



North Somerset Severn Estuary Recreation Mitigation Strategy 2026

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Footprint Ecology is a small, employee-owned, ecological consultancy with an ethical focus. Founded in 2004 and based in Purbeck, Dorset we are catalysts for change, collaborating with organisations that share our commitment to sustainability and social responsibility. We create practical solutions to complex ecological challenges across a diverse portfolio including nature conservation, outdoor recreation and associated strategic planning.

Footprint Contract Reference: 901

Date: 25th September 2026

Version: Final

Recommended Citation: Liley, D. & Caals, Z. (2026) North Somerset Severn Estuary Recreation Mitigation Strategy, 2026 Report by Footprint Ecology.

Summary

This strategy sets out the mitigation requirements relating to impacts from recreation (associated with new housing development in North Somerset) for the Severn Estuary. The estuary is of international importance and designated for its biodiversity, and the strategy ensures North Somerset Council meets legislative requirements and adequately protects the estuary when permitting development.

Mitigation measures are set out in detail and comprise:

- SAMM (Strategic Access Management and Monitoring); and
- Additional green infrastructure outside the European site (including SANGs – ‘Suitable Alternative Natural Greenspace’).

Mitigation will be funded through developer contributions, with all new residential development within 7.3km of the Severn Estuary SAC/SPA/Ramsar (around 13,206 dwellings) contributing towards SAMM. This strategy sets out a package of SAMM measures and the costs of delivering these. Additional green infrastructure is also required for all dwellings within 5.1km (8,208), but the costs are not explicitly set out in this strategy.

By addressing risks up front, this 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.

The strategy should be reviewed every 5 years to provide the opportunity to assess the effectiveness of mitigation measures against the scale of growth and review cost requirements. However, it is likely that a strategic approach to mitigation covering the wider West of England (WoE) area will be required as part of the WoE Spatial Development Strategy which may supersede this RMS and provide a more cost effective and robust approach. This strategy therefore provides a stepping-stone to such an approach.

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Acknowledgements

This strategy has been commissioned by North Somerset Council. We are grateful to Claire Courtois for overseeing the work. Our thanks also to Philip Anelay (North Somerset Council), Katie Harvard-Smith (ASERA), Natalie Richards (North Somerset Council) and Nick Squirrell (Natural England) for useful discussion. Our thanks also to all those who contributed mitigation ideas during an online workshop:

1. Introduction

- 1.1 This strategy relates to housing development within the North Somerset Local Plan 2041 (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 Plan sets out a new growth strategy for North Somerset, setting out where and how new homes, jobs and infrastructure are to be provided. The Plan has been developed through a series of consultation phases and provides for around 24,000 new homes.

Legislative context

- 1.3 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.
- 1.4 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 also afforded the same statutory protection, following the amendments made to the Regulations through the Planning and Infrastructure Act 2025. In this strategy we use the term 'European site' to refer to SPA, SAC 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 North Somerset.

Planning and Infrastructure Act and Environmental Delivery Plans

- 1.7 The UK government has set ambitious targets for house building over the current parliament. The Planning and Infrastructure Act (2025) establishes a mechanism for strategic mitigation to enable development. Natural England will now be 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. Where contributions are made to the Nature Restoration Fund, 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 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. 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 North Somerset 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 The pre-submission HRA¹ for the North Somerset Local Plan identified likely significant effects from recreation, as a result of the proposed levels of housing growth in the Plan and identified the need for a Recreation Mitigation strategy to be developed in parallel with the Plan such that it was available for implementation by the time of adoption of the Local Plan. The HRA identifies a 7km zone of influence, primarily as a result of reference to previous visitor surveys in other local authority areas. The HRA also recommended that North Somerset Council liaise with other adjacent authorities to ensure a consistency of approach and delivery.
- 1.14 This strategy therefore follows on from the HRA findings and identifies 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. It follows a separate visitor survey, undertaken by Footprint Ecology in 2026, thereby bringing visitor survey evidence up to date.

¹ <https://n-somerset.gov.uk/sites/default/files/2025-10/habitat%20regulations%20assessment%20-%20October%202025.pdf>

Mitigation approaches established by other authorities around the Severn Estuary

- 1.15 Local authorities further upriver from North Somerset, 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 & Caals, 2024), applying a zone of influence of 12.6km² from the estuary and extending to address the cumulative effects of local housing growth across four local authorities³. 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 in the future. Both authorities have applied a 12.6km zone of influence, in line with neighbouring authorities and drawing on visitor survey work from their areas.
- 1.16 The strategies for these other authorities are 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.
- 1.17 Bristol have taken a slightly different approach as the main area of the Severn Estuary SAC/SPA/Ramsar relevant to the city is Avonmouth where much of the shoreline is inaccessible. While no specific policy regarding recreational pressure and the Severn Estuary SAC/SPA/Ramsar site was included within the Bristol Local Plan, the HRA⁴ did recommend a monitoring programme and – if necessary – mitigation depending on the monitoring results. The HRA highlighted that a Strategic Access Management and Monitoring approach may be required, including a developer charging scheme to fund the mitigation.

² This value reflecting the distance at which 75% of visitors originated

³ Forest of Dean District Council, Gloucester City Council, Stroud District Council and Tewkesbury Borough Council.

⁴ <https://www.bristol.gov.uk/files/documents/7581-pal005-habitats-regulations-appropriate-assessment-local-plan-submission-stage-2024/file>

North Somerset Severn Estuary Recreation Mitigation Strategy

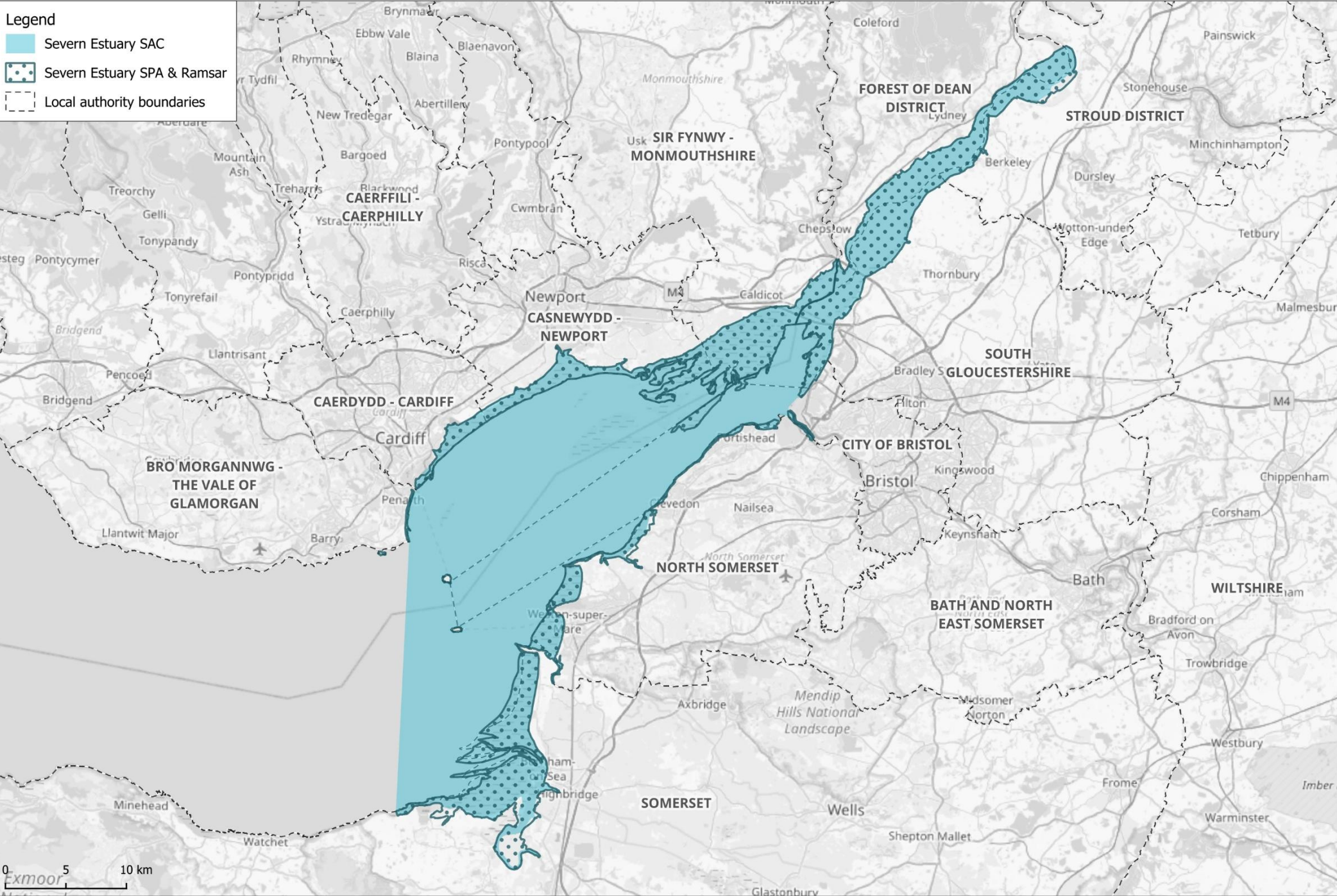
- 1.18 Somerset Council are at an early stage in their Plan making. Initial HRA work⁵ has identified risks to the Severn Estuary SAC/SPA/Ramsar from recreation and recommended further work be undertaken to determine the vulnerability of the qualifying features and level of recreational use, to inform potential mitigation requirements.

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[https://somersetcc.sharepoint.com/sites/SCCPublic/Planning%20and%20Land/Forms/AllItems.aspx?id=%2Fsites%2FSCCPublic%2FPlanning%20and%20Land%2FPlanning%20Policy%2FSomerset%20Local%20Plan%20HRA%20Screening%20and%20Scoping%20%2D%20May%202026%2Epdf&parent=%2Fsites%2FSCCPublic%2FPlanning%20and%20Land%2FPlanning%20Policy&p=true&ga=](https://somersetcc.sharepoint.com/sites/SCCPublic/Planning%20and%20Land/Forms/AllItems.aspx?id=%2Fsites%2FSCCPublic%2FPlanning%20and%20Land%2FPlanning%20Policy%2FSomerset%20Local%20Plan%20HRA%20Screening%20and%20Scoping%20%2D%20May%202026%2Epdf&parent=%2Fsites%2FSCCPublic%2FPlanning%20and%20Land%2FPlanning%20Policy&p=true&ga=1)

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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

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 (Bragg & Atkins, 2016; Kondo et al., 2020; Lee & Maheswaran, 2011) and economic benefits (Bateman et al., 2014; Dasgupta, 2021; Day, 2020). 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 creates 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 starts at Aust and for most of the north shore of the Severn Estuary the route and associated access rights are fully open⁶. 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

⁶ See <https://assets.publishing.service.gov.uk/media/6a351efb6422bec01b117850/coastal-access-england-map.pdf> for latest information

important context as it may mean people use the coast differently. The path is already operational and predates the Local Plan process.

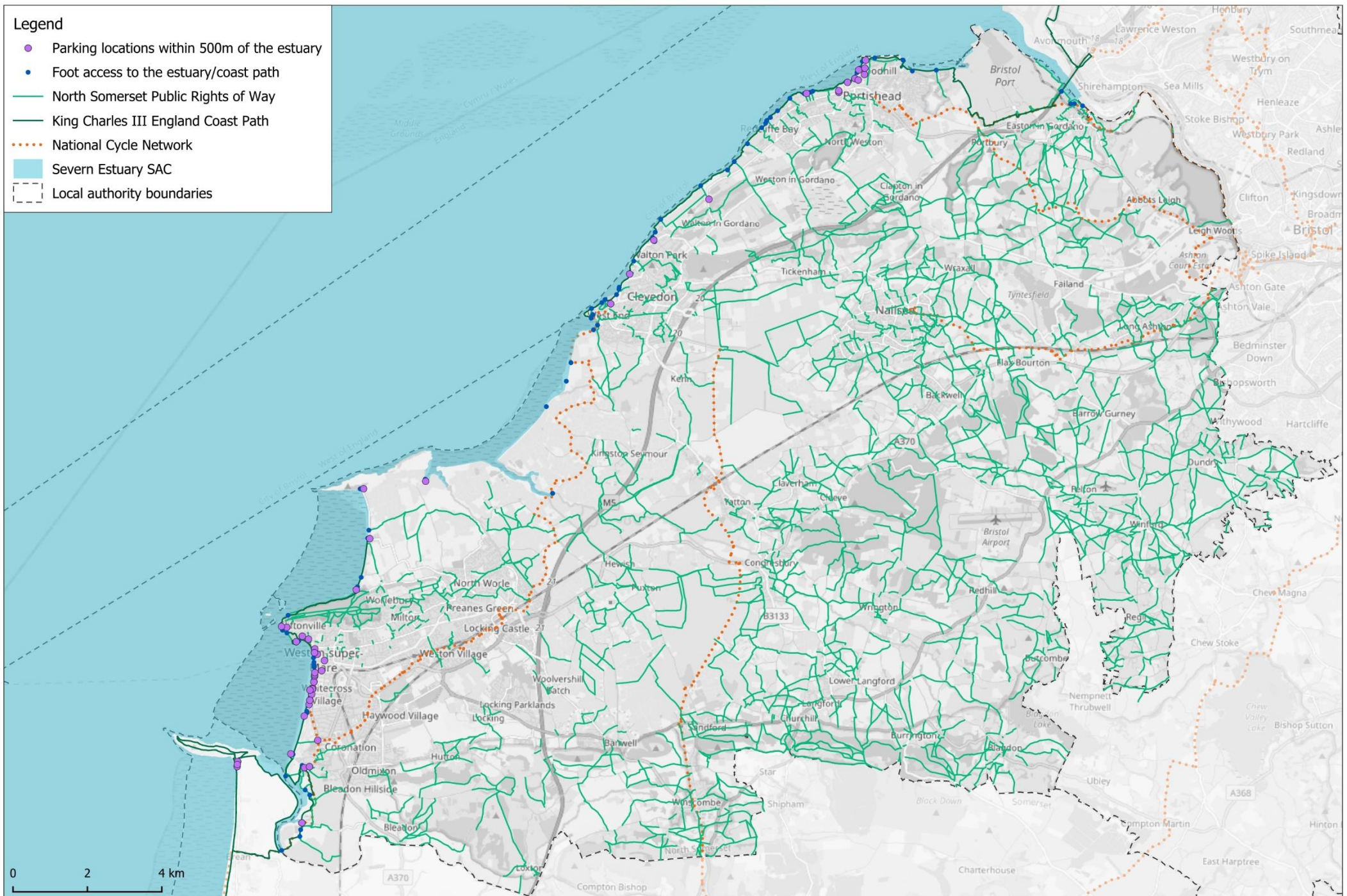
- 2.5 Map 2 shows the existing access points along the shoreline. This includes car parks (extracted from OpenStreetMap⁷) within 500m of the SAC/SPA/Ramsar as well as access points accessible on foot only, for example where public rights of way reach the shoreline. It can be seen that there is access to much of the foreshore with the exception of the area around the mouth of the River Yeo and Woodspring Bay where access is a little more limited.

Access infrastructure and variation in use

- 2.6 A selection of images of different parts of the North Somerset coast is shown in Figure 1 (after map 2). These reflect the range of different access opportunities and character of the shoreline and illustrate access to the shore. The coastline comprises open sand and mudflats, often flanked by saltmarsh and these habitats are the key areas used by birds. While the soft mud areas are inaccessible and dangerous to access on foot, areas with firmer substrate are accessed by people on foot and their dogs, for example Weston, Uphill etc. Examples of access on the intertidal areas are shown in Figure 1a and Figure 1c.
- 2.7 The more popular tourist beach areas and promenades have dog restrictions in place, requiring dogs to be on leads or in some case banning dogs, potentially deflecting use to other areas.
- 2.8 The coast path typically runs on the sea wall or top of the saltmarsh. Where saltmarsh is present, people do clearly walk on the saltmarsh at times and access with their dogs (see Figure 1e and f). In other areas the shore is rockier and there are low cliffs and headlands. While these will usually mean people are accessing the areas away from the SPA, it is still possible to directly access the shoreline, for example at Sand Point.

⁷ See <https://www.openstreetmap.org/about>

Map 2: Access to the Severn Estuary in North Somerset



North Somerset Severn Estuary Recreation Mitigation Strategy



Figure 1: Examples of sites and access. A) beach parking at Uphill, b) access to foreshore at Clevedon Pill, c) dog walker on intertidal flats at Weston, d) walking group at Portbury (note fire scar in foreground), e) dog walker on saltmarsh at Clevedon Pill, f) post and rope fence to deter access onto the saltmarsh, Portbury Wharf

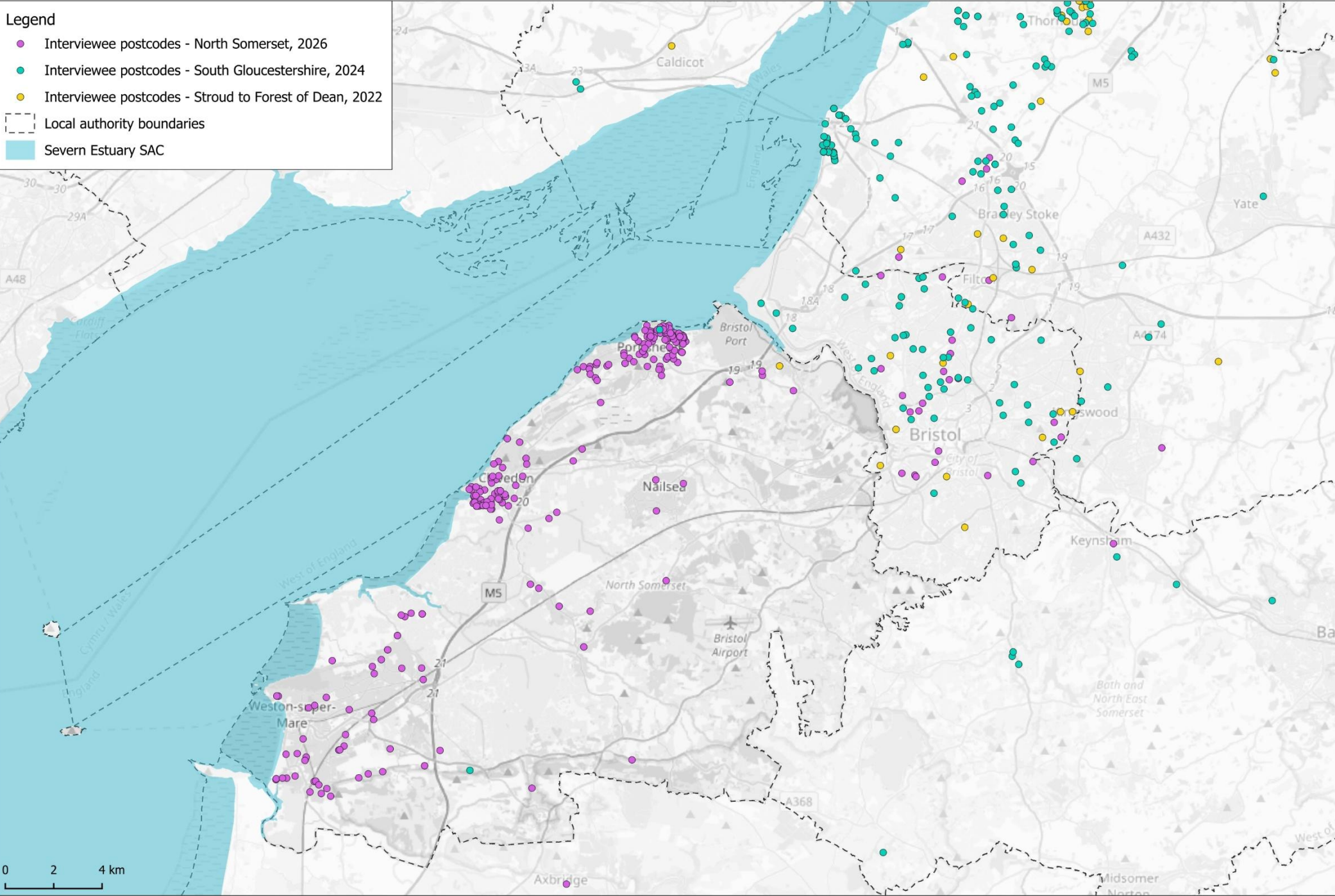
Visitor survey results

- 2.9 A visitor survey was conducted in March 2026 (Caals & Liley, 2026), and involved face-to-face interviews at five locations along the estuary within North Somerset. The survey included 323 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 and Natural England.
- 2.10 Survey results indicated that most interviewees (96%) were on a day trip or short visit from home. The most common main activities were dog walking (46%), walking (41%), cycling/mountain biking (4%) and jogging/running (2%). On average each visit lasted around 77 minutes and just over half of the interviewees (53%) stayed for less than an hour. Visits were generally shortest at Clevedon Pill, and longest at Tutshill Sluice. The median route length taken by interviewees during their visit was 2.8 km.
- 2.11 Overall, 67% of interviewees said that they visit the location where they were interviewed at least once a week, including 26% who visit at least daily. First-time visitors accounted for 8% of the interviewees. Interviewees at Sand Point tended to be more infrequent visitors while interviewees at Clevedon Pill and Portbury Wharf tended to be much more regular visitors.
- 2.12 The most common reasons for choosing to visit the survey location were because it was close to home (34%), because of the scenery and views (32%) and to be by the sea (25%).
- 2.13 Most (78%) of those interviewed lived in North Somerset and half of all interviewees lived within a 1.7km radius of the survey point where they were interviewed, and three quarters lived within 7.3 km. Taking just those who had travelled directly from home on the day of the interview (i.e. excluding holiday makers and those staying away from home), 75% lived within 5.1km.
- 2.14 Home postcodes from the survey are shown in Map 3 and it can be seen a high proportion of visitor postcodes are north of the M5. The map also includes home postcode data from other surveys: from South Gloucestershire (Liley & Caals, 2025) and from the wider estuary survey (Caals & Liley, 2022). For these latter two surveys, 75% of all interviewees (visiting from home) lived within 12.6km and 11.1km respectively. The wider

survey data is interesting to show as it appears to show relatively little use by North Somerset residents of other parts of the Severn Estuary (e.g. the South Gloucestershire shoreline) however it is clear that residents from neighbouring authorities such as Bristol do also visit the North Somerset part of the Severn.

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

Map 3: Interviewee home postcodes from the three recent visitor surveys around the estuary.



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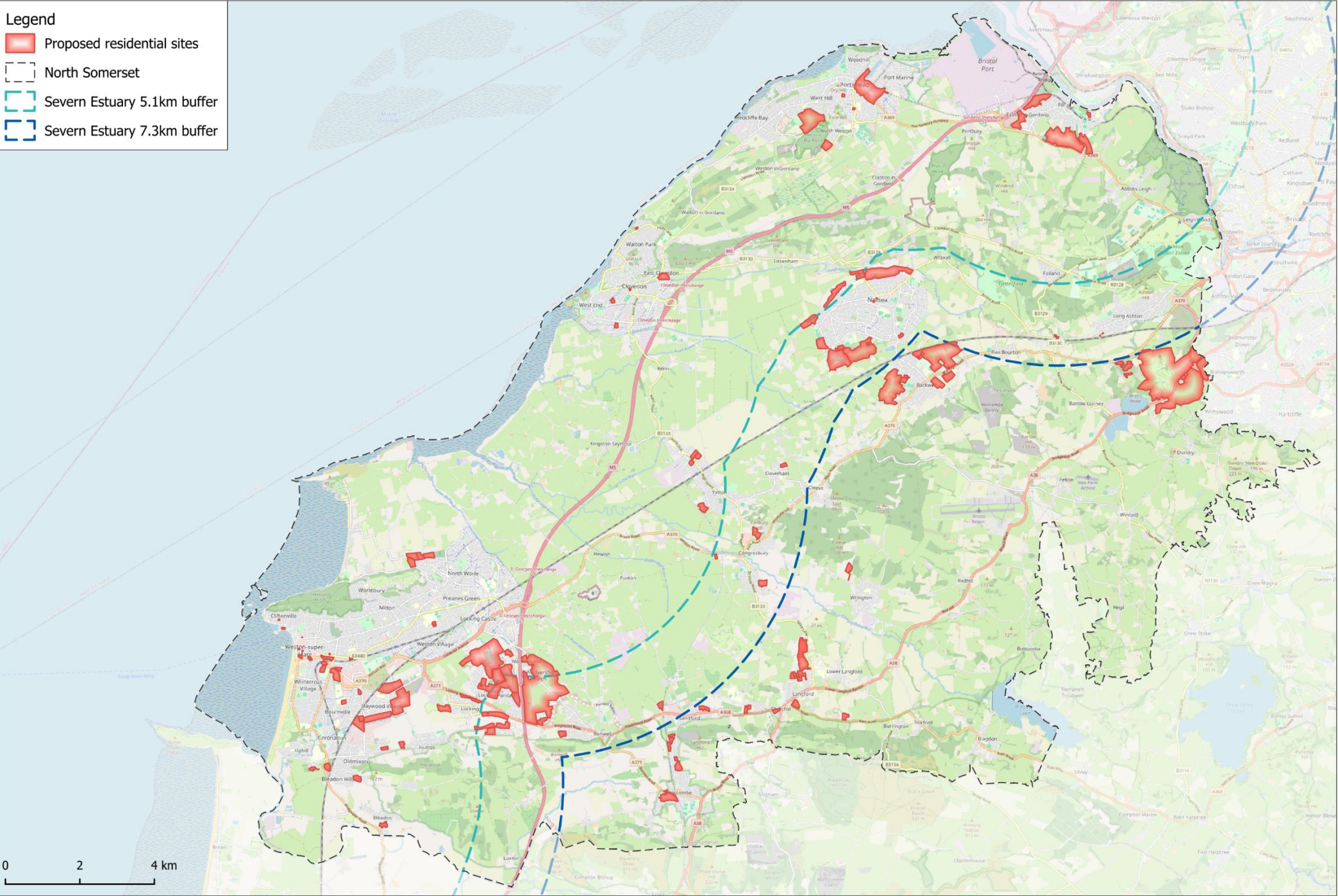
Scale of housing growth proposed in the North Somerset Plan 2041

- 2.16 Current postcode data (from 2026) indicates there are around 101,251 residential dwellings within North Somerset. The distribution of these is shown in Map 4: it can be seen that housing is focussed along the estuary shoreline, around Weston-super-Mare and also Clevedon and Portishead.
- 2.17 Drawing on the visitor survey results, 75% of those interviewed who were visiting directly from home lived within 5.1km and this provides a good guide as to where additional housing may result in increased recreation use of the estuary. With the inclusion of all interviewees (i.e. including those staying away from home) the equivalent distance is 7.3km.
- 2.18 There are currently 75,514 dwellings within North Somerset and within 5.1km of the SAC/SPA/Ramsar (75% of the housing within the authority). Within 7.3km there are 91,815 dwellings (90.7% of the housing within the authority).
- 2.19 The North Somerset Plan has a target for 23,700 new dwellings over the 15 year plan period. The Plan provides for just over 24,000 dwellings. Allocations within the Local Plan are shown in Map 5, which also shows the 5.1km and 7.3km distance bands. The Plan allows for around 9,733 dwellings within 5.1km of the Severn Estuary SAC/SPA/Ramsar, an increase of around 13% compared to the current housing levels. The Plan allows for around 14,853 within 7.3km of the SAC/SPA/Ramsar (i.e. 0km – 7.3km) and this represents an increase of around 16%.

Legend
Housing density
Min Max
Local authority boundaries

0 2 4 km

Map 5: Local plan allocations



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Impacts of recreation

- 2.20 There is a range of more general literature on recreation and impacts of people and their dogs that provides background and context (e.g. Harris, 2023; Liddle, 1997; Lowen et al., 2008; Saunders et al., 2000). 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 bio-security issues (e.g. spread of non-native species);
 - Fire (e.g. from barbeques, campfires etc. and potentially a risk to habitats such as reedbeds);
 - Other (public opposition to management, harvesting of samphire difficulty in grazing due to high levels of access and dogs off-lead etc.).
- 2.21 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 (Bright et al., 2003; Fitzpatrick & Bouchez, 1998; Stillman & Goss-Custard, 2002; Thomas et al., 2003; Yasué, 2005);
 - Increased energetic costs (Nolet et al., 2002; Stock & Hofeditz, 1997);
 - Avoidance of areas of otherwise suitable habitat, potentially using poorer quality feeding/roosting sites instead (N. H. Burton et al., 2002; N. H. K. Burton et al., 2002; Cryer et al., 1987; Gill, 1996);
 - Increased stress (Regel & Putz, 1997; Thiel et al., 2011; Walker et al., 2006; Weimerskirch et al., 2002).
- 2.22 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.

- 2.23 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's advice⁸ highlights that even small increases in access in such areas may result in birds being displaced or disturbed.
- 2.24 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 (Natural England & Kantar Public, 2021; Poortinga et al., 2021; Randler et al., 2020). Bird flu is also a current concern for a range of waterbirds and has impacted a range of species.
- 2.25 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 Plan⁹ 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*

⁸ In comments received in September 2025

⁹ 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."

- 2.26 The marine conservation advice package produced by the statutory nature conservation agencies¹⁰ 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.
- 2.27 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.
- 2.28 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.
- 2.29 Latham (2015) and Woodward et al. (2016) identified the key roost sites for waterbirds along the North Somerset shoreline. Latham noted that walkers and dog walkers were the most frequently encountered recreation activities around these sites, however other human activities included: boating/jet skiing, shooting, fishing, horse riding and agricultural operations. While the

¹⁰ Available from the Natural England website:
<https://publications.naturalengland.org.uk/publication/3184206?category=3212324>

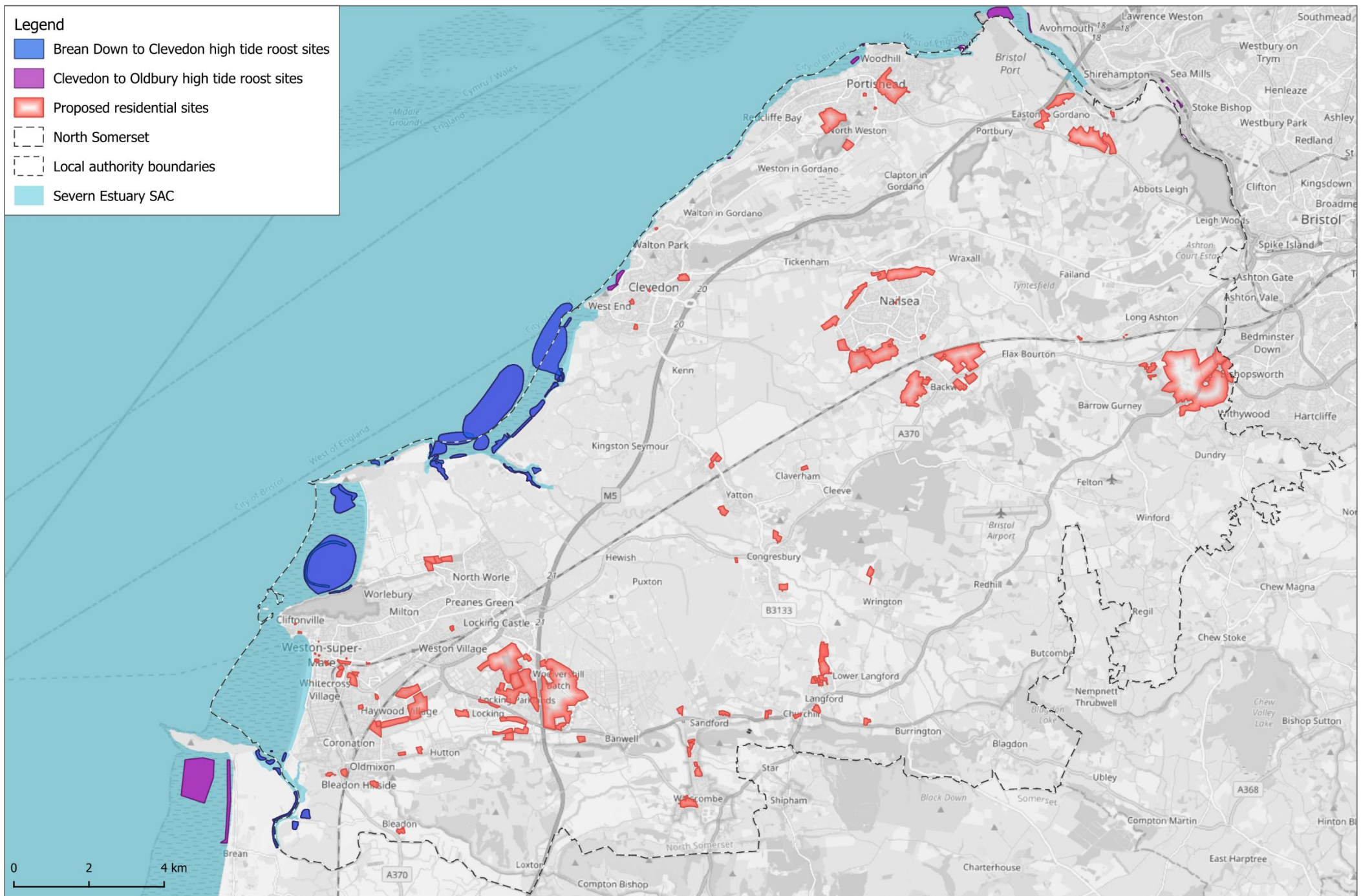
Latham study was not able to make a definitive assessment of human disturbance upon waterbird roost sites the report gives evidence of waterbirds being displaced from roost sites due to nearby disturbance events. Generally, birds were noted to relocate to an alternative nearby roost site, although instances of waterbirds being displaced altogether were also identified, notably in the area around the mouth of the River Axe / Brean Down as a result of passing powered watercraft and dog walkers. Latham also noted that the roosts between Brean Down and Clevedon would be susceptible to adverse effects of disturbance-related impacts which could arise as a result of future increases in human presence and activity along the coastline.

- 2.30 The Woodward report highlighted Clevedon Bay as an area where Ringed Plover and Turnstone roost close to the promenade and as such are likely to be subject to frequent disturbance. Woodward also highlighted frequent observations of disturbance at Brean Sands from walkers, dog walkers (usually off lead), vehicles, and people undertaking other activities on the beach (e.g. bait digging).
- 2.31 Map 6 shows roost sites, around the Severn Estuary, from the Latham and the Woodward reports. There are multiple roosts that are potentially relevant, particularly between Weston-Super-Mare and Clevedon. While not all roosts are in locations where there is access to the shoreline or nearby, many are clearly in areas with access.
- 2.32 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.
- 2.33 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 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 Clevdon Pill, Portbury Wharf;

- Access onto the intertidal by bait diggers, particularly Sand Bay and Clevedon to Portishead Pill;
- Access around roosts, including angling, dog walking and walkers;
- 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.

Map 6: Wintering waterbird high tide roosts (from Natural England, see Latham, 2015; Woodward et al., 2016)



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3. Mitigation measures

Overview

- 3.1 Guidance (Tyldesley & 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 necessary, directly related to the development and proportionate to any impact they create.
- 3.2 The aim of this strategy is to ensure necessary measures are secured to allow North Somerset Council to rule out adverse effects from recreation on the integrity of the Severn Estuary SAC/SPA/Ramsar in relation to the Local 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 or enhanced 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 panels, 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 developments.
- 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 have been derived in part from a workshop with a range of stakeholders and Council officers, in August 2026. Locations and issues/opportunities specifically raised in this session are summarised in Appendix 1.

- 3.6 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 SANG design and green infrastructure).
- 3.7 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 coast-wide. 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.
- 3.8 School sessions, site visits and guided walks were identified by stakeholders as a key element not currently being funded or supported around the coast. Ranger time would also therefore extend to cover these initiatives and support costs would provide an annual budget to cover the costs of providing these.
- 3.9 This strategy provides for two ranger posts, one full-time and one part-time and funded in-perpetuity. There would be scope to adjust this to three part-time posts (e.g. more focussed winter coverage). It is envisaged that the part time post could lead on some of the more community focussed work such as guided walks, events etc.
- 3.10 Other authorities around the Severn are looking to establish rangers using the Bird Aware Severn brand 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 though efficiencies of scale, with the ability to ensure holiday/illness cover, shared resources, peer support etc. Rangers could be hosted by North Somerset Council or other organisations/local authorities that work around the Severn Estuary.

- 3.11 Alongside the ranger provision, the strategy includes funding to audit existing parking, signage and interpretation panels, 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, drone flying, samphire-harvesting etc). In some parts of the coast, such as at Weston-Super-Mare and Clevedon there are parts of the shoreline that are quite robust in terms of recreation use and at Weston, Natural England give SSSI assent for beach parking, beach recycling and events. There may be scope to draw visitors to some of these more robust areas, deflecting use away from more sensitive locations. It is anticipated local organisations (community/friends groups, landowners, parish councils etc) can bid for funds, working with the Mitigation Project Officer to ensure projects work as mitigation. The Project Officer can also directly approach relevant parties such as the Association of Severn Estuary Relevant Authorities ('ASERA') and ensure measures work consistently around the coast. Any spend will be approved by a steering group (see Governance section later in this document) to ensure transparency. Separate costs are ring-fenced for new interpretation panels.
- 3.12 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.
- 3.13 SAMM elements also include direct work with dog walkers, including professional dog walkers. Neighbouring authorities 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 will provide opportunities to expand the Coast and

¹¹ <https://coastandcountrycanines.org/>

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Country Canines work around the Severn, through events, promotion of responsible behaviour and support for local landowners and managers.

- 3.14 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.

Table 1: Overview of SAMM 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.	NSC, 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	Other local authorities, ASERA?, NSC	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. 1.5 full-time posts with scope for this to become part of a wider Severn Estuary team
Ranger support costs	Budget to cover travel, equipment (optics) etc.	Other local authorities, ASERA?, NSC	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	NSC, 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	NSC, other authorities	Budget covers external support and specialists (e.g. dog trainers) for events	Potential collaboration with Coast & Countryside Canines Project
Site specific projects including 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	NSC	Range of potential projects at specific sites eg.measures to stop cycling off marked paths (Uphill), issues around grazing and dogs (Uphill, Sand Point)	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 (see governance section) could asses and sign off funds.

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Mitigation measure	Description	Parties involved in delivery	Justification	Notes
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	NSC, 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	NSC, 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
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	NSC	Aligning messaging, Bird Aware branding	Comprehensive review of existing signage
Interpretation panels	Design, production and installation of new interpretation panels	NSC, 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 and explore options to incorporate active travel or public transport.	NSC, 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

Green infrastructure & SANG

3.15 Green infrastructure will provide alternative access or enhance existing countryside and public open space away from the Severn Estuary, with the aim of drawing some visitors away from the Estuary and reducing visitor use to the Estuary. Such infrastructure provision is required for all development within the relevant zone of influence 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. There is scope for mitigation to link with projects and schemes in the North Somerset Green Infrastructure Strategy¹².

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 green infrastructure options for mitigation delivery

3.16 Different approaches will be relevant to different types of development and to different parts of North Somerset. Applicants should seek early advice

¹² <https://n-somerset.gov.uk/sites/default/files/2022-06/green%20infrastructure%20strategy.pdf>

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 3 and 4. These may be updated over time and/or supplementary guidance produced.

- 3.17 Developer-led SANGs will be delivered directly by developers. For large sites¹³, 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.
- 3.18 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.
- 3.19 Other types of infrastructure could 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. Additionally, developer contributions or planning conditions could deliver a range of smaller, discrete projects including improving and enhancing access from new developments to existing public rights of way. 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.
- 3.20 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

¹³ 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.

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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.

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 from recreation. Such cases will require more detailed consideration, checks with Natural England and the mitigation checked through appropriate assessment. There may be options for them to contribute to the mitigation set out in this strategy.

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, et al., 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 decisions¹⁴. The zone can be adapted to reflect particular local circumstances or geography.

¹⁴ 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>

- 4.4 The 75th percentile for all interviewees in the recent visitor survey in North Somerset (Caals & Liley, 2026) was 7.3km and for those on a day trip/short visit from home the figure was 5.1km. All development within 5.1km of the Severn Estuary SAC/SPA/Ramsar therefore has the potential to trigger likely significant effect from recreation and is anticipated to provide SAMM and SANG measures, in accordance with this strategy.
- 4.5 The 5.1km figure is much lower than the zone of influence used in nearby authorities, for example South Gloucestershire, Stroud and Monmouthshire all use 12.6km. In the long term a more strategic approach involving multiple authorities and estuary-wide is likely to be the most effective means to deliver mitigation. While 5.1km reflects the results from a visitor survey focussed on the North Somerset shoreline, it does not reflect the results of wider recreation use of the estuary. For example, the visitor survey from the Severn Estuary in South Gloucestershire (Liley & Caals, 2025) did include some interviewees who lived in North Somerset, and as such the use of 5.1km does not necessarily capture the impacts of increased recreation use by residents of North Somerset that might visit the South Gloucestershire shoreline. As such development beyond 5.1km may still trigger likely significant effects and a need for mitigation. Development to 7.3km will therefore contribute towards SAMM (with the anticipation that this will involve more collaborative working and cross-boundary mitigation over-time) but not provide SANG.
- 4.6 Visitor monitoring is included within the strategy and should be co-ordinated with other local authorities around the Severn as part of the wider strategic planning for the West of England region. This will ensure mitigation works to address cumulative impacts, in-combination. Reviews and revision to the zone of influence may be necessary as and when the survey results are available.

HRA matters

- 4.7 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 & 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.

- 4.8 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 requiring mitigation

- 4.9 Residential development provided by the Plan and within 5.1km and 7.3km of the Severn Estuary SAC/SPA/Ramsar are summarised in Table 2. The allocations are shown on Map 5. Development within 5.1km is expected to contribute towards SAMM and SANG while that between 5.1km and 7.3km would contribute to SAMM only.

Table 2: Summary of residential development provided by the Plan. Darker green shading reflects those that require mitigation and would therefore contribute towards the mitigation set out in this strategy

Status	0-5.1km	5.1 – 7.3km	Total (0-7.3km)
<u>Allocations/large sites</u>			
Extant planning permission	4079	450	4529
No current consent	4869	4670	9539
Wyndham Way (Policy LP20)	785	0	785
<u>Windfall/small sites</u>			
Windfall	2554	328	2882
Total	9733	5120	14853
Total requiring mitigation	8208	4998	13206

Costs per dwelling

- 4.10 The total cost of SAMM measures is estimated to be £7,025,075 (see Appendix 5 for details). When apportioned to the total level of development requiring mitigation (see Table 2) this gives a per dwelling contribution of £531.98. 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.

- 4.11 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

- 4.12 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.
- 4.13 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 5) 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 further opportunities to streamline delivery and save costs.

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. North Somerset 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.

- 4.16 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. This strategy therefore closely matches and aligns with those in other authorities.
- 4.17 A steering group will be established to oversee the mitigation delivery, with the steering group comprising staff from North Somerset Council, statutory partners such as Natural England and environmental NGOs, 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 England's 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 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 commence prior to the adoption of the North Somerset Local Plan and run for around 5 years. After 5 years it will be necessary to review and update the strategy and by this point it may 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. The overall mitigation package is designed to mitigate the total amount of housing in the Plan and implementation in the first 5 years will need to be phased to match the level of housing growth.

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- 4.20 The costs and actions within this strategy will feed through into a 1 year and 5 year delivery 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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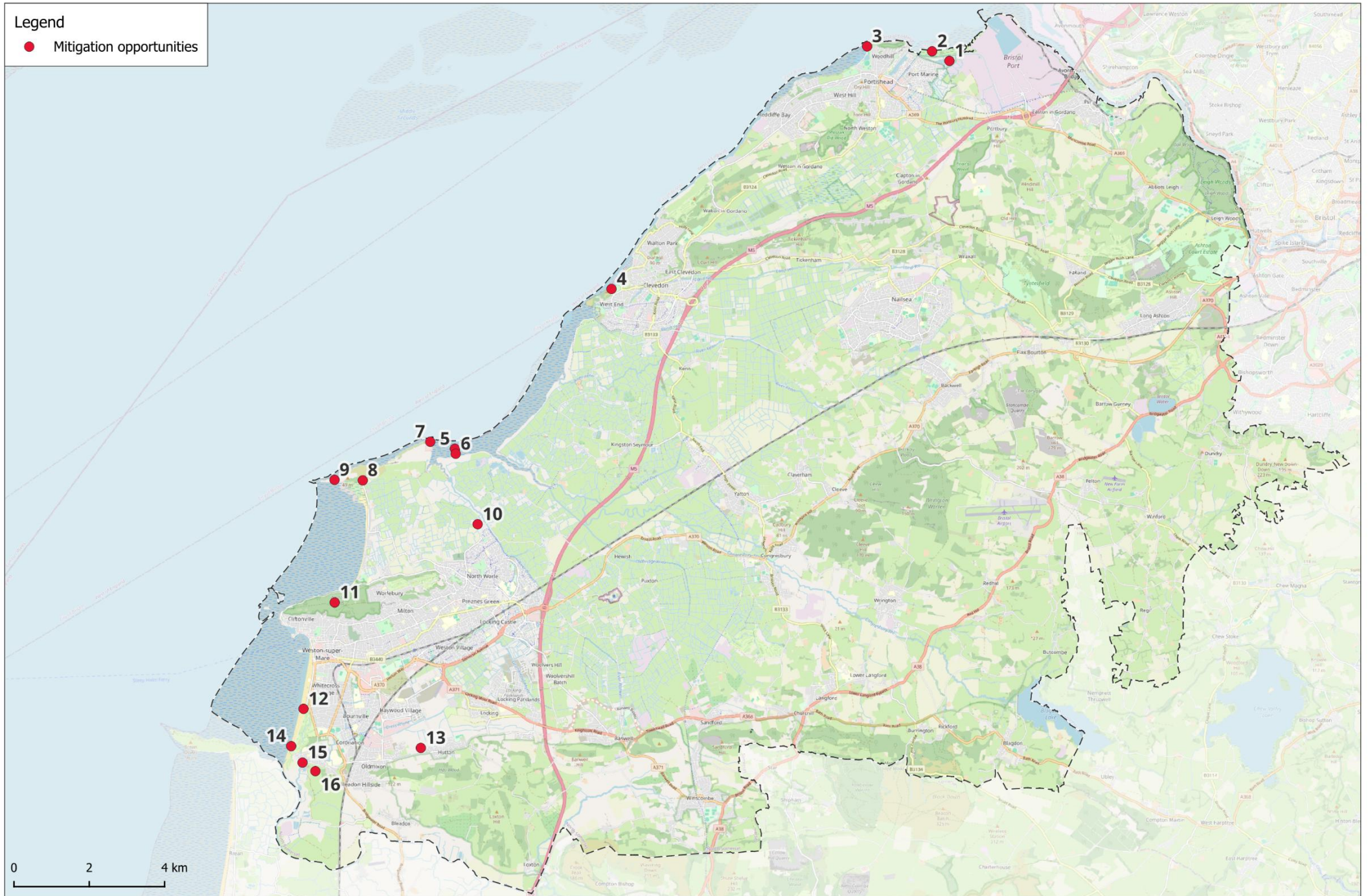
European sites	Qualifying features	Description
	• Redshank <i>Tringa totanus</i> • Shelduck <i>Tadorna tadorna</i> • Gadwall <i>Anas strepera</i> • Internationally important assemblage of waterfowl	
Severn Estuary Ramsar	• Estuaries • Assemblage of migratory fish species • Bewick's swan <i>Cygnus columnianus 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 for SAMM

A workshop with Council staff and other stakeholders was held on 18th August 2026 and part of the output were specific locations where there were particular issues/concerns or opportunities for SAMM or SANG. The opportunities listed below and shown in Map 7 (overleaf) 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	Notes
1	Portbury Wharf	Scope to improve facilities to deflect access away from SAC/SPA/Ramsar
2	Portbury Wharf	Scope to work with, or support, existing friends group
3	Portishead	Scope for better measures to protect saltmarsh, potentially involving better signage, ranger time, fencing
4	Clevedon sea-front	Scope to deflect access to more robust areas of SPA/SAC/Ramsar where risks less
5	Woodbury Bay	Scope to work with, or support, existing friends group
6	Woodspring	Foraging for samphire a concern with people accessing intertidal areas to harvest
7	St. Thomas Head	Existing concerns around disturbance including people fishing from rocks
8	Sand Point	Concerns around litter, BBQs and human waste around car park/saltmarsh. Also anti-social behaviour (vehicles)
9	Sand Point	Grazing management and trampling issues (rare plants) - outside SAC/SPA/Ramsar but risk from change of use
10	Wicks St. Lawrence	New reserve/land acquisition that may generate additional access to area
11	Weston Woods	Scope to improve facilities to deflect people away from Estuary
12	Weston	Beach parking a potential concern
13	Grange Farm	Scope to improve facilities to deflect access away from Estuary
14	Uphill	Suggestion for information point and focussed engagement with dog walkers, potential concern around vehicle parking on beach
15	Uphill Reserve	Issues with cycling off paths and challenges with management of grazing and dogs off leads
16	Uphill Reserve	Scope to deflect access away from Severn Estuary SAC/SPA/Ramsar (noting existing sensitivities at Uphill)

Map 7: Mitigation opportunities identified during workshop



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Appendix 3: 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.

In general, any SANG provision is expected to be additional to normal development requirements such as playing fields, play grounds etc. 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 North Somerset provides opportunities for a range of recreation from paragliding (there is a club operating from Uphill beach) to daily dog walks. The estuary provides expansive views and sense of space. At locations such as Uphill it is possible to park on the beach and there are extensive sandflats at Uphill and Sand Bay that are safe to walk on. Other areas such as Portbury have large areas of saltmarsh. Weston-Super-Mare, Clevedon and Portishead have a promenade and tourist facilities directly adjacent to the SAC/SPA/Ramsar. Other locations are more isolated or remote, providing a much more rural visitor experience and destination, for example few people walk or access the area west of St. Thomas Head. At Sand Point

there is access to the saltmarsh, beach and also to the rocky headland from which a range of longer walks are possible.

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, for example there are sailing clubs at Clevedon and Portishead.

These features are hard to replicate, however visitor survey data shows proximity to home is an important draw. 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 dwelling¹⁵).
- 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.
- 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.
- 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 SANG¹⁶.

¹⁵ 2.4 derived from most recent ONS data for England, see:

<https://www.ons.gov.uk/peoplepopulationandcommunity/householdcharacteristics/homeintern etandsocialmediausage/bulletins/householdandresidentcharacteristicsenglandandwales/census 2021#household-size>

¹⁶ 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

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- 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 some at least 2.5km and 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 though this may not always be possible.
- 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 panels (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 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);

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.

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- 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 (such as SSSIs) with 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 4: 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 5: SAMM costs

The table below summarises the SAMM 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	Multipli er for rolling cost	Total cost	Notes on how cost calculated
Mitigation project officer		£33,375	25	£834,375	0.5 fte; costed at £50000 annual salary, plus 35% (to cover NI, superannuation, etc.) and £5000 per annum support costs. 25 year timing covers plan period and beyond, ensuring monitoring/oversight over key period taking place at least.
Ranger provision		£61,980	80	£4,958,400	1.5 fte post £32000 annual salary, plus 35% (to cover NI, superannuation, etc.) and £5000 per annum support costs. 80 year period ensures inperpetuity funding for implementation. Potential to become fte post for shorter time period or to swap to 2 part time posts as necessary
Ranger support costs		£7,750	80	£620,000	5000 miles per year (£0.55 per mile) plus an additional £5000 per annum to cover dedciated resources for guided walks, school visits etc
Social media and website	5000	£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 & Countryside canines
Site specific projects including path improvements, fencing and other infrastructure projects		£5,000	25	£125,000	Small annual budget for 25 years, covering plan period.
Visitor survey		£10,000	5	£50,000	Cost allows for 5 repeat surveys - potentially one survey every 5 years for 25 years.

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Mitigation measure	One-off/ Capital cost	Rolling cost	Multiplier for rolling cost	Total cost	Notes on how cost calculated
Ecological monitoring		£5,000	25	£125,000	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
Review and audit of signage and interpretation	2500			£2,500	Small budget to cover any resources and support if needed. Undertaken by Mitigation Project Officer
Interpretation panels	25000	£25,000	1	£50,000	10 panels at £2500 per panel, with budget to replace 1x as necessary
Review and audit of parking	5000			£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
Total				£7,025,275	