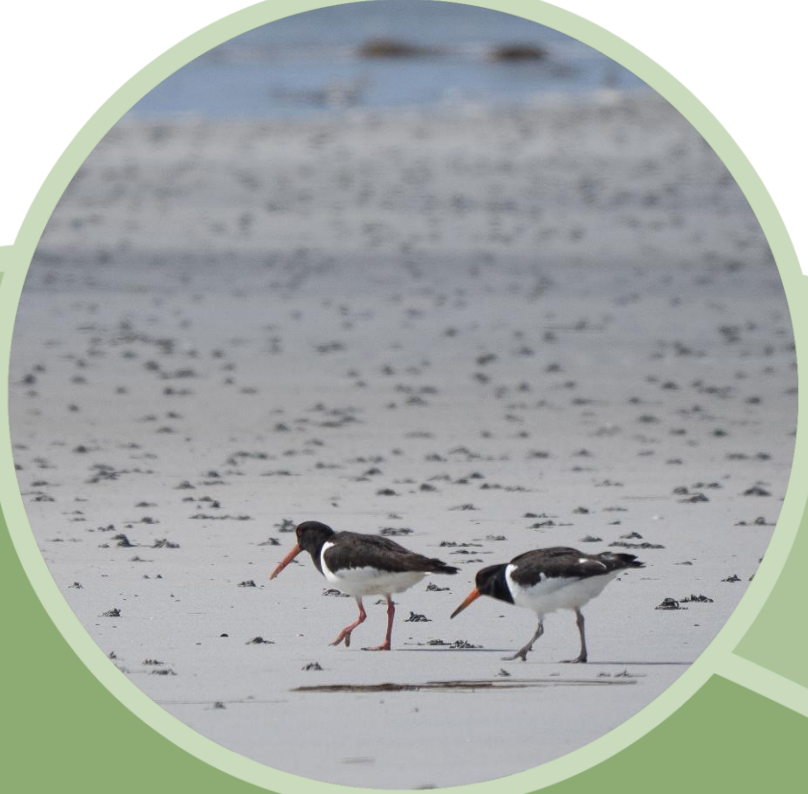




Cardiff and the Vale of Glamorgan Severn Estuary Recreation Mitigation Strategy 2026

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Summary

This strategy sets out the mitigation requirements relating to impacts from recreation (associated with new housing and tourism development in Cardiff and the Vale of Glamorgan) for the Severn Estuary. The estuary is of international importance and designated for its biodiversity, and the strategy ensures the two Councils can meet legislative requirements and adequately protect the estuary when permitting development.

The respective RLDPs for the two authorities provide for around 12,747 dwellings within 12.6km of the Severn Estuary Special Area of Conservation (SAC), Special Protection Area (SPA) and Ramsar site. The 12.6km distance reflects the maximum distance used by other local authorities around the estuary and establishes an initial zone of influence within which mitigation is required. Mitigation measures are set out in detail and focus on SAMM (Strategic Access Management and Monitoring), targeting measures on or around the European site. SAMM will be funded through developer contributions from residential development.

New green-infrastructure (including SANGs – ‘Suitable Alternative Natural Greenspace’) is not routinely required for all development as mitigation to deflect visitors away from the estuary, but could also play a role in mitigation, additional to SAMM. Any need for SANGs provision would be determined on a case-by-case basis where development proposals have a high risk on their own, for example those in close proximity to the estuary or involving large numbers of dwellings in a single location. The role of SANG will be kept under review and may be the subject of more focussed guidance and collaboration with other authorities around the Severn Estuary.

This strategy will be updated on a rolling basis approximately every 5 years, providing the opportunity to check the mitigation, scale of growth, role of SANG and update any costs. Visitor surveys will be key component of initial work and may trigger the need for even earlier review, should the results indicate a need to change the zone of influence.

As such the strategy provides a long-term solution to recreation impacts. While the Strategy is written solely to cover Cardiff and the Vale of Glamorgan, it is anticipated that delivery will involve working in partnership with other local authorities and organisations around the Severn Estuary and overtime there is scope for an estuary-wide approach to ensure consistency of messaging and cost savings (through economies of scale). By addressing risks up front, the strategy provides a proactive solution that ensures cumulative impacts of growth are taken into account. The strategy ensures necessary resources and costs are identified and provides clarity for developers when bringing forward sites for development.

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1. Introduction

- 1.1 This strategy relates to housing and other types of development within the Cardiff and the Vale of Glamorgan. It addresses risks from increased recreation use (associated with local housing growth and the respective local development plans) on the Severn Estuary Môr Hafren Special Area of Conservation (SAC), Special Protection Area (SPA) and Ramsar site.

Background

- 1.2 The Cardiff Replacement Local Development Plan (RLDP) and the Vale of Glamorgan RLDP (together 'the Plans') set out how development is expected to come forward over the period to 2036. The RLDPs describe where and how many new homes, jobs and infrastructure are to be provided. They have been developed through a series of consultation phases.
- 1.3 The Cardiff RLDP was submitted for examination in 2025 and will result in around 24,000 homes over the plan period (2021 – 2036), this is equivalent to around 1,600 homes per year. The Deposit Plan version of the Vale of Glamorgan RLDP was subject to consultation in early 2026. It contains provision for 7,890 dwellings over the plan period or 526 dwellings per annum, plus a flexibility allowance.

Legislative context

- 1.4 This strategy has been produced in order to meet particular legislative requirements. European sites are those afforded the highest level of legislative protection for biodiversity.
- 1.5 The designation, protection and restoration of European sites is embedded in the Conservation of Habitats and Species Regulations 2017, as amended, which are commonly referred to as the 'Habitats Regulations'. They include Special Protection Areas (SPA) classified under the 1979 Birds Directive and Special Areas of Conservation (SAC) designated under the 1992 Habitats Directive. Ramsar sites are afforded the same statutory protection through Welsh policy. In this strategy we use the term 'European site' to refer to SPA, SAC and Ramsar sites.
- 1.6 European sites are the cornerstone of UK nature conservation policy. Public bodies, including local planning authorities, have specific duties in terms of avoiding deterioration of habitats and species for which sites are designated

or classified, and stringent tests have to be met before plans and projects can be permitted. Public bodies are referred to as 'competent authorities' within the legislation. The duties set out within the Habitats Regulations in relation to the consideration of plans and projects are applicable in situations where the competent authority is undertaking or implementing a plan or project, or authorising others to do so.

- 1.7 The legislation is founded on the 'precautionary principle' and it is necessary to rule out harm, rather than demonstrate impacts. Assessment (Habitats Regulations Assessment, 'HRA') requires consideration of effects either alone or in-combination, and this strategy therefore relates to the cumulative effects of plan-led development across the combined authorities.

The Severn Estuary

- 1.8 The Severn Estuary is one of the largest estuaries in Europe and is internationally important for the habitat and species the estuary supports. Saltmarsh fringes the coast backed by grazing marsh with freshwater ditches and occasional brackish ditches. The subtidal seabed is rock and gravel with subtidal sandbanks. The site also supports reefs of the tube forming worm *Sabellaria alveolata*.
- 1.9 The estuary's classic funnel shape, unique in the UK, is a factor causing the Severn to have one of the highest tidal ranges in the world. A consequence of the large tidal range is an extensive intertidal zone, one of the largest in the UK.
- 1.10 The site qualifies as an SAC for a range of coastal habitats and for three fish species. The Severn Estuary SPA is classified for its waterbird assemblage and for a range of species that occur on passage/over winter including a range of both wildfowl and wader species. The Ramsar interest overlaps with the SAC and SPA features and includes the bird interest. Further details of the conservation importance and qualifying features can be found in Appendix 1.
- 1.11 The SAC, SPA and Ramsar boundary and extent across the area are shown in Map 1. It is important to note that many of the qualifying species (the fish and in particular the birds) are highly mobile and will use areas outside the designated site boundaries. For the birds, this will often mean individuals associated with the SPA/Ramsar will use wetland or low-lying land as feeding sites or roost sites at particular times of year or in particular conditions. Such

areas of land are functionally-linked to the SPA/Ramsar and as such need to be included within the mitigation strategy.

- 1.12 The HRA that accompanied the Cardiff's Deposit Plan (Kenny, 2024a)¹ identified that it was: *likely that housing development to be delivered within Cardiff and adjoining authorities (the incombination scope) will increase the visitor pressure in the Severn Estuary SPA / Ramsar / SAC, with potential adverse effects on overwintering birds and habitats. Given the high sensitivity of the SPA / Ramsar to impacts resulting from recreational pressure, adverse effects on its site integrity due to additional residential development cannot be excluded. Such pressure may also be exacerbated by initiatives under Policies SP10: Tourism and EC9: Hotel Development. It is anticipated that mitigation measures will be required to avoid adverse effects on the SPA / Ramsar. These could be delivered in the form of Strategic Access Management and Monitoring (SAMM) in the estuary itself, and / or through access enhancements and improvements to appropriately sited, existing or newly developed greenspaces.*
- 1.13 The HRA for the Vale of Glamorgan Deposit Plan (Weitowitz, 2025) made similar recommendations².
- 1.14 This strategy therefore follows on from the HRA findings and secures the necessary mitigation to ensure adverse effects on site integrity for the Severn Estuary SAC/SPA/Ramsar can be ruled out for the levels of growth proposed.

Other authorities around the Severn Estuary

- 1.15 Local authorities around the Severn Estuary have also addressed the issue of increased recreation pressure from new housing through mitigation strategies.
- 1.16 Stroud District Council first undertook work and established a mitigation strategy in 2017 (Stroud District Council, 2017). The scheme was then extended to cover neighbouring authorities in 2024 (Liley and Caals, 2024), applying a zone of influence of 12.6km³ from the estuary and extending to address the cumulative effects of local housing growth across four local

¹ See para 6.18, <https://www.cardiffldp.co.uk/wp-content/uploads/RLDP-23-Habitat-Regulations-Assessment-ENGLISH.pdf>

² E.g. para 6.29, <https://valeofglamorgan.oc2.uk/docfiles/64/VoG%20Habitats%20Regulations%20Assessment.pdf>

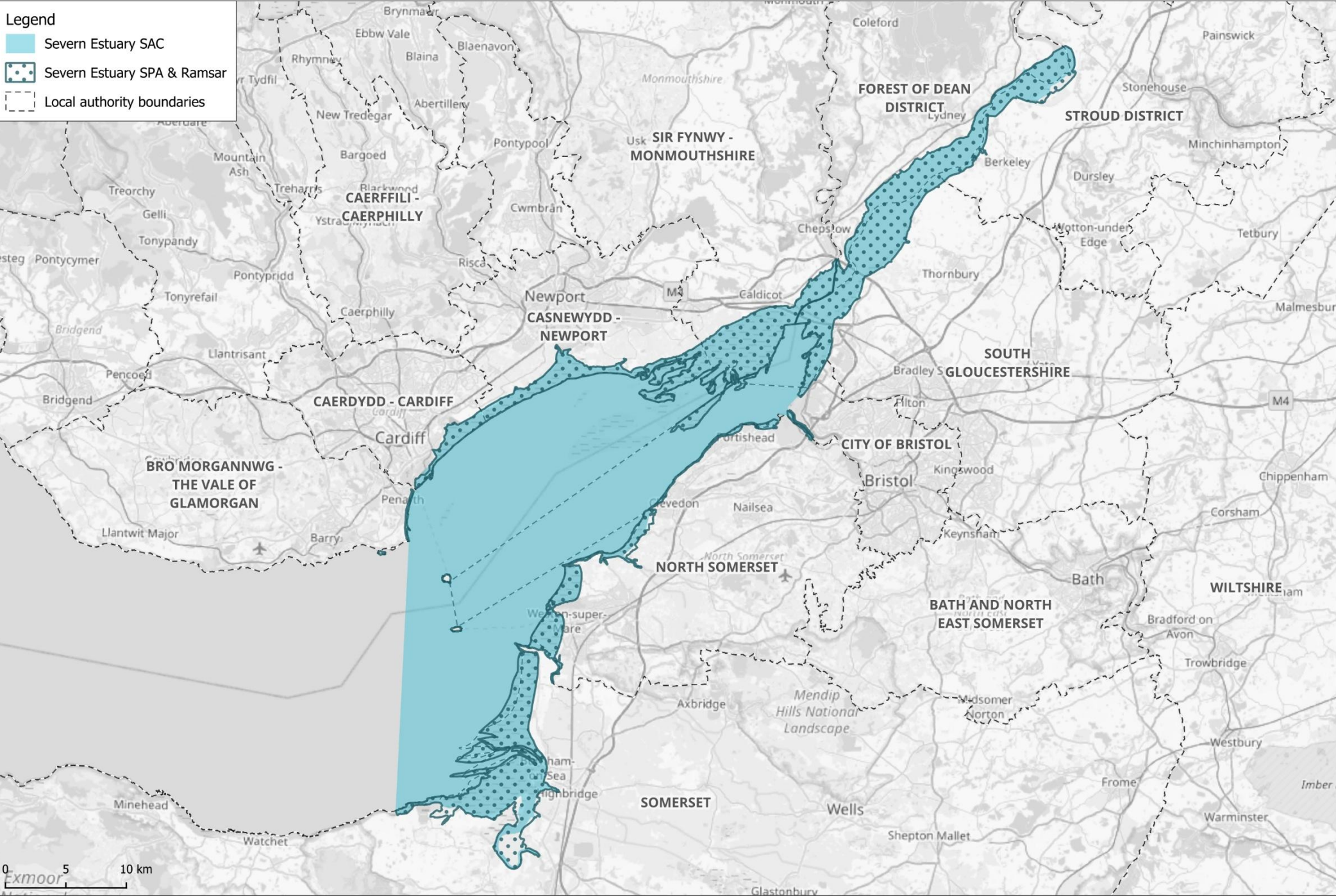
³ This value reflecting the distance at which 75% of visitors originated

authorities⁴. Subsequently South Gloucestershire and Monmouthshire have also produced separate mitigation strategies for the Severn Estuary. Both these strategies follow the approach of dovetailing the mitigation to fit with the existing strategy so that ultimately it could be possible for there to be a single strategic approach that is applied estuary wide. Both authorities have applied a 12.6km zone of influence, in line with neighbouring authorities and drawing on visitor survey work from their areas.

- 1.17 North Somerset Council have also recently commissioned a strategy and undertook visitor survey work in early 2026.
- 1.18 The strategy for these other authorities is in line with those of other estuary sites where disturbance impacts are relevant, such as Poole Harbour, the Solent, the Exe Estuary, North Kent, the Essex Coast and the Suffolk Coast.

⁴ Forest of Dean District Council, Gloucester City Council, Stroud District Council and Tewkesbury Borough Council.

Map 1: The Severn Estuary



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2. Recreation use, housing change and impacts from recreation on the Severn Estuary

Overview

- 2.1 This section summarises the background evidence with respect to visitor survey data, the scale of growth proposed in the Plan within the relevant catchment and how recreation could impact the European site features.

Access to the estuary

- 2.2 It is now increasingly recognised that access to the countryside is crucial to the long-term success of nature conservation projects, for example through enforcing pro-environmental behaviours and instilling a greater respect for the world around us (Richardson *et al.*, 2016). Access also brings wider benefits to society that include benefits to mental/physical health (Lee and Maheswaran, 2011; Bragg and Atkins, 2016; Kondo *et al.*, 2020) and economic benefits (Bateman *et al.*, 2014; Day, 2020; Dasgupta, 2021). In recent years there have been shifts in government policy and debate around enhancing access to the countryside.

Access infrastructure and variation in use

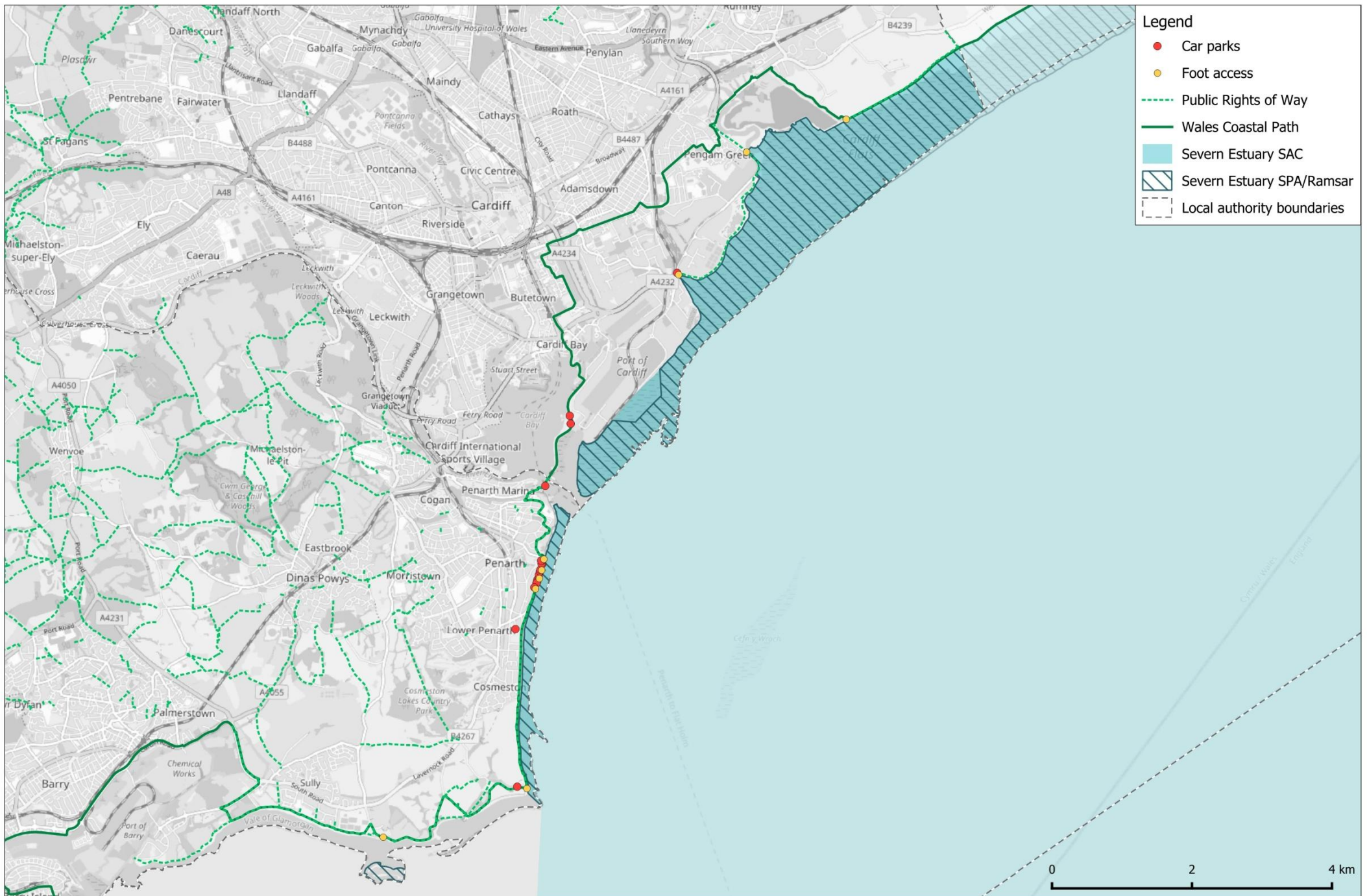
- 2.3 Map 2 shows the existing access points along the shoreline. This includes car parks (extracted from OpenStreetMap⁵) within 500m of the SAC/SPA/Ramsar as well as foot access points, for example where public rights of way reach the shoreline. It can be seen that access to the estuary is fairly limited in this area, other than at Penarth where there are car parks, slipways and steps down to the beach. The Wales Coastal Path follows the clifftop path from Lavernock to Penarth Head, crosses the Cardiff Bay Barrage and then takes an inland route through Cardiff before rejoining the estuary at Rumney Great Wharf for 2km before entering the county of Newport.
- 2.4 A selection of images of different parts of the coast is shown in Figure 1 (after Map 2). As suggested by the limited access provision shown on Map 2, the area to the north-east of Cardiff appears to have little visitor use (see Figure 1, a & b). The Wales Coastal Path is elevated on the sea wall, with a

⁵ See <https://www.openstreetmap.org/about>

second access track running behind the wall away from the estuary. While there is nothing to stop access directly onto the estuary, tidal mudflats and grazing marsh (currently grazed by cattle) limit any potential access. Similarly, to the west of Cardiff near the Port of Cardiff, access to the estuary is limited, with mostly industrial units, shipping yards and associated infrastructure between busy roads and the estuary.

- 2.5 Cardiff Bay is on the whole much busier than areas to the north-west, with regular recreational use around the edges of the Bay. The Bay area inside the barrage is outside the European site boundary. The bridge which facilitates entrance to the bay and marina provides a highway for walkers, dog walkers, cyclists and other recreational users, along tarmacked paths and roads. A café and benches can also be found here, which may be a draw for some.
- 2.6 The coastline extending from Penarth to Lavernock appears comparatively busier than other sections of the coastline; with frequent access points from Penarth, small villages and holiday parks dotted along the coast. While the Wales Coastal Path is set away from the rocky beach here, with some natural screening from hedges, small desire lines and paths facilitate access to the beach (see Figure 1, e). During a visit to Lavernock, recreational use from anglers, fossil hunters, walkers and professional dog walkers was observed. The final section of the SPA/Ramsar is at Sully Island, which is a small rocky island close to the mainland and can be accessed at low tide over the rocks and old causeway (see Figure 1, f). While access is possible, the closest parking is at The Captain's Wife pub, which is for patrons only.

Map 2: Access to the Severn Estuary



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Cardiff and the Vale of Glamorgan Severn Estuary Recreation Mitigation Strategy



Figure 1: Examples of sites and access: a) Wales Coast Path diverted around lagoon near Peterstone, b) Views across grazing marsh between the Severn and raised sea wall of Wales Coast Path, c) Well used gravel paths around Cardiff Bay, d) West of Cardiff Bay, litter and recreational use of abandoned boat, groynes and pebbled beach, e) Stony beach and rocky shelf at Lavernock, access possible up to Penarth with anglers, fossil hunters, beach goers and professional dog walkers visible at the time of visit, and f) Low tide at Sully Island (access via ancient causeway to right of image).

Visitor survey data

- 2.7 No visitor survey information is available specifically for the Cardiff and Vale of Glamorgan shorelines and collection of such data should be a priority in the near future, however there are comprehensive data for much of the rest of the estuary. These include:
- The North Somerset part of the Severn (Caals and Liley, 2026), a face-to-face survey with 323 interviewees;
 - The South Gloucestershire shoreline (Liley and Caals, 2025), a face-to-face survey with 269 interviewees;
 - Monmouthshire shoreline (Kenny, 2024b), a face-to-face survey involving 188 interviewees;
 - Shoreline from Berkeley round to Chepstow (Caals and Liley, 2022), face-to-face surveys with 586 interviews conducted;
 - An online survey investigating attitudes and awareness of visitors (Clubb and Phillips, 2023), with 251 respondents.
- 2.8 The face-to-face surveys indicate most use is short trips or day visits directly from home as opposed to tourist use, with visitors undertaking a range of activities of which dog walking is typically the most common. Interviewees typically visit frequently through the year and choose to visit due to the proximity to home.
- 2.9 Following the 2022 survey, Stroud adopted a 12.6km zone of influence, drawing on the survey results and the distance within which 75% of visitors to the estuary (excluding tourists and those staying overnight away from home) originated. The South Gloucestershire survey reported a similar figure, however for North Somerset visitors tended to be more local (5.1km) and similarly for Monmouthshire (6.5km).

Scale of housing growth proposed in the Plan

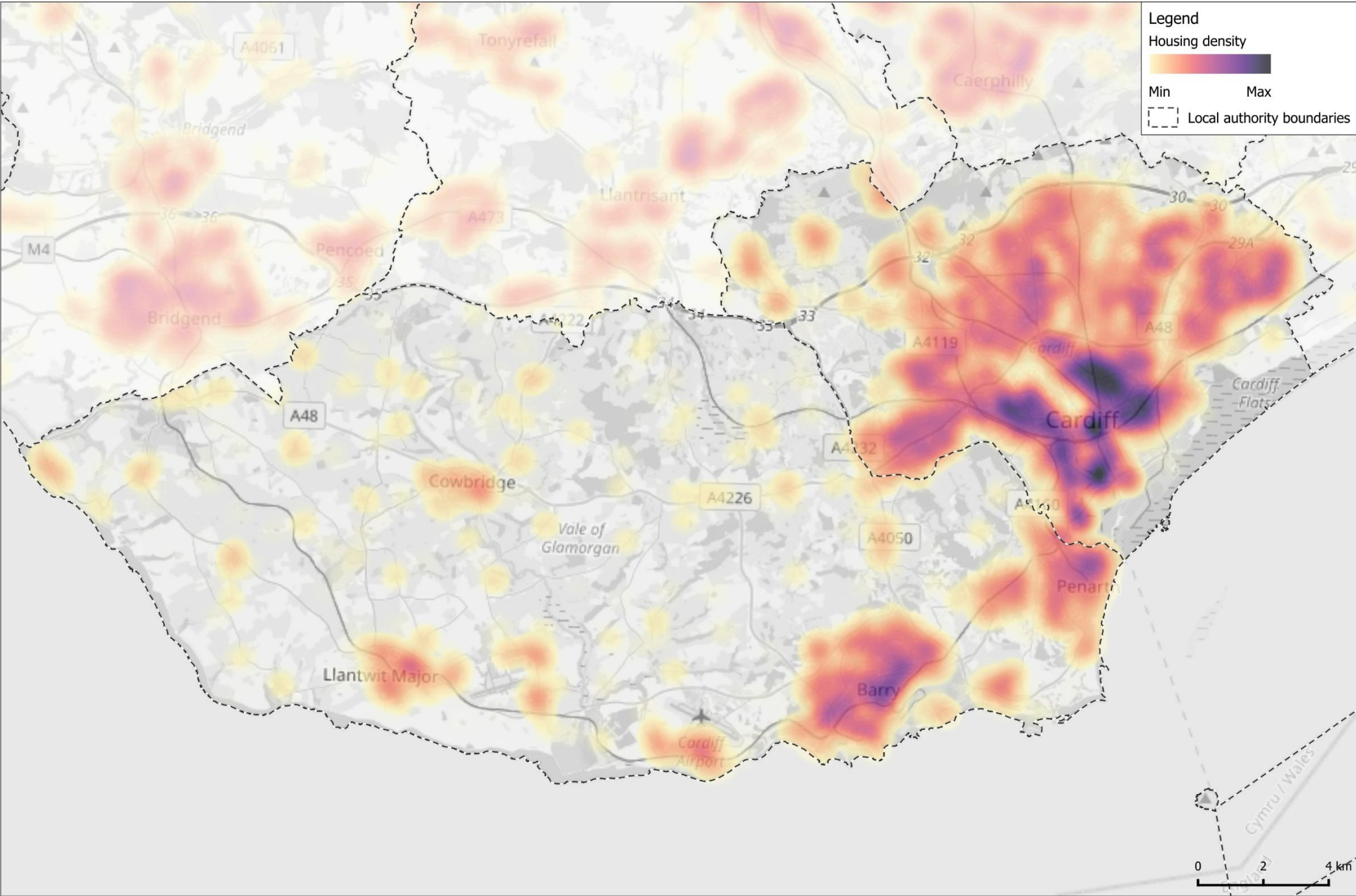
- 2.10 Current postcode data (from 2026) indicates there are around 221,613 residential dwellings within Cardiff and the Vale of Glamorgan. The distribution of these is shown in Map 3, and it can be seen that there is a high density of housing in Cardiff, south of the M4, and also in Barry and Penarth. The rest of the Vale of Glamorgan is fairly rural.
- 2.11 Drawing on the recommendations in the relevant HRA reports and taking a precautionary approach based on the visitor data available, we apply a 12.6km zone of influence, matching the zone used in Monmouthshire. In the absence of local data this provides a guide as to where housing growth will trigger likely significant effects and potentially result in increased recreation use of the Severn Estuary. The zone (see Map 4) covers most of Cardiff and part of the Vale of Glamorgan. Current housing figures (i.e. 2026) from within this zone are:
- Cardiff: 157,276 dwellings (99% of the total number within Cardiff)
 - Vale of Glamorgan: 48,653 dwellings (78% of the total number within the Vale of Glamorgan)
 - Whole estuary: (i.e. within 12.6km of the Severn Estuary SAC/SPA/Ramsar): 868,934 dwellings
- 2.12 Allocations within the Replacement LDPs are shown in Map 4, along with the 12.6km zone of influence. In Cardiff, there are 13 allocations shown on the map, of which 11 are within the 12.6km zone of influence. In the Vale of Glamorgan, there are 12 allocations within the 12.6km zone of influence. The overall amount of development likely to come forward within the 2 plans is summarised in Table 1, and is around 12,747 dwellings. This represents a 6% increase in housing across the two authorities within the 12.6km. Looking more strategically, it represents a 1.5% increase in the amount of housing within 12.6km of the entire Severn Estuary SAC/SPA/Ramsar.

Cardiff and the Vale of Glamorgan Severn Estuary Recreation Mitigation Strategy

Table 1: Allocations within 12.6km of the Severn Estuary SAC/SPA/Ramsar.

Area / category	Number of plots
Cardiff	
Strategic sites	1,100
Housing-led regeneration areas	3,435
Non-strategic housing sites	90
Windfall (not shown on map)	5,537
Gypsy & Traveller site	80
Cardiff total	10,242
Vale of Glamorgan	
RLDP Key Sites	1,146
Other RLDP allocations not subject to applications	139
RLDP allocations subject to planning applications	339
Large windfall in catchment	492
Small windfall in catchment	389
Vale of Glamorgan total	2,505
Combined Total	12,747

Map 3: Current distribution of housing in Cardiff and the Vale of Glamorgan, using the number of residential delivery points at each postcode.



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Postcode data derived from Royal Mail PAF® Data

Map 4: Local development plan allocations



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Impacts of recreation

2.13 There is a range of more general literature on recreation and impacts of people and their dogs that provides background and context (Liddle, 1997; Saunders *et al.*, 2000; Lowen *et al.*, 2008; e.g. Harris, 2023). Potential impacts of recreation to the Severn Estuary SAC/SPA/Ramsar relate to the following broad pathways:

- Disturbance (e.g. impacts to birds from the presence of people, dogs, craft etc.);
- Damage (e.g. direct harm to vulnerable features from wear and footfall, e.g. trampling of saltmarsh vegetation);
- Contamination (potentially quite limited impacts given the qualifying features, however could include eutrophication through dog faeces/urine, water quality as a result of dogs entering water bodies, litter and possibly bio-security issues around the use of live bait for fishing);
- Fire (e.g. from barbeques, campfires etc. and potentially a risk to habitats such as the upper parts of saltmarshes);
- Other (public opposition to management, difficulty in grazing due to high levels of access and dogs off-lead etc.).

2.14 Disturbance to the wintering and passage bird interest is the principal concern and is relevant to the SPA and Ramsar features. Disturbance risks will extend to sites that are functionally-linked to the SPA/Ramsar. Disturbance to wintering and passage waterfowl can result in:

- A reduction in the time spent feeding due to repeated flushing/increased vigilance (Fitzpatrick and Bouchez, 1998; Stillman and Goss-Custard, 2002; Bright *et al.*, 2003; Thomas, Kvitek and Bretz, 2003; Yasué, 2005);
- Increased energetic costs (Stock and Hofeditz, 1997; Nolet *et al.*, 2002);
- Avoidance of areas of otherwise suitable habitat, potentially using poorer quality feeding/roosting sites instead (Cryer *et al.*, 1987; Gill, 1996; Burton *et al.*, 2002; Burton, Rehfish and Clark, 2002);
- Increased stress (Regel and Putz, 1997; Weimerskirch *et al.*, 2002; Walker, Dee Boersma and Wingfield, 2006; Thiel *et al.*, 2011).

2.15 Disturbance is potentially associated with a range of activities including those on the shore (walking, dog walking etc.), on the water (such as jet skis, kayaks and paddleboards) and in the air (drones, paragliders and other airborne craft). The issues are long standing. For example, Habitats Regulations Assessment (HRA) work that accompanied the Stroud Local Plan

around 2016 recognised that while baseline levels of recreational pressure on the Estuary were relatively low, disturbance could still have a high impact and recreational use was likely to increase as new housing, employment and tourism development comes forward. Around 2016, Forest of Dean District Council also commissioned dedicated work on recreation and disturbance around Lydney to mitigate the effects of housing growth around the town.

- 2.16 Changing recreation patterns, such as the increasing popularity of paddleboarding and an increase in dog ownership (e.g. Morgan *et al.*, 2020), mean predicting future impacts can be challenging. Increases in use in some areas may displace users to other locations, for example if car parks become busier. This may result in use spreading to areas where access is currently very low.
- 2.17 Furthermore, impacts around recreation use have in recent years been exacerbated by climate change (affecting the species distributions, habitats, access patterns etc.) and the Covid pandemic which resulted in an increase in recreation use of local greenspaces and an increase in awareness of the importance of access for well-being and general health (Randler *et al.*, 2020; Natural England and Kantar Public, 2021; Poortinga *et al.*, 2021). Bird flu is also a current concern for a range of waterbirds and has impacted a range of species.
- 2.18 Further background and evidence on recreation impacts for the Severn Estuary can be found in a range of studies. The site improvement plan for the Severn Estuary SAC/SPA/Ramsar⁶, produced by Natural England and Natural Resources Wales, identifies public access/disturbance as a current pressure and a threat and prioritises it above all other pressures or threats identified. The plan states: *"Public access and recreation (including third party activities) may have an impact on bird species sensitive to disturbance, causing displacement from feeding, roosting and moulting areas, and if severe could affect long term survival and population numbers and distributions within the Estuary. There are a wide range of recreational activities within the site (walking, dog walking, horse riding, biking, beach activities, angling, wildfowling, other shooting (e.g. clay pigeon)) that may cause damage to habitats where pressure is high."*

⁶ See the Natural England website:
<https://publications.naturalengland.org.uk/publication/4590676519944192>

- 2.19 The marine conservation advice package produced by the statutory nature conservation agencies⁷ highlights that bird communities are highly mobile and the activity of different species relates to the tide and a range of other factors, which vary between species. One important factor is the level of disturbance which needs to be maintained at or below levels necessary to provide favourable conditions for birds' feeding and roosting areas. The package goes on to state that management should aim to avoid both damage to the supporting habitats and disturbance to the birds.
- 2.20 Ross et al. (2014) undertook a review of 39 estuarine SPA sites in England for Natural England, with the aim of ranking sites in terms of the vulnerability to disturbance and the need for strategic mitigation in relation to housing growth. The work drew on access data, housing data, disturbance studies, WeBS data and also drew on expert opinion. The Severn Estuary was ranked 17th (i.e. in the top half of the list) in terms of its vulnerability and was considered to be at greater risk than some other sites where strategic mitigation schemes are long established, such as the North Norfolk Coast, parts of the Essex Coast, parts of the Suffolk Coast and the Thames Estuary and Marshes SPA.
- 2.21 A roost study on the South Gloucestershire and Bristol coastline (Archer, 2019) recorded some degree of disturbance taking place at a third of visits to roosts. Most roost sites experienced high or very high levels of disturbance during the project period. There was very little evidence of deliberate disturbance of roosts, with most occurring incidentally as people used and enjoyed coastal amenities. Dogs off leads and sea anglers fishing close to roosts together accounted for almost two thirds of recorded events. Walker disturbance accounted for almost one fifth of known disturbance events. Other studies of roost sites on the English side of the Estuary such as Latham Latham (2015) and Woodward et al. (2016) highlight disturbance issues at multiple roosts.
- 2.22 Burton et al. (2010) summarise the bird use of the Severn Estuary and Bristol Channel. They highlight that most intertidally foraging species are widely distributed across the estuary, with the exception of the central sandflats (which hold low food densities), though each favours different areas.

⁷ Available from the Natural England website:
<https://publications.naturalengland.org.uk/publication/3184206?category=3212324>

2.23 The overlap between the areas important for birds and the areas used for recreation are potentially relatively small. At low tide the open, soft mudflats (north of Cardiff Bay) provide wide open areas for birds to feed, and much of this habitat is away from any shoreline areas where people might walk. Nonetheless there is clearly potential for the conservation objectives of the Severn Estuary SAC/SPA to be undermined as a result of recreation associated with new housing and it is not possible to rule out harm from future growth in the absence of mitigation. Particular concerns therefore relate to specific locations and circumstances which mitigation will need to take into account:

- Sully Island, where roosting waders vulnerable to disturbance from jet skis, kayaks, paddleboards and foot access;
- Lavernock Point, feeding and roosting birds at risk from shoreline access and dogs off-leads;
- Cardiff Bay, while outside the SPA/Ramsar potentially functionally-linked and used by some wildfowl and wader species and impacts from water-based activity in particular;
- Splott Beach – shoreline access at intermediate tide states when birds pushed close to shore;
- Rhymney – boats and shoreline access and disturbance to feeding waterbirds;
- Access along seawall north-east of Cardiff Bay and risks of birds (particularly at high tide) being flushed from saltmarsh;
- Saltmarsh areas north east of Cardiff Bay, where dogs off-leads and increased access may impact grazing;
- Beach fires along whole shoreline where risk of fires spreading;
- Discarded fishing line and litter (all areas).

3. Mitigation measures

Overview

- 3.1 Guidance (Tyldesley and Chapman, 2013) is clear that to be taken into account, at the appropriate stages of assessment, mitigation measures must be effective, reliable, timely, guaranteed to be delivered and as long-term as they need to be to achieve their objectives. Local plan allocations are also only required to make planning obligations that are proportionate to address the impacts this create.
- 3.2 The aim of this strategy and the mitigation set out below, is to ensure necessary measures are secured to allow the two authorities to rule out adverse effects from recreation on the integrity of the Severn Estuary SAC/SPA/Ramsar. Mitigation is proportionate to the scale of impact.
- 3.3 Mitigation (where appropriate and relevant) will comprise SAMM ('Strategic Access Management and Monitoring'). SAMM comprise measures targeted at or around the estuary, such as signage, interpretation, ranger provision etc. and extend to include monitoring linked to mitigation delivery to ensure the mitigation is targeted appropriately.
- 3.4 Most other strategic mitigation schemes involve new green Infrastructure to deflect visitors away from sensitive sites (see Beveridge *et al.*, 2024 for overview). Such green infrastructure elements typically relate to the creation of dedicated SANG ('Suitable Alternative Natural Greenspace') and are additional to SAMM. SANG or any new green infrastructure is not routinely required for all development as mitigation in this strategy but may be required on a case-by-case basis where development proposals have a high risk on their own.
- 3.5 It is essential that mitigation measures are joined up and work across local authority boundaries. All elements of the strategy are intended to provide the potential to integrate with those being undertaken in neighbouring authorities, or even in the future be implemented jointly at a more strategic level.

SAMM

- 3.6 SAMM elements are summarised in Table 2. They have been derived in part from a workshop held with a range of stakeholders and Council staff, in

August 2026. Locations and issues/opportunities specifically raised in this session are summarised in Appendix 2.

- 3.7 Mitigation measures include staff time in terms of a Project Officer post and ranger coverage. The Mitigation Project Officer will oversee mitigation implementation. Their work will include working with neighbouring authorities to ensure joined up and consistent mitigation, overseeing delivery of a range of measures in the strategy, supporting the ranger provision, engaging with landowners and working with planners and developers (for example with respect to green infrastructure). There is scope for the post to be hosted within ASERA or the local authority.
- 3.8 The ranger coverage is fundamental to the mitigation delivery, and the core work will involve providing a presence on-site through patrols, with these targeted to specific locations as necessary. The ranger presence will supplement any existing staff presence and work by local community groups/friends groups and operate across both authorities. The ranger time on-site provides the confidence that mitigation is targeted towards direct engagement with those visiting the European sites and the ability to directly influence those spending time visiting the estuary. The funds provide the ranger with the necessary resources including travel costs. Ranger time should be ring-fenced and focussed on maximising their time out on the sites and talking to visitors.
- 3.9 This strategy provides for one full-time ranger post, funded in-perpetuity. The post would need to be based in one authority and how the post would be established is yet to be decided. There would be scope to adjust this to two part-time posts (allowing more focussed winter coverage and with an even split between authorities) if necessary.
- 3.10 Other authorities around the Severn are looking to establish rangers using the Bird Aware Severn brand⁸ and the ranger costs from this strategy could be pooled with neighbouring authorities to establish a larger ranger team. This will ensure consistency of messaging, branding and bring cost savings through efficiencies of scale, with the ability to ensure holiday/illness cover, shared resources, peer support etc. How such a team might be established

⁸ Branding due to be launched in 2026, see <https://birdaware.org/severn/>

and operate remains to be established but could be included within any strategy review.

- 3.11 Alongside the ranger provision, the strategy includes funding to audit existing signage and interpretation, to identify opportunities to update, improve and influence visitor behaviour on site. The audit should extend to Barry as anecdotal evidence suggests some watersports users launch from there and head east towards the SPA/Ramsar. Funds are allocated to new interpretation provision once the audit has been completed, and this could incorporate Bird Aware Severn messaging/branding to ensure consistent messaging estuary-wide.
- 3.12 A review of existing guidelines and information for water-based activities/coastal users is also required, particularly for jet skis. This provides the opportunity to provide activity specific information on safety, insurance requirements, how to behave responsibly and any particular requirements (e.g. speed restrictions), incorporating information relevant to wildlife and sensitive locations. This ensures material is easy to find, clear and rangers can draw attention to it when engaging with users. Some other European sites have good material that provides useful examples of what can be done⁹ and ASERA already have material and webpages¹⁰ that provides Severn Estuary wide material under the Bird Aware Severn banner.
- 3.13 Project specific funding will allow small projects at specific locations to come forward. There are a range of opportunities (see Appendix 2), for example:
- Restricting access for jet skis at sensitive locations (e.g. blocking off vehicle access to informal slipways);
 - Promotion and possible connections to a new active travel route between Barry, Sully and Penarth (route has planning permission but work is yet to commence), which once complete could provide opportunities to deflect use away from the shoreline;
 - Kiosk or large display at Penarth Pier and the Barrage to raise awareness of wildlife interest and conservation importance;
- 3.14 It is anticipated local organisations (community/friends groups, landowners, parish councils etc) can bid for funds, working with the Mitigation Project

⁹ For example Plymouth Sound: <https://www.plymouth-mpa.uk/sites/marineprotectedarea/files/2026-04/Water%20Users%20Guide%202026.pdf> and the Solent: <https://birdaware.org/solent/the-solent/watersports-with-wildlife/>

¹⁰ See <https://birdaware.org/severn/home/explore-the-severn/>

Officer to ensure projects work as mitigation. The Project Officer can also directly approach relevant parties such as ASERA and ensure measures work consistently around the coast. Any spend on these small projects will be approved by the steering group to ensure transparency.

- 3.15 Communication and messaging will be critical and reach a wider audience beyond the face-to-face contact by the rangers. Mitigation funds will support social media and website content, promoting the Bird Aware Brand and allowing campaigns and targeted messaging around key issues (such as dogs on leads, fire risks, grazing animals etc.). Communication could be coordinated across authorities and the Severn Estuary Partnership, and a communication strategy may be necessary to ensure coordination.
- 3.16 SAMM elements also include direct work with dog walkers, including professional dog walkers. Other authorities around the Severn are working with the Coast and Country Canines project¹¹, drawing on mitigation that has been developed on the Solent. This provides branding, messaging, signage and support around engagement with dog walkers. Joint work with neighbouring authorities and ASERA could provide opportunities to expand the Coast and Country Canines work around the Severn, through events, promotion of responsible behaviour and support for local landowners and managers.
- 3.17 Monitoring plays a key role in mitigation delivery. Monitoring of birds and people will provide information to use for engagement, help focus ranger time, help the Mitigation Project Officer prioritise work areas and pick up any emerging trends or changes that require a redirection or different focus to the mitigation. A visitor survey is a key and relatively urgent priority, given the lack of current visitor data. The survey will provide the means to check the zone of influence, further refine the strategy (e.g. zone of influence) and provide information on visitor profiles, awareness of nature conservation issues, visitor numbers at different locations and better understanding of why people choose particular locations. It will provide baseline data for the strategy. Survey work should take place during the winter when the bird interest is present and may be best undertaken alongside other authorities to enable data to be scaled up to give an estuary-wide perspective.
- 3.18 Alongside wider visitor surveys, monitoring includes an automated camera to record use around Sully Island. There is uncertainty around how much

¹¹ <https://coastandcountrycanines.org/>

recreation takes place in this area, although anecdotally jet skis, kayaks, paddleboards and wild swimming all take place and people do walk out at low tide. It is not clear how much such use might affect the bird roost on the island and how frequently it is disturbed and by what activities. A timelapse camera or cctv would provide evidence as to the key issues and allow mitigation measures to be targeted appropriately.

- 3.19 Monitoring also includes some ecological monitoring. An annual budget is allocated which is sufficient to allow some annual monitoring – e.g. specialist support to check bird numbers at particular roosts or fill in any gaps in existing bird counts (the Wetland Bird Survey, 'WeBS' undertaken by volunteers and coordinated by the BTO¹²). Alternatively the funds could be pooled across years to undertake more detailed work on bird disturbance, exploring what activities/events affect bird behaviour and how recreation overlaps with birds in space and time. Such work would potentially be best undertaken at more of an estuary-wide scale and would involve working with other authorities.

¹² See <https://www.bto.org/get-involved/volunteer/projects/wetland-bird-survey>

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Table 2: Overview of SAMM mitigation measures. In the parties involved in delivery column, CC refers to Cardiff Council and VoG to Vale of Glamorgan Council.

Mitigation measure	Description	Parties involved in delivery	Justification	Notes
Mitigation project officer	Part time project officer post to oversee strategy implementation, including community liaison, talks and events, input into SANGs and GI, cross-boundary working and collaboration.	CC, VoG, ASERA	Need for post to ensure mitigation secured and joined up with neighbouring authorities. First point of contact for planners, conservation bodies, community groups etc.	Post part time and scope for role in the long term to be more of a mitigation project manager working cross-authority. Could be hosted by ASERA or NSC
Ranger provision	Cost for ranger provision	CC, VoG,	Rangers are a cornerstone of mitigation for other strategies and in other authorities around the Severn. Allows scope for flexible deployment, ability to target particular types of activities/visitors and targeted messaging relevant to the people being spoken to	Bird Aware Severn branding has been established and other authorities around the Severn are in the process of establishing small ranger team. Single full-time post with scope for this to become part of a wider Severn Estuary team
Ranger support costs	Budget to cover travel, equipment (optics) etc.	CC, VoG,	Budget required for transport and operational work	Assumption that vehicle provided for role
Social media and website content	Creation of website/web content for information on mitigation package, work of rangers, monitoring results etc. Links to relevant organisations and feed	CC, VoG, ASERA	Web and social media are first places visitors will look for information about where to go and any current news/issues relevant to their visit. Extends reach of ranger team. ASERA already has established Bird Aware Severn branding and material	Content needs to work across different devices. Material needs to extend reach of rangers and provide guidance for those visiting. Potential to link to existing resources and Bird Aware Severn brand
Dog project	Suite of work directly with dog walkers, including gazeteer on web of where to walk and a series of events, potentially posters etc in vets and other targeted venues	CC, VoG, other authorities	Budget covers external support and specialists (e.g. dog trainers) for events with some delivery by project office	Potential collaboration with Coast & Countryside Canines Project
Project funding	Funding pot to provide funding for specific projects at key locations	CC, VoG,	Range of potential projects with opportunities around closing access to	Scope for funds to be used alongside funding from other sources. Part

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Mitigation measure	Description	Parties involved in delivery	Justification	Notes
			unofficial slipways (to limit jet ski access), changing infrastructure at slipways, creating visitor engagement foci (e.g. kiosk or displays at busy locations)	funding may be relevant where mitigation benefit is small or only part of the reason for a project. Steering group or some similar body could asses and sign off funds.
Review and audit of signage and interpretation	Work to check all current signage and interpretation, liaise with relevant organisations programme changes/improvements as required, with scope to incorporate Bird Aware Severn branding and messaging	CC, VoG,	Will ensure messaging aligned and give clear steer for future delivery (prioritised)	Comprehensive review of existing signage, potentially done by project officer with support (e.g. interpretation specialists) where needed
Interpretation panels	Design, production and installation of new interpretation panels	CC, VoG, ASERA	Permanent means to convey information to visitors	
Review and audit of parking	Covering all parking locations on and around the estuary, including functionally-linked land, considering potential for charging to be adjusted (i.e. more expensive at sensitive locations), plus potential for improvements to focus use and activity. Potential to close some parking locations.	CC, VoG, other authorities	Much recreational use is based around car travel and therefore provides scope to influence where people go and how they use sites	Aligns with work planned for other authorities and other mitigation strategies. Ideally will ensure estuary wide audit.
Review and updates to guidelines/codes of conduct for jet skis and other activities	Guidance and codes of conduct updated to include areas sensitive to wildlife and avoiding impacts to wildlife	CC, VoG, Harbour authority	Existing guidelines set speed limits and specify where activities can take place but do not incorporate disturbance issues or areas sensitive to wildlife	
Camera or counter at Sully Island	Options to collect additional data on levels of disturbance and activity around Sully Island	VoG	Uncertainty around how much activity comes close enough to disturb roosting birds and how frequently people walk over. Timelapse camera or similar would provide data to inform	Privately owned site so may require agreement with landowners

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Mitigation measure	Description	Parties involved in delivery	Justification	Notes
			review of guidelines and engagement in this area	
Visitor survey	Visitor survey to cover all shore and GI (SANGs etc) at 5 year intervals. Scope to ensure timing dovetails with other authorities to deliver at an estuary scale	CC, VoG, other authorities	Provides data on changing use patterns, demographics, visitor numbers and visitor origins.	Repeat surveys of a selection of locations in line with work undertaken in 2026. Ideally survey would be aligned with other authorities and take place across the whole estuary
Ecological monitoring	Budget to contribute/support and fill gaps in existing bird monitoring, including functionally linked land with scope to pool across years for wider study	CC, VoG, other authorities	Ecological monitoring important to ensure accurate and upto date communication/engagement material and help to target mitigation	Funding allocated on an annual, rolling basis but could be combined to larger study of bird responses to different activities and identifying issues at different locations

Role of green infrastructure & SANG

- 3.20 Off-site infrastructure could provide new access or enhance existing countryside away from the Severn Estuary, with the aim of drawing some visitors and recreation use to alternative destinations. Off-site infrastructure provision is not currently envisaged as being necessary for all development within the relevant zone of influence.
- 3.21 Any need for SANGs provision would be determined on a case-by-case basis where development proposals have a high risk on their own, for example those in close proximity to the estuary or involving large numbers of dwellings in a single location. Where project level assessment identifies the potential for significant effects in isolation, additional, bespoke mitigation may be necessary to ensure compliance with the Habitats Regulations. In such cases, the provision of Suitable Alternative Natural Greenspace (SANG) or other targeted mitigation should be considered to avoid adverse effects on site integrity.
- 3.22 SANGs and the role of green infrastructure provision as mitigation will form a component of future reviews or the subject of additional guidance by the local authorities. Any such review or guidance could potentially be part of a more estuary-wide approach to mitigation and involve working with other authorities. It is noted that other local authorities around the Severn Estuary have established guidelines for SANG provision¹³ and these could form the basis for tailored provision within Cardiff and the Vale of Glamorgan.

¹³ E.g. Monmouthshire <https://www.monmouthshire.gov.uk/app/uploads/2025/11/SD144-Severn-Estuary-Recreation-Mitigation-Strategy-2025.pdf>

4. Implementation

Types of development covered

- 4.1 This strategy applies to any future development granted planning permission that results in a net increase in residential units (i.e. C3 Use Class), located within the relevant zone of influence. It is anticipated that all development sites, large and small, contribute towards the mitigation which is designed to address the cumulative impacts of recreation. Contribution to the strategic mitigation will enable applicants to secure the appropriate avoidance or mitigation measures and enable the Council to conclude through appropriate assessment that there is no adverse effect on the integrity of the Severn Estuary SAC/SPA/Ramsar from recreation.
- 4.2 While the strategy is focussed towards C3 Use Class, there are other uses and forms of development that could come forward within the zone of influence and could trigger likely significant effects for the Severn Estuary SAC/SPA/Ramsar. Types of development are summarised in Table 3. For residential development contributions will be on a per unit basis, but this may not necessarily be directly transferable to other situations such as visitor attractions, food outlets or tourist development. Nonetheless it should be possible for such applications to be mitigated through the strategic approach, on a bespoke basis. Such cases will require more detailed consideration, checks with Natural Resources Wales and the mitigation checked through appropriate assessment.

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Table 3: Relevant types of development

Use Type/Class	Likely Significant Effect	Mitigation requirements
Dwelling houses (C3) Any net increase	Yes	Per dwelling contribution.
Dwelling houses (C3) Replacement dwelling	No, if demolition and replacement linked through same planning consent.	Per dwelling contribution where there is a significant delay (5 years or more) between demolition and replacement.
Residential Institutions (C2/C2A) Accommodation and care to people in need of care including nursing homes, hospitals and secure institutions	Possibly, case-by-case decision depending on whether residents likely to be mobile and independent.	Per unit contribution for relevant schemes (where residents potentially likely to visit Estuary).
Residential Institutions (C2/C2A) School, college or training centre	Possibly, case-by-case decision. If a training centre or college has associated adult accommodation, then residents can visit the Estuary.	Per unit contribution for relevant schemes (where residents potentially likely to visit Estuary).
Hotel (C1) Including boarding houses and guest houses	Yes	Contribution per room equivalent to a per dwelling contribution (possible exceptions if it can be clearly demonstrated residents won't access the Estuary).
Houses in Multiple Occupation (C4/Sui Generis) Including managed student accommodation	Yes	Contribution per bedroom equivalent to a per dwelling contribution.
Holiday Dwellings (Sui Generis)	Yes	Contribution per dwelling or pitch equivalent to a per dwelling contribution (possible exceptions if it can be clearly demonstrated residents won't access the Estuary).
Gypsy and Traveller Pitches (Sui Generis) Net new pitches that are either temporary or permanent	Yes	Per dwelling contribution.
Café, food outlet or visitor attraction	Possibly, case-by-case decision based on application, location and links to the Estuary.	Contribution decided on a case-by-case basis. Any food/drinks outlet or attraction within a 500m radius of the European site boundary or within walking distance of the European site likely to require mitigation (i.e. drawing new users or encouraging new or different recreational use). Level of contribution could be determined on a case-by-case basis.

Zone of influence

- 4.3 A zone of influence of 12.6km is applied and relevant development within this zone is assumed to trigger likely significant effects in relation to the

Severn Estuary SAC/SPA/Ramsar and recreation. Mitigation will be necessary to address the cumulative effects of housing growth and the strategy provides a means to secure that mitigation.

- 4.4 12.6km is used in the absence of other data and is precautionary, reflecting the zone used in other authorities such as Monmouthshire, Stroud and South Gloucestershire. Visitor monitoring is included within the strategy and should be co-ordinated with other local authorities around the Severn to ensure mitigation works to address cumulative impacts, in-combination across authorities. Reviews and revision to the zone of influence may be necessary as and when the survey results are available.

HRA matters

- 4.5 This strategy provides a solution to address the cumulative effects of housing growth in terms of recreation impacts at a local-plan level. Guidance on HRA (Tyldesley and Chapman, 2013) indicates that a plan-maker needs to be sufficiently and genuinely confident about the deliverability of mitigation. The level of detail needs to be such that the competent authority has sufficient information to be duly satisfied that the mitigation can be achieved in practice. The strategy does not by-pass the need for HRA in relation to recreation, it simply ensures that a mechanism is in place to facilitate the appropriate assessment of new development, and it should allow a conclusion of no adverse effects from recreation to be reached. Certain developments, such as those that are particularly large, those very close to the estuary or those just outside the zone of influence may require bespoke consideration.
- 4.6 The strategy does not address other impacts from housing that might occur on the same development sites, for example impacts associated with air quality or water quality.
- 4.7 Contribution to the SAMM for the for the Severn Estuary does not address recreation impacts to the Cardiff Beech Woods SAC or other European sites and additional SAMM payments may be required where development lies within other zones of influence.

Costs per dwelling

- 4.8 Residential development set out in the respective RLDP for Cardiff and the Vale of Glamorgan totals 12,747 additional dwellings or equivalent (see Table 1). The total cost of SAMM measures is estimated to be £7,084,150 (see

Appendix 3 for details). When apportioned to the total level of development requiring mitigation this gives a per dwelling contribution of £555.75. This tariff is derived on the basis that all new dwellings within the zone of influence would contribute a standard amount. Some other mitigation schemes further refine costs per dwelling to allow different rates for flats vs houses or for different sizes of house (e.g. number of bedrooms). A single, standard single per dwelling charge is applied here for simplicity.

- 4.9 The single per dwelling charge assumes a mechanism available to spread the cost of all mitigation across all new dwellings coming forward, and this may require further refinement and review in light of pooling restrictions that apply to S106 agreements in Wales.
- 4.10 The tariff will be further adjusted on an annual basis to take into account inflation, any administrative costs and any other adjustments necessary (e.g. in relation to changing costs or variations in housing delivery).

Long term delivery and in-perpetuity costs

- 4.11 Mitigation is secured for the duration of the impact, and it is assumed the implementation of the mitigation will run for as long as it is required, with money set aside to provide long-term stability and in-perpetuity delivery. The strategy will operate on a rolling basis into the future, adjusting as necessary to changing levels of house building and impacts arising.
- 4.12 SAMM is highly unlikely to need to be constant over time and will need to evolve. Alongside more strategic change, measures that secure access infrastructure and the increased awareness raising should ensure that the need and annual cost for SAMM can decrease with time and it will therefore be important for regular review and revision of costs as necessary to adjust the amount set aside for long term funding of mitigation measures. Implementation of mitigation at an Estuary-wide level and on a strategic basis will provide further opportunities to streamline delivery and save costs.
- 4.13 Some measures in this strategy are therefore short-term, one-off measures while others need to run for many years, with ranger posts costed to extend for 80 years (see Appendix 3), ensuring in-perpetuity provision. The mitigation project officer post and some other SAMM measures are funded for a 50 year period. This timing ensures funding and delivery well beyond the plan period, but not in-perpetuity. This is because elements of the project officer (e.g. overseeing developer contributions) will need to decrease with time and mitigation is likely to evolve to be delivered more strategically,

potentially at a more estuary-wide scale. Any oversight role and other mitigation is likely to need to evolve accordingly. Regular review can adjust the budgets, timing and mitigation priorities accordingly.

Governance

- 4.14 It will be important, looking forward, that there is flexibility and regular review as to how money is spent and what is needed on the ground. It will be essential that the mitigation delivery can respond to change. There is uncertainty, as the distribution of birds may shift in space and time and access patterns may change (for example in response to our changing climate).
- 4.15 In the long-term, mitigation will be best secured across local planning authorities, potentially as a single Severn Estuary approach that ensures consistency of messaging and cost savings due to economies of scale. Such an approach will rely on collaboration on the English and Welsh sides of the estuary, multiple local authorities and two statutory agencies. Cardiff and Vale of Glamorgan Councils are committed to working closely with partners however it is likely to take some time for such an approach to be jointly adopted and accepted. In the meantime, this strategy provides a foundation and means to establish mitigation and address the risks associated with the two RLDPs.
- 4.16 If and when an estuary-wide approach is established, it can supersede this strategy. By working in collaboration with other authorities and the Severn Estuary Partnership, to establish a ranger presence and the use of the Bird Aware Severn branding, such a transition should be relatively seamless. This strategy therefore closely matches and aligns with those in other authorities.
- 4.17 A steering group will need to be established to oversee the mitigation delivery, with the steering group comprising staff from each authority, statutory partners such as Natural Resources Wales and other relevant bodies, as appropriate. The steering group's role will include authorising annual budgets, approving funding for specific projects and major changes to the strategy approach. Natural Resources Wales participation will ensure measures are appropriate as mitigation. The Mitigation Project Officer will work directly with other local authorities and the Severn Estuary Partnership to maximise the benefits from collaborative working.
- 4.18 Any uncertainty is addressed through good monitoring, adaptive mitigation and regular review. Certain elements within the mitigation package have the

scope to adapt and flex as housing numbers, conditions and priorities change. Furthermore, it is possible that additional opportunities may arise, for example as a result of changing land ownership. It is important therefore that the governance is flexible and responsive enough to enable developer contributions to be shifted to different components of the strategy easily. Annual reviews of budgets and the ability for the Mitigation Project Officer to adjust finances as appropriate will be key.

Review and timing

- 4.19 The strategy is produced as an initial, interim strategy that will run for around 5 years. After 5 years it will be necessary to review and update the strategy and by this point it may be that a more strategic estuary-wide approach can supersede this strategy. Any review or update will need to include a check on housing numbers, delivery, costs and mitigation priorities.
- 4.20 The costs and actions within this strategy will feed through into a 1 year and 5 year business plan that will underpin mitigation delivery.

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Appendix 1: Severn Estuary European sites

The qualifying features of the Severn Estuary SAC/Severn Estuary SPA/Ramsar are summarised below. Links cross reference to the relevant site conservation objectives on the Natural England website.

European sites	Qualifying features	Description
Severn Estuary SAC	• Estuaries • Subtidal sandbanks which are covered by seawater all the time • Mudflats and sandflats which are not covered by seawater at low tide • Atlantic salt meadow • Reefs • River lamprey <i>Lampetra fluviatilis</i> • Sea lamprey <i>Petromyzon marinus</i> • Twaite shad <i>Alosa fallax</i>	The Severn Estuary is located between Wales and England and is a large estuary with extensive intertidal mud-flats and sand-flats, rocky platforms and islands. Saltmarsh fringes the coast backed by grazing marsh with freshwater ditches and occasional brackish ditches. The subtidal seabed is rock and gravel with subtidal sandbanks. The site also supports reefs of the tube forming worm <i>Sabellaria alveolata</i>. The estuary's classic funnel shape, unique in the UK, is a factor causing the Severn to have one of the highest tidal ranges in the world. A consequence of the large tidal range is an extensive intertidal zone, one of the largest in the UK. The tidal regime results in plant and animal communities typical of the extreme physical conditions of liquid mud and tide-swept sand and rock. The species-poor intertidal invertebrate community includes high densities of ragworms, lugworms and other invertebrates forming an important food source for passage and wintering waders and fish. The fish fauna is very diverse with more than 110 species identified. The site is of particular importance for migratory fish.
Severn Estuary SPA	• Bewick's swan <i>Cygnus columnianus bewickii</i> • European white-fronted goose <i>Anser albifrons albifrons</i> • Dunlin <i>Calidris alpina</i>	See above. The site is of importance during the spring and autumn migration periods for waders, as well as in winter for large numbers of waterbirds, especially swans, ducks and waders.

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European sites	Qualifying features	Description
	• Redshank <i>Tringa totanus</i> • Shelduck <i>Tadorna tadorna</i> • Gadwall <i>Anas strepera</i> • Internationally important assemblage of waterfowl	
Severn Estuary Ramsar	• Estuaries • Assemblage of migratory fish species • Bewick's swan <i>Cygnus columnianus bewickii</i> • European white-fronted goose <i>Anser albifrons albifrons</i> • Dunlin <i>Calidris alpina</i> • Redshank <i>Tringa totanus</i> • Shelduck <i>Tadorna tadorna</i> • Gadwall <i>Anas strepera</i> • Internationally important assemblage of waterfowl	See above

Appendix 2: Background ideas and context from workshop

A workshop with Council staff and other stakeholders was held on 26th August 2026 and part of the output were ideas relating to SAMM and green infrastructure away from the coast.

Where it was possible to link ideas to a specific location, ideas were mapped as part of the workshop. These location specific ideas are listed in the table below and shown in Map 5 (overleaf). The map includes the OS Open Greenspace layer which is a national dataset showing greenspaces that have public access. It should be noted these include cemeteries, sports pitches, formal parks and gardens as well as more semi-natural greenspaces. The data are shown on the map to highlight the existing greenspaces available to local residents, some of these may provide opportunities for enhancement and improvement to deflect access from the coast.

Below the table the bulleted list comprises more general ideas that were not location specific.

All ideas listed here are not intended to be exhaustive and neither do they reflect any specific commitment or firm proposal for any location. Many are suggestions only and will require further work by partners and staff before the level of mitigation benefit can be confirmed.

Map Reference	Location	Action and notes
1	Sea wall at Rumney Great Wharf and along shore	Possible risks with people on sky line, scope for ranger presence, potentially signage and ideally explore options for any walkers to walk below bank
2	Rumney Beach	Good location for interpretation and ranger presence
3	Splott Beach	Good location for interpretation and ranger presence
4	Mermaid Quay	Potential point for engagement
5	Barrage	Good point to engage with visitors and scope for some kind of kiosk or location where ranger could use to intercept visitors
6	Penarth Pier	Good location for engagement and information/interpretation around wildlife and nature conservation importance of the coast. Scope for some kind of kiosk or viewpoint where ranger could engage with visitors. Pier Pavillion good location for information provision
7	Windsor Gardens/RNLI slipway	Good location for interpretation and ranger presence
8	Cliff-top, Penarth	Scope to enhance and improve access at cliff top to draw use away from shoreline yet still provide visitors with coastal experience and walk

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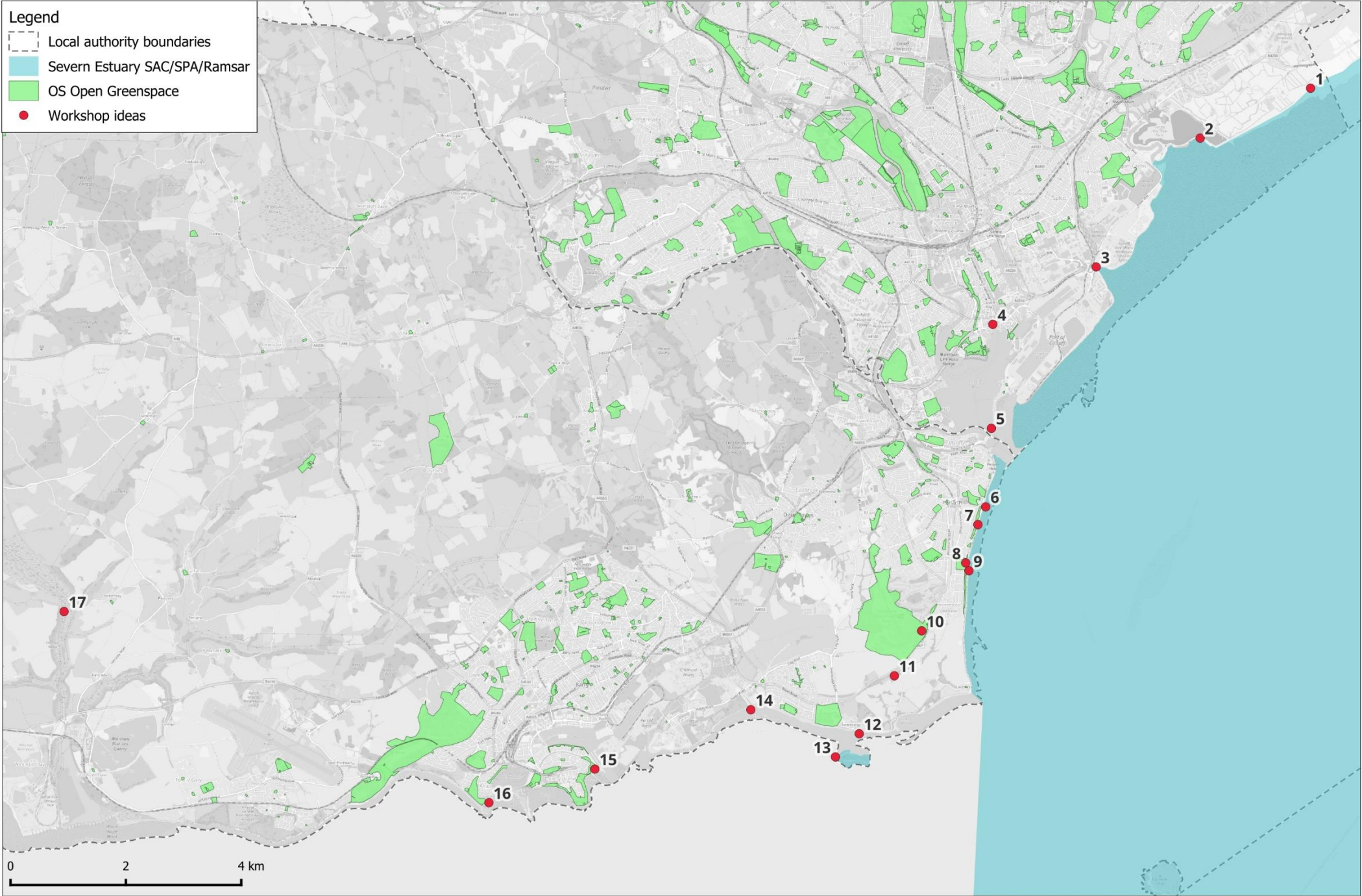
Map Reference	Location	Action and notes
9	Dinosaur footprints	Location that draws visitors and opportunity for interpretation and engagement
10	Cosmeston Lakes Country Park	Good location to deflect access away from shore, may be limited options/scope for improvement given existing facilities
11	Active travel route between Barry, Sully and Penarth	Opportunities to potentially create links to active travel route or promote it to deflect access away from shoreline
12	Captain's Wife slipway	Private slipway near pub, opportunity for engagement, signage and interpretation
13	Sully Island	Need for better understanding of recreation use – kayaks, jetskis, walkers etc and what key threats are to wader roost from recreation. Opportunities for cameras or similar
14	Slipway near Sully	Informal slipway where jet skis launch. Scope to completely close off to jet skis (e.g. with large bolders)
15	Barry	Opportunities for signage/interpretation or engagement with watersports users (kayaks, jet skis etc) potentially heading towards Sully Island and into Severn Estuary
16	Barry	Opportunities for signage/interpretation or engagement with watersports users (kayaks, jet skis etc) potentially heading towards Sully Island and into Severn Estuary
17	Thaw river	Existing project Restore the Thaw ¹⁴ may provide opportunities for enhanced recreation and links with local landowners

Ideas for other actions (not location specific):

- Scope to review jet ski guidance to ensure comprehensive information on where to go, where to launch etc with details covering safety etc as well as wildlife sensitivities;
- In-line with jet ski guidelines, scope for codes of conduct for a range of activities such as wild swimming, kayaks etc to provide clear information on where to go, safety and wildlife sensitivities;
- Scope to ban jet skis from certain areas over winter period;
- Signage and interpretation audit to review existing signage (local authority, harbour authority and others) and identify where gaps and scope for improvement, new material
- Possibly opportunities to work with existing volunteer groups and community groups to support them where groups aligned with aims of strategy
- Need for visitor survey to better understand visitor patterns, level of use, profiles, activities and where visitors originate from.

¹⁴ <https://participate.valeofglamorgan.gov.uk/hub-page/restore-the-thaw>

Map 5: Workshop outputs



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Appendix 3: SAMM costs

The table below summarises the mitigation measures as set out in the strategy and the relevant costs for each. These have been used to calculate the overall cost of mitigation. Costs are estimates only and intended to provide a level to set the tariff. The costs will be reviewed and updated as the strategy is implemented, with annual budgets adjusted according to housing growth. Where staff posts are referred to, 'FTE' refers to full-time equivalent.

Mitigation measure	One-off/ Capital cost	Rolling cost	Multiplier for rolling cost	Total cost	Notes on how cost calculated
Mitigation project officer		£33,375	50	£1,668,750	0.5 fte; costed at £50,000 annual salary, plus 35% (to cover NI, superannuation, etc.) and £5000 per annum support costs. 50 year timing ensures funding well beyond plan period
Ranger provision		£41,320	80	£3,305,600	1 post costed at £52,843 per annum for a full-time post. Cost provided by Cardiff Council based on current ranger provision. Cost includes shift, weekend and evening allowance, support costs and national insurance. 80 year timing ensures in-perpetuity funding.
Ranger support costs		£12,200	80	£976,000	Cost based on figures provided by CC of £422 for van hire per month, with additional costs added for fuel, insurance etc. In an additional £5000 per annum to cover dedicated resources for guided walks, school visits etc. 80 year period covers in-perpetuity.
Social media and website content	£5,000	£2,500	50	£130,000	Costs approximate. One off cost to establish content and rolling cost to refresh and for social media - could include consultancy support, purchase of images etc. 50 year timing ensures funding well beyond plan period
Dog project		£7,200	50	£360,000	Cost based on figures provided by CC of £422 for van hire per month, with additional costs for fuel, insurance etc. 50 year funding to ensure measure sufficiently long-term to establish positive change and supplement messaging from rangers.
Project funding		£5,000	50	£250,000	Small annual budget for 50 years, covering plan period and sufficiently long term to allow a range of infrastructure projects to come forward.

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Mitigation measure	One-off/ Capital cost	Rolling cost	Multiplier for rolling cost	Total cost	Notes on how cost calculated
Review and audit of signage and interpretation	£2,500			£2,500	Small budget to cover any resources and support if needed. Undertaken by Mitigation Project Officer
Interpretation panels	£25,000	£25,000	2	£75,000	10 panels at £2500 per panel, with budget to replace 2x as necessary
Review and audit of parking				£0	No cost allocated as relatively limited current parking provision and could be undertaken by Project Officer
Review and updates to guidelines/codes of conduct for jet skis and other activities	£5,000	£5,000	2	£15,000	Mitigation project officer can oversee, with budget for design and consultancy support. Budget for 2 further repeats/updates.
Camera or counter at Sully Island	£1,000	£100	3	£1,300	Costs for purchase of 2 standard off-the-shelf remote cameras, with metal housing, locks and small budget to cover replacement memory cards, locks etc. Intended to run for short time only and set up by ranger
Visitor survey		£10,000	5	£50,000	Cost allows for 5 repeat surveys - potentially one survey every 5 years for 25 years.
Ecological monitoring		£5,000	50	£250,000	Estimated small annual budget providing giving sufficient scope for e.g. annual counts alongside WeBS or volunteer support. Alternatively money pooled and used on 5 yearly basis for bird disturbance surveys
Total				£7,084,150	