

APPENDIX C14 - PDZ14 CAMEL ESTUARY (STEPPER POINT TO PENTIRE POINT) - EFFECT ON NATURA 2000 SITES (QUALIFYING FEATURES IN BLUE FONT)

Primary Qualifying feature	Supporting Habitat	Attribute	Conservation Objectives	Potential effect of policy	In-combination effect	Preventative measures	Mitigation measures	Implications for the integrity of the site
<b>River Camel SAC</b>								
European dry heaths	NA	Habitat extent and vegetation communities	To maintain the European dry heaths in 'favourable condition', taking account of natural change, with particular reference to dwarf shrub heath.	<p>HTL policies for Padstow, Padstow south (Dinas), Wadebridge, Egloshayle, Sladesbridge, Amble Marshes, Rock, and Polzeath in Epoch 1 would not result in any direct loss of heathland habitat (most sites are some distance from heathland), nor would any alterations to the physical processes within the river occur that would have subsequent effects on heathland habitat.</p> <p>HTL policies for Epoch 2 and 3 at Padstow, Wadebridge, Egloshayle (right bank) also remain at a distance to heathland habitat where no direct loss would occur and no anticipated hydrodynamic effects would extend to any heathland habitat.</p> <p>MR policies for Egloshayle (left bank), Amble Marshes, Rock and Polzeath will also not result in the direct loss of heathland habitat, and no anticipated hydrodynamic effects would extend to any heathland habitat.</p> <p>A mixed HTL/NAI policy at Sladesbridge for Epochs 2 and 3 would retain the heathland habitat extent, except where NAI is allowed. Overall, as a result of the NAI elements up to <b>0.9ha*</b> of possible heathland habitat would be liable to increased flooding on extreme fluvial and tidal events, and consequently, this is not expected to result in any reduction in the extent or characteristic of the heathland habitat due to the infrequent nature of the flooding. Heathland communities further upstream already experience occasional fluvial flooding, and communities have developed that are resistant to or thrive in this habitat, indicating resilience to flooding for the habitat and communities in this area.</p>	No anticipated in-combination effects with other policies downstream or the CFMP policies upstream, though downstream MR policies are expected to minimise any potential increase in fluvial flooding.	None identified.	None identified.	Conclude no adverse effect
Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles	NA	Habitat extent and vegetation communities	To maintain the sessile oak wood in 'favourable condition', taking account of natural change.	<p>HTL policies for Padstow, Padstow south (Dinas), Wadebridge, Egloshayle, Sladesbridge, Amble Marshes, Rock, and Polzeath in Epoch 1 would not result in any direct loss of sessile oak woodland habitat (most sites are some distance from this habitat), nor would any alterations to the physical processes within the river occur that would have subsequent effects on sessile oak woodland habitat.</p> <p>HTL policies for Epoch 2 and 3 at Padstow, Wadebridge, Egloshayle (right bank) also remain at a distance to sessile oak woodland habitat where no direct loss would occur and no anticipated hydrodynamic effects would extend to any sessile oak woodland habitat.</p> <p>MR policies for Egloshayle (left bank), Amble Marshes, Rock and Polzeath will also not result in the direct loss of sessile oak woodland habitat, and no anticipated hydrodynamic effects would extend to any oak woodland habitat.</p> <p>HTL/NAI policy for Epochs 2 and 3 at Sladesbridge is not expected to result in the direct loss of sessile oak woodland habitat, as this is set back from the low ground and most is above the existing flood levels and is not expected to be affected by combined tidal and fluvial flooding events as a result of sea level rise.</p>	No anticipated in-combination effects with other policies downstream or the CFMP policies upstream.	None identified.	None identified.	Conclude no adverse effect

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Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> ( <i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i> )	NA	Habitat extent and vegetation communities	To maintain the alluvial forests in 'favourable condition', taking account of natural change.	<p>HTL policies for Padstow, Padstow south (Dinas), Wadebridge, Egloshayle, Sladesbridge, Amble Marshes, Rock, and Polzeath in Epoch 1 would not result in any direct loss of alluvial forest habitat (most sites are some distance from alluvial forests), nor would any alterations to the physical processes within the river occur that would have subsequent effects on alluvial forest habitat.</p> <p>HTL policies for Epoch 2 and 3 at Padstow, Wadebridge, Egloshayle (right bank) also remain at a distance to alluvial forest habitat where no direct loss would occur and no anticipated hydrodynamic effects would extend to any alluvial forest habitat.</p> <p>MR policies for Egloshayle (left bank), Amble Marshes, Rock and Polzeath will also not result in the direct loss of heath alluvial forest land habitat, and no anticipated hydrodynamic effects would extend to any alluvial forest habitat.</p> <p>A mixed HTL/NAI policy at Sladesbridge for Epochs 2 and 3 would retain the alluvial forest extent, except where NAI is allowed. Overall, as a result of the NAI elements up to <b>0.7ha*</b> of possible alluvial forest habitat would be liable to increased flooding on extreme fluvial and tidal events, and consequently, this is not expected to result in any reduction in the extent or characteristic of the alluvial forest habitat due to the infrequent nature of the flooding. Alluvial forest habitat further upstream already experience occasional fluvial flooding, and communities have developed that are resistant to or thrive in this habitat, indicating resilience to flooding for the habitat and communities in this area.</p>	No anticipated in-combination effects with other policies downstream or the CFMP policies upstream, though downstream MR policies are expected to minimise any potential increase in fluvial flooding.	None identified.	None identified.	Conclude no adverse effect
Bullhead	Rivers and streams, with coarse substrate	Habitat extent, physical characteristics, and water quality	To maintain the designated species in favourable condition, which is defined in part in relation to their population attributes.	<p>HTL or MR policies for Padstow, Padstow south (Dinas), Wadebridge, Egloshayle, Amble Marshes, Rock, and Polzeath in all Epochs would not result in any direct loss of riverine habitat within the Site boundary. The hydrodynamic effects of these policies are not expected to significantly alter the riverine characteristics along or upstream of these locations (with the exception of Egloshayle and Amble Marshes which are described below).</p> <p>HTL for Epoch1 and HTL/NAI for Epochs 2 and 3 at Sladesbridge would not result in any direct loss of riverine habitat utilised by bullhead, as there would be no works along or in the river.</p> <p>There is a potential for changes in fluvial flow to occur as a result of sea level rise combined with MR policies at Egloshayle, Amble Marshes, which could extend up to the Site boundary. These MR policies could result in a reduction in flow and subsequent alteration to the substrate characteristics, though no indication of the extent of this can be identified without significant modelling. Based on current knowledge, it is expected that influence would not extend further than 1km upstream of the policy locations, which would in the worst case result in around <b>2.5km</b> of river length extending to Hingham Mill being affected (around <b>3%-4%</b> of the Site's riverine habitat). As lowland rivers have the greatest density of bullhead, this could therefore result in a reduction in bullhead population.</p>	Potential in-combination effects could arise from human sources such as changes in water quality which could exacerbate the loss of population of Bullhead alongside the substrate alteration that could arise from MR policies.	Design of MR policy implementation must ensure that geomorphological study and river modelling are undertaken to ensure that there is no net change or design out any change in river flows influenced by the MR policy, so that there is no net change in substrate. These modelling and design requirements should be able to design out any potential adverse impact on the supporting habitat, and its characteristics, for bullhead.	None identified.	Conclude no adverse effect

Primary Qualifying feature	Supporting Habitat	Attribute	Conservation Objectives	Potential effect of policy	In-combination effect	Preventative measures	Mitigation measures	Implications for the integrity of the site
Otter	Riverine habitat	Habitat extent, physical characteristics, prey species, and water quality	To maintain the designated species in favourable condition, which is defined in part in relation to their population attributes.	<p>HTL and MR policies for Padstow, Padstow south (Dinas), Wadebridge, Egloshayle, Amble Marshes, Rock, and Polzeath in all Epochs would not result in any direct loss of riverine habitat within the Site boundary. The hydrodynamic effects of these policies are not expected to significantly alter the riverine characteristics along or upstream of these locations (with the exception of Egloshayle and Amble Marshes which are described below).</p> <p>HTL for Epoch1 and HTL/NAI for Epochs 2 and 3 at Sladesbridge would not result in any direct loss of riparian habitat utilised by otter, as there would be no works along or in the river.</p> <p>There is a potential for changes in fluvial flow to occur as a result of sea level rise combined with MR policies at Egloshayle, Amble Marshes, and Sladesbridge, which could extend up to and within the Site boundary. These MR policies could result in a reduction in flow and subsequent alteration to the substrate characteristics, though no indication of the extent of this can be identified without significant modelling. Based on current knowledge, it is expected that influence would not extend further than 1km upstream of the policy locations, which would in the worst case result in around <b>2.5km</b> of river length extending to Hingham Mill being affected (around <b>3%-4%</b> of the Site's riverine habitat). Potentially this could result in indirect reductions in prey species (fish), but any reduction in some species is likely to be offset by increases in others. Overall therefore, no noticeable reduction or decline in the attributes affecting supporting habitat for otter is expected.</p>	Changes in water quality could occur from human sources and result in a reduction in Otter prey species. However, no in-combination effect is envisaged due to the difference in impact characteristics with the influences of MR policy.	None identified, though measures identified for Bullhead would provide further support to limited nature of change to supporting habitat for Otter.	None identified.	Conclude no adverse effect
Atlantic salmon	Riverine habitat	Habitat extent, physical characteristics (flow and substrate), water quality, and canopy cover	To maintain the designated species in favourable condition, which is defined in part in relation to their population attributes.	<p>HTL and MR policies for Padstow, Padstow south (Dinas), Wadebridge, Egloshayle, Amble Marshes, Rock, and Polzeath in all Epochs would not result in any direct loss of riverine habitat within the Site boundary. The hydrodynamic effects of these policies are not expected to significantly alter the riverine characteristics along or upstream of these locations. In particular the outer estuarine locations for HTL would have negligible influence on fluvial flow characteristics.</p> <p>Although MR would take place adjacent to the river, MR policy at Sladesbridge is not expected to result in a direct loss of riverine habitat utilised by Atlantic Salmon, as MR is not expected to include in-river works.</p> <p>There is a potential for changes in fluvial flow to occur as a result of sea level rise combined with MR policies at Egloshayle, Amble Marshes and Sladesbridge, which could extend up to the Site boundary. These MR policies could result in a reduction in flow and subsequent alteration to the substrate characteristics, though no indication of the extent of this can be identified without significant modelling. Based on current knowledge, it is expected that influence could extend over a 6km length of river from Wadebridge to Hingham Mill. Potentially this could result in an alteration in flow (if the river was widened) which could influence upstream salmon migration. Overall therefore, this could result in a reduction in Atlantic salmon population.</p>	Potential in-combination effects could arise from human sources such as changes in water quality which could also affect Atlantic salmon migration and population alongside the possible alteration to river flow characteristics that could arise from MR policies.	Design of MR policy implementation must ensure that geomorphological study and river modelling are undertaken to ensure that there is no net change or design out any change in river flows influenced by the MR policy. These modelling and design requirements should be able to design out any potential adverse impact on the supporting habitat, and its characteristics, for Atlantic salmon.	None identified.	Conclude no adverse effect

Primary Qualifying feature	Supporting Habitat	Attribute	Conservation Objectives	Potential effect of policy	In-combination effect	Preventative measures	Mitigation measures	Implications for the integrity of the site
<b>Tintagel-Marsland-Clovelly Coast SAC</b>								
Vegetated sea cliffs of the Atlantic and Baltic coasts	NA	Habitat extent and vegetation communities	To maintain the vegetated sea cliffs in 'favourable condition', taking account of natural change, with particular reference to supralittoral rock communities (MC1, MC5, MC8, MC9, and MC10).	HTL and MR policies in this PDZ (Padstow, Padstow south (Dinas), Wadebridge, Egloshayle, Sladesbridge, Amble Marshes, Rock, and Polzeath) are located a minimum of 16km from the Site boundary, and due to the localised nature of their site effects no hydrodynamic or sediment pattern effects would extend this distance. Consequently, no alteration to the physical characteristics or extent of the vegetated sea cliff habitat would occur.	No in-combination effect and no synergy effects from policies, and no other activities identified as acting or potentially acting in-combination.	Not applicable	Not applicable	Conclude no adverse effect
Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles	NA	Habitat extent and vegetation communities	To maintain the sessile oak wood in 'favourable condition', taking account of natural change.	HTL and MR policies in this PDZ (Padstow, Padstow south (Dinas), Wadebridge, Egloshayle, Sladesbridge, Amble Marshes, Rock, and Polzeath) are located a minimum of 16km from the Site boundary, and due to the localised nature of their site effects no hydrodynamic or sediment pattern effects would extend this distance. Consequently, no alteration to the physical characteristics or extent of the dry old sessile oak wood habitat would occur.	No in-combination effect and no synergy effects from policies, and no other activities identified as acting or potentially acting in-combination.	Not applicable	Not applicable	Conclude no adverse effect
European dry heaths	NA	Habitat extent and physical characteristics	To maintain the European dry heaths in 'favourable condition', taking account of natural change, with particular reference to heathland communities H7 and H8 (dwarf shrub heath).	HTL and MR policies in this PDZ (Padstow, Padstow south (Dinas), Wadebridge, Egloshayle, Sladesbridge, Amble Marshes, Rock, and Polzeath) are located a minimum of 16km from the Site boundary, and due to the localised nature of their site effects no hydrodynamic or sediment pattern effects would extend this distance. Consequently, no alteration to the physical characteristics or extent of the dry heathland habitat would occur.	No in-combination effect and no synergy effects from policies, and no other activities identified as acting or potentially acting in-combination.	Not applicable	Not applicable	Conclude no adverse effect

Area identified is based on an anticipated worst case of a set back defence of 300m length and affected width of 10m, whilst the area potentially liable to increased flooding is ascertained from the area identified in **Figure C14.1** (hatched in dark green), with % of habitats based on aerial photograph interpretation. Overall, the worst case is considered, and preventative and mitigation measures during feasibility and design would be expected to significantly reduce direct loss affect.

**FIGURE C14.1 Sladesbridge area showing designated site (blue shade) and possible area of increased flooding (hatched dark green)**

