



# Strategic Environmental Assessment (SEA) of the Glasgow 2014 Commonwealth Games Strategy and Framework

---

Non-Technical Summary

---

November 2010

---

# Content



This is the Non-Technical Summary (NTS) to the Environmental Report accompanying the consultation on the Glasgow 2014 Commonwealth Games Strategy and Framework – the CGSF. The Environmental Report and NTS summarise the process of Strategic Environmental Assessment (SEA) carried out on the CGSF and, in doing so, facilitate consultation on the CGSF’s potential environmental effects.

Where relevant, blue **Environmental Report reference boxes** have been used throughout this NTS. These will point you to the more detailed information that can be found in the Environmental Report and its appendices. As a standalone document, this NTS provides a non-technical summary of the information required for Environmental Reports under the European Community SEA Directive (2001/42/EC) and Environmental Assessment (Scotland) Act 2005.

1. Introduction.....	3
1.1 SEA and CGSF-development – what is the relationship? .....	4
1.2 Consultation on the CGSF .....	5
2. Background to the CGSF .....	6
2.1 What is the geographical area covered by the CGSF? .....	8
2.2 How does the CGSF relate to other plans and programmes .....	9
3. The CGSF’s environmental context .....	11
3.1 People, health & access .....	12
3.2 Wildlife conservation & ecosystem services .....	13
3.3 Water bodies & flooding .....	13
3.4 Air quality, noise & dust .....	14
3.5 Soils & soil quality .....	14
3.6 Climate change issues .....	15
3.7 Landscape & the historic environment .....	15
4. Environmental assessment of the CGSF .....	16
5. The CGSF’s potential effect on the environment .....	18
5.1 West cluster environmental assessment .....	19
5.2 South cluster environmental assessment .....	20
5.3 East cluster environmental assessment .....	21
6. Improving the CGSF’s environmental performance .....	22
7. What’s next? .....	25

# 1. Introduction

The Commonwealth Games is coming to Glasgow in 2014. Our vision is “...to stage an outstanding, athlete-centred and sport-focused Games of world-class competition that will be celebrated across the Commonwealth, generate enormous pride in Glasgow and Scotland and leave a lasting legacy”.

To date, some three years of planning and preparatory work have gone into ensuring that this vision will be realised on the day itself and beyond through the Games legacy. A number of plans, programmes and strategies have been

*“SEA aims to ensure that environmental considerations are taken on board when developing strategic actions”*

developed setting out the various objectives, policies, actions and projects that will come together, over the next four years, to support the delivery of an outstanding Glasgow Games in 2014.

These plans, programmes and strategies are known collectively as the Commonwealth

Games Strategy and Framework – the CGSF. These Games specific activities will complement and work with several ongoing initiatives such as the Clyde Gateway Urban Regeneration Company’s (URC) work in the east end of the City and the major road building projects that are noticeably underway across the City.

To provide help and guidance during the CGSF’s development, a Strategic Environmental Assessment (SEA) has also been undertaken. An SEA helps to ensure that environmental considerations are taken on board in the

development of plan, programme and strategy initiatives. More specifically, the SEA aims to ensure that the potential significant effects on the environment of implementing the CGSF and, where relevant, of reasonable alternatives to the CGSF, are identified, described, evaluated and taken into account before it is adopted. This in turn should ensure that the CGSF supports

a high level of environmental protection and enhancement.

The SEA of the CGSF is being undertaken, in part, to honour commitments made at the bid stage. The importance of environment and sustainability issues was recognised from the outset in the bid where a number of environmental commitments were made, not least the undertaking of this SEA. In addition, an SEA is required under the provisions of the European Community SEA Directive (2001/42/EC) and the Environmental Assessment (Scotland) Act 2005.

To support the public consultation on the CGSF and its potential environmental effects, an Environmental Report documenting the SEA process and its outcomes is required under the SEA legislation. This Non-Technical Summary (NTS) of the Environmental Report is also required to help facilitate wider consultation.

Please refer to Environmental Report Part A Sections 1.1 and 1.2 for more detailed information

# 1.1 SEA and CGSF-development – what is the relationship?

Ideally, the organisation responsible for the plan and the SEA (the Responsible Authority) should begin the SEA process at the same time as the plan-development process. This ensures that the SEA has an early and effective opportunity to raise environmental issues and help shape the plan from the outset. Importantly, this type of early influence means that the SEA can help suggest reasonable alternatives to the plan that may not otherwise be considered and/ or those that may be better in environmental terms. Please note: in this SEA, the Responsible Authority is Glasgow 2014 Ltd and the plan is the CGSF.

The SEA of the CGSF however is truly unique. Most SEAs in Scotland are carried out for a specific plan that can be described easily in terms of the sector it is being developed for (examples include forestry, tourism and transport), its objectives and the area of land and time period to which it applies. On the other hand, the CGSF contains several separate plans with a range of different objectives and timeframes. Most importantly for the SEA, the CGSF's plans have been developed at various stages over

the past three years. In terms of the 'ideal' SEA scenario described above, this means that there was no single point in time where SEA and CGSF-development could begin together.

So, an important question faced by Glasgow 2014 Ltd was when to begin the SEA process – too early and there wouldn't be enough material to work with, too late and opportunities for the SEA to influence the nature of the CGSF would be missed. In the end, SEA work began in April 2009 some two years after an overarching Games strategy had been established in the bid. However, due to the importance attached to environment and sustainability, a number of crucial environmental considerations made their way into the Games' overall strategy without any help or guidance from a formal SEA process.

Despite the above, opportunities for this SEA to help shape the Games' overall strategy and identify reasonable alternatives have been limited. What's more, reasonable alternatives to the Games' overall strategy had already been somewhat constrained by the locations of existing

and planned venues that will be used during the Games. Venue location has knock-on effects for other strategic Games concerns including:

- Transport: how can we transport athletes between their accommodation and sporting venues and how can we transport spectators to the sporting events they want to watch?
- Urban fabric/ public realm: which parts of the City will be under the spotlight of the world's media and what is the condition of the urban fabric/ public realm in these locations? Are any improvement works required to ensure that the City is shown in the most positive light?

Despite the above, there are still a number of important opportunities for the SEA to help shape the ongoing development of the CGSF. In particular, the SEA has helped to identify realistic opportunities whereby the CGSF's potential positive environmental effects can be enhanced to deliver a stronger environmental legacy.

Please refer to Environmental Report Part A Section 1.3 and Environmental Report Part B Section 2.1 for more detailed information



## 1.2 Consultation on the CGSF

The five week consultation period on the CGSF is from: 15th November 2010 to 17th December 2010

Where relevant, the various elements of the CGSF and its accompanying Environmental Report and appendices are available to view as printed documents at the following locations:

Glasgow 2014 Ltd. 5th Floor Monteith House 11 George Square Glasgow G1 1DY	Glasgow City Council Land and Environmental Services 231 George Street Glasgow G1 1RX
-------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------

All printed documents are also available in electronic format from the following websites: Glasgow 2014 Ltd (<http://www.glasgow2014.com/>); and Glasgow City Council ([www.glasgow.gov.uk/](http://www.glasgow.gov.uk/)). These websites also provide information and guidance on how to respond to the consultation. Responses to the consultation on the CGSF and its potential effects on the environment should be sent to the email or postal addresses listed below.

The SEA legislation requires us to consult the general public and also three statutory SEA Consultation Authorities: 1) the Scottish Environment Protection Agency (SEPA); 2) Scottish Natural Heritage (SNH); and 3) Historic Scotland. Throughout the SEA process, we have also engaged a number of other public and voluntary organisations including Scottish Water, the Glasgow and Clyde Valley Green Network partnership, the Royal Society for the Protection of Birds (RSPB) and the World Wildlife Fund (WWF).

Your views on the CGSF and its potential environmental effects are important. The SEA legislation requires Glasgow 2014 Ltd, as the SEA Responsible Authority, to take account of every opinion expressed in response to this consultation. Where appropriate, your comments will be used to shape and guide the finalisation of the various plans, programmes and strategies that make up the CGSF.

Please see Environmental Report Part B section 2.3 for more detailed information

Queries and comments on the Environmental Report and CG Strategy and Framework should be sent to:  
Peter Phillips: [peter.phillips@glasgow.gov.uk](mailto:peter.phillips@glasgow.gov.uk)  
Gareth Talbot: [gareth.talbot@glasgow.gov.uk](mailto:gareth.talbot@glasgow.gov.uk)

OR:  
FAO Peter Phillips and Gareth Talbot  
Commonwealth Games SEA  
Land and Environmental Services  
231 George Street  
Glasgow G1 1RX

In addition to the statutory SEA consultation on the CGSF and its Environmental Report (including this NTS), five informal Glasgow 2014 environmental community consultation events are taking place across Glasgow in November and December 2010. The event locations have been chosen to represent the five Community Health Partnership Areas. In addition, several of the event locations are coincidental with the City districts where the bulk of Games related development will take place. Come 2014, these areas will also be the main centres of sporting activity. Additional information on these events is provided in the 'what's next' section at the end of this document.

## 2. Background to the CGSF

The Glasgow Commonwealth Games will be held during the summer of 2014. These are the 20th Games and there will be 17 sports taking place over 11 days of competition hosted by the city of Glasgow. Approximately 6,500 athletes and officials will take part in the Games with a total of 1 million spectator tickets going on sale. The Glasgow 2014 Commonwealth Games will include a minimum of four Para-Sports, with approximately 350 para-athletes competing.

The 2014 Commonwealth Games will be staged at 20 event venues spread over 14 sites. There will be three main venue zones or 'clusters' within the city. These three clusters will stage the entire sports programme with the exception of shooting, diving and the triathlon which will be held at Satellite venues. Venues are subject to change as plans progress.

There are a number of challenges in delivering a large scale multi-discipline sporting event such as the Commonwealth Games and ensuring that the host City has suitable venues and transport provision for both spectators and participants are near the top of the list.

Also, as most of the funding has come from the public purse, the Games must deliver a clear regeneration and legacy benefit to the people of Glasgow and Scotland including more jobs, better life opportunities, improved leisure/recreational facilities, better public transport and redevelopment of disused and rundown sites. Add to this the importance of environment and sustainability considerations and the need for a well planned approach to the Games is clear.

To ensure delivery of the Games' vision, several plans, programmes and strategies have been developed by Glasgow 2014 Ltd and our various partner organisations. These strategic actions are the subject of this SEA which has been undertaken to help guide and support their development.

The Games strategy is supported by a number of built development and refurbishment projects on the ground. These projects range from large scale venue developments such as the Sir Chris Hoy Velodrome in Parkhead and the Scottish National Arena in Finnieston to relatively minor improvements to the City's urban fabric and public realm.

Many of these projects were planned prior to the Games and would have been built regardless of whether or not Glasgow won the right to host the event in 2014. For this reason, these projects are not part of the CGSF and have therefore not been considered in this SEA. At any rate, several of these projects are currently being built and there is a limited opportunity for the outcomes of this SEA to influence them. For other projects that are part of the CGSF, the SEA of the strategic level documents and the recommendations made as a result have helped to shape and guide the approach taken to their design and construction.

*“environment and sustainability considerations mean that a well planned approach to the Games is vital”*

The various plans, programmes and strategies that make up the CGSF, guide the design and construction of projects on the ground and shape the Games' legacy can be distinguished by the Games planning or time period they relate to. There are three important time periods in the lifetime of the Games as described in the adjacent table, and, all in all, there are eight separate plans, programmes and strategies spanning these time periods and making up the CGSF. This is shown in Figure 2.1. To a greater or lesser degree, all of these strategic actions have been considered in this SEA.

**Table 2.1 Glasgow 2014 Commonwealth Games planning periods**

Planning period	What do the plans aim to achieve?
<b>Pre-games</b> Between now and the event itself in 2014	Pre-games planning focuses on built development, refurbishment and improvement activities to ensure that venues, roads, public transport, walkways, parks/ greenspaces and other aspects of Glasgow's urban fabric are in a satisfactory condition come the event itself in 2014. Planning is focused on four main areas or 'clusters' within the City - west, east, south and city centre
<b>Games-time</b> During the eleven days of competition in 2014	Despite being the shortest planning period, games-times planning is particularly important due to the unprecedented demand that the Games themselves will place on Glasgow's services. Planning activities aim to ensure that the Games run smoothly through the effective management of a range of issues. Please note: this SEA has only considered games-time transport strategy
<b>Post-games</b> The 'legacy period' following on from the Games	The Games raises many opportunities for the people of Glasgow and Scotland as a whole. During the post-games or 'legacy' period, a legacy strategy will help to ensure that the socio-economic and environmental regeneration commitments are carried forward

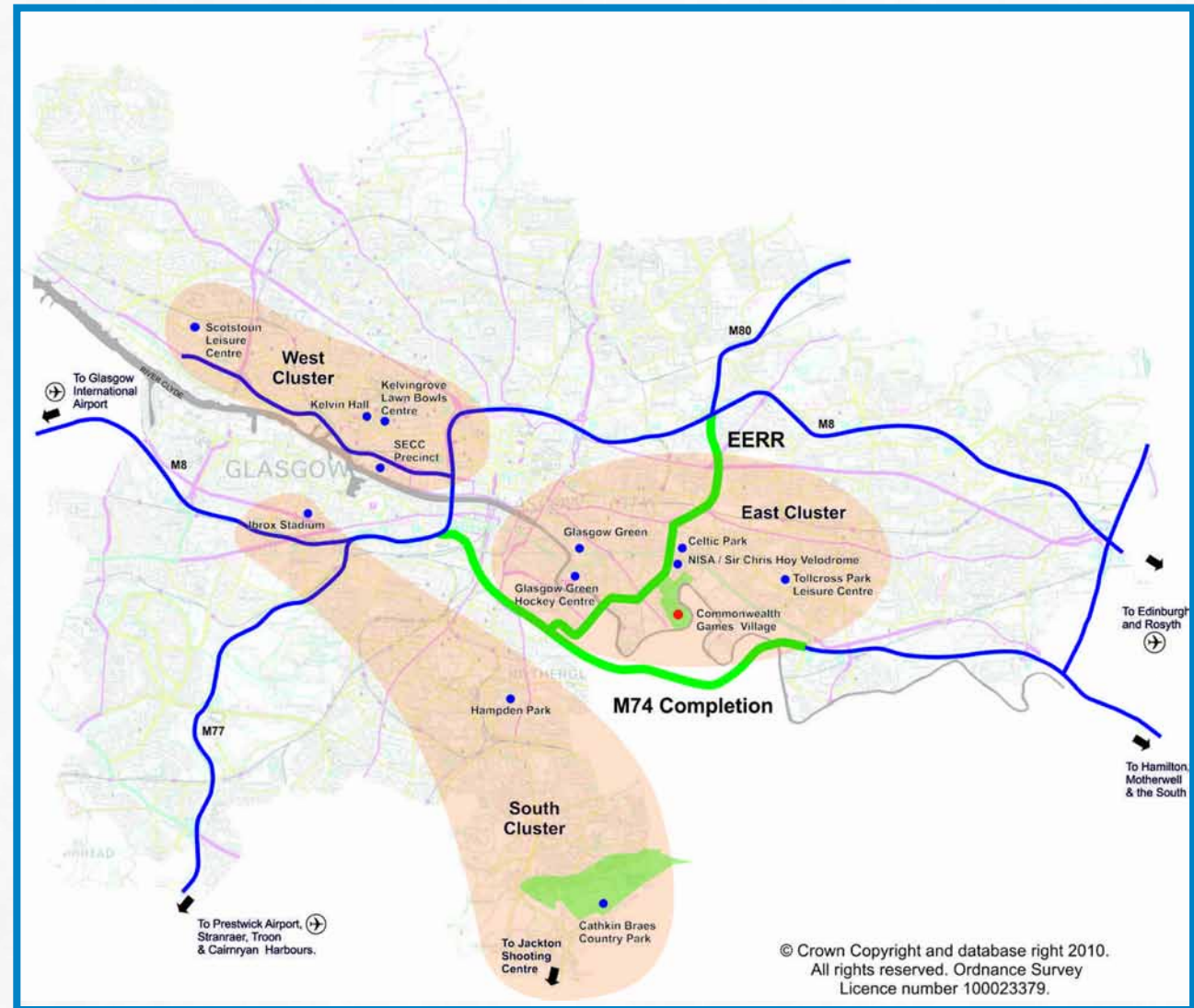


## 2.1 What is the geographical area covered by the CGSF?

The geographical coverage of the CGSF is focused on the Glasgow City area but includes locations in several other Scottish Local Authorities where certain sporting events will be held. There are four smaller areas or 'clusters' within Glasgow where Games related activity will be particularly noticeable. This includes activity across all three planning periods outlined in Table 2.1. For example, during the pre-games period, built development and refurbishment activity will be particularly noticeable within the four cluster areas. A rough estimation of the City areas covered by the west, east and south clusters, along with locations of competition and non-competition venues in Glasgow, is shown on the adjacent map. The city centre cluster can be roughly defined as the area encompassed by the M8 motorway to the north and the west, the River Clyde to the south and High Street to the east.

Please refer to Environmental Report Part A Chapter 2 for more detailed information

- Key:
- Venue Cluster
  - Games Venue
  - Athlete's Village





## 2.2 How does the CGSF relate to other plans and programmes?

The objectives and provisions of the CGSF have been shaped and guided, in part, by several other related plans and policies. These range from national level policies such as Scotland's National Planning Framework to local level development plans that are really only relevant to specific Games clusters. An example of the latter is the East End Local Development Strategy. This document outlines GCC's spatial strategy for regeneration in the City's east end and is of direct relevance to pre-games activity in the East cluster area.

Table 2.2 lists some of the most important plans and programmes that have either significantly influenced the CGSF or been considered in the SEA. Understanding the relationship between the CGSF and other related plans and programmes is important for both good Games planning and SEA:

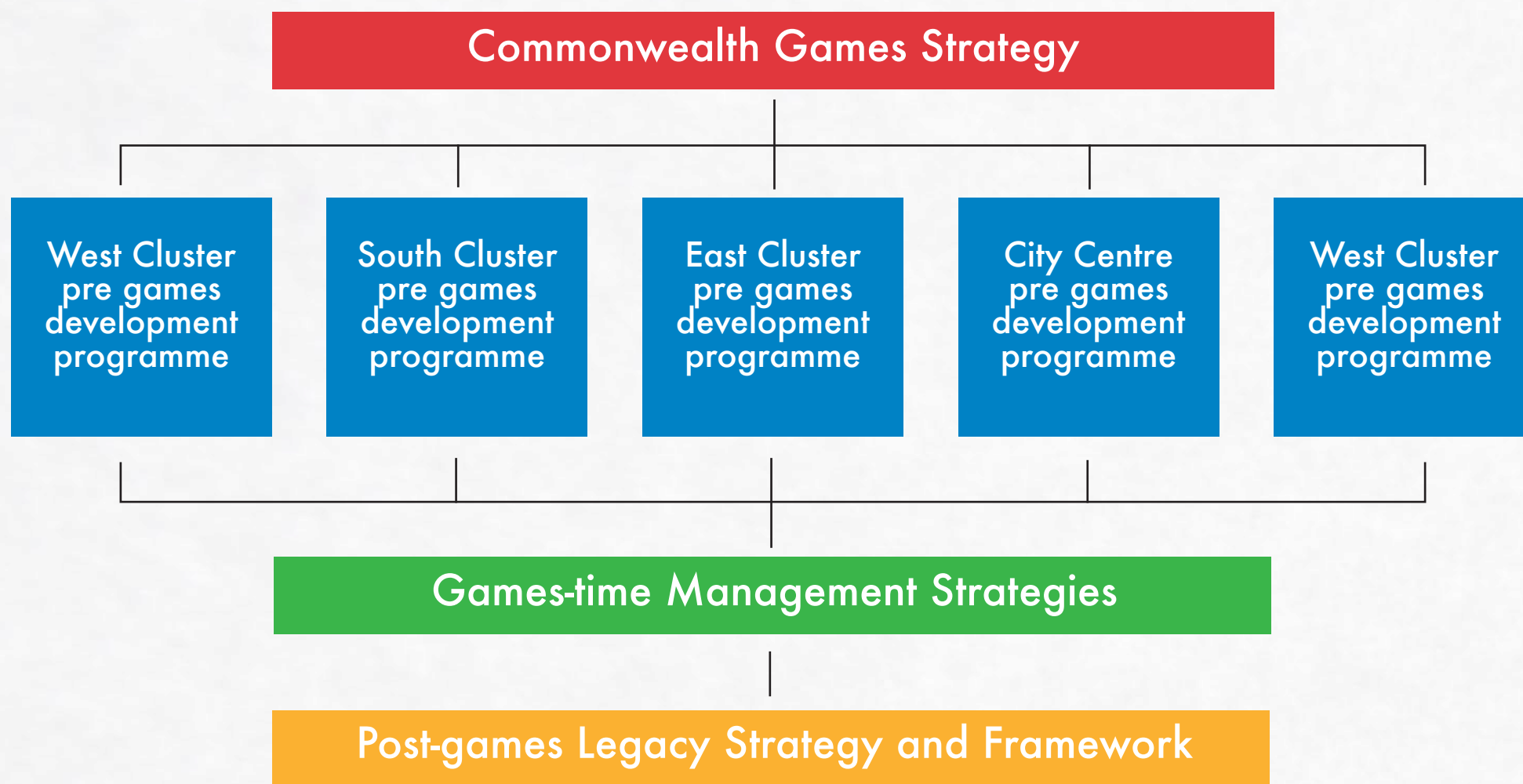
Please refer to Environmental Report Part B Chapter 3 and Appendix E for more detailed information

### Right: Table 2.2 Related plans, programmes and environmental protection objectives

- Games planning: understanding how other relevant plans and programmes may influence the CGSF and vice versa is crucial to good Games planning. A good understanding can help identify overlaps and shared strengths between CGSF objectives and policies and those from related plans and programmes. This may highlight time and resource savings and/or opportunities for shared benefits or synergies that may not otherwise have been identified
- SEA: understanding the related policy context is crucial for SEA. Reviewing related plans and programmes helps to identify environmental protection objectives that the CGSF should work towards. Also, getting a better understanding of the nature and scope of other plans and programmes can help when assessing the combined or cumulative effect on the environment of the CGSF in conjunction with other relevant strategic actions

Title of plan or programme	Relevant environmental protection objectives, actions and targets
City Plan 2 Glasgow City Council, 2009	To ensure that new development contributes to improving the City's environment To protect and enhance the character and landscape setting of the City and provide access to open spaces around Glasgow To protect trees, woodlands and hedgerows from inappropriate development
Local Biodiversity Action Plan Glasgow LBAP Partnership 2001	Show the surprising range of Glasgow's biological resource Explain why it is so important that we all try to help Glasgow's wildlife survive and thrive
Clyde Gateway Business Plan Clyde Gateway Urban Regeneration Company, 2006	Improve the quality of the built and physical environment Significantly reduce the levels of derelict and contaminated land Increase investment in physical infrastructure such as water and sewerage Work in partnership to create safe and attractive environments

Figure 2.1 Relationship between different parts of the CGSF



# 3. The CGSF's Environmental Context

Creating a picture of the baseline environment or environmental context is one of the most important aspects of SEA. It helps to identify relevant environmental problems that the plan should try and resolve and also opportunities that the plan should try to capitalise on. What's more, the baseline is crucial when assessing the potential environmental effects of a plan by providing a 'yard stick' against which the size and significance of potential effects can be estimated. Finally, once the plan's actions/policies are implemented, the environmental baseline provides the basis for monitoring the plan's significant environmental effects.

To help us collect environmental baseline information, the 'environment' has been subdivided into a number of different SEA 'topics'. This helps us make sense of the wide range of data held by Glasgow City Council and other Local Authorities, the Scottish Government and a range of other public and voluntary organisations including the statutory authorities consulted as part of the SEA process. Figure 3.1 highlights the SEA topics that have been used as

a framework for collecting baseline information. The remainder of this Chapter summarises the environmental context that has been considered throughout the SEA process.



Figure 3.1 Commonwealth Games SEA topics

## 3.1 People, health & access

Many Glaswegians experience worse general health than the average Scot. In particular, heart attack and stroke related deaths are significantly higher than the Scottish average. Susceptibility to these diseases can be linked to exercise and healthy lifestyles. Also, limited access to attractive outdoor leisure opportunities may be a key barrier to outdoor leisure and recreation in some parts of the City.

Glasgow has a fantastic greenspace resource including many sites that could be developed to improve their value for outdoor leisure and recreation and a range of other issues such as wildlife conservation and sustainable drainage. Also, many of these more under-developed sites are in parts of the City where people experience poorer health. In particular, certain parts of the East cluster area have a large volume of empty and rundown land. Many greenspace sites in the area are of limited use as a recreational resource and add little landscape or biodiversity value.

Many of Glasgow's communities are concerned with the quality of their environment. Peoples' main concerns are related to litter and access to children's play areas. South and east cluster residents have concerns with the attractiveness of local buildings and, more generally, the lack of a quiet and peaceful environment to live in. There are also a number of important opportunities across Glasgow whereby the development and improvement of woodland sites could contribute to social and health benefits.

Walking and cycling routes in Glasgow provide good access to and from the city centre along continuous features such as the Clyde and Kelvin rivers. However, access within and between community areas and these types of continuous route can be quite limited. This may be a barrier to outdoor leisure and recreation and/ or the use of walking and cycling for certain journeys such as commutes.

*“Glasgow has a fantastic greenspace resource including many sites that could be developed to improve their value”*

Please refer to Environmental Report Part B sections 4.2, 5.2 and 6.2 for more detailed information



## 3.2 Wildlife conservation & ecosystem services

---

Invasive non-native species – plants and animals that are not normally found in Glasgow – pose a real threat to Glasgow’s ecosystems. This is particularly important for habitats occupying the banks of Glasgow’s rivers. It is vital that we protect and maintain these ecosystems as they provide us with a range of important services such as pleasant environments for outdoor leisure and recreation and defence against flooding.

Development in Glasgow raises an important opportunity to help protect and conserve the City’s wildlife. Planning policy requires that many new developments help to protect and improve the City’s ‘green network’. This can include the creation of new habitats or the improvement of existing habitats that are under threat or poorly managed. Well planned green network improvements can lead to real benefits for wildlife as plant and animal species have a greater chance of survival when they are part of a wider network of linked habitats.

Green network is to do with more than just wildlife conservation though. There is a good deal of political will for green network improvements to play a really important role in the East end’s regeneration. In particular, aspirations for a diverse green network include sustainable approaches to the east end’s drainage needs, better access to the river for nearby communities and improved wildlife conservation.

*“planning policy ensures that new development protects and improves green network”*

Please refer to Environmental Report Part B sections 4.3, 5.3 and 6.3 for more detailed information

## 3.3 Water bodies & flooding services

---

Due to Glasgow’s location and climate, various parts of the city are at some risk from river related and/ or rainwater flooding. Climate change predictions mean that these types of problem may become worse in the years to come. Also, the desired growth in population, business and industry in the Glasgow area, whilst essential for economic growth and recovery, will put Glasgow’s rivers, streams and drains under more pressure. As a result, the way we tackle our drainage in the future will become more and more important.

Like with wildlife conservation, development activity in Glasgow raises an important opportunity to tackle our drainage problems in a sustainable way. Sustainable approaches to drainage or ‘SuDS’ can help to conserve wildlife, reduce flood risks, improve water quality and, in some instances, provide extra greenspaces which can help to improve the appearance of the City as a whole.

Please refer to Environmental Report Part B sections 4.4, 5.4 and 6.4 for more detailed information

## 3.4 Air quality, noise & dust

---

Traffic levels in Glasgow have risen year on year. This means that the quality of Glasgow's air, whilst not necessarily getting any worse, isn't really getting any better. This is an important environmental problem as poor air quality can affect people's health, particularly those who are already vulnerable such as asthmatics.

Air quality is a real issue for the Games to address as several of the areas worst affected by poor air quality are close by to Games venues, accommodation and transport hubs. The worst affected areas are the City centre, Byers Road and Dumbarton Road in the West end and Parkhead Cross in the East end. The Games also has a fantastic opportunity to help reduce traffic levels and air quality problems in Glasgow by improving access and encouraging more people to use walking, cycling and public transport for everyday journeys.

Please refer to Environmental Report Part B sections 4.5, 5.5 and 6.5 for more detailed information

## 3.5 Soils & soil quality

---

Due to its industrial heritage, Glasgow has numerous pockets of potentially contaminated land. These are sites where owing to their previous industrial uses and underlying geology, there is a risk that soils have become contaminated with a range of substances. This is a particularly important problem in the East end of the City where many of Glasgow's former heavy industries were located.

Potential contaminants include heavy metals, chromium, nickel and fuel. Each has their own risks and problems for human, plant and animal health. Contaminated land sites are often disused and rundown and can have a negative impact on an area's overall appearance. Also, contaminated land sites more often than not provide limited benefit to wildlife and communities. Potentially contaminated land is a real problem around Parkhead and Dalmarloch where several Games developments are taking place.

Development on contaminated sites requires the removal/ cleaning of contaminants from the soil or their disposal in a safe manner. This can make a real difference by bringing areas of disused, rundown and potentially dangerous land back into use.

*“remediation of contaminated sites can make a real difference to people's lives by bringing areas of disused and run down land back into sustainable use”*

Please refer to Environmental Report Part B sections 4.6, 5.6 and 6.6 for more detailed information

## 3.6 Climate change issues

---

Climate change predictions for the Glasgow area have indicated an overall increase in summer and winter rainfall as well as an increase in 'extreme weather events' such as very heavy rainfall. These so called 'local impacts' of climate change are likely to increase the burden on already stretched drainage and sewerage systems and may increase flood risk in some areas. Glasgow's drainage is currently being updated and improved as part of the Metropolitan Glasgow Strategic Drainage Plan. This will help to ensure that the City is prepared for the likely local impacts of climate change we will face in the coming years.

We have an important responsibility to mitigate climate change (by reducing our emissions of greenhouse gases) and also to help adapt to the local impacts that can't be avoided. An example of climate change adaptation in action is the design work currently underway as part of the Clyde Gateway URC's South Dalmarnock Masterplan. This plan sets out a sustainable approach to drainage in the area that will work with current and planned buildings, greenspace

*“we have an important responsibility to help mitigate climate change and adapt to local impacts that can't be avoided”*

and other public spaces to ensure that flood risks are addressed.

Ideally, climate change actions should work towards mitigation and adaptation in the same brush stroke. One such opportunity in Glasgow is the use of empty and rundown sites to produce quick growing tree species that can be burnt for energy (biomass). This type of action can help to reduce emissions, provide more habitat for birds, insects and animals that may themselves be threatened by climate change and act as a sponge to trap rain water in areas that are at risk from rainwater flooding.

Please refer to Environmental Report Part B sections 4.7 and 6.7

## 3.7 Landscape & the historic environment

---

Glasgow has an amazing range of historic buildings, parks, gardens and landscapes that draw visitors from around the world. These also provide the backdrop to development and any new buildings must work with rather than against the City's historic environment. In particular, when planning for and designing new buildings and structures, it is crucial that the historic environment's sensitivities, vulnerabilities and strong points are considered in the overall design.

The historic and built environment can provide a real opportunity and focus for local communities to engage with planning and have their say on important local issues. Well designed development has the ability to greatly improve the appearance of an area and the ease with which people can move between places.

Please refer to Environmental Report Part B sections 4.8, 5.7 and 6.8 for more detailed information



# 4. Environmental Assessment of the CGSF

The main purpose of this SEA has been to provide help and guidance during the development of the CGSF. This has been achieved by ensuring that environmental considerations have been taken on board within each of the CGSF's constituent plans, programmes and strategies spanning the three Commonwealth Games planning periods – pre, during and post-Games planning. But what does this mean in practice?

Scottish and European SEA legislation requires us to identify the 'likely significant effects on the environment' that the CGSF may give rise to.

This includes both beneficial and adverse type environmental effects. This type of environmental information can help planners and other stakeholders such as the general public and the statutory SEA Consultation Authorities to make informed decisions during CGSF development, helping us to improve its overall environmental performance and contribute to sustainable development.

In order to identify or assess a plan's potential environmental effects in SEA, a suitable assessment method is required. The likely significance of the effects identified can then be evaluated using the significance criteria laid down in European and Scottish SEA legislation.

As the CGSF contains several separate plans, all with different objectives and timeframes, the assessment method for identifying potential environmental effects has had to be able to deal with a range of different circumstances.

In practice, we have used different methods to assess plans and programmes under each of the Commonwealth Games planning periods.

Regardless of the specific method used, the outcomes of assessing each of the CGSF's constituent plans and programmes have been described in terms of whether they are likely to support or conflict with environmental objectives. Areas of support represent potential beneficial environmental effects and areas of conflict potential adverse environmental effects.

*“Scottish and European SEA legislation requires us to identify the likely significant effects on the environment”*

A wide range of information has been used to help form evidence based conclusions on the likelihood of significant environmental effects. This includes: 1) environmental baseline information; 2) data on environmental trends and potential future environmental problems; 3) an understanding of the environmental problems, weaknesses, opportunities and strengths of relevance to the CGSF; 4) input from specialists across a range of issues such as air quality, climate change adaptation and ecology; and 5) the significance criteria.



Following the consultation on the CGSF and its accompanying SEA reports (including this Non-Technical Summary), we fully anticipate comments from our stakeholders, including the general public, proving particularly useful when finalising the assessment and making sure that SEA recommendations and monitoring measures are focused on the most significant issues.

The environmental or 'SEA objectives' forming the backbone of the assessment have been identified from other relevant plans and programmes, guidance documents and/ or developed afresh to account for the specific environmental problems, issues and opportunities of relevance to the CGSF.

Our SEA objectives are supported by detailed assessment criteria which have helped us to draw out and identify the specific environmental effects that the CGSF may cause. SEA objectives are listed in Table 4.1.

**Table 4.1 Commonwealth Games SEA Objectives**

SEA topic	SEA Objectives
People, health and access	1.To improve the health and well being of the population
Wildlife conservation and ecosystem services	2.To protect and enhance biodiversity, flora and fauna
Water bodies and flooding	3.To improve water quality 4.To reduce levels of water pollution 5.To reduce the risk of flooding
Air quality, noise and dust	6.To improve air quality 7.To reduce levels of air pollution 8.To reduce noise levels from all sources
Soils and soil quality	9.To reduce levels of soil contamination 10.To reduce soil sealing and soil loss
Climate change issues	11.To reduce greenhouse gas emissions 12.To reduce vulnerability to the effects of climate change
Landscape and the historic environment	13.To conserve and, where appropriate, enhance the historic environment and cultural heritage 14.To maintain and enhance the quality of landscapes and townscapes

Please refer to Environmental Report Part B Chapter 2 for more detailed information

# 5. The CGSF's potential effect on the environment

*“Some of the most significant environmental effects are likely to arise as a result of activities during the pre-games period”*

The range of issues covered by the CGSF – from the development of new venues and improvements to the City's urban fabric through to transport and waste management strategy – means that there is potential for a broad range of significant environmental effects to arise. This includes beneficial and adverse and also external cumulative or 'in combination' environmental effects. This latter type of effect may arise where the CGSF's policies and actions interact with those of other relevant plans and programmes, contributing to one of several types of cumulative environmental effect.

In many instances, these types of external cumulative environmental effects are likely to lead to beneficial environmental outcomes. An example is the effect that may arise as a result of the interaction between the CGSF's East Cluster Pre-Games Development Programme, Glasgow City Council's East End Local Development Strategy and the Clyde Gateway URC's South Dalmarnock Masterplan. In this instance, the coordinated approach to sustainable urban drainage (SuDS) strategy means that there is substantial potential for wide ranging cumulative

benefits across access, outdoor recreation, wildlife conservation and, not least, drainage and flood risk prevention issues.

Some of the CGSF's most significant environmental effects are likely to arise as a result of activities during the pre-games planning period. This is when the considerable amount of Games related built development and construction activity will take place. The pre-games development programmes are split up into five different geographic areas or 'clusters' of development. Four of these clusters are in Glasgow – the West, South, East and City Centre clusters. The fifth represents pre-games activity taking place at the various satellite locations such as Barry Buddon in Angus and Strathclyde Country Park in North Lanarkshire.

The remainder of this section outlines some of the most important environmental effects that may arise as a result of the West, South and East cluster pre-games development programmes. Please refer to Environmental Report C for more detailed information along with information on the potential environmental effects of games-time and post-games activities.

# 5.1 West cluster environmental assessment

## Summary of significant issues

- Potential adverse and beneficial cumulative effects issues have been identified in relation to: 1) population, health and access; 2) air quality, noise and dust; 3) traffic and transport; and 4) landscape and the historic environment. Health, air and traffic issues are considered to be particularly significant as most West cluster pre-games development projects may cause temporary construction related effects such as increased noise, dust and vibration nuisance and traffic congestion related air pollution. This is crucial given the densely populated nature of Glasgow's West end
- Most adverse cumulative effects issues of major significance are more likely to be temporary in nature i.e. construction phase orientated. Several potentially beneficial cumulative effects issues of major significance have been identified in relation to better access and improved opportunities for outdoor leisure and recreation
- Other potential cumulative effects issues are considered to be of more minor significance including both beneficial and adverse effects. Examples include public realm works contributing to improved character and site and setting of landscape and historic environment features and accidental disturbance of habitats and species during site investigation and other construction works

## Potential beneficial environmental effects

- Improved walking and cycling access, particularly along the Clyde Corridor. Cumulative benefits may arise in conjunction with related projects such as the recently completed Broomielaw public realm enhancement works
- Increased uptake of outdoor leisure and recreation and walking and cycling use (active travel) for some journeys. May in turn contribute to health benefits
- Proposed flood defence works at Lancefield Quay will help to reduce river related flood risks. Drainage improvements and soft landscaping may help to reduce rainwater flooding elsewhere in the West cluster area
- Improved access may encourage more people to use sustainable travel modes. May in turn contribute to a reduction in air pollutant/ greenhouse gas emissions associated with private car journeys
- Sensitive public realm improvements should contribute to improved site and setting of historic environment features in the West cluster area
- Public realm improvement works and other built development projects may help to improve the West cluster's townscape, particularly around the SECC complex area

## Potential negative environmental effects

- Construction related air quality and noise may cause a temporary reduction in amenity value and related health effects, particularly among health vulnerable groups such as people with asthma and other respiratory conditions
- Removal of habitat to make way for new walking, cycling and other access paths may contribute to an overall reduction in ecosystem health and vitality in the West cluster area
- Construction and operation of certain projects, particularly those in the Kelvingrove Park area, may cause diffuse source water pollution. This in turn may increase pressure on and reduce the health and vitality of aquatic ecosystems
- Increased diffuse source water pollution (as above) may negatively affect Clyde and Kelvin water quality
- Increased transport demand to access new venues and facilities and/ or congestion at some locations may contribute to an increase in air pollution and decreased air quality. Increased congestion may be caused by a range of factors including temporary use of traffic management measures during construction and transport infrastructure enhancements such as bus stops and pedestrian crossings
- West cluster development activity is likely to cause a significant albeit 'one-off' increase in greenhouse gas emissions
- New and/ or poorly situated signage and other street furniture such as bus stops, pedestrian crossings and benches may be to the detriment of the West cluster's historic environment

## 5.2 South cluster environmental assessment

### Summary of significant issues

- Potential cumulative effects issues have been identified across the following SEA topics: 1) population, health and access; 2) air quality, noise and dust; 3) traffic and transport; and 4) wildlife conservation and ecosystem services. These issues are considered to be of major significance and, in contrast to the West cluster assessment, the potential for beneficial and adverse issues to arise is considered to be more balanced
- Adverse cumulative effects issues in the South cluster area are considered more likely to be temporary. Examples include the potential increase in noise, dust and vibration nuisance and local traffic and traffic congestions associated with construction activities. Beneficial issues are more likely to be permanent. Examples include improvements to the area's green network resource, better access and outdoor leisure and recreation opportunities and improved ecosystem health and vitality

### Potential beneficial environmental effects

- Improved walking and cycling access, particularly at the Cathkin Braes site where new and improved cycle and walking paths may help to increase use of the Country Park for outdoor leisure and recreation. May in turn contribute to improved health
- Substantial potential for improvements to the South cluster area's green network resource including habitat conservation and restoration. Benefits are likely to focus on the Cathkin Braes site but may be more widespread depending on how landscaping is tackled in other projects
- South cluster development activity may contribute to the remediation of potentially contaminated soils at several sites. Potential benefits are more likely to focus on the Ibrox, Hampden and Toryglen areas
- Several South cluster projects may work towards climate change adaptation, particularly in relation to ecosystem vitality and health. Habitat creation and restoration projects can help to improve and strengthen the overall network of habitats in the South cluster and ultimately the wider Glasgow and Clyde Valley area

### Potential negative environmental effects

- Higher numbers of visitors to the Cathkin Braes site may increase pressure on vulnerable habitats and species leading to conflicts between wildlife conservation and access/recreation objectives
- Temporary traffic management measures during construction activity may contribute to increased air pollution, particularly at busy roads around Hampden and Ibrox
- There is a concern that some South cluster projects may cause acute noise issues during construction. This is more likely to be the case where potentially noisy activities are programmed for areas that do not currently experience noise problems and/ or where works may have to take place during the night
- There is a concern that South cluster development may contribute to soil sealing and soil erosion type effects. In particular, mountain bike course development at the Cathkin Braes site will have to take a very considered approach to ensure that new tracks and access paths do not contribute to detrimental soil sealing and/ or erosion effects
- South cluster development activity is likely to cause a significant albeit 'one-off' increase in greenhouse gas emissions



## 5.3 East cluster environmental assessment

### Summary of significant issues

- Like the West and South cluster assessments, adverse cumulative effects issues of potential major significance have been identified against the following SEA topics: 1) population, health and access; 2) air quality, noise and dust; and 3) traffic and transport. Adverse effects are considered more likely to be temporary. Potential beneficial cumulative effects issues of major significance have been identified in relation to improved access as a result of the likely improvements to East cluster green network
- Green network improvements may also work towards wildlife conservation objectives. This is really important in the East cluster area as several projects are likely to help protect and improve the area's green network. To put this in context, the scale of Games related development in the East cluster area along with the large number of empty and rundown sites and areas of poorly managed habitat means that there is a huge opportunity for large scale green network improvements

### Potential beneficial environmental effects

- Several East cluster projects are likely to improve the area's green network resource, improving access and contributing to a greater uptake of outdoor leisure and recreation and active travel. These types of effect are likely to be particularly important for the Clyde Corridor
- East cluster development activity may contribute to the remediation of potentially contaminated soils at a range of different sites
- Sensitive and well designed improvements to urban fabric and 'public realm' in the East cluster area has substantial potential to improve the visual context or 'site and setting' of the area's important historic environment features. Potential benefits may be particularly pronounced around the Saltmarket area

### Potential negative environmental effects

- Construction related air quality and noise may cause a temporary reduction in amenity value and related health effects, particularly among health vulnerable groups such as people with asthma and other respiratory conditions. This is particularly important in the East cluster area as many development projects are close by to communities and pedestrian and cycle access routes such as the Clyde Walkway
- There is a concern that East cluster air quality problems may not be restricted to the construction period. New East cluster facilities are likely to increase the need to travel to the area with the associated air pollution concerns. There are also potential cumulative pressures given the range of growth strategies currently in place for the East end
- Construction and operation of certain East cluster projects adjacent to the River Clyde may cause diffuse source water pollution. This in turn may increase pressure on and reduce the health and vitality of aquatic ecosystems
- East cluster development activity is likely to cause a significant albeit 'one-off' increase in greenhouse gas emissions

Please refer to Environmental Report Part C for more detailed information

## 6. Improving the CGSF's environmental performance

The SEA has identified a broad range of potential environmental effects, both beneficial and adverse, that the CGSF may cause. Some of the most significant of these effects are described in section 5 above. Identifying a plan's likely significant environmental effects however, is only one part of the story in SEA. In order to provide help and guidance during the CGSF's development and, ultimately, contribute to a high level of environmental protection, we have developed a number of SEA recommendations:

- Enhancement recommendations aim to ensure that the CGSF's potential beneficial environmental effects are strengthened and that relevant environmental opportunities are capitalised on
- Mitigation recommendations aim to ensure that the CGSF's potential adverse environmental effects are either avoided outright or reduced to an acceptable level, taking account of relevant environmental problems and issues that the CGSF should help to address

Table 6.1 outlines some overarching SEA recommendations that are of relevance to most of the CGSF's constituent plans and programmes. As the SEA has considered several plans, programmes and projects, a broad range of SEA recommendations have been developed. These will be considered fully as part of this consultation and, following changes and revisions as a result of comments received, communicated to the planning teams responsible to help shape and guide the finalisation of the various plans and programmes that make up the CGSF.

*“Identifying a plan's likely significant effect on the environment is only one part of the story in SEA”*

SEA topic	SEA Objectives
People, health and access	<p>Enhancement:</p> <ul style="list-style-type: none"> <li>Where relevant, ensure that access improvements facilitate ease of travel by sustainable and active modes at a City-wide level</li> <li>Where possible, identify and address gaps in active travel provision along the City's most important linear routes and also within and between communities</li> <li>Promote use of the Clyde and Kelvin Walkways as active travel routes and as leisure and recreational resources in their own right</li> </ul> <p>Mitigation:</p> <ul style="list-style-type: none"> <li>Where possible, ensure that development of new walking and cycling routes avoids areas of existing or emerging poor air quality</li> <li>Ensure that new and upgraded facilities and venues have adequate provision for securing bikes to promote active travel</li> </ul>
Wildlife conservation and ecosystem services	<p>Enhancement:</p> <ul style="list-style-type: none"> <li>Ensure that access related green network enhancements also support improvements to habitats networks (e.g. ensure that the development of new walking and cycling routes consider biodiversity as well as access issues)</li> <li>Where relevant, ensure that Games related environmental community programmes incorporate consideration of green network and habitat network issues to help raise awareness of nature conservation</li> <li>Consider opportunities for broadening the scope of the Commonwealth Community Forests project to include volunteer led habitat management programmes</li> <li>Consider how Games related development can be used as a lever for habitat creation and/ or soft landscaping projects</li> </ul> <p>Mitigation:</p> <ul style="list-style-type: none"> <li>Where habitat disturbance, fragmentation or severance is likely, ensure that project design incorporates appropriate mitigation measures</li> <li>Where development is likely to result in loss of habitat, consider the use of appropriate habitat compensation as guided by the GCV Green Network's Integrated Habitat Network (IHN) model and advice from key stakeholders</li> </ul>

Table 6.1 Commonwealth Games SEA Recommendations

SEA topic	SEA Objectives
Water bodies & flooding	<p>Enhancement:</p> <ul style="list-style-type: none"> <li>Ensure that SuDS projects are designed to support a range of green network objectives including biodiversity protection and enhancement, recreation and access</li> <li>When planning regional and local level SuDS schemes, consider opportunities for integration with existing habitat, landscape and topographical features</li> </ul> <p>Mitigation:</p> <ul style="list-style-type: none"> <li>Consider how regional and local SuDS scheme development can be used to deal with diffuse source water pollution close to source</li> <li>Consider rolling out well planned soft landscaping works across all projects to help reduce rainwater/ overland flood risk, reduce soil erosion and contribute to habitat network improvements</li> <li>Ensure that contractors comply with relevant legislation and guidelines to minimise water pollution risks</li> </ul>
Air quality, noise & dust	<p>Enhancement:</p> <ul style="list-style-type: none"> <li>Raise awareness of access and active travel improvements at the community level. Target communities where existing air pollution problems are prevalent</li> </ul> <p>Mitigation:</p> <ul style="list-style-type: none"> <li>Ensure that contractors comply with relevant legislation and guidelines to minimise noise, dust and vibration nuisance</li> <li>Ensure that temporary traffic management measures are designed to minimise traffic congestion. Where possible, deploy temporary traffic management measures during non-peak times</li> <li>During design and construction strategy development of all pre-games development projects, ensure that relevant stakeholders (GCC Public Health Group) are engaged to advise on the best practicable approach to minimising construction related air pollution and noise impacts</li> <li>Promote the use of sustainable transport to help mitigate any increases in air pollution associated with increased travel to access new venues and facilities</li> <li>Ensure that tensions between air pollution and noise impact mitigation strategies are addressed with 'win-win' outcomes in mind</li> </ul>

SEA topic	SEA Objectives
Soils & soil quality	<p>Enhancement:</p> <ul style="list-style-type: none"> <li>Where significant land contamination issues exist, ensure that the remediation strategy used is the most sustainable option given constraints</li> <li>Where possible, use onsite soil remediation techniques to minimise the waste and carbon impact associated with soil excavation, transportation and disposal</li> <li>Consider the use of soft landscaping and/ or habitat creation to help address soil erosion issues. This would also help to reduce flood risk and diffuse source water pollution whilst enhancing habitat networks</li> </ul> <p>Mitigation:</p> <ul style="list-style-type: none"> <li>Minimise soil sealing and/ or increased areas of hard standing at the Cathkin Braes site</li> <li>Consider the appropriateness of developing a strategy to minimise walking and cycling related soil erosion impacts at the Cathkin Braes site</li> </ul>
Climate change issues	<p>Mitigation:</p> <ul style="list-style-type: none"> <li>Use CO<sub>2</sub> emissions estimator tools to approximate emissions savings in different construction techniques and/ or supply chain alternatives</li> <li>Consider setting an appropriate benchmark to establish an ambitious minimum target for recycled and secondary aggregate use in Games related construction projects</li> </ul>

SEA topic	SEA Objectives
Landscape & the historic environment	<p>Enhancement:</p> <ul style="list-style-type: none"> <li>Consider how the City's historic environment can inform and improve project design, especially in Conservation Areas and other areas of historic environment interest</li> <li>Consider how West cluster proposals for the SECC complex area can help to join-up and reinvigorate the area's fragmented historic environment</li> </ul> <p>Mitigation:</p> <ul style="list-style-type: none"> <li>Minimise any additional signage and street furniture. Where additional street furniture is essential, consider the use of appropriate design and materials that complements the area's historic environment</li> <li>Where additional signage is essential, consider opportunities for rationalising new and existing signage e.g. can two or more signs be integrated to minimise the need for additional signage?</li> <li>Liaise with key stakeholders (e.g. Historic Scotland and Glasgow City Council DRS) at project design stage to ensure that key threats to the integrity of local historic environment features are addressed early on</li> <li>Avoid development at the Cathkin Braes site that may result in loss of views</li> </ul>

Please refer to Environmental Report Part C for more detailed information

Table 6.1 Commonwealth Games SEA Objectives continued



# 7. What's next?

Consultation on the CGSF, its accompanying Environmental Report and this Non-Technical Summary marks the point at which we are seeking your views on the Games plans and their potential effect on the environment. Anyone can respond to this consultation and we are required by law to take account of every response received. Details of how to respond are provided in the introductory chapter above.

We will also be holding five Glasgow 2014 environmental community consultation events in November and December 2010. These events will provide you with an opportunity to highlight the local environmental issues that are important to you and your community. Your comments and suggestions will help to shape the Games' environmental legacy and the finalisation of the CGSF's various plans and programmes. Please note: attendance at a community consultation event does not preclude you from responding directly to this statutory SEA consultation. Further details of these events will be available in due course on both the Glasgow 2014 Ltd and Glasgow City Council websites: <http://www.glasgow2014.com/> and <http://www.glasgow.gov.uk/>. The next steps in the CGSF-development and SEA processes are outlined in the table to the right:

CGSF-development/ SEA stage	Next steps
1. Consultation	<ul style="list-style-type: none"> <li>• Submission of the CGSF's various plans and programmes and accompanying Environmental Report to the Scottish Government's SEA Gateway</li> <li>• Submission of documents to the SEA Gateway marks the beginning of the five week statutory consultation period agreed with Consultation Authorities at the Scoping stage. This is likely to commence on Monday 15th November 2010</li> <li>• Five week formal consultation on the CGSF and Environmental Report</li> </ul>
2. Taking account of consultation responses	<ul style="list-style-type: none"> <li>• Review of consultation responses</li> <li>• Making changes to the CGSF in light of consultation responses on either the CGSF itself or its potential environmental effects</li> <li>• We may need to carry out an environmental assessment of any significant changes to the CGSF. These will be reported in a revised Environmental Report or an Environmental Report addendum if changes are minor</li> </ul>
3. Post adoption	<ul style="list-style-type: none"> <li>• Adoption of the CGSF</li> <li>• Preparation of the SEA Post-adoption Statement. This will describe the main findings of the SEA process, how SEA influenced the CGSF's development and how consultation responses have been accounted for in the finalisation of the CGSF's constituent plans and programmes</li> </ul>
4. Monitoring	<ul style="list-style-type: none"> <li>• Monitoring progress towards the CGSF's objectives</li> <li>• Monitoring the CGSF's significant environmental effects</li> <li>• Review</li> </ul>