted Crake, Wigeon, Whooper Swan are unlikely to be solely dependent on the application site, and so it is considered that there will be negligible impact from the temporary restriction of foraging habitat within the project site during the construction phase.

Conservation Objective 1. To ensure that the qualifying features of the River Spey - Insh Marshes Ramsar are in favourable condition and make an appropriate contribution to achieving favourable conservation status.

As all the other conservation objectives would be met, the proposed development would not prevent or hinder the condition or conservation status of the qualifying interests of the Ramsar, and so this conservation objective would be met.

In conclusion, the proposed mitigation measures including: timing of the works to avoid the main breeding bird season, the inclusion of sediment and pollution management measures, pre-construction checks for protected species and INNS (Ref: Tromie Optioneering and Final Design FINAL Report and Tromie Restoration - Method Statement Advice to inform Contractors Construction Management Plan), will reduce the potential effects to a minimal level, so that all the conservation objectives can be met for the River Spey – Insh Marshes Ramsar

STAGE 5:

Can it be ascertained that there will not be an adverse effect on site integrity?

1) River Spey SAC

Yes, Provided the mitigation measures below are implemented, then the conservation objectives will be met and therefore there will not be an adverse effect on site integrity.

2) Insh Marshes SAC

Yes, Provided the mitigation measures below are implemented, then the conservation objectives will be met and therefore there will not be an adverse effect on site integrity.

3) River Spey - Insh Marshes SPA

Yes, Provided the mitigation measures below are implemented, then the conservation objectives will be met and therefore there will not be an adverse effect on site integrity.

4) River Spey – Insh Marshes Ramsar

Yes, Provided the mitigation measures below are implemented, then the conservation objectives will be met and therefore there will not be an adverse effect on site integrity.

The mitigation measures that require to be secured by condition are:

- Prior to ground preparation or construction works, a pre-construction protected species survey of the proposed development site and surrounding area should be carried out by a suitably experienced surveyor following NatureScot guidance (Planning and development: standing advice and guidance documents | NatureScot). If evidence of any protected species is found a species protection plan identifying appropriate mitigation measures based on the survey results such be submitted to CNPA for agreement in writing prior to works commencing. The reason for this measure is to minimise the risk of construction phase impacts on protected species.
- Timing of the works to avoid the Atlantic salmon spawning season (mid-October to

February). The reason for this condition is to minimise potential construction phase impacts on qualifying interests of the River Spey SAC.

- Timing of works to avoid the breeding bird season (March to mid-August). The reason for this condition is to minimise impacts on breeding birds.
- Monitoring of sediment erosion/deposition within the new channel should be undertaken for at least 5 years post-construction to ensure that flow depths are sufficient for fish passage through the realigned channel. If monitoring identifies restricted fish-passage (both up and down the watercourse) in average flows for a period lasting more than 6 months, then adjustments should be undertaken in consultation with a geomorphologist to restore fish passage.
- The presence of a wintering hen harrier roost site close to the development site should be monitored by a suitably experienced surveyor prior to, and during construction. If active use of the roost site is detected within 750m of the construction site, no construction activity should begin on the site until at least 1 hour after sunrise, and work should finish at least 1 hour before sunset. The reason for this condition is to prevent disturbance of a qualifying interest of the River Spey-Insh Marshes SPA and Ramsar.
- A Construction Method Statement/ Construction Management Plan which includes site-specific pollution-prevention measures, a sediment management plan and details of biosecurity control procedures should be produced and agreed with the CNPA prior to any works commencing on site and then fully implemented during construction. The reason for this condition is to protect the water environment and River Spey SAC from pollution events, sediment mobilisation or disease caused during construction.