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South Gloucestershire Severn Estuary Recreation Mitigation Strategy 2025-2030

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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 South Gloucestershire) for the Severn Estuary. The estuary is of international importance and designated for its biodiversity, and the strategy ensures South Gloucestershire Council meets legislative requirements and adequately protects the estuary when permitting development.

The emerging new South Gloucestershire Local Plan allocates around 5,235 dwellings within the established zone of influence (12.6km from the estuary) over the period to 2041. Mitigation measures are set out in detail and comprise:

- SAMM (Strategic Access Management and Monitoring); and
- Off-site infrastructure (including SANGs – 'Suitable Alternative Natural Greenspace').

Mitigation will be funded through developer contributions from residential development, as appropriate and relevant. This strategy will be updated on a rolling basis approximately every 5 years, providing the opportunity to check the mitigation, scale of growth and update any costs. As such the strategy provides a long-term solution to recreation impacts. While the Strategy is written solely to cover South Gloucestershire, it is anticipated that delivery will involve working in partnership with other local authorities and organisations around the Severn Estuary.

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 emerging new South Gloucestershire Local Plan (the 'Plan'). It addresses risks from increased recreation use (associated with local housing growth) on the Severn Estuary Special Area of Conservation (SAC), Special Protection Area (SPA) and Ramsar site.

Background

1.2 The emerging new South Gloucestershire Local Plan will set out a new growth strategy for South Gloucestershire, describing where and how many new homes, jobs and infrastructure are to be provided. The Plan has been developed through a series of consultation phases and will result in the growth of around 22,500 new houses within the District over the plan-period 2027-2041. The final level of new homes will be confirmed following the Examination in Public and subsequent adoption of the Plan.

Legislative context

1.3 This strategy has been produced in order to meet particular legislative requirements. Habitats sites are those afforded the highest level of legislative protection for biodiversity.

1.4 The designation, protection and restoration of habitats 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. In addition, Ramsar sites are afforded the same level of protection as habitats sites, through long-established Government policy. In this strategy we use the term 'European site' to refer to both Habitats sites and Ramsar sites.

1.5 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.

1.6 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.

Planning and Infrastructure Bill

1.7 The UK government has set ambitious targets for house building over the current parliament. The draft Planning and Infrastructure Bill[1] is proposed to speed up and streamline the delivery of new homes in England, with a focus on strategic mitigation to enable development. The Bill proposes that a delivery body (like Natural England) is responsible for the production of Environmental Delivery Plans (EDPs), determining standardised levels of environmental mitigation needed for certain types and scales of development in a specific area. Where an EDP exists, developers will have the option to pay into a new 'Nature Restoration Fund', which the delivery body will use to fund appropriate mitigations, including by pooling contributions from multiple developers. It is proposed that contributions to the Nature Restoration Fund will mean that HRAs will not need to assess the implications of a particular development in respect to the particular impact pathway the EDP is addressing. It is likely that EDPs will cover recreation impacts in certain areas, as well as issues such as nutrient neutrality or air quality.

1.8 Until such time as the Bill becomes law and further clarity is available on how EDPs might work and when the Nature Restoration Fund might be operational, it will be important to ensure mechanisms are in place for strategic mitigation to be delivered.

The Severn Estuary

1.9 The Severn Estuary is one of the largest estuaries in Europe and is internationally important for the habitat and species the estuary supports.

[1] The bill is yet to receive Royal Assent, see https://bills.parliament.uk/bills/3946 for background and details of progress.

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*.

1.10 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.

1.11 The site qualifies as a Special Area of Conservation (SAC) for a range of coastal habitats and for three fish species. The Severn Estuary Special Protection Area (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.

1.12 The SAC, SPA and Ramsar boundary and extent around South Gloucestershire 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.

1.13 Consultation responses from Natural England at Phase 3 of the Plan raised concerns about the implications of the Plan in terms of recreation impacts on the Severn Estuary. Recreation impacts were identified as an issue in the HRA screening report[2] that accompanied the Plan.

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 ruled out for the levels of growth proposed.

[2] See https://beta.southglos.gov.uk/static/4e52baa6365be9e909eb6536434340c3/HRA-Screening-Report-2023.pdf

Neighbouring authorities

1.15 Local authorities further upriver from South Gloucestershire, in order to address the risks associated with their local plans and fulfil their duties under the Habitats Regulations, have already established a strategic mitigation scheme. 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 12.6km[3] from the estuary and extending to address the cumulative effects of local housing growth across four local authorities[4] (but not including South Gloucestershire). The strategy in these neighbouring 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. Although the mitigation strategy was only established for neighbouring authorities, it was underpinned by a visitor survey (Caals and Liley, 2022) which did partly extend into South Gloucestershire.

1.16 In parallel to this strategy, Monmouthshire County Council is also producing a mitigation strategy to address impacts from recreation associated with their Replacement Local Development Plan.

1.17 Other local authorities around the Severn Estuary have been contacted and views sought as part of preparing this strategy.

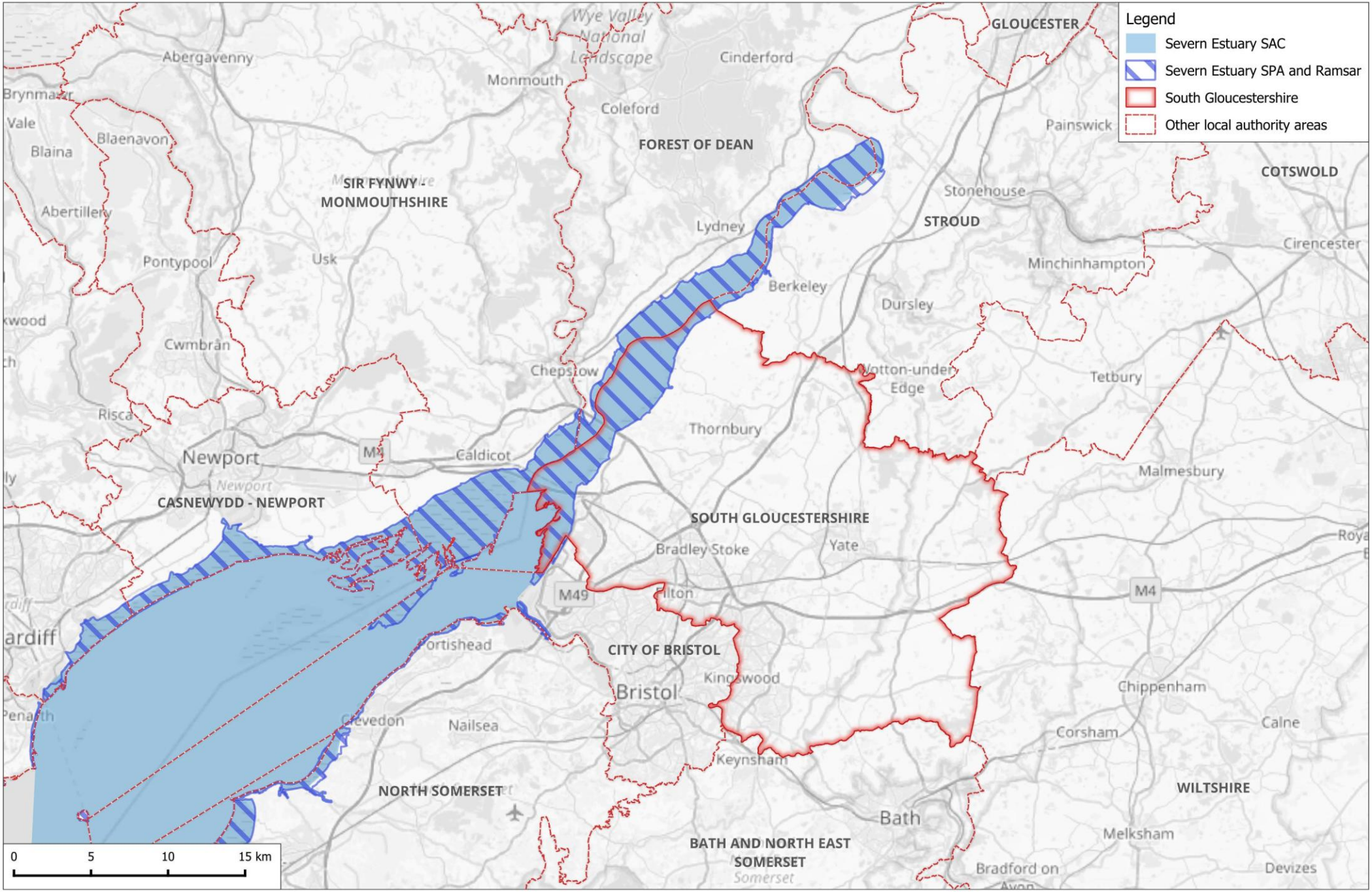
1.18 Further important context is the 'South Gloucestershire Linking the Levels' (SGLL) programme which will improve, restore, create, and connect internationally important habitat along the Severn Estuary in South Gloucestershire, contributing to the delivery of a range of strategies and plans including the Severn Estuary Strategy and the Association of Severn Estuary Relevant Authorities (ASERA) Management Scheme for the Severn Estuary European Marine Site (EMS). This includes the foreshore, saltmarsh, rhynes, wetlands and pills to deliver outcomes for nature, adaptation, and communities. Linking the Levels is funded through the Green Recovery Fund (GRF) and development work will be undertaken to prepare a Full Delivery Programme (FDP) of agreed and costed programme priorities ready for

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

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

seeking further funding and delivery after the 2-year GRF funded period (Stage 1).

Map 1: European sites in relation to the Severn Estuary



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2. Recreation use 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

The importance of access to the countryside and the new England Coast Path

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.

2.3 Changes include the King Charles III England Coast Path, which will create a continuous walking route around the England Coast. The Marine and Coastal Access Act (2009) provides for the establishment of the England Coast Path and, usually, the right of accesses over the associated coastal margin. The right of Coastal Access includes 'roll back' such that if a section of coast erodes, the path will move back accordingly.

2.4 The King Charles III England Coast Path is being rolled out in sections, with section 1 starting at Aust. The route along the Severn in South Gloucestershire is fully open and operational. In addition to the King Charles III Coast Path, the Severn Way long-distance path follows the full length of the estuary within South Gloucestershire. While it is not for this strategy to provide mitigation for the Coast Path (the proposals for which have been assessed by Natural England), it is important context as it may mean people

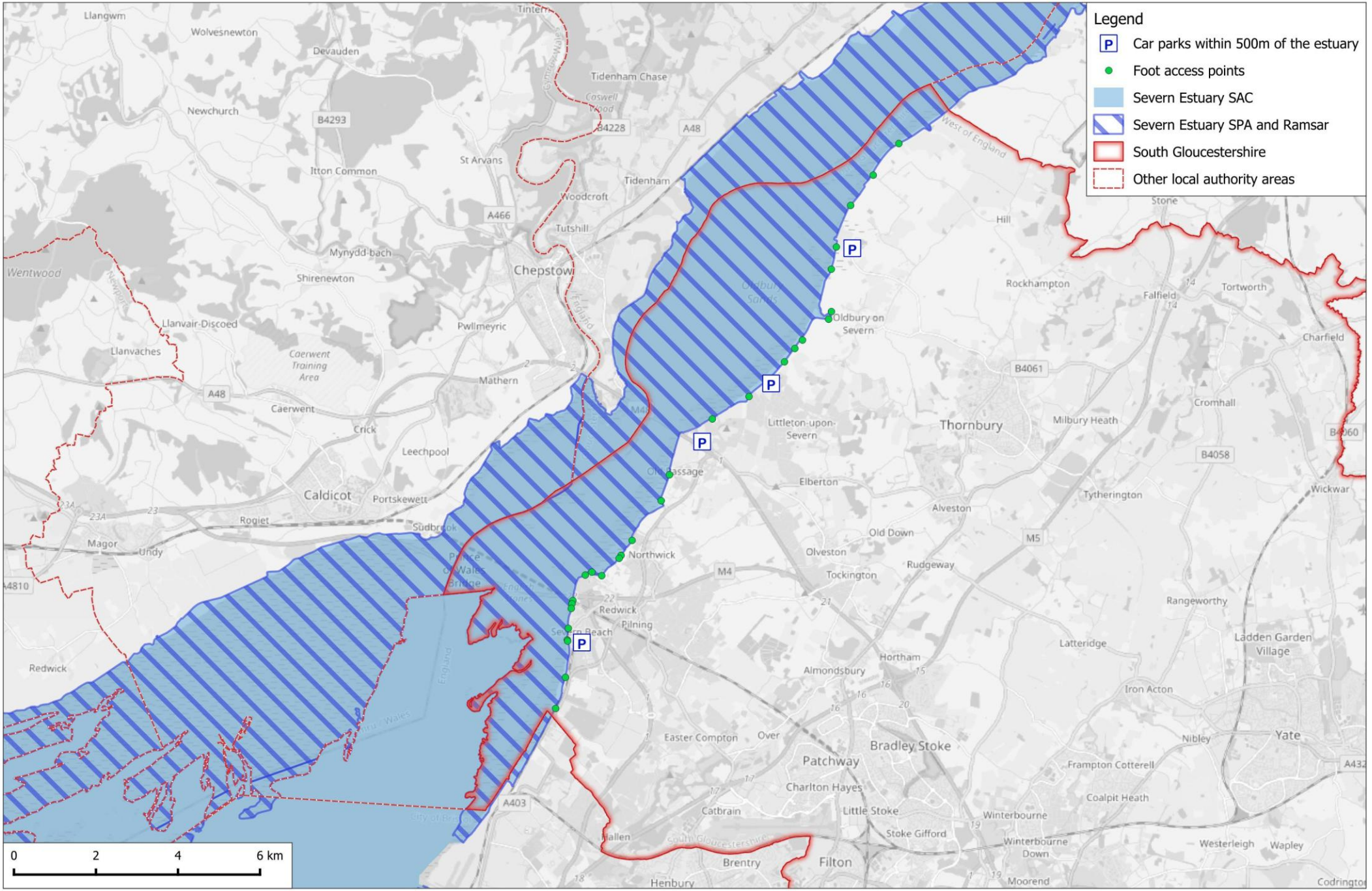
use the coast differently. Given the path is already operational, approval was granted prior to the Local Plan proposals.

2.5 Map 2 shows the existing access points along the shoreline. This includes car parks (extracted from OpenStreetMap[5]) within 500m of the SAC/SPA/Ramsar as well as foot access points, for example where public rights of way reach the shoreline. While there are very few public car parks close to the estuary in South Gloucestershire, on-street parking is possible at some locations, for example at Severn Beach and along Passage Road in Aust.

2.6 Within South Gloucestershire, the Severn Way offers panoramic views across the Severn Estuary (Figure 1). Most of the path is on top of the bank of the estuary, with limited access to intertidal areas. In the north, it passes the hamlet of Shepperdine before skirting around the decommissioned power station at Oldbury. The path then passes Thornbury Sailing Club, close to the village of Oldbury on Severn, where there are parking and refreshment facilities. It then follows a grassy path between farmland and saltmarsh to the old Severn Bridge. The King Charles III England Coast Path begins at Aust, initially on a short stretch of road before joining a surfaced path to New Passage and the Second Severn Crossing. South of the Second Severn Crossing, there is amenity grassland between the footpath and the town of Severn Beach. This is the most built-up area along this stretch of the estuary, with easy access to the estuary by foot, car or train.

[5] See https://www.openstreetmap.org/about

Map 2: Access to the Severn Estuary in South Gloucestershire



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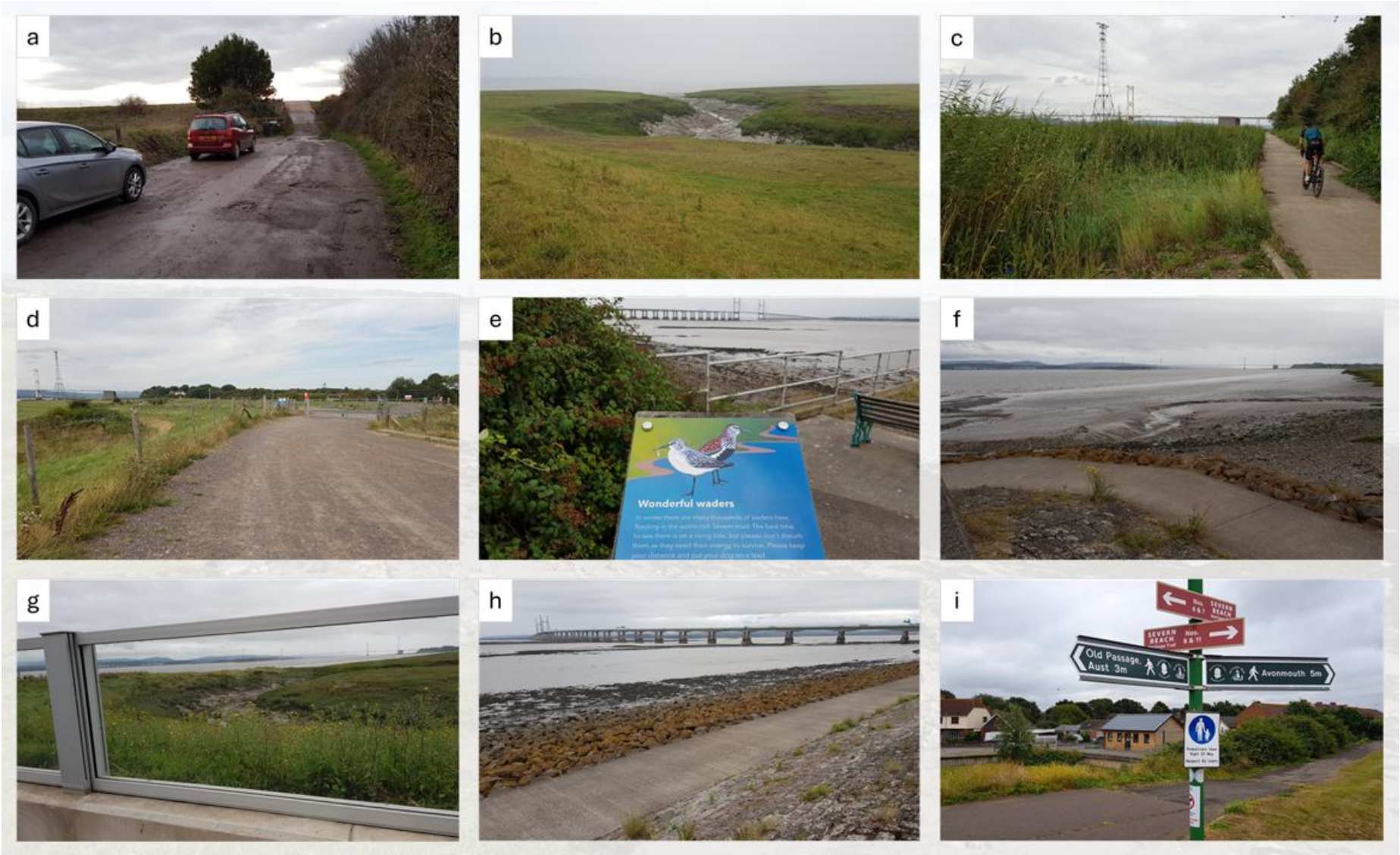


Figure 1: a) Access to the Severn Way from Shepperdine; b) Littleton Pill; c) Aust Cliff, near the old Severn Bridge; d) The Severn Way / England Coast Path at Cake Pill Gout; e) Sign about bird disturbance at New Passage Pier; f) Northwick Warth; g) Flood defences at New Passage; h) The shore at Severn Beach, with the Second Severn Crossing in the background; i) Waymarked routes at Severn Beach.

Visitor survey results

2.7 A visitor survey was conducted along the Severn Estuary in South Gloucestershire in October[6] 2024 (Liley and Caals, 2025), and involved face-to-face interviews at five locations along the estuary. The survey included 269 face-to-face interviews with randomly selected members of the public, and provides data on the profiles of visitors, activities undertaken on site, motivations for visiting, visit frequency, duration of visits and mode of transport. The methods used in the survey aligned with agreed and tested methods (including the estuary wide survey by Caals and Liley in 2022) and was agreed with Council Officers, Elected Members, Natural England and other statutory and non-statutory stakeholders.

2.8 Almost all interviewees were on a day trip or visiting directly from their home (97%), suggesting a relatively local cohort of visitors to this area of coastline. This is supported by the frequency of visits, with most interviewees visiting at least weekly (47%), all year round (77%) and spending less than an hour on site (51%). The most common reasons for choosing to visit the location at which they were interviewed were because it was close to home (29%) and for the views/scenery (28%). Activities undertaken on site varied, but most interviewees were either walking (44%) or dog walking (36%).

2.9 The home postcodes of interviewees were also collected and digitised, shown spatially in Map 3. Of the 258 interviewees (96%) that provided a valid home postcode, the majority of interviewees were from South Gloucestershire (62%) or Bristol (17%). The linear distance between home postcode and the location where they were interviewed was calculated to give the 75th percentile, i.e. the distance from which 75% of interviewees have originated. This indicated 75% of visitors originated within a 12.3km radius.

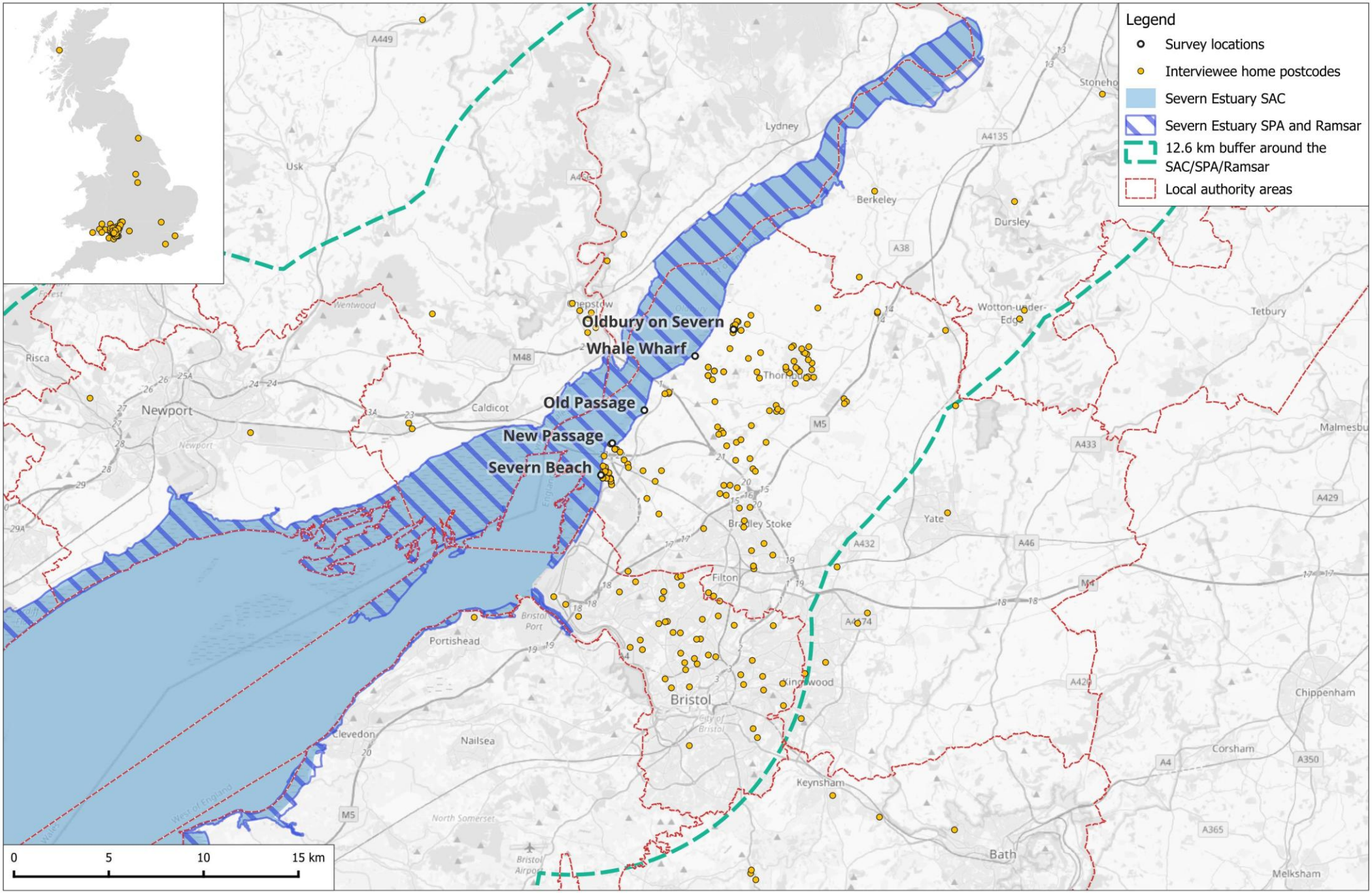
2.10 This value is consistent with the 12.6km figure reported by Caals and Liley (2022) in the wider visitor survey of the Severn Estuary (which did also include a single survey point in South Gloucestershire, at Shepperdine).

2.11 Other data on recreation use of the Severn Estuary include an on-site visitor survey in Monmouthshire (Kenny, 2024), a summary by McNutt (2023) and

[6] October was chosen as a time when the overwintering waterbirds would be present, as opposed to the summer when visitor numbers might be higher but the birds not present

results from an online survey investigating attitudes and awareness of visitors (Clubb and Phillips, 2023).

Map 3: Interviewee home postcodes from the 2024 visitor survey



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Scale of housing growth in the Plan

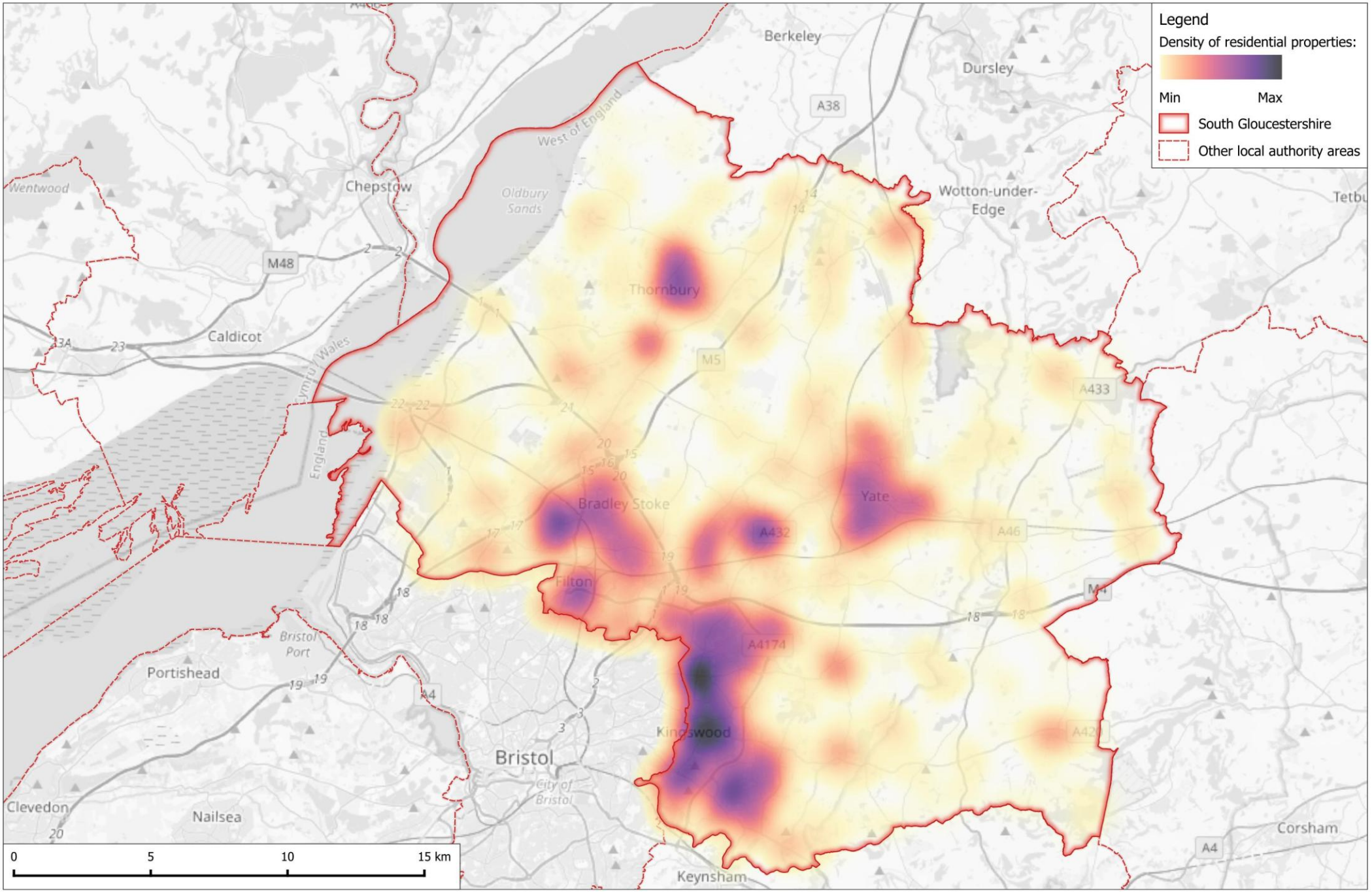
2.12 Currently there are around 130,158 residential dwellings in South Gloucestershire (based on 2025 national postcode data). The distribution of these is shown in Map 4, which shows a relatively high density of current housing close to Bristol, including in Kingswood, Patchway and Bradley Stoke. North of the M5, and east of the M4, the area is much more rural in character, with a low density of housing other than in the market towns of Thornbury, Yate and Chipping Sodbury. Of these 130,158 dwellings, approximately 61,337 (47%) are within 12.6km of the Severn Estuary SAC/SPA/Ramsar.

2.13 Around the whole of the estuary (including Wales), 861,531 residential dwellings are within 12.6km of the SAC/SPA/Ramsar. These figures indicate that around 7% of the residential dwellings within 12.6km of the Severn Estuary SAC/SPA/Ramsar are within South Gloucestershire.

2.14 A comparison with 2020 postcode data shows a net increase of around 41,000 dwellings within 12.6km of the Severn Estuary, with a net increase of 4,616 in South Gloucestershire (within 12.6km of the estuary). This is equivalent to an increase of 5% with 12.6km of the whole estuary and an increase of 8% within South Gloucestershire (within 12.6km of the estuary).

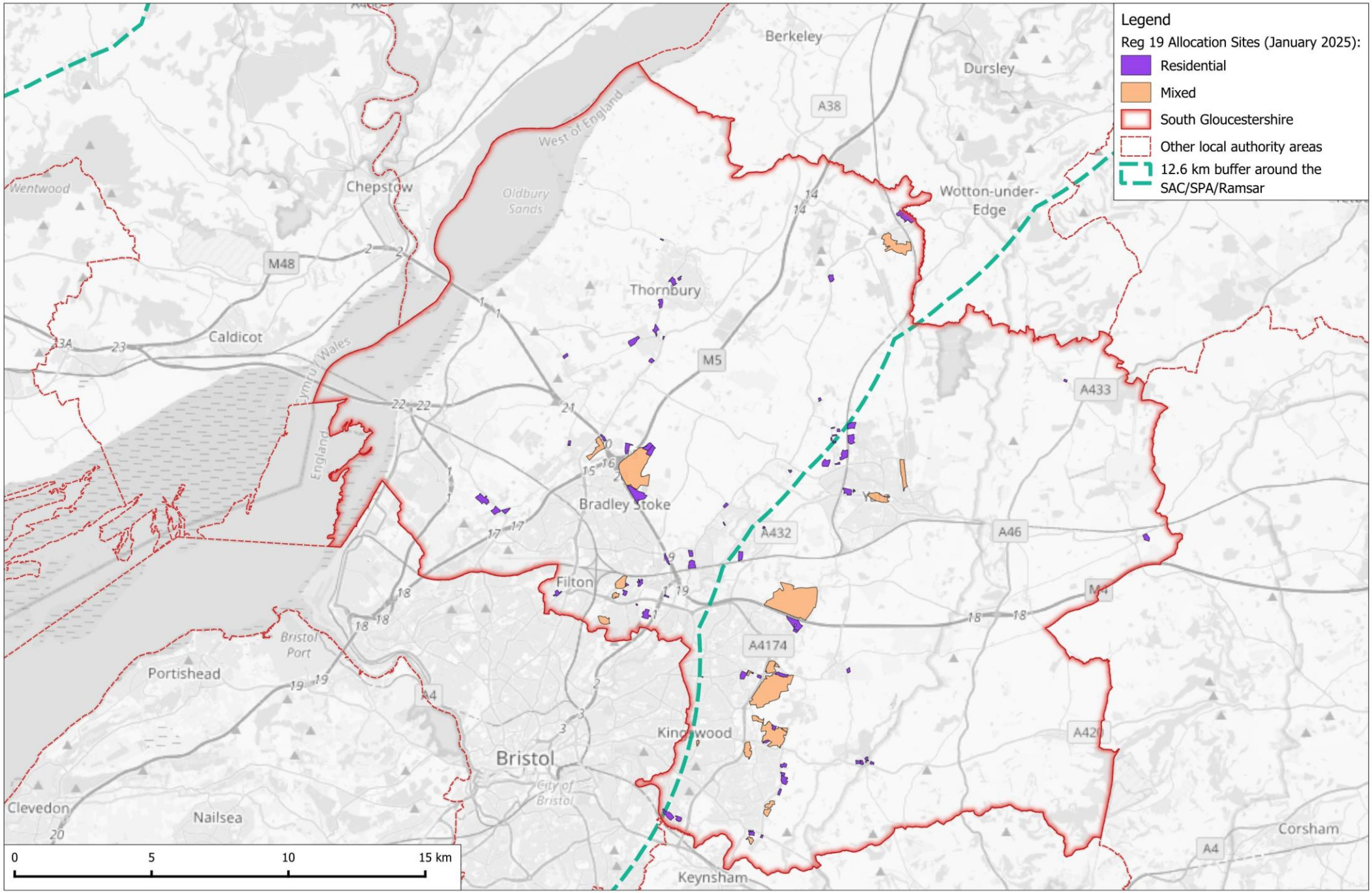
2.15 There are 44 residential or mixed allocations within the Plan (in addition to existing commitments (i.e. sites with planning permission) that fall within 12.6km of the estuary. These are shown in Map 5 and total 5,235 additional dwellings. Windfall development outside these allocations is thought likely to be low. The 5,235 dwellings would represent an increase of 9% within 12.6km of the estuary in South Gloucestershire.

Map 4: Current level of housing density in South Gloucestershire



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Map 5: Proposed allocations within the Local Plan



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Impacts of recreation

2.16 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 reedbeds);
- Other (public opposition to management, difficulty in grazing due to high levels of access and dogs off-lead etc.).

2.17 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, Rehfisch and Clark, 2002);
- Increased stress (Regel and Putz, 1997; Weimerskirch *et al.*, 2002; Walker, Dee Boersma and Wingfield, 2006; Thiel *et al.*, 2011).

2.18 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.

2.19 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. Natural England have advised[7] that even small increases in access in such areas may result in birds being displaced or disturbed.

2.20 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.

2.21 Further background and evidence on recreation impacts for the Severn Estuary can be found in a range of studies. Natural England and Natural Resources Wales' site improvement plan[8] for the Severn Estuary SAC/SPA/Ramsar 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*

[7] In comments received in September 2025
[8] See the Natural England website: https://publications.naturalengland.org.uk/publication/4590676519944192

shooting (e.g. clay pigeon)) that may cause damage to habitats where pressure is high."

2.22 The marine conservation advice package produced by the statutory nature conservation agencies[9] 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.

2.23 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 have been established, such as the North Norfolk Coast, parts of the Essex Coast, parts of the Suffolk Coast, the Thames Estuary and Marshes SPA.

2.24 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.

2.25 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, though each favours different areas. The roost study (Archer, 2019) highlights how the study area (which included the entire South

[9] Available from the Natural England website: https://publications.naturalengland.org.uk/publication/3184206?category=3212324

Gloucestershire shoreline and extended south to Avonmouth) supports around 14% of the estuary total of non-breeding waterbirds and represents approximately 7.8% of the Severn Estuary SPA, reflecting its importance at the estuary scale. Key sites roost sites identified in the report include Littleton Pill, Northwick Flash, Northwick Warth, Pilning Wetland and Pillhead Gout.

2.26 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 provide wide open areas for birds to feed, and much of this habitat is well away from any shoreline areas where people might walk. Nonetheless there is clearly potential for the conservation objectives of the Severn Estuary SAC/SPA/Ramsar 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:

- Access onto saltmarsh and particularly dogs off-lead on saltmarsh and areas where birds pushed closed to the shore (e.g. rising/falling tides) including locations such as Severn Beach, Littleton Pill and Pillhead Gout;
- Access onto the intertidal by bait diggers, particularly at Severn Beach;
- Disturbance from photographers and other wildlife/bird watchers;
- Access by anglers to sensitive roost locations such as Pillhead Gout, Littleton Pill, Northwick Warth, New Pill and New Passage;
- Access in general around the Pills, particularly dogs off-lead, as these areas are often key for birds;
- Access such as dog walking on sites that are functionally-linked to the estuary;
- Fires/bbqs etc. at locations where beach fires could spread to other habitats;
- Paddleboards, kayaks and other watersports close to intertidal habitats and roost sites;
- Drones or other infrequent activities that may have particular disturbance risks.

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 South Gloucestershire Council to rule out adverse effects from recreation on the integrity of the Severn Estuary SAC/SPA/Ramsar in relation to the Plan. Mitigation is proportionate to the scale of impact.

3.3 Mitigation (where appropriate and relevant) will comprise SAMM ('Strategic Access Management and Monitoring') and new Green Infrastructure, as is standard for other mitigation strategies (see Beveridge *et al.*, 2024 for overview). SAMM comprise measures targeted at or around the estuary, such as signage, interpretation, ranger provision etc. and extends to include monitoring linked to mitigation delivery and ensure the mitigation is targeted appropriately. The green infrastructure elements typically relate to projects away from the European site and include SANG ('Suitable Alternative Natural Greenspace') to deflect visitors away from the Severn Estuary. Such infrastructure can be provided by developers and integrated into new housing allocations.

3.4 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

3.5 SAMM elements are summarised in Table 1. They 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 SANG design and green infrastructure). 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. This 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 on those sites. 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.

3.6 Neighbouring authorities are looking to establish ranger presence using the Bird Aware Severn brand and the costs from this strategy could be pooled with neighbouring authorities so that the team size is increased. This will ensure consistency of messaging, branding and bring cost savings though efficiencies of scale. This strategy provides in-perpetuity costs for half a post and this could work as a winter-only post (full time) or all year round (half time).

3.7 Alongside the ranger provision, the strategy includes funding to audit existing parking, signage and interpretation, to identify opportunities to update, improve and influence visitor behaviour on site. Drawing on the results from these audits, annual funds are available for small projects, such as screening, fencing or changes to parking. Other options that could be explored could include establishing zoning, restricting access and work with particular user groups or activities (such as bait digging, beach cleaning etc). It is anticipated local organisations (Linking the Levels, landowners, parish councils etc) can bid for these funds, working with the Mitigation Project 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 will be approved by the steering group to ensure transparency. Separate costs are ring-fenced for new interpretation panels.

3.8 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 will need to be

coordinated across authorities and the Severn Estuary Partnership, and a communication strategy may be necessary to ensure coordination.

3.9 SAMM elements also include direct work with dog walkers, including professional dog walkers. Neighbouring authorities are working with the Coast and Country Canines project[10], 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 will 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.

3.10 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.

[10] https://coastandcountrycanines.org/

Table 1: Overview of mitigation measures.

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.	SGC	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.
Ranger provision	Cost for ranger provision	Other local authorities, SGC, Wildfowl & Wetlands Trust?	Rangers are a cornerstone of mitigation for other strategies and in neighbouring authorities. 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 neighbouring authorities in the process of establishing small ranger team. Funding will allow this to expand to cover South Gloucestershire ensuring continuity along the shoreline and consistency of approach. Part-time post - which could be winter only.
Ranger support costs	Budget to cover travel, equipment (optics) etc.	Other local authorities, SGC, Wildfowl & Wetlands Trust?	Budget required for transport and operational work	
Social media and website	Creation of website/web content for information on mitigation package, work of rangers, monitoring results etc. Links to relevant organisations and feed.	SGC, neighbouring authorities	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.	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 gazetteer on web of where to walk and a series of events, potentially posters etc in vets and other targeted venues.	SGC, neighbouring authorities	Budget covers external support and specialists (e.g. dog trainers) for events	Potential collaboration with Coast & Countryside Canines Project.

Mitigation measure	Description	Parties involved in delivery	Justification	Notes
Path improvements, fencing and other infrastructure projects	Funding pot to provide funding for projects proposed by organisations - focus on temporary fencing, signage etc that may be needed to address local issues around recreation. Includes ability to fund car park changes and other infrastructure.	SGC	Range of potential projects, including screening at Pilning wetland and gates at Severn Beach	Scope for funds to be used alongside funding from other sources. Part 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 assess and sign off funds.
Visitor survey	Visitor survey to cover all Estuary and surrounding GI (SANGs etc) at 5 year intervals. Undertaken at estuary scale.	SGC, neighbouring 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 2024 (5 survey points) and previously around estuary. Will need to align timing with other authorities so survey covers whole estuary.
Ecological monitoring	Budget to contribute/support and fill gaps in existing bird monitoring, including functionally linked land. Alternatively scope for single updated repeat of 'Coming Home to Roost' survey.	SGC, neighbouring authorities	Ecological monitoring important to ensure accurate and up-to-date communication/ engagement material and help to target mitigation.	
Review and audit of signage and interpretation	Work to check all current signage and interpretation, liaise with relevant organisations to programme changes/improvements as required, with scope to incorporate Bird Aware Severn branding and messaging.	SGC	Aligning messaging, Bird Aware branding	
Interpretation panels	Design, production and installation of new interpretation panels	SGC	Permanent means to convey information to visitors	Potential locations: Severn Beach x2, New Passage x1?, Littleton x1, Oldbury x2, giving total of 6

Mitigation measure	Description	Parties involved in delivery	Justification	Notes
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.	SGC, neighbouring 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 neighbouring authorities and other mitigation strategies. Ideally will ensure estuary wide audit.

Green infrastructure & SANG

3.11 Off-site infrastructure will provide 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 required for all development and three different approaches (see Figure 2) are possible. The overall aim is to deliver a network of inspiring greenspace that delivers the necessary mitigation and, as appropriate, can fulfil a range of other functions such as climate change resilience, reduced need for car travel, nature recovery and health benefits.

Developer-led SANG	Strategic SANG	Other small projects
• Developments provide their own SANG as well as maintenance costs. • Likely to be relevant for larger developments and those in more rural areas. • SANG often incorporated within the development and alongside the housing.	• SANG providing mitigation for multiple developments over a wide area. • Can include new sites and/or enhancements to existing sites. • Often delivered by LPAs.	• Rolling list of small, local projects enhancing green infrastructure and access opportunities away from European sites. • Tailored to local needs and specific circumstance. • Likely to be relevant where limited opportunity for SANG or very small levels of development in an area.

Figure 2: Different off-site infrastructure

3.12 Different approaches will be relevant to different types of development and to different parts of South Gloucestershire. Applicants should seek early advice with the planning authority relating to SANG requirements and it is likely that SANG costs and requirements will vary spatially and over time. Further guidelines for SANG design and implementation are provided in Appendices 2 and 3. These may be updated over time and/or supplementary guidance produced.

3.13 Developer-led SANGs will be delivered directly by developers. For large sites[11], provision of SANGs could form part of the overall infrastructure provision of that site, particularly in more greenfield and rural locations. Such developer-led SANGs can be incorporated into site design from the outset and provide the potential for creation of dog walking areas and other greenspace on the doorstep. SANG provision should be delivered in advance of occupation of dwellings, although for larger proposals mitigation may be structured to tie in with development phasing.

3.14 The costs for establishment of these developer-led SANGs will be met by the developer and a means to secure the long-term maintenance and management will also need to be secured. This provision will need to be agreed with the relevant Planning Authority and checked as part of the Habitats Regulations Assessment (HRA). The Councils (or their nominee) should be given first refusal on long-term delivery.

3.15 Other types of infrastructure will be led by the LPA and funded from contributions. Small sites and brownfield sites within built-up areas are unlikely to be able to accommodate the scale of space required for a SANG and could therefore make a contribution through either s106 or CIL towards strategic SANG, as options become available. If there are no strategic SANG available, contribution towards a range of smaller, discrete projects enhancing existing access is an alternative. The Linking the Levels project is investigating opportunities with council owned land and contributions could be used incrementally to fund a range of projects to enhance sites for access. Projects could include new footpath links, improved parking, fenced dog exercise/training areas, communication to visitors, improved path infrastructure, better access (road crossings or bridges) etc.

3.16 These different options provide a tiered approach to off-site infrastructure and over time will ensure robust mitigation by increasing the quality and availability of accessible natural greenspace away from the Severn Estuary. The different options will mean a range of infrastructure is available to local residents including destination sites with car parks and a range of facilities, to more local and small-scale provision. SANG options will need to be explored on a case-by-case basis.

[11] Large sites being those of 50 dwellings. NB this would also include any sites that come forward in close proximity where the combined total is 50 dwellings.

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 2. 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 England and the mitigation checked through appropriate assessment.

Table 2: 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.

Use Type/Class	Likely Significant Effect	Mitigation requirements
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 The use of the 75th percentile has become the standard way to use visitor survey data to provide the basis for a zone of influence for strategic mitigation schemes (see Liley, Panter and Chapman, 2021 for details). The 75th percentile, calculated from the linear distances between the survey point and interviewees' home postcode, reflects the distance within which three quarters of visitors live and therefore captures the area where most visitors come from. The approach is widely endorsed (Beveridge *et al.*, 2024) and supported through appeal decisions[12]. The zone can be adapted to reflect particular local circumstances or geography.

4.4 The 75th percentile for all interviewees in the recent visitor survey in South Gloucestershire (Liley and Caals, 2025) was 12.3km and for those on a day trip/short visit from home the figure was 11.1km. In the Severn Estuary Mitigation Strategy adopted by Stroud District Council, mitigation is established using a zone of influence of 12.6km. This was derived from the 2022 Severn Estuary visitor survey (Caals and Liley, 2022) which covered the Estuary from Shepperdine on the south side of the estuary round to Chepstow on the north side of the estuary. The 12.6km has also been adopted by Monmouthshire and therefore provides the basis for a consistent approach around the estuary. The zone is shown in Map 5.

HRA matters

[12] See also appeal decision APP/X0415/W/22/3308630, Millen Homes Ltd against Buckinghamshire Council, published October 2023. https://acp.planninginspectorate.gov.uk/ViewDocument.aspx?fileid=54374907

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.

Scale of future development

4.7 The Plan at Regulation 19 included a total of 44 allocations with residential housing that are within 12.6km of the Severn Estuary SAC/SPA/Ramsar. These provide for 5,235 new dwellings. The allocations are shown on Map 5.

Costs per dwelling

4.8 The total cost of SAMM measures is estimated to be £3,591,500 (see Appendix 4 for details). This gives a per dwelling contribution of £686.06. This tariff is derived on the basis that all new dwellings 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 and in line with neighbouring authorities.

4.9 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

4.10 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.

4.11 Some measures in this strategy are short-term, one-off measures while others need to run for many years, often extending well outside the Plan period. Changes to access infrastructure, the provision of SANGs (which are secured indefinitely) alongside the increased awareness raising should ensure that the need and annual cost for SAMM can decrease with time. As SANGs become better used and behaviour change (such as responsible dog ownership) is accepted, high levels of ranger time and other such measures should change. It will be important for regular review and revision of costs as necessary to adjust the amount set aside for long term funding of mitigation measures. As such, SAMM is highly unlikely to need to be constant over time. We have derived costs for different measures to cover different lengths of time (see Appendix 4) and these will be reviewed and adjusted on a 5 yearly basis. Implementation of mitigation at an Estuary-wide level and on a strategic basis will provide opportunities to streamline delivery and save costs.

Governance

4.12 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). Mitigation will be best secured 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. South Gloucestershire Council is 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 Plan.

4.13 If and when an estuary-wide approach is established, it can supersede this strategy. By working in collaboration with neighbouring 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.

4.14 A steering group will be established to oversee the mitigation delivery, with the steering group comprising SGC officers, statutory partners such as Natural England and environmental NGOs. The steering group's role will include authorising annual budgets, approving funding for specific projects and major changes to the strategy approach. Natural England's participation will ensure measures are appropriate as mitigation. The Mitigation Project Officer will work directly with neighbouring authorities and the Severn Estuary Partnership to maximise the benefits from collaborative working.

4.15 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 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.

4.16 While the strategy is focussed on an approach whereby all development contributes to mitigation (on a standard per dwelling basis), it may well be that this changes with time and is subject to review. If growth is focussed on a few isolated and large developments, then the burden of mitigation delivery could be weighted towards these sites.

Review and timing

4.17 The strategy will operate indefinitely on a rolling basis, with this strategy commencing prior to the adoption of the South Gloucestershire Local Plan and running to around 2030. The strategy has, however, been written in the context of the likely level of growth to 2041. The strategy will be reviewed and updated approximately every 5 years[13], with these reviews checking

[13] Natural England, in initial feedback on a draft of the strategy in September 2025, have confirmed their support on the basis of it being adopted for an initial period of 5 years

housing numbers, delivery, costs and mitigation priorities. Natural England have confirmed their support for the strategy on the basis of it being adopted for an initial period of 5 years[14].The reviews will inform the 1 year and 5-year business plan that underpins the work of the partnership and their staff.

[14] Initial feedback from Natural England on a draft of the strategy, September 2025

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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 *Lampetra fluviatilis* • Sea lamprey *Petromyzon marinus* • Twaite shad *Alosa fallax*	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 *Sabellaria alveolata*. 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.

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

Appendix 2: Suitable Accessible Natural Greenspace (SANGs) guidelines

Developer-led SANGs and strategic SANGs will be the main forms of off-site infrastructure. This appendix provides guidance on SANG design. The guidance may be superseded or updated at a later date by relevant partners.

The role of SANGs is to provide an alternative destination to those visitors who would otherwise visit the relevant European sites. SANGs will be most effective if targeted to those visitors who have a big impact, such as dog walkers.

The effectiveness of SANGs will depend very much on the design and location, these need to work such that the SANGs has a draw equal to or greater than the European sites. In these guidelines we set out design and selection criteria for SANGs, drawing on that produced for other areas such as the Dorset Heaths (Dorset Council and BCP Council, 2020) or the Thames Basin Heaths (anon, 2021). The guidelines do not address or preclude other functions of green space, such as biodiversity net gain ('BNG'). Any other such functions may be provided within SANGs as long as these do not conflict with the specific function of the mitigation and the provision of access. As such, measures such as planting, habitat creation and management undertaken to deliver BNG could well take place on SANG.

SANGs may be created from:

- Existing open space of suitable size and quality, with no existing or limited public access. Such sites would be 'opened' for public access and promoted as such.
- Land in other uses, such as golf courses, which could be converted into SANGs.

Character of the Severn Estuary

The Severn Estuary around South Gloucestershire provides opportunities for a range of recreation. The estuary and the two bridges dominate the scenery; the scale of the Severn means visitors have a sense of expansive views and space. Parts of the shoreline towards the north of the District are relatively isolated and quiet, with villages such as Oldbury on Severn providing additional interest and access points onto the seawall. There are numerous opportunities for circular walks of varying distances that encompass the shoreline (see Caals and Liley 2025 for map). Locations such as Severn Beach are much busier, with housing close to the shore, extensive parking and a range of cafés.

The Severn Estuary has an extremely large tidal range, strong currents and shifting sandbanks, and as such the intertidal areas are dangerous to access and waters must be navigated with care. Nonetheless parts of the estuary are popular for recreational boating. There is a sailing club at Thornbury.

These features are hard to replicate, however visitor survey data shows proximity to home is an important draw (for 29% of visitors in the recent visitor survey, see Caals & Liley 2025). For dog walkers (a key target audience for SANG), the ability to exercise their pet in an area that is safe, easy to access and fun for the dog will be important.

Attributes of SANGs

In order to have confidence that greenspace is of a suitable size and quality the following attributes will need to be met:

- SANG should be provided at a minimum target rate of 8ha per 1,000 new residents; this per ha standard is equivalent to 0.0192ha per dwelling (assuming an occupancy rate of 2.4 people per dwelling[15]) or 1.9ha per 100 dwellings.
- SANGs should be effective and available to local residents at the point of occupancy.
- Sites with sports grounds, playing fields or children's play areas are unlikely to meet the criteria for SANG or if such features are present they should not be counted towards the per ha standard.
- Where sites have existing visitor use, this existing use will need to be taken into account when applying the per ha standard. This will require visitor survey data to be available. Sites are likely to have additional capacity where average visitor use is less than 1 person per ha per hour[16]. Where existing sites are already well used, there will be a need to demonstrate that the measures will be effective, and this may require some delivery upfront.
- The focus for the SANGs should typically be large sites of at least 40ha (which will accommodate suitably long routes), however smaller sites may work, depending on the location and quality.

[15] 2.4 derived from most recent ONS data for England, see: https://www.ons.gov.uk/peoplepopulationandcommunity/householdcharacteristics/homeinternetandsocialmediausage/bulletins/householdandresidentcharacteristicsenglandandwales/census2021#household-size

[16] This provides a guide or approximate benchmark, typically busier than the relevant European sites but less than an urban park (see Liley, Panter and Rawlings, 2015). Sites will need to be considered on a case-by-case basis.

- SANGs should provide parking that is free or significantly cheaper than parking at the European sites. A guide to parking provision should be in the region of 1.5-2 spaces per ha of SANG[17].
- They should be quiet countryside locations, away from traffic noise, industrial sites etc. They should have a sense of space, openness and be viable alternatives to the European sites.
- They should contain a variety of habitats and be scenic, ideally with views.
- They should provide attractive, informal areas for dog walking: a range of walk lengths on relatively dry terrain, including at least 3km where dogs can be safely off the lead during the whole walk.
- They should provide routes that attract walkers, potentially including families. Walks are likely to need to be circuits with some interest (such as viewpoints, heritage features etc.).
- The site(s) should provide access all year round, without paths becoming waterlogged or inaccessible due to wet or muddy terrain.
- They should provide routes that work for cycling, potentially accommodating family cycling groups and mountain bikes as a low-key destination.
- Access points to the SANG(s) should be primarily within a 5km radius or 10 minute drive and easily accessible by road from the development they are intended to mitigate. Some direct foot access and good access routes for cyclists would be ideal. Direct access on foot would mean some SANG provision within around 500m radius of proposed housing locations.
- New SANGs should be recognisable as a 'destination' such that sporadic visitors are drawn from a wide area and such that the site also attracts more regular (at least weekly) visitors. As such they will need to be positively promoted and welcoming.
- On-site infrastructure could include the following as appropriate:
    - Small scale visitor centre/shelter (not necessarily staffed);
    - Interpretation (providing information about the area);
    - Wayfinding infrastructure to direct people around the site;
    - Some surfaced paths/boardwalks;
    - Wildlife viewing facilities (such as screens);
    - Range of paths (some waymarked) that provide a range of different routes and circuits, potentially including some longer routes for cycling (perhaps family groups and relatively low-key mountain

[17] This figure will depend on how close the SANG is to housing and the proportion of visitors that might arrive on foot or by bicycle. A busy SANG site might be expected to have up to 1 person visiting per ha per hour. Visitor data from the 2024 visitor surveys suggests on average a group on a short visit directly from home that day would spend 81 minutes (this calculated by attributing a mid-point or single value to the categories used in the interview) and groups of 1.9 people per car, suggesting a level of parking provision of around 0.7 spaces per ha to accommodate 1 person per ha per hour. Given that visitor numbers will not be constant every hour (i.e. there will be peak times of visiting) and easy parking is likely to be an important draw (meaning a need to ensure confidence to park), we suggest 1.5-2 spaces per ha.

bike circuits) but not such that other access (e.g. appeal to dog walkers) is compromised;
    - Access to water for dogs to drink, bathe and splash in;
    - Benches/informal seating;
    - Viewpoints;
    - Natural Play (particularly for larger, strategic SANG);
    - Catering facilities (particularly for larger, strategic SANG).

- SANGs will need to be promoted through a range of different ways, including signage, so that they are easy to find and local residents (both new and existing) are well aware of the site.
- SANGs will need to provide access in perpetuity, and therefore require some legal mechanism to ensure this.
- Sites with significant nature conservation interest (SSSI) or particularly vulnerable species present or those that might serve to increase recreational use to vulnerable coastal areas or functionally-linked land are unlikely to be suitable as SANG.

Appendix 3: SANGs planning application principles (where SANG delivery is developer-led)

The following principles are adapted from the advice issued in Dorset (Dorset Council and BCP Council, 2020), with changes to reflect the local circumstance. The principles summarise the details that will be required by Natural England and the Local Planning Authority (LPA) at the time at which a proposal is considered and are intended to act as guidance to help secure SANGs which can demonstrate the necessary long term functionality rather than rigid criteria. Early consultation with the Council and Natural England is welcomed to allow for adequate consideration, this may be either at outline or a full application where outline has not been submitted.

1) SANG maintenance and function should be secured and demonstrated to be in place for perpetuity (effectively the development needs to maintain a level of mitigation for the duration of any impact, extending to at least 80 years).
2) Applications for developments requiring a SANG are likely to require a Change of Use application for the SANG itself. This may be done through a separate planning application.
3) When the Local Authority considers the application for the development that the SANG is designed to mitigate, it will need to be certain that the SANG:

    - meets the SANG criteria;
    - is deliverable, i.e. ownership and appropriate management is secured;
    - can be managed in a suitable condition in perpetuity;
    - will be monitored for the first 5 years.

    This typically involves a draft Section 106 agreement, an implementation plan, long-term management plan and monitoring arrangements being submitted for agreement with Natural England and the LPA.

4) Where the application for development is at an outline stage the applicant will need to provide sufficient information on the SANG to allow the SANG proposal to be considered.
5) The SANG land will have been assessed for its biodiversity features and the applicant will have confirmed that the proposal will not in principle lead to net harm to biodiversity. Where harm to biodiversity features is predicted then the capacity of the SANG will need to be adjusted.
6) A full SANG Management Plan will be required as part of a reserved matters application if not previously provided at outline stage. This will set out the implementation and maintenance of the SANG – it will record initial infrastructure (photographically) and management objectives by compartment. This will allow for future evolution of the SANG within the broad SANG criteria rather than a rigid approach.

7) If part or all of the SANG is already accessible to the public a visitor survey will need to be submitted as part of the application (outline or full where no-outline is submitted), and the SANG capacity discounted if necessary
8) Where a SANG is not co-located with a proposal the local planning authority will provide advice to the applicant concerning the SANG capacity/catchment on a case by case basis.

The relevant local authority will, as appropriate, seek written confirmation from Natural England that the proposed green infrastructure is sufficient and of an appropriate design.

SANG Visitor Monitoring

Large developments may come forward in phases, so monitoring should commence prior to first occupation where there is existing SANG use. It need not be when the land has no existing public access. Monitoring should be phased at two/three years after each substantive phase and also at five years after the development is completed. It may be the case that monitoring will need to include nearby European sites. The primary aims of visitor monitoring are to inform the SANG delivery and allow for adjustments as well as demonstrating the SANGs functionality and use by existing local residents. Effective monitoring will provide a robust baseline which can be observed in future strategic monitoring events.

From 5 years after the final phase of a development future SANG monitoring will be incorporated into the ongoing SAMM programme on a strategic basis. SANG monitoring methodology may include visitor questionnaires, remote sensors and observational studies.

Strategic Access Management and Monitoring (SAMM)

SANGs are not intended to avoid all new residents accessing the protected sites, rather to enable a neutral level of visitor pressure with an equal proportion of existing European site visitors being diverted. It is therefore necessary, as established in the Thames Basin Heaths area and Dorset, for applicants to secure SAMM relative to the level of residential development. Mitigation needs to be secured in perpetuity.

Appendix 4: 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		£32,240	25	£806,000	0.5 FTE; costed at £48,000 annual salary, plus 35% (to cover NI, superannuation, etc.) and £5,000 per annum support costs. 25 year timing covers plan period and beyond, ensuring monitoring/oversight over key period taking place at least.
Ranger provision		£19,525	80	£1,562,000	0.5 FTE. £30,000 annual salary, plus 35% (to cover NI, superannuation, etc.) and £5,000 per annum support costs. 80 year period ensures in-perpetuity funding for implementation. Potential to become FTE post for shorter time period
Ranger support costs		£3,688	80	£295,000	75 days mileage at 50 miles a day (£0.45 per mile) plus an additional £2,000 per annum
Social media and website	£5,000	£2,500	25	£67,500	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.
Dog project		£7,500	25	£187,500	Cost estimated, potential to simply work as contribution to on going work at Estuary scale with Coast & Country Canines.
Path improvements, fencing and other infrastructure projects		£35,000	15	£525,000	Small annual budget for 15 years, covering plan period.
Visitor survey		£7,500	5	£37,500	Cost allows for 5 repeat surveys - potentially one survey every 5 years for 25 years.
Ecological monitoring		£3,000	25	£75,000	
Review and audit of signage and interpretation	£1,000		25	£1,000	Small budget to cover any resources and support if needed. Undertaken by Mitigation Project Officer.
Interpretation panels	£15,000	£15,000	1	£30,000	6 panels at £2,500 per panel, with budget to replace 1x as necessary

Mitigation measure	One-off/ Capital cost	Rolling cost	Multiplier for rolling cost	Total cost	Notes on how cost calculated
Review and audit of parking	£5,000			£5,000	Estimated cost for consultancy support to review all parking locations within c.500m of the estuary and identify and cost potential projects/opportunities to change