Appendix 3 - Aberdeen Adapts: SEA Environmental Report

PART 1

To Sea.gateway@scotland.gsi.gov.uk

Or SEA Gateway
Scottish Executive
Area 1 H (Bridge)
Victoria quay
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PART 2

An SEA Environmental Report is attached for the plan entitled

Aberdeen Adapts Adaptation Framework

The Responsible Authority is:

Aberdeen City Council (ACC) leading on behalf of city stakeholders

PART 3

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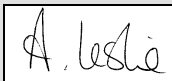
Signature	
Date	24.10.2019

This Non-Technical Summary introduces Strategic Environmental Assessment (SEA) and summarises the contents of the full technical report.

Purpose of this Environmental Report and Key Stages

Aberdeen City Council has written this Environmental Report for Aberdeen Adapts: Adaptation Framework, under the Environmental Assessment [Scotland] Act 2005. The process taken to write this report is called Strategic Environmental Assessment (SEA).

The reason for undertaking SEA is to address all the effects that Aberdeen Adapts will have on the environment. The overall aim of the process is to protect the environment. Throughout this SEA process, we have taken the views of others (including the public and key agencies) into account before coming to final decisions.

SEA should be applied to plans, programmes and strategies (PPS) produced by public bodies, including local authorities. The key stages of SEA are pre-screening, screening, scoping, environmental report and post-adoption statement. An explanation of these stages can be found below:

1. Pre-screening

Pre-screening of a PPS is done to show that a plan is not likely to have any effect on the environment, or if it has any effects at all, they will be minimal. After pre-screening, a PPS will not be subject to any further SEA. This stage does not apply to Aberdeen Adapts.

2. Screening

A PPS is screened to determine whether we should carry out an SEA. When a plan is likely to have significant (i.e. very bad, damaging, large or long-lasting) effects on the environment, we will do an SEA. The results of the screening process showed that Aberdeen Adapts was likely to have significant environmental effects and so we have carried out full SEA.

3. Scoping

At the scoping stage, we produced a report setting out how much information should be in the actual Environmental Report, how we plan to assess the effects of the different aspects of Aberdeen Adapts, and how long we will consult with others on the report. We then consulted with the Statutory Consultees on the contents of the Scoping Report, and their recommendations helped us to improve our approach.

4. Environmental Report

In the Environmental Report, we assess the effects of Aberdeen Adapts on the environment and explain how we could address those effects, through a process called mitigation. We also describe how we will monitor any significant effects of the plan on the environment.

5. Post-adoption Statement

Once we have taken into account and addressed concerns raised by those we have consulted, we will adopt Aberdeen Adapts and tell everyone about the difference the SEA process and the views of those we have consulted have made to the final document. We do this through a Post-adoption Statement.

Section 3 of the main report shows the SEA activities we have carried out to date. It also includes a summary of the comments we have received from other people, and how we have made changes to the report to take these into account.

Description of the Proposed Plan

The purpose of Aberdeen Adapts is to set a long-term framework for collaborative action, to strengthen Aberdeen's capacity to prepare for, respond to and manage the impacts of climate change. Section 4 of the main report contains a detailed description of the content of Aberdeen Adapts, and the different options and alternatives we considered while we were writing it.

Context of the Proposed Plan

To guide and help us deliver what we plan to do in Aberdeen Adapts we have made use of high-level documents, statements and pieces of legislation to influence how we have written this strategy, which affects Aberdeen, the North East, Scotland and Europe. These documents cover:

- Climate change and the water environment, as well as flood management.
- Ways to adapt to climate change, and energy security.
- Sustainable development and green space/ open space.
- Economic development including building industries, shops and town centres.
- Transportation and infrastructure, as well as how we travel.
- Landscape, soil, how we conserve nature.
- Access and core paths.
- Trees and woodland.
- Plant and animal life on the land and in the water and how we protect them.
- Historic and important buildings.
- How we manage waste.
- Population, health of people, physical exercise and noise.
- How we plan and use the land.
- Food growing and food security.
- Pollution and air quality.
- Housing building and how we design places.

Section 5 of the main report contains a list of all the relevant PPS which have a bearing on Aberdeen Adapts. Appendix 9.1 contains a more detailed description of these.

State of the Environment in Aberdeen

We have collected information on the key characteristics of the environment in Aberdeen and have gathered statistics which give an up-to-date picture of the state of the environment in Aberdeen. We have also identified a number of environmental problems in Aberdeen, what might happen if Aberdeen Adapts did not exist, and what the role of Aberdeen Adapts might be in addressing these problems.

The challenges we must deal with through this Plan are illustrated in the bullets below.

- There is a significant flood risk for the city and potentially vulnerable areas will affect individuals, communities, businesses and organisations in the city.
- Impacts for the coastline through tidal surge, wave inundation and the threat of erosion for soft coastal areas.
- We have serious air quality problems in a number of areas in Aberdeen. Many air pollutants affected by climate change.
- Climate change will affect how much water we will have, the quality of water. The River Dee is an Special Area of Conservation (SAC) providing most of the water supply for the city. Potential low flows in water courses, will be a risk to freshwater ecosystems.
- Climate change will affect the stability and function of our soils.
- Climate change will present risks to public health and wellbeing and may have greater impacts for those with pre-existing health conditions.
- Climate change will increase risks of disease and pests.
- Aberdeen is rich in cultural heritage and landscape; these assets and sites could be vulnerable to damage and degradation from climate change
- How we deal with waste affects our soils, water and climate.
- Impacts from climate change for biodiversity including; migration and loss of species, damage and degradation of habitats, pests and disease and habitat fragmentation.
- Potential loss of greenspace and wildlife corridors to developments; and loss of habitats from flooding and erosion.
- Projected growth in population and changing city demographics.
- An increase in heavy rainfall and flooding may cause damage to buildings and erosion of infrastructure. There is a subsidence risk from conditions of drought and heavy rainfall.

Section 5 of the main report describes the state of the environment in Aberdeen in more detail. Appendix 9.2 - 9.13 contains environmental statistics, targets and trends for Aberdeen on a wide range of topics. The appendix also contains map-based information.

Assessment of Environment Effects

The main part of SEA is assessing the effect of Aberdeen Adapts on the environment. A summary of our findings can be found in the table below.

SEA Issue	Impact of Aberdeen Adapts
Biodiversity (flora and fauna)	Some projects as a result of Aberdeen Adapts may have positive and negative effect on habitats and species in Aberdeen. Aberdeen Adapts will seek to mitigate the effects of climate change on biodiversity while promoting actions to reduce fragmentation and impacts for wildlife and habitats.
Air	Aberdeen Adapts should have a positive effect on air quality if actions identified are implemented. Some projects under Aberdeen Adapts would have a temporary negative impact during construction phases. although there is uncertainty in the level of the impacts.
Climatic factors	It has been assessed that Aberdeen Adapts should have a positive impact on climatic factors through the development of actions to monitor and manage the impacts of climate change on the city.
Water	The implementation of projects under Aberdeen Adapts should have a positive impact on water. through actions to reduce climate impacts on water quality, reduce run off and flooding and ensure sustainable use of water.
Soil	It has been assessed that the effects of Aberdeen Adapts on soil to be mixed (e.g. positive and negative). Actions in Aberdeen Adapts should improve soil health and stability, through monitoring and addressing climate impacts on soils quality, soil function and soil stability. Soil degradation and / or loss of soil may occur during construction activity, however mitigation measures will be identified at the individual project level
Landscape	It has been assessed that the effects of Aberdeen Adapts on landscape to be mixed (e.g. positive and negative). Measures to protect the landscape from climate impacts and reduce fragmentation will have a positive effect. The implementation of some of the projects under Aberdeen Adapts may change the landscape.
Population and Health	The effects of Aberdeen Adapts on the population and human health have been assessed as positive. Aberdeen Adapts should increase the capacity and knowledge of the local population in adapting to climate change. It will safeguard the rights of vulnerable people; considering the needs of all sectors of society and put measures in place to address the health impacts from climate change.
Cultural Heritage	Aberdeen Adapts should have a significant positive effect on cultural heritage and some negative impact), through measures to protect architectural and archaeological heritage from climate change. Aberdeen Adapts should improve the climate resilience of cultural sites, with minimal or no loss of character. However, in some cases there may be minimal changes to cultural heritage, however these impacts would be to reduce damage, degradation and loss of

	cultural heritage in the long term.
Material Assets	Aberdeen Adapts would have a significant positive impact on material assets through measures to protect material assets from climate change.

Section 6 of the main report describes in more detail how we approached the assessment of environmental effects. Tables 6.2 and 6.3 contain detailed assessments for each aspect of the plan.

Mitigation Measures

Where an aspect of Aberdeen Adapts will have significant negative effects on the environment, we have identified 'mitigation measures' to compensate for this. A summary of the broad measures which will be taken to help mitigate the negative (or enhance the positive) effects of the preferred options can be found in the table below:

SEA Issue	Mitigation Measures
Biodiversity (flora and fauna)	We will work with statutory bodies and partners to protect designated areas, reduce fragmentation and protect and enhance biodiversity.
Air	We will work with partners to reduce emissions during any project development and to protect air quality.
Climatic factors	We will work with partners to adapt to climate change, enhancing the positive effects of Aberdeen Adapts.
Water	We will work with statutory bodies and partners to ensure that projects under Aberdeen Adapts make efficient use of water and protect the water environment.
Soil	We will work with partners to protect soil health and stability.
Landscape	We will look to protect and enhance our most valued landscapes, their character and setting. When we develop projects, we will make sure they do not have significant visual impact.
Population and Health	We will put measures in place to enhance the positive effects of Aberdeen Adapts and look to minimise risks to people in Aberdeen and their health.
Cultural Heritage and Material Assets	We will look to protect our historic environment, their setting and historical associations. We will also make use of our traditional buildings and adapt heritage assets to the changing climate.
Material Assets	We will put measures in place to enhance the positive effects of Aberdeen Adapts.

Section 7 of the main report contains a detailed description of the significant negative effects of each aspect of the plan and what mitigation measures we have identified to address them.

Monitoring

We will monitor the significant negative and positive effects of Aberdeen Adapts through monitoring. We have stated what actions we must carry out, who must carry out each of the actions and when we must carry them out. Section 8 of the main report contains a detailed description of all the things we will monitor, how we will do this and how often.

1 Introduction

The purpose of this Environmental Report is to address all the effects that Aberdeen Adapts will have on the environment. Aberdeen Adapts is a multi-organisation driven Climate Adaptation Framework. This Environmental Report has been prepared under the Environmental Assessment (Scotland) Act 2005.

The SEA assesses the impact of each of the different aspects of Aberdeen Adapts, including the overall vision, target, objectives and outcomes. It also assesses the reasonable alternatives we considered during the preparation of Aberdeen Adapts. Therefore, the SEA has helped us to make decisions about and improve the content of Aberdeen Adapts.

- Section 2 tabulates the key facts about Aberdeen Adapts.
- Section 3 describes the SEA process to date.
- Section 4 offers a description of the content of Aberdeen Adapts, including different alternative options that have been considered.
- Section 5 outlines the context for Aberdeen Adapts, including other relevant PPS and environmental protection objectives, baseline data describing the current state of the environment and environmental problems in Aberdeen.
- Section 6 describes the scope and level of assessment and explains the assessment framework that was used. It also contains and assessment of the cumulative effects of Aberdeen Adapts on the environment.
- Section 7 provides and overview of the mitigation measures proposed to address the negative effects of Aberdeen Adapts on the environment.
- Section 8 sets out how we intend to monitor these effects.

The description of relevant PPS and baseline information including statistics, targets, trends and map-based information can be found in Appendix 9.1-9.2.

2 Key Facts

Table 2.1: Key Facts relating to Aberdeen Adapts

Name of Responsible Authority	Aberdeen City Council (ACC) leading on behalf of city stakeholders.
Title of the PPS	Aberdeen Adapts – Climate Adaptation Framework
What Prompted the PPS	Aberdeen Adapts seeks to improve the resilience of the city to climate impacts, understanding the impact of climate change on buildings, infrastructure, services, the natural environment, people and the economy. The development of a strategy also helps participating public sector partners to ensure compliance with Public Bodies Duties reporting as part of working towards attainment of the targets within the Climate Change Act (Scotland) 2009, aside from other topic specific statute.
Subject	Climate adaptation
Period Covered by the PPS	Aberdeen Adapts sets goals to 2050. Implementation programmes will be developed every 5 years.
Frequency of Updates	Aberdeen Adapts will be reviewed every 5 years. This is to align with updates to the UK Climate Risk Assessment, Climate Ready Scotland; the Scottish Adaptation Programme and UK Climate Projections. Progress reports will be produced every year to align with Public Bodies reporting requirements.
Area covered by the PPS	Aberdeen City
Purpose and/or objectives of the PPS	Aberdeen Adapts is a key document that sets a long-term framework for collaborative action, to strengthen Aberdeen's capacity to prepare for, respond to and manage the impacts of climate change.

Contact Point	Alison Leslie Strategic Place Planning Place Aberdeen City Council Business Hub 4 Ground Floor North Marischal College Aberdeen, AB10 1AB

3. SEA activities to date

Table 3.1 summarises the SEA activities that have taken place and are expected to take place in relation to the Environmental Report for Aberdeen Adapts.

Table 3.1: SEA activities to date

SEA Action/Activity	When carried out	Notes (e.g. comment on data availability, particular issues or any advice from the Consultation Authorities that has now been taken into account)
Screening	December 2017-January 2018	
Receipt of opinion of statutory consultation authorities	4 January 2018	SNH, SEPA and Historic Environment Scotland all agreed that the PPS is likely to have significant effects.
Screening Determination	19 January 2018	
Scoping Report	6 April 2018	
Receipt of opinion of statutory consultation authorities	11 May 2018	
Preparation of the Environmental Report taking into account consultees comments on Scoping report	May – October 2018	Aberdeen Adapts and SEA updated based on comments of statutory consultees. As Table 3.2
Statutory consultation on the Environmental Report	June - July 2019	
Modification of Aberdeen Adapts and Environmental Report taking into account consultations	July-October 2019	Aberdeen Adapts and SEA updated based on comments of statutory consultees. As Table 3.3
Adoption of Aberdeen Adapts and Preparing Post Adoption Statement	December 2019	

Table 3.2 is a summary of comments received from key agencies through the Scoping Report and how we have taken these comments on board during the drafting of this Environmental Report.

Table 3.2: Comments from Key Agencies on Scoping Report

Body/Person making comment	Comment	Response	Resulting change
Historic Environment Scotland (HES)	We note that the historic environment has been scoped in to the assessment. On the basis of the information provided, we are content with this approach and are satisfied with the scope and level of detail proposed for the assessment, subject to the detailed comments provided below.	Welcomed and noted.	None.
Historic Environment Scotland (HES)	Alternatives: We note that the three alternatives proposed are a do-nothing, do minimum and do optimum and we are content that these are reasonable alternatives.	Welcomed and noted.	None.
Historic Environment Scotland (HES)	SEA Objectives: We welcome the identification of SEA Objectives for the historic environment and particularly the tailored questions that have been created to test the options. These questions should serve well in aiding the consideration of the likely effects of the options and alternatives on historic environment assets. As is noted in Section 5.1 of the report it is considered that the strategy is likely to have a positive effect on the historic environment through adapting to the challenges for the historic environment associated with climate change. We welcome that the questions recognise both the likely positive effects from the strategy and the potential that the choice of approach proposed may lead to negative effects on such considerations as the character of sites and their setting.	Welcomed and noted.	None.
Historic Environment Scotland (HES)	Mitigation and Monitoring We welcome the approach outlined for mitigation measures. Given the likely positive effect on the historic environment in relation to a number of the objectives of the plan you may wish to consider that the enhancement of positive effects is also included in this table in order to ensure their delivery. This would also be applicable to the monitoring of the significant environmental effects of the strategy.	Welcomed and noted.	Included
Historic Environment Scotland (HES)	Consultation period for the Environmental Report: We note that you intend to consult on the strategy and its environmental report for a period of 8	Welcomed and noted.	None.

Body/Person making comment	Comment	Response	Resulting change
	weeks. We can confirm that we are content with this timescale. Please note that, for administrative purposes, we consider that the consultation period commences on receipt of the relevant documents by the SEA Gateway.		
Scottish Environment Protection Agency (SEPA)	Alternatives: We are satisfied with the alternatives outlined and that the findings of the assessment will inform the choice of the preferred option. This should be documented in the Environmental Report.	Noted.	None.
SEPA	Objectives, Actions and Projects - Under '2. Safeguarding the natural environment': consider assessing the vulnerability of all land (not just buildings and infrastructure) to then inform the assessment of habitats at greatest risk.	Agreed	Updated actions under 2 safeguarding the natural environment
SEPA	Relationship with other Plans, Policies and Strategies (PPS) - Some of the PPS included have themselves been subject to SEA. You have prepared an analysis of the relevant PPS but it is not clear if you have used the key SEA findings for these. This will ensure the current SEA picks up environmental issues or mitigation actions which may have been identified elsewhere.	Agreed	Prepared summaries of key SEA findings and mitigation measures of related PPS and used this to inform the Environmental Report. Relevant mitigation measures are summarised in section 7.
SEPA	Baseline information - SEPA holds significant amounts of environmental data which may be of interest to you in preparing the environmental baseline, identifying environmental problems, and summarising the likely changes to the environment in the absence of the PPS, all of which are required for the assessment. Many of these data are now readily available on SEPA's website. Other sources of data for issues that fall within SEPA's remit are referenced in our SEA topic guidance notes for air, soil, water, material assets and human health.	Welcomed and noted.	Considered in the baseline.
SEPA	Environmental problems: We consider that the environmental problems described highlight the main issues of relevance for the SEA topics within our remit.	Welcomed and noted.	None.
SEPA	Scoping in / out of environmental topics: We agree that all environmental topics should be scoped into the assessment.	Welcomed and noted.	None.
SEPA	Methodology for assessing environmental effects: We are content with the proposed detailed assessment matrix and particularly welcome the	Welcomed and noted.	Considered in the assessment.

Body/Person making comment	Comment	Response	Resulting change
	commentary box to explain the rationale behind the assessment results. We also welcome the link between effects and mitigation / enhancement measures in the proposed assessment framework and the consideration of mitigation of impacts.		
SEPA	Where it is expected that other plans, programmes or strategies are better placed to undertake more detailed assessment of environmental effects this should be clearly set out in the Environmental Report.	Noted	Considered in completion of assessment.
SEPA	When it comes to setting out the results of the assessment in the Environmental Report please provide enough information to clearly justify the reasons for each of the assessments presented. It would also be helpful to set out assumptions that are made during the assessment and difficulties and limitations encountered.	Noted	Considered in completion of assessment and noted in the commentary section.
SEPA	Proposed SEA objectives: We are content with the proposed SEA objectives to be used in the assessment.	Welcomed and noted.	None.
SEPA	Mitigation and enhancement - We would encourage you to use the assessment as a way to improve the environmental performance of individual aspects of the final option; hence we support proposals for enhancement of positive effects as well as mitigation of negative effects. It is useful to show the link between potential effects and proposed mitigation / enhancement measures in the assessment framework. We would encourage you to be very clear in the Environmental Report about mitigation measures which are proposed as a result of the assessment. These should follow the mitigation hierarchy (avoid, reduce, remedy or compensate). One of the most important ways to mitigate significant environmental effects identified through the assessment is to make changes to the plan itself so that significant effects are avoided. The Environmental Report should therefore identify any changes made to the plan as a result of the SEA. Where the mitigation proposed does not relate to modification to the plan itself then it would be extremely helpful to set out the proposed mitigation measures in a way that clearly identifies: (1) the measures required, (2) when they would be required and (3) who will be required to implement them. The inclusion of a summary table in the Environmental Report such	Noted	Considered in completion of assessment.

Body/Person making comment	Comment	Response	Resulting change
	as that presented below will help to track progress on mitigation through the monitoring process.		
SEPA	Monitoring - We note that consideration is given to a monitoring approach but further work is required on the choice of indicators. It would be helpful if the Environmental Report included a description of the measures envisaged to monitor the significant environmental effects of the plan.	Welcomed and noted.	Updated
SEPA	Consultation period - We are satisfied with the proposal for an 8 week consultation period for the Environmental Report.	Welcomed and noted.	None.
SEPA	Outcomes of the Scoping exercise- We would find it helpful if the Environmental Report included a summary of the scoping outcomes and how comments from the Consultation Authorities were taken into account. We welcome proposals for the inclusion of a summary of how the comments provided by the Consultation Authorities at the Scoping stage have been taken into account in the preparation of the Environmental report.	Noted. A summary of the scoping outcomes and information on how comments from the Consultation Authorities were taken into account and response is included in the Environmental Report.	
Scottish Natural Heritage (SNH)	Scope of assessment and level of detail Subject to the specific comments set out in the annex to this letter, SNH is content with the scope and level of detail proposed for the environmental report.	Welcomed and noted.	None.
SNH	1.Objectives We note the objectives are currently tentative and subject to change. We support many of the objectives and actions identified in section 3.2, in particular those listed under 'Safeguarding our natural environment'.	Welcomed and noted.	None.
SNH	2. Relationship with other Plans, programmes or strategies (PPS): We recommend the PPS considered also include 'Green infrastructure: Design and Placemaking' (2011).	Noted	This has been updated to include this PPS.
SNH	3. Environmental Problems: Under the environmental problems presented in table 4.6, Biodiversity, we suggest that the second bullet point is amended to read 'Potential loss of semi-natural habitats, greenspace and wildlife to developments and other land uses.' This would take into account the potential for negative effects on these areas from, for example, flood	Noted	Both points have been updated.

Body/Person making comment	Comment	Response	Resulting change
	management schemes. Under human health, we recommend that the following problem is added, as this increases reliance on means of transport requiring fossil fuels: -Lack of provision for walking and cycling as a means of transport and for informal recreation.		
SNH	4. Baseline Information The UK Climate Projections Project led by the Met Office and funded by UK Government, is expected to publish new projections in November 2018. The Dynamic coast website provides information on the National Coastal Change Assessment, which looks at rates of coastal change across Scotland to inform strategic planning: http://www.dynamiccoast.com/about_project.html. The Aberdeen Landscape Study may provide helpful baseline or trend information, as could the habitat and open space surveys of Aberdeen which are being carried out this summer.	Welcomed	Baseline information updated
SNH	5. Assessment matrix Under the topic 'Biodiversity, Flora and Fauna' there is some repetition in the questions. We suggest that these are rephrased to avoid this. For example, will the option/objective/response: - Affect the conservation objectives of any international, national or locally designated site? - Affect populations of any protected species, their habitats, resting places or roosts? - Protect and avoid fragmentation of semi natural habitats and native species relying on them? - Provide opportunities for habitat enhancement, creation and/or restoration? - Protect and enhance areas of trees, woodland or hedges? - Seek to promote watercourses as valuable landscape features and wildlife habitats? - Protect and enhance the services provided to society by semi-natural habitats and their wildlife?	Welcomed and noted.	The assessment matrix has been updated to show all the suggested questions and text amendment.

Body/Person making comment	Comment	Response	Resulting change
	- Avoid the spread of invasive non-native species? For the topic 'Climatic Factors', we recommend that in the penultimate bullet point, the word 'maximise' is replaced with 'sustainable'. This is to ensure that the potential adverse environmental impacts are taken into account in promoting the use of renewable resources.	Noted	Updated

Table 3.3 is a summary of comments received from key agencies through the consultation on the Environmental Report and how we have taken these comments on board during the drafting of this Environmental Report.

Table 3.3: Comments on Environmental Report

Body/Person making comment	Comment	Response	Resulting change
Historic Environment Scotland (HES)	We welcome the preparation of this strategy and in particular the focus given to the threat to Aberdeen's historic environment posed by the effects of climate change.	Welcomed and noted.	None.
	SEA Activities to date: We welcome that our comments at previous stages have been taken account of in the assessment process.	Welcomed.	None.
	Options Considered The options considered for the assessment (Do Nothing/Do Minimum/Do Optimum) are reasonable alternatives and we welcome that a full assessment has been provided for these scenarios.	Welcomed.	None.
Historic Environment Scotland (HES)	Relationship with other PPS and environmental objectives: In noting the reference to "The Scottish Historic Environment Policy 2016" in this section we would take this opportunity to highlight the recent changes in the policy framework for the historic environment. The new Historic Environment Policy for Scotland came into effect on the 1st of May, when it replaced the former Historic Environment Scotland Policy Statement.	Noted, welcomed and updated	Updates to Table 5.1 and to Appendix 9.1
Historic Environment Scotland (HES)	Environmental Problems relevant to Aberdeen Adapts: The identification of relevant issues for the historic environment including	Noted and welcomed.	Reference to this work is included in the Framework.

Body/Person making comment	Comment	Response	Resulting change
	the effects of climate change is welcomed. As we note in response to the strategy itself, work is currently being undertaken by the Our Place in Time working group on Climate Change in relation to the various effects of climate change on different types of historic environment assets. This work should further inform and aid in the delivery of this strategy.		
Historic Environment Scotland (HES)	Assessment of Option 1 – Do Nothing: We are content to agree with the finding here in that the absence of the strategy is likely to have an adverse effect on the historic environment.	Noted	None
Historic Environment Scotland (HES)	Assessment of Option 2 – Do Minimum: As the do minimum alternative involves an ad hoc approach it is unlikely to bring the larger scale benefits of a coordinated approach. While we are content to agree with the negative effect identified we would note that even an ad hoc approach may provide for positive effects to individual historic environment assets, as identified in the Do Minimum assessment for Material Assets.	Noted and updated	Information and scoring updated under cultural heritage to reflect the positive and negative effects.
Historic Environment Scotland (HES)	Assessment of Option 3 – Do Optimum We welcome the assessment findings here but consider that the positive effects of the strategy on the historic environment have the potential to be significant. We also welcome the recognition of the potential of adaptation measures to negatively impact on the character/fabric of the historic environment resource.	Noted and updated	Information and scoring updated under cultural heritage to reflect the positive and negative effects.
Historic Environment Scotland (HES)	Assessment of Priority 1 - Protecting Buildings and Infrastructure As this priority and its goals speak directly to the environment objective of protecting the historic environment resource we are content to agree with the findings. In terms of significance of the positive effects resulting from the strategy we would reiterate our comments on this subject in our response to the Do Optimum option.	Noted and updated	Information and scoring updated under cultural heritage to reflect the positive and negative effects.
Scottish Environment Protection Agency (SEPA)	We would also note that the type of decisions made through shoreline management plans (hold the line, managed realignment etc.) have the potential to have positive or negative effects on coastal historic environment assets dependant on the policy chosen.	Noted and updated	Information updated under cultural heritage.

Body/Person making comment	Comment	Response	Resulting change
SEPA	Overall we are content to agree with the findings of the assessment of the priorities and their associated goals. We particularly recognise the importance of working together in order to achieving the goals of the strategy and the positive effects this can have on the historic environment resource of Aberdeen.	Welcomed	None
SEPA	Mitigation and Monitoring: It is unclear why no proposed mitigation measures have been presented for the historic environment. Given the important influence that the strategy, its goals and its actions, will have on other plans, programmes and strategies in adapting to the effects of climate change it would have been beneficial to offer guidance here on mitigation and enhancement opportunities.	Noted and updated	Information on mitigation and monitoring measures that were identified for Aberdeen Adapts through the SEA have nbeen added to these sections.
SEPA	We note that the monitoring framework is subject to modification and refinement. We would suggest that, in terms of obtaining information on the performance of the strategy against the historic environment objectives your Council should be the primary source. This is of particular importance as Historic Environment Scotland would not hold the type of information required such as adverse effects on the historical features and their settings. It is also unclear why the amount of opposition to development is relevant to the monitoring of effects of the strategy on the historic environment. In light of these we would advise that the monitoring framework be updated with details on this presented within the post adoption statement.	Noted and updated	Sources of information and relevant text has been updated accordingly.
SEPA	We support the goals, priorities and action areas set out in Aberdeen Adapts. Aberdeen Adapts sets goals to 2050. Implementation programmes will be developed every 5 years.	Welcomed	None
SEPA	The Environmental Report provides a good assessment of the effects of Aberdeen Adapts on the environment, how significant negative effects could be addressed by mitigation and how any significant effects on the environment will be monitored.	Welcomed	None
SEPA	The mitigation measures are summarised in a table as ‘broad’ measures to help mitigate the negative or enhance the positive effects of the preferred options. However, the measures are very broad, for example ‘work with partners’ is used and more detail would	Noted	This section has been expanded with more detail on the mitigation measures.

Body/Person making comment	Comment	Response	Resulting change
	help understand the actions that are proposed and could be incorporated into the Strategy itself. It would be helpful if they followed the mitigation hierarchy (avoid, reduce, remedy or compensate) and any changes to the Plan itself as a result are identified.		
SEPA	Table 7.1 sets out the proposed mitigation measures/enhancement in more detail. The final column 'Who is responsible for undertaking the mitigation?' is generally 'Various stakeholders, with lead project managers taking overarching responsibility'. Although it is recognised that the Adaptation Strategy is a high-level policy document and that an Implementation Strategy is to follow in due course, where actions are identified it would be helpful if the 'stakeholders' involved could be identified and 'lead project managers' could be more specific.	Noted	As mentioned detailed information will be set out in the Implementation Programme. However this section has been updated to give more details.
SEPA	Table 8.1 Monitoring Plan Again an overall 'responsible party' would help to focus the report.	Noted	
Scottish Natural Heritage SNH	Scope of assessment and level of detail: SNH is content with the scope and level of detail in the Environmental Report.	Welcomed	None
SNH	Assessment process: Support Section 6 which sets out the assessment of environmental effects, including Tables 6.1 to 6.3 which contain detailed assessments (do nothing, minimum, or optimum). Welcome and generally agree with the commentary and scoring provided and recognise that this is consistent with the higher level and strategic nature of the Strategy. We agree with the assessment finding that overall, Option 3 (Do Optimum), is the best in terms of its effects on the environment.	Welcomed	None
SNH	The commentary provided in Tables 6.1-6.7 is helpful in justifying the scoring but it would benefit from more explanation of the type of effect (i.e. long-term, short-term and medium-term reversibility or irreversibility of affects, risks, duration (permanent, temporary).		
SNH	Cumulative and synergistic effects assessment: We are satisfied with the assessment provided, and welcome consideration of both positive and negative effects in the assessment.	Welcomed	None

Body/Person making comment	Comment	Response	Resulting change
SNH	Proposed mitigation measures: Table 7.1: The mitigation provided is rather high level and general and we encourage a more focussed approach wherever possible, with a clear link between the assessment findings and mitigation required, including links with stakeholders responsible for delivering mitigation.	Noted	Table 7.1 has been updated to give more detailed information.
SNH	Mitigation measures should follow the mitigation hierarchy (avoid, reduce, remedy, compensate and enhance) as appropriate. We recommend the recording of residual effects post-mitigation as a separate column.	Noted	
SNH	Monitoring: Table 8.1: As for mitigation, we suggest more specific monitoring measures identifying the responsible authorities, and timescales. Some measures appear to be difficult to monitor e.g. degree of habitat fragmentation and it is not clear as to the relevance of some of the measures to the strategy e.g. “Number of reports of disturbance to dolphins and grey seals and other marine wildlife.”	Noted	Updated

4 Description of PPS Content

4.1 Options of Aberdeen Adapts

In developing Aberdeen Adapts, the following three options are reasonable. These are shown in table 4.1 below.

Table 4.1- Options Considered

Option	Description of Option
Option 1 – Do Nothing	Under this option city stakeholders carry on with business as usual and do not take steps to adapt to a changing climate.
Option 2 – Do minimum	Under this option city stakeholders are responsible for developing individual plans and strategies to adapt to climate change, which will result in an ad hoc, inconsistent approach to adaptation.
Option 3 – Do optimum (Preferred)	Under this option city stakeholders work in partnership across all sectors to develop an adaptation framework that addresses climate risks for Aberdeen, sets shared objectives and highlights areas for action and collaboration across the whole city.

4.2 Aberdeen Adapts goals, priorities and actions

When identifying goals, priorities and action areas for inclusion in Aberdeen Adapts, we have reviewed multiple stakeholder documents, but predominant alignment is with the requirements of Climate Ready Scotland: the Scottish Adaptation Programme. The goals, priorities and action areas to be included, and which will therefore require to be subjected to assessment, are listed in Table 4.2 below.

Table 4.2- Goals, Priorities and actions areas

Goals	*Priorities*	*Action areas*
• Protecting buildings and historic assets • Responsive transport and infrastructure • Managing flooding, shade and shelter • Secure utilities and communication	Protecting buildings and infrastructure Address the impacts of climate change in the planning, build, maintenance and protection of city buildings, infrastructure and heritage.	Assess the vulnerability of Aberdeen's buildings, and heritage to climate change. Identifying retrofit opportunities to increase resilience for those at risk.
		Embed climate adaptation in planning, design and policy for resilience in new build.
		Inform designers, developers, planners, asset managers and home owners on ways to adapt Aberdeen's built environment and encourage uptake of property protection.
		Support skills development in adapting buildings; and in the care and protection of traditional buildings and assets.
		Build climate resilience into the design, planning, upgrade maintenance and management of local transport networks.
		Use technology, to develop remote working opportunities and ways to better inform travel.
		Use technology, to develop remote working opportunities and ways to better inform travel.
		Develop a shoreline management plan, building on existing studies, to protect people, places, nature and heritage at the coast.
		Support measures to implement the North East Flood Risk Management Plan and identify opportunities for natural flood management.
		Expand the use of blue-green infrastructure in new development and regeneration.
		Promote natural solutions to the cooling and ventilation of buildings vulnerable to heat in Aberdeen.
		Assess climate opportunities and risks for Aberdeen's renewable energy infrastructure.
		Encourage sustainable water use in homes and businesses, to protect water quality and availability.
		Investigate opportunities to use technology to support adaptation in Aberdeen – through mapping, modelling and monitoring.
• Space for nature • Productive soil • Healthy trees and woodlands • Protected	Safeguarding our natural environment Adapt through nature, developing a healthy, protected and productive natural	Assess the vulnerability of Aberdeen's natural environment to climate change and establish processes to monitor change.
		Review and strengthen local plans, policy and strategy, as we learn more about climate impacts for the natural environment.
		Protect and expand Aberdeen's Green Space Network and increase naturalised green spaces in the city, to improve habitat connections.
		Promote partnership action to reduce the risk of wildfire.

watercourses and coastline	environment.	Develop a resilient approach to the management of Aberdeen's parks, gardens and greenspaces.
		Encourage management and protection for soil during planning, development and construction processes, to maintain soil function, quality and stability.
		Establish a programme to assess tree cover in Aberdeen and monitor the health of city trees and woodlands.
		Expand Aberdeen's tree coverage, planting resilient species at appropriate locations.
		Explore the use of trees and woodlands to reduce flood risk and provide shade and shelter in Aberdeen.
		Support the development of natural coastal defences, to improve the resilience of vulnerable soft coastal areas to flooding and erosion.
		Investigate opportunities to re-introduce meanders to watercourses, where appropriate, to slow down water flow.
		Encourage sustainable river bank management to reduce erosion.
• Prepared communities • Prioritising health and wellbeing • Building resilience in the economy • Encouraging food security	Strong, healthy society and economy Encourage healthy and empowered communities and strong, robust businesses with the capacity and knowledge to adapt.	Use Climate Just mapping to target action and reduce the risk of communities being disadvantaged in being able to prepare and respond to climate change.
		Develop a platform of support, information and learning, to build community capacity to prepare for severe weather.
		Work with Community Planning Partners and local communities to increase the number of community resilience plans in place in Aberdeen.
		Inform health and social care providers on climate impacts for Aberdeen, to support local adaptation in this sector.
		Embed climate change in health and social care planning and in business continuity arrangements.
		Support ongoing monitoring and actions to improve city air quality and measures to integrate climate risk in air quality planning.
		Build understanding of the impact of climate change on key city business sectors; and encourage and support the development of business resilience plans.
		Investigate options for business growth from the adaptation sector; including through innovation, technology and skills development.
		Build understanding of risks to the food sector and opportunities to build resilience.
		Incorporate climate adaptation measures in new and existing food growing sites.
• Climate research • Climate aware	Building understanding Increase awareness and understanding of the climate impacts for Aberdeen and ways local	Encourage research programmes to address adaptation gaps and build knowledge of adaptation measures that work for Aberdeen.
		Develop adaptation partnership training and placement opportunities for students.
		Encourage project partners and volunteers through citizen science projects, to gather data on weather impacts and the local environment.
		Learn from successful research and projects in other cities

	communities, businesses and organisations can adapt.	and apply lesson learned to adaptation in Aberdeen.
		Increase the engagement of local communities, businesses, schools and organisations through an adaptation education and information campaign.
		Establish a resource of information on climate risks, impacts actions for the city and wider region.
• Joined up planning and response	Collaborative working Increase capacity to adapt, developing long term collaborative working between the public, private and community sectors.	Deliver, monitor and review the Aberdeen Adapts Implementation Programme.
		Embed climate adaptation into new and reviewed key city plans, programmes and strategies.
		Identify pressures from climate change on contingency planning. Continue to assess the impacts of severe weather on Aberdeen.
		Liaise with the Local Resilience Partnership to investigate any impacts from climate change on emergency response and recovery arrangements.

5 Context of Aberdeen Adapts

5.1 Relationship with other PPS and environmental objectives

The Environmental Assessment (Scotland) Act 2005 requires that the Environmental Report includes an outline of other relevant - PPS and how environmental protection objectives have been taken into account in Aberdeen Adapts preparation. This section covers these issues and describes the policy context within which Aberdeen Adapts operates, and the constraints and targets that this context imposes on the Aberdeen Adapts. Table 5.1 lists the relevant PPS to Aberdeen Adapt. Appendix 9.1 shows a more detailed analysis of each relevant PPS and its implications for Aberdeen Adapts. This list is tentative and may increase before the adoption of the PPS.

Table 5.1: Other relevant PPS & environmental protective objectives of Aberdeen Adapts

Name of Plan, Programme, Strategy or Environmental Protection Strategy	
International Level	
Climate Change and Energy Sustainability	
1.	EU Adaptation Strategy
2.	Europe 2020
3.	2030 Climate and Energy Framework
4.	EU Cohesion Policy 2014-2020
5.	EU Sustainable Development Strategy
Air	
6.	Ambient Air Quality Directive (2008/50/EC)
Nature Conservation	
7.	The Habitats Directive 92/43/EEC
8.	The Birds Directive 2009/147/EC
9.	European Biodiversity Strategy to 2020
Water	
10.	Water Framework Directive 2000/60/EC
11.	Floods Directive 2007/60/EC
12.	Groundwater Directive 2006/118/EC
13.	The Nitrates Directive 91/676/EEC
Soil and Landscape	

Name of Plan, Programme, Strategy or Environmental Protection Strategy	
14.	Thematic Strategy for Soil Protection
Noise	
15.	Environmental Noise Directive 2002/49/EC
Waste	
16.	The Landfill Directive 99/31/EC
17.	The Waste Framework Directive 2008/98/EC
National Level	
Overarching Planning Policy	
18.	National Planning Framework for Scotland 3
19.	The Planning (Scotland) Act 2019
20.	Scottish Planning Policy 2014
Cross-Sectoral	
21.	Environmental Protection Act 1990
22.	Scotland's National Transport Strategy (2016)
23.	Strategic Transport Projects Review (2008)
24.	Scotland's Economic Strategy (2015)
25.	Choosing our Future: Scotland's Sustainable Development Strategy
26.	Tourism Scotland 2020
Climate Change	
27.	Climate Change Act 2008
28.	Climate Change (Scotland) Act 2009
29.	Climate Ready Scotland: Scottish Climate Adaptation Plan
30.	Climate Change Plan: The Third Report on Proposals and Policies
Air	
31.	Air Quality Standards (Scotland) Regulations 2010
32.	Air Quality (Scotland) Amendment Regulations 2016
33.	National Air Quality Strategy for England, Scotland, Wales and Northern Ireland (2007)
34.	Cleaner Air for Scotland – The Road to a Healthier Future 2015
Heritage, Design and Regeneration	
35.	Historic Environment Scotland Act 2014
36.	Our Place in Time: The Historic Environment Strategy for Scotland 2014
37.	Historic Environment Policy for Scotland
38.	The Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997
39.	Creating Places: a policy statement on architecture and place for Scotland
40.	Designing Streets: A Policy Statement for Scotland (2010)
41.	People and Place: Regeneration Policy Statement
42.	Achieving a Sustainable Future: Regeneration Strategy
43.	Ancient Monuments and Archaeological Areas Act 1979
44.	Green Infrastructure: Design and Placemaking 2011
Landscape and soil	
45.	The Scottish Soil Framework (2009)
46	Getting the Best from our Land: A Land Use Strategy for Scotland 2016-2021
47	SNH Landscape Policy Framework Statement 05/01
Homes, Population and Health	
48.	Community Empowerment (Scotland) Act 2015
49.	Good Places Better Health
50	Equally well
51.	Scotland's National Food and Drink Policy
52	Let's Make Scotland More Active: A Strategy for Physical Activity (2003)
53.	Equality Act 2010
54	Disability Discrimination Acts 1995 and 2005
55	Resilient Communities Strategic Framework and Delivery Plan 2017-2021

Name of Plan, Programme, Strategy or Environmental Protection Strategy	
Nature Conservation	
56	Wildlife and Countryside Act 1981 (as amended)
57	The Nature Conservation (Scotland) Act 2004
58	Scottish Biodiversity Strategy 2006
59	2020 Challenge for Scotland's Biodiversity
60	UK Post-2010 Biodiversity Framework
61	The Conservation (Natural Habitats etc.) Regulations 1994 (as amended)
	The Conservation (Natural Habitats) Amendment (Scotland) Regulations 2007
62	Scotland's Forestry Strategy 2019-2029
63	Making the Links: Greenspace for a more successful and sustainable Scotland (2009)
Water	
64	Water Environment and Water Services (Scotland) Act 2003
65	Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) and The Water Environment (Miscellaneous) (Scotland) Regulations 2017.
66	Flood Risk Management (Scotland) Act 2009
67	River Basin Management Plan for the Scotland river basin district 2015 to 2027
68	Your Future and Waste Water Services 2013
69.	Always Serving Scotland – Scottish Water business plan 2015 to 2021
70	SEPA Groundwater Protection Policy for Scotland v3 2009
71	Water Environment (Groundwater and Priority Substances) (Scotland) Regulations 2009
72	The Water Environment (Diffuse Pollution) (Scotland) Regulations 2008
73	Engineering in the Water Environment: Good Practice Guide River Crossing 2010
74	The Water Intended for Human Consumption (Private Supplies) (Scotland) Regulations 2017
Waste	
75	Scotland's Zero Waste Plan (2010)
Marine and Coastal	
76	A Strategy for Marine Nature Conservation in Scotland's Seas
77	Scotland's National Marine Plan 2015
78	Marine (Scotland) Act 2010
79	UK Marine and Coastal Access Act
Noise	
80	Environmental Noise (Scotland) Regulations 2006
National Planning Advice & Guidance	
81	PAN 60: Planning for Natural Heritage
82	PAN 61: Planning and Sustainable Urban Drainage Systems
83	PAN 63: Waste management planning
84	PAN 65: Planning and Open Space
85	PAN 69: Planning & Building Standards Advice on Flooding
86	PAN 75: Planning for Transport
87	PAN 77 Designing Safer Places
88	PAN 78: Inclusive Design
89	PAN 83: Masterplanning
Regional Level	
Overarching Planning Policy	
90	Aberdeen City and Shire Strategic Development Plan 2014 (SDP) and Proposed Strategic Development Plan
Cross- Sectoral	
91	Flood Risk Management Strategy North East Local Plan District
92	North East Flood Risk Management Plan
93	Regional Economic Strategy – securing the Future of the North East Economy

Name of Plan, Programme, Strategy or Environmental Protection Strategy	
94	Regional Transport Strategy 2013 - 2035
95	Regional Tourism Strategy, Building on our Strengths 2013
96	Strategy for an Active Aberdeen 2016-2020
Nature Conservation	
97	North East of Scotland Local Biodiversity Action Plan 2014- 2017
98	River Dee Catchment Management Plan (2007)
99	North East Scotland River Basin Management Plan
100	Proposed Aberdeen Trees and Woodlands Strategy
Local Level	
101	Aberdeen Local Development Plan 2017 (ALDP)
102	Aberdeen Local Transport Strategy 2016-2021 (ALTS)
103	Aberdeen City Air Quality Action Plan
104	Aberdeen Local Outcome Improvement Plan 2016-2026
105	Aberdeen Nature Conservation Strategy 2010-2015
106	Open Space Audit and Strategy 2011-2016
107	Aberdeen City Core Paths Plan
108	Aberdeen Local Housing Strategy 2018 - 2023 (LHS)
109	Aberdeen Landscape Strategy 2002 and Proposed Landscape Strategy 2018
110	Contaminated Land Strategy 2016
111	Powering Aberdeen
112	Aberdeen City Council Building Performance Policy
113	City Centre Masterplan
114	Sustainable Urban Mobility Plan
115	Proposed Granite City Growing

From the analysis of the relevant plans, programmes and environmental protection objectives, the key points arising are that Aberdeen Adapts should:

- Protect statutory and non-statutory protected sites for natural heritage interests i.e. habitats, species, earth science interests and landscape interests.
- Protect internationally important Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) designated under the terms of the Conservation Regulations 1994. Nationally important Sites of Special Scientific Interest (SSSIs) notified under the terms of the Wildlife and Countryside Act 1981. Nationally important areas for landscape and visual amenity e.g. Designed Landscapes. Locally important wildlife sites e.g. Local Nature Reserves (LNRs) and Local Nature Conservation Sites.
- Ensure compliance with statutory provisions for statutory protected species and with regional biodiversity plans. EPS (e.g. otters and bats), Wildlife and Countryside Act schedule 1 species, Wildlife and Countryside Act schedule 5 species (e.g. red squirrel and water vole), the Protection of Badgers Act; and with objectives of North East Scotland Biodiversity Action Plan.
- Promote biodiversity, maintain and restore natural habitats and habitat networks.
- Maintain and support landscape character and local distinctiveness.
- Promote the provision of access links to adjacent access routes e.g. core path network, or existing footpaths.
- Promote sustainable use of water, encourage water efficiency.
- Actively promote sustainable flood risk management.
- Support river basin management.
- Support a reduction in flood risk and mitigate the effects of floods.
- Mitigate the effects of droughts.
- Support strategies that help to limit or reduce the emissions of pollutants in the air, water and soil.

- Protect wildlife from disturbance, injury intentional destruction.
- Promote sustainable buildings, good design, safe environment, clean environment and good quality services.
- Promote sustainable alternatives to car and reduce congestion traffic pollution through walking, cycling and the location of sports facilities.
- Promote economic growth, social inclusion, environmental improvement, health and safety.
- Promote strategies that do not degrade the environment.
- Promote the economy; support the community and the public service.
- Help to protect and, where appropriate, enhance the historic environment.
- Seek to promote watercourses as valuable landscape features and wildlife habitats.
- Ensure that the water quality and good ecological status required through the water framework directive are maintained.
- Reduce social inclusion and inequalities.

5.2 Relevant aspects of the current state of the environment

The Environmental Assessment (Scotland) Act 2005 Schedule 3 requires that the Environmental Report includes a description of the relevant aspects of the current state of the environment and the likely evolution thereof, without implementation of the PPS, and "the environmental characteristics of areas likely to be significantly affected". This section aims to describe the environmental context within which the PPS operates and the constraints and targets that this context imposes on the PPS. The detailed baseline data is presented in Appendix 9.2.

5.3 Likely evolution of the environment without Aberdeen Adapts

While work to reduce emissions seeks to limit the impact of climate change it is understood that future changes to the environment are inevitable. Climate projections for the north east of Scotland are set out in the *UK Climate Projections 18* and climate risks for Scotland are examined in the *UK Climate Risk Assessment*. Aberdeen Adapts seeks to protect vulnerable areas from climate impacts and manage the environmental risks likely to occur as a result of climate change.
Future changes to the environment are inevitable due to human interventions that are unconnected to Aberdeen Adapts. Aberdeen Adapts therefore seeks to mitigate the impacts on the environment, people, buildings, infrastructure and economy of Aberdeen. If acted upon, Aberdeen Adapts will contribute to reducing environmental problems in many SEA Topic areas.

Potential changes to the environmental baseline without Aberdeen Adapts are listed in Table 5.2 below.

Table 5.2 Potential Environmental Changes without Aberdeen Adapts

SEA Topic	Possible Changes without Aberdeen Adapts
Biodiversity, flora & fauna	Without Aberdeen Adapts adverse impacts from climate change for biodiversity would remain including; migration and loss of species, damage and degradation of habitats and habitat fragmentation. Adverse impacts on biodiversity from other activities implemented through other PPS like the ALDP, ALTS and LHS would still occur.
Landscape	Without Aberdeen Adapts, implementation of projects flowing from others PPS like the SDP, ALDP, ALTS and LHS will continue to exert some effects on landscape. Climate impacts including flooding, erosion and increased risk of landslip and landslide may not be managed, placing greater pressure on landscape. Impacts on landscape character from the development of blue green infrastructure may take place.

SEA Topic	Possible Changes without Aberdeen Adapts
Cultural Heritage	Without Aberdeen Adapts the delivery of projects under other PPS could still affect cultural assets and archaeological sites. These assets and sites could still be vulnerable to damage and degradation from climate changes, including water penetration, erosion and reduced access. Without a strategy in place, protection of sites may not occur.
Climatic Factors	Without Aberdeen Adapts the delivery of other PPS could adversely affect climatic factors. Opportunities for early interventions and a planned approach to adapt to increased incidents of flooding and erosion from intense rainfall, higher temperatures and a rise in sea level, may be missed.
Air Quality	There is already an issue of air quality in the city resulting from other PPS including the ALDP, ALTS, and LTS. Many air pollutants are climate active and without Aberdeen Adapts there is increased likelihood that the city may not be prepared for any impacts on air quality from climate change.
Water	The River Dee is an SAC providing most of the water supply for the city. Land allocation and development under the ALDP would continue to exert adverse effects on water quantity and quality. The focus on water environmental quality and management will remain, to meet European directives. Without Aberdeen Adapts adverse effects from reduced summer rainfall levels, higher temperatures and fluvial flooding may not be addressed.
Population & Human health	Climate change will present risks to public health, including an increase in disease. Without Aberdeen Adapts the effects of climate change may affect the physical and mental health and wellbeing of the people of Aberdeen in the future.
Soil	Without Aberdeen Adapts development actions under other PPS would continue to affect soil compaction and sealing. Climate impacts including loss of soil function and quality may not be addressed.
Material Assets	Without Aberdeen Adapts, other PPS continue to put demand of environmental resources, physical, economic, environmental and social assets. Without Aberdeen Adapts, climate impacts including damage and degradation to the built environment & infrastructure; and to property interiors and contents, may not be addressed.

5.4 Characteristics of Areas likely to be significantly affected

The analysis of the baseline information indicates that certain areas are likely to be significantly affected due to their sensitivity in terms of international, national and local designations. Aberdeen Adapts is likely to have more significant effects on these areas than others. Although other areas may not be designated, the effects on those sites from the PPS could be cumulative.

5.5 Environmental problems

Environmental problems that affect the PPS were identified through discussions with stakeholders, information contained in the *UK Climate Projections* and *UK Climate Risk Assessment*, as well as the analysis of baseline data relevant to Aberdeen City. The main issues relevant to Aberdeen Adapts are summarised in Table 5.3.

Table 5.3 Environmental Problems relevant to Aberdeen Adapts

SEA topics	Environmental Problem	Implications for Aberdeen Adapts
Climatic factors	• An increase in the frequency and severity of pluvial, fluvial, coastal and groundwater flood events. • An increase in erosion, landslip and landslide. Coastal erosion, especially in soft coastal areas for example north of the mouth of the Don. • Warmer temperatures resulting in an increase in pests and disease; and impacting air quality and health. • A reduction in summer rainfall, presenting low flows in water courses and affecting water quality.	Aberdeen Adapts will promote, develop and increase uptake of adaptation actions to improve the resilience of the city.
Air quality	• Increasing levels of NO2 and PM10 will result in poorer air quality in Aberdeen. • Higher temperatures may result in increased mortality. • Air quality is influenced by weather conditions, therefore warmer temperatures will result in a reduction in air quality.	Aberdeen Adapts should recognise that increases in air pollution will affect air quality in the city, especially in the 3 Air Quality Management Areas.
Biodiversity (flora and fauna)	• Potential loss of habitats from flooding and erosion. • Potential loss of semi-natural habitats, greenspace and wildlife to developments and other land uses • Potential decline in species population, loss of species and changes in wildlife distribution and numbers. • Potential increase in pests and diseases. • Potential wildlife disturbance and habitat degradation during the development of blue/ green infrastructure at some sites. • City trees will be vulnerable to severe weather events, with wetter ground affecting stability during storms; and an increased risk of wildfire. • Pressure on the River Dee SAC, through low flows and from reduced rainfall. • Pressure on European Protected Species.	Aberdeen Adapts should mitigate the effects on climate change and the impacts it has on biodiversity and on protected and non-protected designations. It should promote actions to reduce fragmentation and impacts for wildlife and habitats, as well as encourage natural flood management.
Soil	• Potential loss, erosion and a reduction in soil quality, as a result of heavy rainfall and flooding. • Soil compaction and soil sealing from development, reducing the ability of soil to absorb heavy rainfall and pollutants. • Potential reduction in soil function, with impacts for biodiversity and food growing. • Soil contamination. • Loss of carbon from soil, due to development.	Aberdeen Adapts should monitor and address climate impacts on soil quality, soil function and soil stability. It should encourage greater use of permeable surfaces and promote the protection of soil carbon stores.
Water	• Projections for an increase in the severity and	Projects under Aberdeen

	frequency of heavy rainfall result in flooding, sediment and diffuse pollutants entering water courses affecting water quality and the health of invertebrates and fish. • Potential low flows in water courses, will be a risk to freshwater ecosystems and species (Atlantic Salmon, Brown Trout, fresh water pearl mussels). • Increased need to abstract water for new development. • Potential increase in incidences of algal bloom as a result of warmer temperatures and low river flows and invasive non native species.	Adapts should look to reduce impacts on water quality and ensure a sustainable use of water. Aberdeen Adapts should promote actions to reduce run off and flooding can reduce the risks of diffuse pollution to watercourses and the risk of erosion to the banks of watercourses.
Landscape	• Potential increase in the frequency and severity of severe weather events could cause erosion, flooding and landslip. This could result in the erosion of landscape features, as well as changes to land form, land use, land cover and setting. • New development, results in a reduction in greenspace able to act as natural flood management.	Aberdeen Adapts should promote resilient landscapes and protect landscape character. Promote actions to improve and develop blue green infrastructure and greenspace networks.
Population	• People will be vulnerable to an increase in the frequency and severity of severe weather. • A projected growth in city population. • Changing city demographics, including a projected growth of 45% in over 65s by 2039. • Climate impacts may be greater for some socio-economic groups as they made be less able to respond to and adapt to climate change.	Aberdeen Adapts should increase the capacity and knowledge of local population in adapting to climate change. Safeguard the rights of vulnerable people, taking into account the needs of all sectors of society.
Human Health	• Potential impacts from climate change on the physical and mental health, as well as the safety of local people. This includes impacts from flooding, erosion, damp, air pollution, temperature increase and disease. • People with pre-existing health problems may be more likely to experience detrimental physical impacts. • Lack of provision of walking and cycling as a means of transport and for informal recreation.	Aberdeen Adapts should aim to reduce the impacts of climate change on the safety, health & wellbeing of local people. This should take into account the needs of all sectors of society, promote contingency planning around health and increase understanding of the health impacts of climate change.
Cultural Heritage	• An increase in flooding and water penetration may result in irreplaceable damage, degradation and/or erosion of heritage and archaeological sites. • Historic assets and archaeological sites may be vulnerable to land use management change. • Cultural assets currently in disrepair or not regularly maintained could be vulnerable to a changing climate.	Aberdeen Adapts should improve the climate resilience of cultural sites, with minimal loss of character. Promote the management and maintenance of historic and cultural assets.

Material Assets	• An increase in heavy rainfall and flooding may cause damage to buildings and erosion of infrastructure. • Increased summer temperatures and a reduction in summer rainfall will increase need for water management and efficiency measures in buildings and demand for cooling.	Aberdeen Adapts should promote sustainable use and management of material assets. Promote actions to protect buildings and infrastructure.

6.1 Framework for assessing environmental effects

We have assessed the options, goals, priorities and action areas from Aberdeen Adapts against SEA objectives, according to the questions shown in Table 6.1 below. We have predicted whether these effects will be negative, positive, uncertain, mixed or neutral, as indicated in the key. We have further evaluated the effects to determine their significance in relation to reversibility or irreversibility of affects, risks and duration (permanent, temporary, long-term, short-term and medium-term). We have assessed cumulative impacts (direct, indirect, secondary and synergistic) in Table 6.8 below.

To help the assessment process and ensure consistency we set questions based on the SEA topics, the objectives and questions we used are shown the assessment Table 6.1 – Table 6:7 below, we have shown the full assessments and our reasons.

Key

++	**Very positive**
+	**Positive**
+/-	**Mixed**
0	**Neutral**
-	**Negative**
--	**Very negative**
?	**Uncertain**

Table 6.1 Assessment of Option 1 – Do Nothing

SEA Topic	Objective	Will the Option/Objective/Action Plan…?	Score (++, +, -. --, ?, 0)	Comments (long-term, short-term and medium-term reversibility or irreversibility of affects, risks, duration (permanent, temporary)
Biodiversity (flora and fauna)	To conserve, protect and enhance the diversity of species, including populations of protected species, habitats and natural heritage of Aberdeen. To maintain and enhance existing green and blue networks and improve connectivity/function.	• Affect the conservation objectives of any international, national or locally designated site? • Affect populations of any protected species, their habitats, resting places or roosts? • Protect and avoid fragmentation of semi natural habitats and native species relying on them? • Provide opportunities for habitat enhancement, creation and/or restoration? • Protect and enhance areas of trees, woodland or hedges? • Seek to promote watercourses as valuable landscape features and wildlife habitats? • Protect and enhance the services provided to society by semi-natural habitats and their wildlife? • Avoid the spread of invasive non-native species?	-	This option would have a negative impact on biodiversity. The conservation and protection of natural habitats might not be adequately supported as the climate changes. This may result in greater loss and degradation of habitats, including designated sites and might result in severe habitat fragmentation. This option may have an impact on the health and numbers of species, including protected species. This option may not encourage the development of opportunities for blue/ green infrastructure. Other PPS may help to protect and conserve biodiversity however climate change will place increasing pressures on biodiversity including threats form pests and disease and an increase in invasive non-native species.
Air	To limit or reduce the emissions of air-borne pollutants.	• Negatively impact air quality? • Increase congestion and vehicle traffic? • Support measures to reduce levels of air pollution?	0	This option would have a neutral impact on air. There is existing Low Emissions Strategy, Regional and Local Transport Strategy which will continue to positively influence air quality. Air quality monitoring, actions

				and controls will continue. Without Aberdeen Adapts a collaborative effort to continue to raise awareness and adapt to changing climate might be lost. As would opportunities to consider and integrate climate impacts on air quality in new and revised PPS.
Climatic factors	To increase resilience to the impacts of climate change. To limit or reduce the emissions of greenhouse gases and sustainable use of renewable resources.	• Increase the resilience of people, material assets and the natural environment to the impacts of climate change? • Result in the implementation of appropriate adaptations to reduce vulnerability to climate impacts? • Have the potential to increase areas at risk from flooding, or result in an increase in flooding in other areas? • Have the potential to alleviate risk of flooding and erosion? • Support natural flood management? • Promote the efficient use of energy and water and sustainable use of renewable resources? • Protect natural carbon sinks, such as carbon rich soils?	-	This option would have a negative impact on climatic factors. Ad-hoc measures to adapt to climate change will continue to take place. There is some existing work happening in Aberdeen City Council and other organisations with regards to adaptation, including sustainable urban drainage and flood management. However, without Aberdeen Adapts the resilience of people, the natural environment and material assets would not be fully and consistently addressed leaving people and places vulnerable to climate impacts. Collaborative efforts to adapt to climate change, to continue to improve on performance; to develop, implement and mainstream consistent adaptation measures; to build capacity and develop natural flood management might be lost. Cumulative climate impacts for the city and their interdependencies may not be considered.

Soil	To protect and enhance soil function, reducing contamination, safeguarding soil quantity and quality.	• Avoid or minimise the loss of carbon rich soils? • Promote a reduction in soil sealing, loss of soil and compaction? • Reduce the risk of erosion, landslip and landslide? • Support measures to reduce risks of soil contamination? • Ensure that possible contamination will be properly remediated and not impact upon sensitive receptors, such as human health or the water environment?	-	This option would have a negative impact on soil. Developments will continue to be built around the city under existing policies and regulations which control the impact on soil during construction, remediation of contaminated land and the production and disposal of waste products. Without Aberdeen Adapts options to increase permeability and to reduce run off and pollution may be lost. Opportunities to reduce the risk of erosion, landslip and to raise awareness of the impact of soil sealing and compaction may not be realised.
Water	To protect and enhance the water environment, promoting sustainable use of water and ensuring that the water quality is maintained. To mitigate the effects of flooding and droughts. To maintain levels of water abstraction, run-off and recharge within carrying capacity.	• Support the protection and enhancement of water bodies, protecting species and habitats reliant on the water environment? • Protect and improve water quality? • Result in the release of water-borne pollution into watercourses or groundwater? • Increase the amount of surface water run-off into water bodies? • Support sustainable flood risk management, including the development of SUDS and green, blue infrastructure? • Avoid adverse impacts on the River Dee SAC, and other watercourses? • Increase areas at risk from flooding, or result in increased flooding in other areas? • Avoid adverse impacts on the coastline?	-/+	This option would have a negative impact on water. While other PPS such as the North East Flood Risk Management Plan will put in place measures to reduce flood risk – without Aberdeen Adapts wider climate impacts on water quality and availability may not be addressed. Aberdeen is already experiencing wetter weather, increase in annual rainfall and warmer temperatures as a result of changing climate. Long term benefits that could be derived from collaborative working in our efforts to adapt to the changes would be lost without Aberdeen Adapts. Opportunities to develop and

				collaborate on water efficiency measures to reduce water supply pressure on the River Dee may not be fully realised. Opportunities to develop natural flood management measures, permeable surfaces to reduce run off and pollutants to watercourses may not be realised.
Landscape	To promote, protect and enhance landscape character and local distinctiveness.	• Avoid adverse visual impacts or impacts on setting? • Avoid adverse effects on protected/designated landscapes townscapes and seascapes? • Enhance the character, distinctiveness and quality of the landscape, townscape, coast, seascapes, “gateway” routes and setting of the city and surrounding areas? • Protect and enhance the services provided to society by landscape, the relevant cultural services. • Degrade the coastal environment?	-	This option would have a negative impact on landscape. While some PPS will protect and enhance the landscape. Implementation of projects flowing from other PPS will continue to exert additional pressure on landscape and reduce open and green spaces in the city. Without Aberdeen Adapts, measures to protect the landscape from climate impacts including flooding and erosion may not occur. Risks of erosion to soft coastal landscape may not be addressed. Landscape enhancements through the mainstreaming of appropriate blue/ green infrastructure may not occur.
Population	To promote economic growth, social inclusion, environmental improvement and health and safety, in a rising population. To reduce inequalities across sectors of society and between areas of the	• Promote opportunities to improve personal and community resilience? • Help to reduce inequalities and the impacts of climate injustice? • Protect and enhance the essential services provided to society by the natural environment? • Support opportunities for social equality and cohesion?	-	This option would have a negative impact on population. Changing climate will present risks to public health which may result in an increase in diseases thus putting more pressure on public service. Without Aberdeen Adapts climate inequalities for the city may not be

	city.			addressed. Options to improve household, business and community resilience and unlock the benefits to society from blue/ green infrastructure may not be realised.
Human Health	To protect and enhance human health, wellbeing and quality of life.	• Help to reduce impacts of climate change on human health? • Provide opportunities for improved health and wellbeing and community resilience? • Support and encourage food security? • Retain and improve the quality, quantity and connectivity of publicly accessible open space? • Support and encourage sustainable travel modes? • Support opportunities for social equality and cohesion?	-	This option would have a negative impact on human health. While other PPS are addressing issues of health, open space, air quality and food growing. Climate change may affect physical & mental health, as well as the wellbeing of the people of Aberdeen. Without Aberdeen Adapts measures to identify and address the health risks projected and emerging from climate change may not take place. These include risks to health from flooding, damp, increase in pests and disease, heat, deterioration in air quality. Actions to improve community resilience, ensure the resilience of sustainable travel routes and protect human health may not take place.
Cultural Heritage	To promote protect and, where appropriate, enhance the cultural heritage of the city's historic environment assets and historic character.	• Avoid adverse effects on, as well as conserve and enhance historic buildings, archaeological sites, conservation areas? • Impact on the landscape setting of Aberdeen or any historic features or sites? • Help to reduce the effects of climate change on the historic environment, maintaining character? • Promote the importance and value of the historic environment?	-	This option would have a negative impact on cultural heritage. Historic buildings, archaeological sites, conservation areas may be vulnerable to climate impacts including flooding, erosion, coastal inundation and water penetration. Without Aberdeen Adapts opportunities to protect and reduce

				the impact of climate change on historic buildings, archaeological sites and conservation sites, while maintaining character and historic value may be lost.
Material Assets	To protect and enhance, where appropriate, buildings, infrastructure natural and historic assets and open space. To promote the sustainable use of resources.	• Support the protection and enhancement of buildings, infrastructure, natural and historic assets? • Promote the sustainable use of resources, including waste and energy? • Minimise the demand for raw materials? • Reduce pressure social, utilities and communications infrastructure? • Support the development of flood prevention and regeneration programmes?	-	This option would have a negative impact on material assets. Without Aberdeen Adapts buildings, infrastructure, natural and historic assets will be increasingly vulnerable to climate impacts. Even though there is existing work happening throughout Aberdeen City Council and other organisations with regards to sustainable transport, waste management, flood risk, the provision of safe pedestrian links and core paths, the impact of climate change on material assets may not be assessed and managed. The development of natural flood management and blue/ green infrastructure solutions to climate impacts may not occur. The greater benefits of collaborative working may be lost. Without Aberdeen Adapts the opportunity for a holistic and consistent approach to addressing climate change would be lost.

Table 6.2 Assessment of Option 2 - Do Minimum

SEA Topic	Objective	Will the Option/Objective/Action Plan…?	Score (++, +, -. --, ?, 0)	Comments (long-term, short-term and medium-term reversibility or irreversibility of affects, risks, duration (permanent, temporary)
Biodiversity (flora and fauna)	To conserve, protect and enhance the diversity of species, including populations of protected species, habitats and natural heritage of Aberdeen. To maintain and enhance existing green and blue networks and improve connectivity/ function.	• Affect the conservation objectives of any international, national or locally designated site? • Affect populations of any protected species, their habitats, resting places or roosts? • Protect and avoid fragmentation of semi natural habitats and native species relying on them? • Provide opportunities for habitat enhancement, creation and/or restoration? • Protect and enhance areas of trees, woodland or hedges? • Seek to promote watercourses as valuable landscape features and wildlife habitats? • Protect and enhance the services provided to society by semi-natural habitats and their wildlife? • Avoid the spread of invasive non-native species?	-	This option would have a negative impact on biodiversity. Some approaches to protect and monitor threats to species, damage and degradation of habitats may occur, as result of the ad hoc implementation of some biodiversity and adaptation projects. However, without Aberdeen Adapts the wider cumulative impacts of climate change on biodiversity may not be considered and addressed, including fragmentation; and an increase in pests and disease and invasive no-native species. Opportunities for consistent, integrated and mainstreamed approaches in blue/ green infrastructure may not be realised and this would result in a negative impact on biodiversity as the climate changes.
Air	To limit or reduce the emissions of air-borne pollutants.	• Negatively impact air quality? • Increase congestion and vehicle traffic? • Support measures to reduce levels of air pollution?	0	This option would have a neutral impact on air quality. Individual organisations and an ad hoc approach will continue to work towards the delivery of an improvement in air quality, without Aberdeen Adapts these are unlikely

				to consider the impact of climate change on air quality. Individual projects may not be sufficient to address the impact of climate change on air quality for the city.
Climatic factors	To increase resilience to the impacts of climate change. To limit or reduce the emissions of greenhouse gases and sustainable use of renewable resources.	• Increase the resilience of people, material assets and the natural environment to the impacts of climate change? • Result in the implementation of appropriate adaptations to reduce vulnerability to climate impacts? • Have the potential to increase areas at risk from flooding, or result in an increase in flooding in other areas? • Have the potential to alleviate risk of flooding and erosion? • Support natural flood management? • Promote the efficient use of energy and water and maximise use of renewable resources? • Protect natural carbon sinks, such as carbon rich soils?	-	This option would have a neutral or negative impact on climate factors. Individual organisations' promoting projects to adapt to climate change would have less positive impact than cumulative work done through Aberdeen Adapts and would not be effective in identifying and managing a coherent approach to climate risks. Opportunities to share learning, understanding of risks, resources, for co-operation, to consider interdependencies and to put in place and mainstream consistent adaptation measures would not be realised. Without Aberdeen Adapts the actions of individual organisations to address climate impacts may have a knock on effect elsewhere in the city.
Soil	To protect and enhance soil function, reducing contamination, safeguarding soil quantity and quality.	• Avoid or minimise the loss of carbon rich soils? • Promote a reduction in soil sealing, loss of soil and compaction? • Reduce the risk of erosion, landslip and landslide? • Support measures to reduce risks of soil contamination? • Ensure that possible contamination will be properly remediated and not impact upon	-	This option would have a negative impact on soil. Developments will continue to be built around the city under existing policies and regulations which will contribute to soil sealing and compaction. Some individual organisations will implement projects that protect and

		sensitive receptors, such as human health or the water environment?		enhance soil function and reduce erosion. However, this is unlikely to be on the scale required to protect soil function from climate impacts.
Water	To protect and enhance the water environment, promoting sustainable use of water and ensuring that the water quality is maintained. To mitigate the effects of flooding and droughts. To maintain levels of water abstraction, run-off and recharge within carrying capacity.	• Support the protection and enhancement of water bodies, protecting species and habitats reliant on the water environment? • Protect and improve water quality? • Result in the release of water-borne pollution into watercourses or groundwater? • Increase the amount of surface water run-off into water bodies? • Support sustainable flood risk management, including the development of SUDS and green, blue infrastructure? • Avoid adverse impacts on the River Dee SAC, and other watercourses? • Increase areas at risk from flooding, or result in increased flooding in other areas? • Avoid adverse impacts on the coastline?	-/+	This option would have both a positive and negative impact on water. Some PPS and individual organisations would still work to reduce flooding, protect the coastline, improve water quality and protect species and habitats in the water environment. Other PPS may affect abstraction requirements. More positive impact will be achieved through collaborative working with Aberdeen Adapts.
Landscape	To promote, protect and enhance landscape character and local distinctiveness.	• Avoid adverse visual impacts or impacts on setting? • Avoid adverse effects on protected/designated landscapes townscapes and seascapes? • Enhance the character, distinctiveness and quality of the landscape, townscape, coast, seascapes, “gateway” routes and setting of the city and surrounding areas? • Protect and enhance the services provided to society by landscape, in particular the relevant cultural services.	-/+	This option would have both negative and positive impact on landscape. Individual organisations would be unlikely to adversely affect the landscape however the implementation of projects on an ad-hoc basis may result in loss of landscape character and may impact negatively on the surrounding landscape.

		• Degrade the coastal environment?		
Population	To promote economic growth, social inclusion, environmental improvement and health and safety, in a rising population. To reduce inequalities across sectors of society and between areas of the city.	• Promote opportunities to improve personal and community resilience? • Help to reduce inequalities and the impacts of climate injustice? • Protect and enhance the essential services provided to society by the natural environment? • Support opportunities for social equality and cohesion?	-	This option will have both a negative or neutral impact on population. Individual projects being implemented by organisations may create jobs, but a lack of collaborative effort may result in tourism benefits not being realised or even result in a loss of the opportunities for tourism facilities. Without a consistent approach, opportunities to improve community resilience may not be recognised and social inequalities may be widened in some parts of the city as a result of climate change.
Human Health	To protect and enhance human health, wellbeing and quality of life.	• Help to reduce impacts of climate change on human health? • Provide opportunities for improved health and wellbeing and community resilience? • Support and encourage food security? • Retain and improve the quality, quantity and connectivity of publicly accessible open space? • Support and encourage sustainable travel modes? • Support opportunities for social equality and cohesion?	-/+	This option would have a negative and positive impact on human health. Individual organisations implementing projects may not consider climate impacts on open space and sporting facilities. This may have an adverse impact on access to these spaces, as the climate changes. An ad hoc approach to identifying and managing climate risks to human health may result in inconsistency in approach and affect equality in being able to respond to climate impacts. However, some individual projects may reduce exposure to climate

				risks.
Cultural Heritage	To promote protect and, where appropriate, enhance the cultural heritage of the city's historic environment assets and historic character.	• Avoid adverse effects on, as well as conserve and enhance historic buildings, archaeological sites, conservation areas? • Impact on the landscape setting of Aberdeen or any historic features or sites? • Help to reduce the effects of climate change on the historic environment, maintaining character? • Promote the importance and value of the historic environment?	-/+	This option would have a negative impact on cultural heritage. An ad hoc approach would be unlikely to provide sufficient protection and conservation of all of the historic buildings, archaeological sites and conservation sites in Aberdeen. Inconsistency in approach may have a negative impact on the conservation of historic features or a knock-on impact to the surrounding area. Some projects may be put in place to protect cultural heritage.
Material Assets	To protect and enhance, where appropriate, buildings, infrastructure natural and historic assets and open space. To promote the sustainable use of resources.	• Support the protection and enhancement of buildings, infrastructure, natural and historic assets? • Promote the sustainable use of resources, including waste and energy? • Minimise the demand for raw materials? • Reduce pressure social, utilities and communications infrastructure? • Support the development of flood prevention and regeneration programmes?	-/+	This option would have both a negative and positive impact on material assets. Some projects may be put in place to protect buildings, infrastructure, natural and historic assets including through sustainable transport routes, waste management, flood management and open space. This may have a positive impact on the sustainable use of resources. However, there will not be consistency in approach and the cumulative impacts of projects may not be considered.

Table 6.3 Assessment of Option 3 - Do Optimum

SEA Topic	Objective	Will the Option/Objective/Action Plan…?	Score (++, +, -. --, ?, 0)	Comments (long-term, short-term and medium-term reversibility or irreversibility of affects, risks, duration (permanent, temporary)
Biodiversity (flora and fauna)	To conserve, protect and enhance the diversity of species, including populations of protected species, habitats and natural heritage of Aberdeen. To maintain and enhance existing green networks and improve connectivity/function.	• Affect the conservation objectives of any international, national or locally designated site? • Affect populations of any protected species, their habitats, resting places or roosts? • Protect and avoid fragmentation of semi natural habitats and native species relying on them? • Provide opportunities for habitat enhancement, creation and/or restoration? • Protect and enhance areas of trees, woodland or hedges? • Seek to promote watercourses as valuable landscape features and wildlife habitats? • Protect and enhance the services provided to society by semi-natural habitats and their wildlife? • Avoid the spread of invasive non-native species?	++/-	This option would be mainly a positive impact on biodiversity. There may still be the potential for negative impacts as a result of individual projects under Aberdeen Adapts, however an integrated approach should ensure there is effective mitigation in place. Aberdeen Adapts should help mitigate effects of climate change on biodiversity, by promoting actions to reduce the impact of fragmentation on species and habitats. In addition, there will be positive benefits from the development of blue, green infrastructure, creating new habitats and through monitoring for adverse impacts of climate change on biodiversity. There may be negative impacts from some adaptation measures on biodiversity, such as loss of habitat, though this would need to be considered on a case by case basis.

Air	To limit or reduce the emissions of air-borne pollutants.	• Negatively impact air quality? • Increase congestion and vehicle traffic? • Support measures to reduce levels of air pollution?	+	This option would have a neutral impact on air quality. Implementation of Aberdeen Adapts measures to raise awareness of, increase understanding of the impact of climate change on air quality. However, this will need to be balanced against the impact of climate change on air, which may result in a deterioration of air quality. Expansion of blue/ green infrastructure can filter pollutants and help to improve air quality.
Climatic factors	To increase resilience to the impacts of climate change. To limit or reduce the emissions of greenhouse gases and sustainable use of renewable resources.	• Increase the resilience of people, material assets and the natural environment to the impacts of climate change? • Result in the implementation of appropriate adaptations to reduce vulnerability to climate impacts? • Have the potential to increase areas at risk from flooding, or result in an increase in flooding in other areas? • Have the potential to alleviate risk of flooding and erosion? • Support natural flood management? • Promote the efficient use of energy and water and maximise use of renewable resources? • Protect natural carbon sinks, such as carbon rich soils?	++	This option would have an overall positive impact on climate factors although it is recognised that there may be minimal negative impact on emissions during the development and implementation of some of the projects under Aberdeen Adapts Working in partnership with various organisations through Aberdeen Adapts should provide a more comprehensive approach to adapting to climate impacts, through encouraging blue/ green infrastructure, increasing the resilience of people; material assets and the natural environment; reducing the risk of erosion; and supporting flood management.

Soil	To protect and enhance soil function, reducing contamination, safeguarding soil quantity and quality.	• Avoid or minimise the loss of carbon rich soils? • Promote a reduction in soil sealing, loss of soil and compaction? • Reduce the risk of erosion, landslip and landslide? • Support measures to reduce risks of soil contamination? • Ensure that possible contamination will be properly remediated and not impact upon sensitive receptors, such as human health or the water environment?	-/+	This option would have both positive and negative impact on soil but overall the positive effect should outweigh the negative. The reason being that Aberdeen Adapts would ensure measures to address and mitigate the climate impact on soil quality and function. It would support the development of flood management projects to reduce the risk of contaminated soils and work to reduce the risk of erosion and landslide. However, the development of some adaptation projects may result in some level of soil sealing and compaction.
Water	To protect and enhance the water environment, promoting sustainable use of water and ensuring that the water quality is maintained. To mitigate the effects of flooding and droughts. To maintain levels of water abstraction, run-off and recharge within carrying capacity.	• Support the protection and enhancement of water bodies, protecting species and habitats reliant on the water environment? • Protect and improve water quality? • Result in the release of water-borne pollution into watercourses or groundwater? • Increase the amount of surface water run-off into water bodies? • Support sustainable flood risk management, including the development of SUDS and green, blue infrastructure? • Avoid adverse impacts on the River Dee SAC, and other watercourses? • Increase areas at risk from flooding, or result in increased flooding in other areas? • Avoid adverse impacts on the coastline?	++	This option would have a positive impact on water. Aberdeen Adapts would promote measures to encourage sustainable water management and address impacts on water quality. It would develop measures to mitigate flooding, slow down run off and reduce the potential risk of pollution to water courses, including the River Dee SAC which could affect species and water quality.

Landscape	To promote, protect and enhance landscape character and local distinctiveness.	• Avoid adverse visual impacts or impacts on setting? • Avoid adverse effects on protected/designated landscapes townscapes and seascapes? • Enhance the character, distinctiveness and quality of the landscape, townscape, coast, seascapes, “gateway” routes and setting of the city and surrounding areas? • Protect and enhance the services provided to society by landscape, in particular the relevant cultural services. • Degrade the coastal environment?	++/-	This option will have a significant positive impact on landscape. Aberdeen Adapts will help protect the landscape and coastline from climate impacts. The development of appropriate blue/ green infrastructure may enhance landscape character and improve visual impacts. Aberdeen adapts aims for the development of blue, green infrastructure initiatives that are in keeping with the local landscape. However, it is recognised that the development of construction of these measures may result in damage to habitats in the short term until developments become established.
Population	To promote economic growth, social inclusion, environmental improvement and health and safety, in a rising population. To reduce inequalities across sectors of society and between areas of the city.	• Promote opportunities to improve personal and community resilience? • Help to reduce inequalities and the impacts of climate injustice? • Protect and enhance the essential services provided to society by the natural environment? • Support opportunities for social equality and cohesion?	+	This option would have a positive impact on population. Although, climate impacts will increase challenges for the population. Implementation of Aberdeen Adapts will result in improved personal and community resilience. It will work to reduce climate inequalities and support the protection of the natural environment.

Human Health	To protect and enhance human health, wellbeing and quality of life.	• Help to reduce impacts of climate change on human health? • Provide opportunities for improved health and wellbeing and community resilience? • Support and encourage food security? • Retain and improve the quality, quantity and connectivity of publicly accessible open space? • Support and encourage sustainable travel modes? • Support opportunities for social equality and cohesion?	+	This option would have both neutral and positive impact on human health. There are existing policies to improve and make provision for open and recreational space; and health and wellbeing. However, climate change will increase impacts for health and wellbeing and may impact quality of life. Aberdeen Adapts would introduce measures to address the impact of climate change on health and wellbeing.
Cultural Heritage	To promote protect and, where appropriate, enhance the cultural heritage of the city's historic environment assets and historic character.	• Avoid adverse effects on, as well as conserve and enhance historic buildings, archaeological sites, conservation areas? • Impact on the landscape setting of Aberdeen or any historic features or sites? • Help to reduce the effects of climate change on the historic environment, maintaining character? • Promote the importance and value of the historic environment?	++/-	This option would have a significant positive impact on cultural heritage through projects and measures to protect and enhance historic buildings, archaeological sites and conservation sites from damage, deterioration or loss through climate change. Aberdeen Adapts aims to develop measures and maintenance to protect culture heritage that are in character, however it is recognised that some adaptation measures may have an impact on the character of cultural heritage, although this would be assessed on a case by case basis.

Material Assets	To protect and enhance, where appropriate, buildings, infrastructure natural and historic assets and open space. To promote the sustainable use of resources.	• Support the protection and enhancement of buildings, infrastructure, natural and historic assets? • Promote the sustainable use of resources, including waste and energy? • Minimise the demand for raw materials? • Reduce pressure social, utilities and communications infrastructure? • Support the development of flood prevention and regeneration programmes?	+	This option would have an overall positive impact on material assets. Aberdeen Adapts would promote a sustainable use and management of resources; the protection of built and natural assets, including through the development of sustainable flood management measures. It would seek to reduce pressure on energy and communication infrastructure.

Overall, Option 3 - Do Optimum, is the best option in terms of its effects on the environment. This is the option for developing Aberdeen Adapts.

Table 6.4 Assessment of Priority 1 - Protecting Buildings and Infrastructure

Priority 1: Addressing the impacts of climate change in the planning, build, maintenance and protection of city buildings, infrastructure and historic environment. Goals: Protected buildings and historic assets, Responsive transport networks, Managing flooding, shade and shelter, Secure utilities and communications				
SEA Topic	**Objective**	**Will the Option/Objective/Action Plan…?**	**Score (++, +, -. --, ?, 0)**	**Comments (long-term, short-term and medium-term reversibility or irreversibility of affects, risks, duration (permanent, temporary)**
Biodiversity (flora and fauna)	To conserve, protect and enhance the diversity of species, including populations of protected species, habitats and natural heritage of Aberdeen. To maintain and enhance	• Affect the conservation objectives of any international, national or locally designated site? • Affect populations of any protected species, their habitats, resting places or roosts? • Protect and avoid fragmentation of semi natural habitats and native species relying on them? • Provide opportunities for habitat enhancement, creation and/or restoration? • Protect and enhance areas of trees, woodland	+/-	The development of natural flood management for buildings and infrastructure; and green infrastructure measures including natural shade and cooling for buildings would support biodiversity and reduce habitat fragmentation. Any negative impacts on biodiversity of actions to protect the built

	existing green networks and improve connectivity/function.	or hedges? • Seek to promote watercourses as valuable landscape features and wildlife habitats? • Protect and enhance the services provided to society by semi-natural habitats and their wildlife? • Avoid the spread of invasive non-native species?		environment, such as flood management, would be assessed on a case by case basis.
Air	To limit or reduce the emissions of air-borne pollutants.	• Negatively impact air quality? • Increase congestion and vehicle traffic? • Support measures to reduce levels of air pollution?	+	Achieving this priority and goals would reduce the risk of transport congestion during extreme weather events, with resultant impacts on air quality. These goals aim to increase natural flood management and natural shade and cooling in the city which may support a reduction in emissions and have a positive impact on air quality. There may be a comparatively minor amount of emissions released from the construction of some adaptation measures and the operation of cooling in buildings.
Climatic factors	To increase resilience to the impacts of climate change. To limit or reduce the emissions of greenhouse gases and sustainable use of renewable resources.	• Increase the resilience of people, material assets and the natural environment to the impacts of climate change? • Result in the implementation of appropriate adaptations to reduce vulnerability to climate impacts? • Have the potential to increase areas at risk from flooding, or result in an increase in flooding in other areas? • Have the potential to alleviate risk of flooding and erosion?	+	Achieving this priority and goals would help to limit and mitigate the impacts of climate change, such as flooding and erosion in the city. Developing actions to increase the resilience of the built environment, including new and existing buildings, transport infrastructure and energy and communication networks to the impacts of climate change, will also have positive benefits for people and

		• Support natural flood management? • Promote the efficient use of energy and water and maximise use of renewable resources? • Protect natural carbon sinks, such as carbon rich soils?		the natural environment. It supports the development of natural flood management, shade and cooling measures to reduce the risk of climate impacts to the built environment. There may be a minor impact on emissions if there is increased demand for cooling in buildings.
Soil	To protect and enhance soil function, reducing contamination, safeguarding soil quantity and quality.	• Avoid or minimise the loss of carbon rich soils? • Promote a reduction in soil sealing, loss of soil and compaction? • Reduce the risk of erosion, landslip and landslide? • Support measures to reduce risks of soil contamination? • Ensure that possible contamination will be properly remediated and not impact upon sensitive receptors, such as human health or the water environment?	+/-	This priority and goals will have a positive and negative effect on soil. It supports sustainable soil management and measures to reduce the risk of erosion, safeguarding soil quality, landslide and landslip in the built environment. It aims to reduce the risk of flooding and the resultant level of soil contamination. It introduces measures to increase permeability of surfaces. However, there may be a minor level of soil sealing and compaction in the development of some adaptation actions to protect the built environment. Any negative impacts of actions to protect the built environment would be assessed on a case by case basis.

Water	To protect and enhance the water environment, promoting sustainable use of water and ensuring that the water quality is maintained. To mitigate the effects of flooding and droughts. To maintain levels of water abstraction, run-off and recharge within carrying capacity.	• Support the protection and enhancement of water bodies, protecting species and habitats reliant on the water environment? • Protect and improve water quality? • Result in the release of water-borne pollution into watercourses or groundwater? • Increase the amount of surface water run-off into water bodies? • Support sustainable flood risk management, including the development of SUDS and green, blue infrastructure? • Avoid adverse impacts on the River Dee SAC, and other watercourses? • Increase areas at risk from flooding, or result in increased flooding in other areas? • Avoid adverse impacts on the coastline?	++	This priority and goals will have a positive effect on water. It will promote water saving technologies and sustainable water management to maintain abstraction levels for water supply/ demand in the built environment and manage the impacts of drought. It will also reduce the risk of flooding and the amount of surface run off in the built environment through the adoption of natural flood management and measures including SUDs. This will reduce levels of pollution to water courses and help to protect the water environment.
Landscape	To promote, protect and enhance landscape character and local distinctiveness.	• Avoid adverse visual impacts or impacts on setting? • Avoid adverse effects on protected/designated landscapes townscapes and seascapes? • Enhance the character, distinctiveness and quality of the landscape, townscape, coast, seascapes, “gateway” routes and setting of the city and surrounding areas? • Protect and enhance the services provided to society by landscape, in particular the relevant cultural services. • Degrade the coastal environment?	+/-	Achieving this priority and goals could have positive and negative effects on the landscape. The development and retrofit of blue/ green infrastructure in the built environment, with measures including SUDs, green walls and roof, raingardens could enhance the landscape. The development of some adaptation actions to protect the built environment may have a negative impact on landscape. Any negative impacts of actions to protect the built environment would be assessed on a case by case basis.

Population	To promote economic growth, social inclusion, environmental improvement and health and safety, in a rising population. To reduce inequalities across sectors of society and between areas of the city.	• Promote opportunities to improve personal and community resilience? • Help to reduce inequalities and the impacts of climate injustice? • Protect and enhance the essential services provided to society by the natural environment? • Support opportunities for social equality and cohesion?	+	Achieving these goals could have a positive impact on population reducing levels of climate inequalities and putting in place measures to increase resilience in the built environment to reduce the risk of damage to property and displacement for homes and businesses.
Human Health	To protect and enhance human health, wellbeing and quality of life.	• Help to reduce impacts of climate change on human health? • Provide opportunities for improved health and wellbeing and community resilience? • Support and encourage food security? • Retain and improve the quality, quantity and connectivity of publicly accessible open space? • Support and encourage sustainable travel modes? • Support opportunities for social equality and cohesion?	+	Achieving this priority and goals would have a positive and neutral impact on human health. It will provide opportunities to reduce the risk of increases in damp in the built environment. It will support the development of green/ blue infrastructure in the built environment which can support health and wellbeing. This priority and goals will create more and better connected usable green spaces for people and increase natural shade and cooling to improve thermal comfort levels in the built environment during warmer temperatures. It aims to encourage property protection which could reduce the risk of damage from flood events.
Cultural Heritage	To promote protect and, where appropriate, enhance the cultural heritage of the city's historic	• Avoid adverse effects on, as well as conserve and enhance historic buildings, archaeological sites, conservation areas? • Impact on the landscape setting of Aberdeen or	++/-	Achieving these goals would have a significant positive impact on the protection of cultural heritage. Aberdeen Adapts seeks to protect

	environment assets and historic character.	any historic features or sites? • Help to reduce the effects of climate change on the historic environment, maintaining character? • Promote the importance and value of the historic environment?		historic buildings, archaeological sites and conservation sites from the impacts of climate change including water penetration, flooding, landslide, coastal inundation and erosion. These have the potential to cause loss of or damage to historic sites. At the same time Aberdeen Adapts will need to make sure adaptation measures do not adversely affect the fabric and character of a site, ensuring measures are appropriate to historic character and make efficient use of resources. Some decisions made through shoreline management plans have the potential to have positive or negative effects on coastal historic environment assets dependant on the policy chosen.
Material Assets	To protect and enhance, where appropriate, buildings, infrastructure natural and historic assets and open space. To promote the sustainable use of resources.	• Support the protection and enhancement of buildings, infrastructure, natural and historic assets? • Promote the sustainable use of resources, including waste and energy? • Minimise the demand for raw materials? • Reduce pressure social, utilities and communications infrastructure? Support the development of flood prevention and regeneration programmes?	+	Achieving these goals would reduce the impacts of climate change on buildings, infrastructure and energy and communication networks. It will support the protection of the built environment through the development of blue/ green infrastructure. It will improve material assets by promoting sustainable use of resources.

Table 6.5 Assessment of Priority 2 - Safeguarding our natural environment

Priority 2 – Adapting through nature. Developing a healthy, protected and productive natural environment. Goals: Space for nature, Productive soils, Healthy trees and woodlands, Protected watercourses and coastline.				
SEA Topic	**Objective**	**Will the Option/Objective/Action Plan…?**	**Score (++, +, -. --, ?, 0)**	**Comments (long-term, short-term and medium-term reversibility or irreversibility of affects, risks, duration (permanent, temporary)**
Biodiversity (flora and fauna)	Conserve, protect and enhance the diversity of species and habitats and natural heritage of Aberdeen. Maintain and enhance the populations of protected species, including European Protected Species, including protection of their resting places or roosts. Maintain or enhance existing green networks and improve connectivity/function and create new links where needed.	• Affect the conservation objectives of any international, national or locally designated site? • Affect populations of any protected species, their habitats, resting places or roosts? • Protect and avoid fragmentation of semi natural habitats and native species relying on them? • Provide opportunities for habitat enhancement, creation and/or restoration? • Protect and enhance areas of trees, woodland or hedges? • Seek to promote watercourses as valuable landscape features and wildlife habitats? • Protect and enhance the services provided to society by semi-natural habitats and their wildlife? • Avoid the spread of invasive non-native species?	++/-	Achieving these goals and priority objective would have an overall positive effect, protecting biodiversity and habitats from erosion damage and degradation, as a result of climate change. It supports the development of blue/ green infrastructure, reducing habitat fragmentation and helping to strengthen green networks which can all increase biodiversity. It encourages the protection of trees, tree planting, riparian woodlands, monitoring for changes in pests and disease and managing resources responsibly. In order to fulfil these goals and priority, some projects such as the development of blue/ green infrastructure may affect habitats and species in Aberdeen. This is through disturbance or change in use of habitats. Aberdeen Adapts will seek to ensure blue/ green infrastructure schemes are appropriate to local landscape. It will seek protect the shoreline and river corridors and to provide natural solutions to the risk of

				erosion.
Air	Limit or reduce the emissions of air-borne pollutants	• Negatively impact air quality? • Increase congestion and vehicle traffic? • Support measures to reduce levels of air pollution?	+	This priority and goals would support an increase in tree planting and green/ blue infrastructure in areas of the city, including in AQMAs. These measures can have a positive impact on air quality, although it is recognised that climate change may have an adverse effect on air quality.
Climatic factors	Limit or reduce the emissions of greenhouse gases and promote the production of renewable energy Reduce vulnerability to the effects of climate change on flood risk	• Increase the resilience of people, material assets and the natural environment to the impacts of climate change? • Result in the implementation of appropriate adaptations to reduce vulnerability to climate impacts? • Have the potential to increase areas at risk from flooding, or result in an increase in flooding in other areas? • Have the potential to alleviate risk of flooding and erosion? • Support natural flood management? • Promote the efficient use of energy and water and maximise use of renewable resources? Protect natural carbon sinks, such as carbon rich soils?	++	Achieving this priority and goals would help to limit and mitigate the impacts of climate change, such as flooding and erosion on the natural environment, fragmentation, impacts for species and habitats. It would develop actions to increase the resilience of the natural environment to the impacts of climate change, support natural flood management; and consider the cumulative impacts of climate change on the natural environment.
Soil	Reduce contamination, safeguard soil quantity and quality Minimise waste production and amount of waste sent to landfill	• Avoid or minimise the loss of carbon rich soils? • Promote a reduction in soil sealing, loss of soil and compaction? • Reduce the risk of erosion, landslip and landslide? • Support measures to reduce risks of soil contamination?	+/-	This priority and goals will have a positive and negative effect on soil. It supports sustainable soil management and measures to reduce the risk of erosion, safeguarding soil quality from pollution from run off and flooding; and reduce the risk of erosion,

		• Ensure that possible contamination will be properly remediated and not impact upon sensitive receptors, such as human health or the water environment?		landslide and landslip in the natural environment. There may be a minor amount of soil sealing and compaction in the development of some forms of blue/ green infrastructure actions to protect the natural environment, although there would be longer term benefits. Any negative impacts of actions would be assessed on a case by case basis.
Water	Promote sustainable use of water and mitigate the effects of floods and droughts Ensure that the water quality and good ecological status of the water framework directive are maintained. Maintain water abstraction, run-off and recharge within carrying capacity	• Support the protection and enhancement of water bodies, protecting species and habitats reliant on the water environment? • Protect and improve water quality? • Result in the release of water-borne pollution into watercourses or groundwater? • Increase the amount of surface water run-off into water bodies? • Support sustainable flood risk management, including the development of SUDS and green, blue infrastructure? • Avoid adverse impacts on the River Dee SAC, and other watercourses? • Increase areas at risk from flooding, or result in increased flooding in other areas? • Avoid adverse impacts on the coastline?	++	This priority and goals will have a positive effect on water reducing areas at risk from changes in climate. It will promote sustainable water management to protect abstraction levels and impacts of low flows on the River Dee SAC. It will support the adoption of natural flood management and measures including SUDs – reducing the risk of pollution to water courses and helping to protect the water environment during an increase in the severity and frequency of extreme weather events.
Landscape	Maintain and support landscape character and local distinctiveness.	• Avoid adverse visual impacts or impacts on setting? • Avoid adverse effects on protected/designated landscapes townscapes and seascapes? • Enhance the character, distinctiveness and quality of the landscape, townscape, coast,	++	This priority and goals could have an overall positive effect on the landscape. It could reduce the risk of erosion to the landscape and coastline. The development of blue/ green

		seascapes, “gateway” routes and setting of the city and surrounding areas? • Protect and enhance the services provided to society by landscape, in particular the relevant cultural services. • Degrade the coastal environment?		infrastructure will protect the natural environment and could enhance the landscape. It supports the development of appropriate adaptation actions for the landscape to protect the natural environment. However, tree and woodland planting to support adaptation could change the landscape.
Population	Promote economic growth, social inclusion, environmental improvement, health and safety;	• Promote opportunities to improve personal and community resilience? • Help to reduce inequalities and the impacts of climate injustice? • Protect and enhance the essential services provided to society by the natural environment? • Support opportunities for social equality and cohesion?	+	This priority and goals could have a neutral impact on population supporting measures to reduce risks to public safety from the natural environment such as windthrow on trees or erosion and landslip. Projects resulting from Aberdeen Adapts may have a positive impact on population by creating new jobs and market diversification in protecting the natural environment.
Human Health	Protect and enhance human health Retain and improve quality, quantity and connectivity of publicly accessible open space	• Help to reduce impacts of climate change on human health? • Provide opportunities for improved health and wellbeing and community resilience? • Support and encourage food security? • Retain and improve the quality, quantity and connectivity of publicly accessible open space? • Support and encourage sustainable travel modes? • Support opportunities for social equality and cohesion?	++	This priority and goals could have a positive impact on human health supporting an increase in the quantity and connectivity and ensuring accessibility to green space, maintaining access to outdoor spaces for leisure and recreation. Projects resulting from these objectives and goals in Aberdeen Adapts will have a positive effect in reducing the risk of exposure to climate impacts. Health will be

				vulnerable under a changing climate.
Cultural Heritage	Promote protect and, where appropriate, enhance the historic environment	• Avoid adverse effects on, as well as conserve and enhance historic buildings, archaeological sites, conservation areas? • Impact on the landscape setting of Aberdeen or any historic features or sites? • Help to reduce the effects of climate change on the historic environment, maintaining character? • Promote the importance and value of the historic environment?	+	This priority and goals would have both a positive impact on cultural heritage. It seeks to protect historic landscape settings, protected trees and archaeological sites from the impacts of climate change.
Material Assets	Promote good design, safe environment, clean environment and good quality services Protect and enhance outdoor access opportunities and access rights	• Support the protection and enhancement of buildings, infrastructure, natural and historic assets? • Promote the sustainable use of resources, including waste and energy? • Minimise the demand for raw materials? • Reduce pressure social, utilities and communications infrastructure? • Support the development of flood prevention and regeneration programmes?	+	Achieving these goals would reduce the impacts of climate change on the natural environment.

Table 6.6 Assessment of Priority 3 - A strong economy. A healthy society

Priority 3 - Healthy and empowered communities and strong and robust businesses developing the capacity and knowledge to adapt. Goals: Prepared communities, Prioritising health and wellbeing, Strengthening the economy, Encouraging food security				
SEA Topic	**Objective**	**Will the Option/Objective/Action Plan…?**	**Score (++, +, -. --, ?, 0)**	**Comments (long-term, short-term and medium-term reversibility or irreversibility of affects, risks, duration (permanent, temporary)**
Biodiversity (flora and fauna)	Conserve, protect and enhance the diversity of species and habitats and natural heritage of Aberdeen. Maintain and enhance the populations of protected species, including European Protected Species, including protection of their resting places or roosts. Maintain or enhance existing green networks and improve connectivity/function and create new links where needed.	• Affect the conservation objectives of any international, national or locally designated site? • Affect populations of any protected species, their habitats, resting places or roosts? • Protect and avoid fragmentation of semi natural habitats and native species relying on them? • Provide opportunities for habitat enhancement, creation and/or restoration? • Protect and enhance areas of trees, woodland or hedges? • Seek to promote watercourses as valuable landscape features and wildlife habitats? • Protect and enhance the services provided to society by semi-natural habitats and their wildlife? • Avoid the spread of invasive non-native species?	+	This priority and goals would have an unknown effect on biodiversity. However, there may be the development of natural flood management, shade and cooling to protect people from the impacts of climate change that will have benefits for biodiversity.
Air	Limit or reduce the emissions of air-borne pollutants	• Negatively impact air quality? • Increase congestion and vehicle traffic? • Support measures to reduce levels of air pollution?	+	This priority and goals would a reduction in transport congestion during extreme weather events, this would have impacts on health from vehicle emissions. These goals aim to increase natural flood management and natural shade

				and cooling which may support a reduction in emissions and impacts on air quality. There may be a comparatively minor amount of emissions released from the development of some adaptation actions.
Climatic factors	Limit or reduce the emissions of greenhouse gases and promote the production of renewable energy Reduce vulnerability to the effects of climate change on flood risk	• Increase the resilience of people, material assets and the natural environment to the impacts of climate change? • Result in the implementation of appropriate adaptations to reduce vulnerability to climate impacts? • Have the potential to increase areas at risk from flooding, or result in an increase in flooding in other areas? • Have the potential to alleviate risk of flooding and erosion? • Support natural flood management? • Promote the efficient use of energy and water and maximise use of renewable resources? • Protect natural carbon sinks, such as carbon rich soils?	+	This priority and goals would help to limit and mitigate the impacts of climate change and effects such as flooding. Developing actions to increase the resilience of society and the economy to the impacts of climate change. It supports the development of natural flood management, shade and cooling measures, water efficiency actions that can protect people as the climate changes.
Soil	Reduce contamination, safeguard soil quantity and quality Minimise waste production and amount of waste sent to landfill	• Avoid or minimise the loss of carbon rich soils? • Promote a reduction in soil sealing, loss of soil and compaction? • Reduce the risk of erosion, landslip and landslide? • Support measures to reduce risks of soil contamination? • Ensure that possible contamination will be properly remediated and not impact upon	+	This priority and goals will have a neutral effect on soil. It supports measures for increased awareness about permeability and flooding. Supporting community and business actions to increase resilience can help reduce run off and the potential for contaminated soil.

		sensitive receptors, such as human health or the water environment?		
Water	Promote sustainable use of water and mitigate the effects of floods and droughts Ensure that the water quality and good ecological status of the water framework directive are maintained. Maintain water abstraction, run-off and recharge within carrying capacity	• Support the protection and enhancement of water bodies, protecting species and habitats reliant on the water environment? • Protect and improve water quality? • Result in the release of water-borne pollution into watercourses or groundwater? • Increase the amount of surface water run-off into water bodies? • Support sustainable flood risk management, including the development of SUDS and green, blue infrastructure? • Avoid adverse impacts on the River Dee SAC, and other watercourses? • Increase areas at risk from flooding, or result in increased flooding in other areas? • Avoid adverse impacts on the coastline?	+	This priority and goals will have a positive effect on the protection of water quality and on abstraction demands on the River Dee SAC. It will promote water saving technologies and sustainable water management by people and businesses. It will also reduce the amount of surface run off in the built environment through the adoption of natural flood management and measures including SUDs – reducing the risk of pollution to water courses.
Landscape	Maintain and support landscape character and local distinctiveness.	• Avoid adverse visual impacts or impacts on setting? • Avoid adverse effects on protected/designated landscapes townscapes and seascapes? • Enhance the character, distinctiveness and quality of the landscape, townscape, coast, seascapes, “gateway” routes and setting of the city and surrounding areas? • Protect and enhance the services provided to society by landscape, in particular the relevant cultural services. • Degrade the coastal environment?	+	This priority and goals will have neutral effects on the landscape. There will be overall positive impact through the implementation of projects, as a result of Aberdeen Adapts. Some measures may improve visual impacts and enhance the distinctiveness of the landscape, supporting placemaking.

Population	Promote economic growth, social inclusion, environmental improvement, health and safety;	• Promote opportunities to improve personal and community resilience? • Help to reduce inequalities and the impacts of climate injustice? • Protect and enhance the essential services provided to society by the natural environment? • Support opportunities for social equality and cohesion?	+	This priority and goals supports the development of appropriate adaptation actions for community resilience, food security, business resilience and health. It could have a positive impact on population by increasing employment through skills development and innovation in adaptation measures.
Human Health	Protect and enhance human health Retain and improve quality, quantity and connectivity of publicly accessible open space	• Help to reduce impacts of climate change on human health? • Provide opportunities for improved health and wellbeing and community resilience? • Support and encourage food security? • Retain and improve the quality, quantity and connectivity of publicly accessible open space? • Support and encourage sustainable travel modes? • Support opportunities for social equality and cohesion?	+	Achieving this priority and goals would have a positive impact, helping to reduce the impacts of climate change on human health, especially biodiversity for vulnerable people who may be more affected due to age or pre-existing health conditions. The development of green/ blue infrastructure would create more and better connected usable green spaces for people supporting health and wellbeing. Aberdeen Adapts seeks to improve community resilience to the impacts of climate change.
Cultural Heritage	Promote protect and, where appropriate, enhance the historic environment	• Avoid adverse effects on, as well as conserve and enhance historic buildings, archaeological sites, conservation areas? • Impact on the landscape setting of Aberdeen or any historic features or sites? • Help to reduce the effects of climate change on the historic environment, maintaining character? • Promote the importance and value of the historic environment?	+	Achieving these goals would have both a positive impact on cultural heritage. It would promote and encourage protection of historic assets from climate impacts, helping to preserve these features for future generations.

Material Assets	Promote good design, safe environment, clean environment and good quality services Protect and enhance outdoor access opportunities and access rights	• Support the protection and enhancement of buildings, infrastructure, natural and historic assets? • Promote the sustainable use of resources, including waste and energy? • Minimise the demand for raw materials? • Reduce pressure social, utilities and communications infrastructure? • Support the development of flood prevention and regeneration programmes?	+	This option would have a positive and neutral impact on material assets. Without Aberdeen Adapts homes, infrastructure and business assets will be increasingly vulnerable to climate impacts causing damage and disruption. Aberdeen Adapts would encourage people and businesses to protect material assets to maintain liveability in the city and to keep the city open for business.

Table 6.7 Assessment of Priority 4 - Building understanding

Priority 4: Increase awareness and understanding of the climate impacts for Aberdeen and how local communities, business and organisations can adapt. **Goals: Climate research, Climate awareness.**				
SEA Topic	**Objective**	**Will the Option/Objective/Action Plan…?**	**Score (++, +, -. --, ?, 0)**	**Comments (long-term, short-term and medium-term reversibility or irreversibility of affects, risks, duration (permanent, temporary)**
Biodiversity (flora and fauna)	Conserve, protect and enhance the diversity of species and habitats and natural heritage of Aberdeen. Maintain and enhance the populations of protected species, including European Protected Species, including protection of their resting places or roosts. Maintain or enhance existing green networks and improve connectivity/function and create new links where needed.	• Affect the conservation objectives of any international, national or locally designated site? • Affect populations of any protected species, their habitats, resting places or roosts? • Protect and avoid fragmentation of semi natural habitats and native species relying on them? • Provide opportunities for habitat enhancement, creation and/or restoration? • Protect and enhance areas of trees, woodland or hedges? • Seek to promote watercourses as valuable landscape features and wildlife habitats? • Protect and enhance the services provided to society by semi-natural habitats and their wildlife? • Avoid the spread of invasive non-native species?	+	This objective and goals aims to recognise the role education and awareness can have in adapting to climate change. Encouraging research into the climate impacts on biodiversity; as well as empowering people to understand and take part in observation and monitoring of climate impacts on biodiversity through citizen science. This theme would improve tree planting and an increase in green infrastructure.
Air	Limit or reduce the emissions of air-borne pollutants	• Negatively impact air quality? • Increase congestion and vehicle traffic? • Support measures to reduce levels of air pollution?	+	This objective and goals would aim to increase awareness and understanding of the benefits of tree planting and blue green infrastructure to support climate adaptation in helping to improve air quality.

Climatic factors	Limit or reduce the emissions of greenhouse gases and promote the production of renewable energy Reduce vulnerability to the effects of climate change on flood risk	• Increase the resilience of people, material assets and the natural environment to the impacts of climate change? • Result in the implementation of appropriate adaptations to reduce vulnerability to climate impacts? • Have the potential to increase areas at risk from flooding, or result in an increase in flooding in other areas? • Have the potential to alleviate risk of flooding and erosion? • Support natural flood management? • Promote the efficient use of energy and water and maximise use of renewable resources? • Protect natural carbon sinks, such as carbon rich soils?	+	This objective and goals would help knowledge and build long term understanding of adaptation. It would encourage uptake and participation and integration of local climate adaptation actions. It will highlight areas needing further research; and improve access to information on climate impacts for Aberdeen across all SEA topic areas.
Soil	Reduce contamination, safeguard soil quantity and quality Minimise waste production and amount of waste sent to landfill	• Avoid or minimise the loss of carbon rich soils? • Promote a reduction in soil sealing, loss of soil and compaction? • Reduce the risk of erosion, landslip and landslide? • Support measures to reduce risks of soil contamination? • Ensure that possible contamination will be properly remediated and not impact upon sensitive receptors, such as human health or the water environment?	+	This objective and goals would support the development of research and awareness of soil value and functions and their role and need for protection as the climate changes, as well as encourage options for permeable surfaces. This could be beneficial for the protection of soil quality as the climate changes. In turn this can support biodiversity and food growing.

Water	Promote sustainable use of water and mitigate the effects of floods and droughts Ensure that the water quality and good ecological status of the water framework directive are maintained. Maintain water abstraction, run-off and recharge within carrying capacity	• Support the protection and enhancement of water bodies, protecting species and habitats reliant on the water environment? • Protect and improve water quality? • Result in the release of water-borne pollution into watercourses or groundwater? • Increase the amount of surface water run-off into water bodies? • Support sustainable flood risk management, including the development of SUDS and green, blue infrastructure? • Avoid adverse impacts on the River Dee SAC, and other watercourses? • Increase areas at risk from flooding, or result in increased flooding in other areas? • Avoid adverse impacts on the coastline?	+	This objective and goals will have a positive effect on water, however there will be considerable impacts on water as the climate changes. It will promote water saving technologies and sustainable water management increasing understanding of the pressures of climate change on the River Dee SAC. It will build knowledge and understanding of natural flood management for Aberdeen.
Landscape	Maintain and support landscape character and local distinctiveness.	• Avoid adverse visual impacts or impacts on setting? • Avoid adverse effects on protected/designated landscapes townscapes and seascapes? • Enhance the character, distinctiveness and quality of the landscape, townscape, coast, seascapes, “gateway” routes and setting of the city and surrounding areas? • Protect and enhance the services provided to society by landscape, in particular the relevant cultural services. • Degrade the coastal environment?	+	This objective and goals will have positive effects on the landscape. It could promote understanding of the value of landscape in climate adaptation.
Population	Promote economic growth, social inclusion, environmental	• Promote opportunities to improve personal and community resilience? • Help to reduce inequalities and the impacts of	+	This objective and goals supports the development of appropriate research on adaptation for the built and natural

	improvement, health and safety;	climate injustice? • Protect and enhance the essential services provided to society by the natural environment? • Support opportunities for social equality and cohesion?		environment in Aberdeen. This could have a positive impact on population, by increasing skills in adaptation measures and building understanding that will support community protection and resilience.
Human Health	Protect and enhance human health Retain and improve quality, quantity and connectivity of publicly accessible open space	• Help to reduce impacts of climate change on human health? • Provide opportunities for improved health and wellbeing and community resilience? • Support and encourage food security? • Retain and improve the quality, quantity and connectivity of publicly accessible open space? • Support and encourage sustainable travel modes? • Support opportunities for social equality and cohesion?	+	Achieving this objective and goals would have a positive impact, helping to increase knowledge of the impacts of climate change on the health of city residents and how to manage this. It would encourage better awareness and understanding of climate impacts that could support community resilience and reduce exposure to climate risks. The promotion of green/ blue infrastructure would aim to create buy in for more and better connected usable green spaces for people. This in turn would support health and wellbeing.
Cultural Heritage	Promote protect and, where appropriate, enhance the historic environment	• Avoid adverse effects on, as well as conserve and enhance historic buildings, archaeological sites, conservation areas? • Impact on the landscape setting of Aberdeen or any historic features or sites? • Help to reduce the effects of climate change on the historic environment, maintaining character? • Promote the importance and value of the historic environment?	+	This objective and goals would have a positive impact on cultural heritage. Increasing knowledge of measures to reduce the vulnerability of cultural sites to climate impacts. This would promote greater use of permeability and build understanding of the impacts of urban creep on surface water runoff and flooding.

Material Assets	Promote good design, safe environment, clean environment and good quality services Protect and enhance outdoor access opportunities and access rights	• Support the protection and enhancement of buildings, infrastructure, natural and historic assets? • Promote the sustainable use of resources, including waste and energy? • Minimise the demand for raw materials? • Reduce pressure social, utilities and communications infrastructure? • Support the development of flood prevention and regeneration programmes?	+	This objective and goals would have a positive impact on material assets. Increasing knowledge of measures to reduce the vulnerability of homes and business assets, and the natural environment to climate impacts.

Table 6.7 Assessment of Priority 5 - Collaborative working

Priority 5: Increasing capacity to adapt, through long term collaborative working between the public, private and community sectors. Goals: Joined up planning and response				
SEA Topic	**Objective**	**Will the Option/Objective/Action Plan…?**	**Score (++, +, -. --, ?, 0)**	**Comments (long-term, short-term and medium-term reversibility or irreversibility of affects, risks, duration (permanent, temporary)**
Biodiversity (flora and fauna)	Conserve, protect and enhance the diversity of species and habitats and natural heritage of Aberdeen. Maintain and enhance the populations of protected species, including European Protected Species, including protection of their resting places or roosts. Maintain or enhance existing green networks and improve connectivity/function and create new links where needed.	• Affect the conservation objectives of any international, national or locally designated site? • Affect populations of any protected species, their habitats, resting places or roosts? • Protect and avoid fragmentation of semi natural habitats and native species relying on them? • Provide opportunities for habitat enhancement, creation and/or restoration? • Protect and enhance areas of trees, woodland or hedges? • Seek to promote watercourses as valuable landscape features and wildlife habitats? • Protect and enhance the services provided to society by semi-natural habitats and their wildlife? • Avoid the spread of invasive non-native species?	+	This objective and goals would have an overall positive effect on biodiversity, through the development of a collaborative and joined up approach to assessing and addressing the climate impacts on biodiversity. This will better highlight risks and opportunities, as well as share understanding of the adaptation actions that can improve biodiversity. It will also improve understanding of the cumulative impacts of climate actions on biodiversity.
Air	Limit or reduce the emissions of air-borne pollutants	• Negatively impact air quality? • Increase congestion and vehicle traffic? • Support measures to reduce levels of air pollution?	?	This objective and goals would support collaborative approaches to blue green infrastructure and tree planting, sharing knowledge on the benefits of this approach to city air quality. It would allow an exchange of information on the impacts of climate

				change on air quality levels.
Climatic factors	Limit or reduce the emissions of greenhouse gases and promote the production of renewable energy Reduce vulnerability to the effects of climate change on flood risk	• Increase the resilience of people, material assets and the natural environment to the impacts of climate change? • Result in the implementation of appropriate adaptations to reduce vulnerability to climate impacts? • Have the potential to increase areas at risk from flooding, or result in an increase in flooding in other areas? • Have the potential to alleviate risk of flooding and erosion? • Support natural flood management? • Promote the efficient use of energy and water and maximise use of renewable resources? • Protect natural carbon sinks, such as carbon rich soils?	++	This objective and goals would enable a consistent, collaborative approach to climate risks for the city. It will improve understanding of climate change and support the delivery of actions that will address climate threats and opportunities for Aberdeen.
Soil	Reduce contamination, safeguard soil quantity and quality Minimise waste production and amount of waste sent to landfill	• Avoid or minimise the loss of carbon rich soils? • Promote a reduction in soil sealing, loss of soil and compaction? • Reduce the risk of erosion, landslip and landslide? • Support measures to reduce risks of soil contamination? • Ensure that possible contamination will be properly remediated and not impact upon sensitive receptors, such as human health or the water environment?	+	This priority and goals will have a neutral effect on soil. It supports measures shared understanding and collaborative approaches to the protection of soil quality and function in the city.

Water	Promote sustainable use of water and mitigate the effects of floods and droughts Ensure that the water quality and good ecological status of the water framework directive are maintained. Maintain water abstraction, run-off and recharge within carrying capacity	• Support the protection and enhancement of water bodies, protecting species and habitats reliant on the water environment? • Protect and improve water quality? • Result in the release of water-borne pollution into watercourses or groundwater? • Increase the amount of surface water run-off into water bodies? • Support sustainable flood risk management, including the development of SUDS and green, blue infrastructure? • Avoid adverse impacts on the River Dee SAC, and other watercourses? • Increase areas at risk from flooding, or result in increased flooding in other areas? • Avoid adverse impacts on the coastline?	+	This priority and goals will encourage collaboration on the protection of water quality and the promotion of water efficiency and sustainable water management measures across organisations that can help reduce water stress from abstraction demands on the River Dee SAC. It aims to encourage a consistent approach to reducing the risk of pollution from run off – by developing consistent approaches in the development and the adoption of natural flood management and measures including SUDs.
Landscape	Maintain and support landscape character and local distinctiveness.	• Avoid adverse visual impacts or impacts on setting? • Avoid adverse effects on protected/designated landscapes townscapes and seascapes? • Enhance the character, distinctiveness and quality of the landscape, townscape, coast, seascapes, “gateway” routes and setting of the city and surrounding areas? • Protect and enhance the services provided to society by landscape, in particular the relevant cultural services. • Degrade the coastal environment?	+	This priority and goals will have neutral effects on the landscape. There will be overall positive impact through the collaboration on projects to improve visual impacts and enhance the distinctiveness of the landscape, supporting placemaking. A shared understanding between organisations aims to ensure approaches to develop blue/ green infrastructure are consistent and in keeping with landscape character. Working together consistency….
Population	Promote economic growth, social inclusion, environmental	• Promote opportunities to improve personal and community resilience? • Help to reduce inequalities and the impacts of	+	This priority and goals supports the development of a collaborative approach to adaptation actions for

	improvement, health and safety;	climate injustice? • Protect and enhance the essential services provided to society by the natural environment? • Support opportunities for social equality and cohesion?		community resilience, food security, business resilience and health. It aims to encourage involvement and empower organisations with understanding of climate risks and the participation in adaptation projects.
Human Health	Protect and enhance human health Retain and improve quality, quantity and connectivity of publicly accessible open space	• Help to reduce impacts of climate change on human health? • Provide opportunities for improved health and wellbeing and community resilience? • Support and encourage food security? • Retain and improve the quality, quantity and connectivity of publicly accessible open space? • Support and encourage sustainable travel modes? • Support opportunities for social equality and cohesion?	+	Achieving this priority and goals improve community resilience to the impacts understanding, assessment and planning for timely interventions across partners to the health impacts from climate change.
Cultural Heritage	Promote protect and, where appropriate, enhance the historic environment	• Avoid adverse effects on, as well as conserve and enhance historic buildings, archaeological sites, conservation areas? • Impact on the landscape setting of Aberdeen or any historic features or sites? • Help to reduce the effects of climate change on the historic environment, maintaining character? • Promote the importance and value of the historic environment?	+	Achieving these goals would have both a positive impact on cultural heritage. It would help establish consistency in learning and implementation of the measures to protect historic assets from climate change.

Material Assets	Promote good design, safe environment, clean environment and good quality services Protect and enhance outdoor access opportunities and access rights	• Support the protection and enhancement of buildings, infrastructure, natural and historic assets? • Promote the sustainable use of resources, including waste and energy? • Minimise the demand for raw materials? • Reduce pressure social, utilities and communications infrastructure? • Support the development of flood prevention and regeneration programmes?	+	This priority and goals would have a positive impact on material assets. Making best use of resources, ensuring shared understanding and encouraging the development of partnership approaches to protect material assets in Aberdeen from the impacts of climate change.

6.2 Cumulative Effect Assessment

Paragraph 6 (e) of Schedule 3, of the Environmental Assessment (Scotland) Act 2005 requires that we assess the likely significant effects on the environment, including secondary, cumulative and synergistic effects. We have assessed cumulative effects of Aberdeen Adapts, taking into account the information available to us.

In doing so, we have considered

(i) the evolution of the environment without Aberdeen Adapts,
(ii) the environmental characteristics of areas likely to be significantly affected, and
(iii) the assessment undertaken to date.

In this part of the report, we have assessed direct/indirect/secondary, time crowding, time lag, space crowding, cross-boundary, nibbling and synergistic effects in gauging cumulative effects. We have presented the detailed assessment in Table 6.8 below.

Table 6.8 Assessment of Cumulative and Synergistic effects of Aberdeen Adapts

Policy Options	Protecting buildings and Infrastructure	Safeguarding natural environment	Climate resilient economy and society	Building capacity	Collaborative working	Cumulative Effects	Comment Cumulative effects including: Time crowding (frequent and repetitive effect); Time lag (long delays in cause and effect); space crowding (high spatial density of effects); cross-boundary (effects occurring distances from source); synergistic (effects from multiple sources or combined effects different in nature from the individuals); indirect (secondary effects resulting from a primary activity); nibbling (incremental)
Air	+	+	+	+	?	+/?	Air: In the longer term, the development of blue green infrastructure will have a cumulative positive impact on air quality through time crowding and nibbling, especially in AQMA areas in the city. Measures to increase the resilience of transport infrastructure will reduce traffic congestion; the development of natural cooling measures; and the promotion of property protection and maintenance measures will have an indirect positive effect on air quality. Depending on the timing of some individual project developments, there is the possibility that dust nuisance will be generated, with potential cross-boundary effects but it is not considered that there will be a significant and indirect air pollution issues for Aberdeen arising from Aberdeen Adapts.
Water	++	+	+	+	+	++	Water: The overall goals and priorities of Aberdeen Adapts will improve water quality, promote efficient use of water and reduce risks of water pollution of the general water environment and any underground water reserves and aquifers through time-crowding effects, cross boundary and time-lag effects. If Aberdeen Adapts did not go ahead, there will be cumulative, long-term effects with a reduction in water quality through nibbling effects.
Soil	+/-	+/-	+	+	+	+/-	Soil: Some individual projects could lead to soil compaction and sealing; but these are thought to be over a short-term period only and would not cause time-crowding, time lag or space crowding effects. Overall Aberdeen Adapts would lead to a long term cumulative positive effect on soil by protecting it from the effects of climate change such as flooding and erosion; and promoting effective soil management to protect soil function.

Biodiversity	+/-	++/-	+	+	+	++/-	Biodiversity: actions to protect biodiversity from climate change may have positive secondary effects for air, health and soil. The development of some flood alleviation projects and BGI may have a cumulative impact on biodiversity and could result in fragmentation of habitats. Cumulatively and over a long-term time frame Aberdeen Adapts would protect biodiversity and habitats from the effects of climate change by monitoring for pests, disease and invasive non-native species; improving greenspace; considering resilience in the management of parks and greenspaces; increasing BGI; measures to improve connectivity; managing resources responsibly; and encourage tree planting and protection. This will have cumulative positive effects. In order to fulfil Aberdeen Adapts' goals some projects may directly affect habitats and species through fragmentation or disturbance. There may also be direct and indirect cross boundary impacts on mobile species and time lag factors for biodiversity.
Climatic Factors	+	++	+	+	++	++	Climate: Aberdeen Adapts will put in place long-term cumulative measures to adapt the city to climate change; and address impacts from flooding, erosion, heavy rainfall, rise in sea level, with storm surge; heatwave, drought and storms. Due to the nature of some of these impacts and time to establish approaches there may be a time-lag effect. Climate resilience for land, coastline, waterways and people will have cross boundary implications. The incremental installation of adaptation measures would have cumulative positive benefits.
Cultural Heritage	++/-	+/-	+	+	+	++/-	Cultural Heritage: Some of Aberdeen Adapts' individual projects could have a direct and long-term effect on the landscape setting of historic buildings, archaeological sites and conservation sites. However, the majority of Aberdeen Adapts' objectives are unlikely to have any significant negative impact on cultural heritage. Measures to protect cultural heritage are likely to have a significant positive effect.
Landscape	+/-	++	+	+	+	++/-	Landscape: Some of Aberdeen Adapts' individual projects could have a direct and long-term effect on the landscape setting of Aberdeen, with potential cross boundary effects. The use of land for some flood alleviation projects and BGI may have a positive and negative impact on landscape. It could result in fragmentation. However, the majority of Aberdeen Adapts' objectives are unlikely to have any significant negative impact on landscape. Measures to safeguard the natural environment are likely to have a significant positive effect on the landscape.
Material Assets	+	+	+	+	+	+	Material Assets: Measures to adapt buildings and infrastructure to climate change will provide long term protection of fixed assets and reduce the cumulative impacts from climate change on material assets. The use of natural materials, promoting a resilient waste infrastructure is encouraged. In that sense it is not envisaged that there will be any adverse effects accumulating through time-crowding, and space crowding effects, synergistic and nibbling effects. Aberdeen Adapts is likely to have a positive effect on material assets. However, it is recognised that some natural adaptation measures, such as green walls, make take time to establish.
Population	+	+	+	+	+	+	Population: The promotion of research, innovation, development and installation of adaption measures is likely to provide the scope for increasing employment through job creation and market diversification. The cumulative effects of adaptation actions for community resilience, food security, business resilience are likely to have positive effects overall on population. In that sense, it is not envisaged that there will be any adverse effects accumulating through time-crowding, time lag, and space crowding effects, synergistic and nibbling effects.

Human health	+	++	+	+	+	++	Human Health: Aberdeen Adapts' collaborative approach to identify and manage the effects of climate change on human health will have a positive impact, through a long-term improvement in air quality, improvements to the way climate impacts are managed etc. Aberdeen Adapts' overall aim to help prevent, reduce and manage the health impacts from climate change; reducing risk of damp, helping to improve air quality, and the impacts of severe weather on mental and physical health. It aims to encourage the protection of and an increase in, green space and BGI. This in turn can improve mental and physical health, increasing areas and maintaining access and usability. Aberdeen Adapts' goals and objectives will have an overall significant positive effect on human health.
Key	**+ = positive effect** **- = negative effect** **0 = neutral effect**		**++ = significant positive effect** **-- = significant negative effect** **? = uncertain effect**				

7 Proposed Mitigation Measures

The SEA Directive requires that through mitigation measures, recommendations will be made to prevent, reduce or compensate for the negative effects of implementing the PPS. Aberdeen Adapts is a high-level policy document. At the time of writing this report, the high level actions are listed in Table 4.2. Although our assessment does not identify any significant environmental effects we have brought together mitigation measures from existing PPSs to set the context for future projects should any significant issues be identified during the time of their delivery. These measures are in Table 7.1 below.

Table 7.1 Proposed Mitigation Measures

SEA Issue	Plan Impact	Mitigation Measures/enhancement	When should mitigation be considered?	Who is responsible for undertaking the mitigation?
Air	Potential for the construction and installation of some adaptation measures to produce short term emissions.	Aberdeen Adapts will apply air quality policy to avoid impacts. Planning applications which have the potential to have a detrimental impact on air quality will not be permitted unless measures to mitigate the impact of air pollutants can be agreed.	When projects are being developed and implemented.	Various stakeholders, with lead project managers taking overarching responsibility.
	Development of blue-green infrastructure through the plan can help mitigate air quality impacts.	Aberdeen Adapts will enhance the development of blue-green infrastructure. Where possible target Air Quality Management Areas to support the Air Quality Management Plan.		
Water	Development of water efficiency measures and actions to protect and conserve waste quality, availability and the habitats they provide will have positive effects on water.	Aberdeen Adapts will enhance water efficiency, encouraging measures such as rainwater harvesting. These measures should support the ALDP and the SDP.	When projects are being developed and implemented.	Various stakeholders, with lead project managers taking overarching responsibility.

	Development of flood management measures and actions to reduce run off and manage flood risk will have positive effects on water management.	Aberdeen Adapts will enhance the development of natural flood management measures and will seek to re-naturalise and restore areas to a natural hydrological response. Necessary permissions will be sought through planning and Controlled Activities Regulations, as required. Aberdeen Adapts will develop, encourage and promote appropriate measures to reduce risk of run-off . Aberdeen Adapts will encourage naturalised watercourses with riparian buffer strips. Where there are existing culverts, opportunities to reinstate them as open watercourses will be explored, which would enhance their biodiversity value. Applying policy presumption against excessive engineering or culverting, with natural treatment preferred, where possible. Aberdeen Adapts will encourage Environmental Impact Assessment, Drainage Impact Assessment and Flood Risk Assessment, for projects as required.		

Biodiversity	Potential that the development and installation of flood management measures and blue - green infrastructure could affect species and habitats through fragmentation or disturbance in the short term.	Avoid, through application of the Greenspace Network Policy, so that proposals ensure habitat links are maintained and enhanced. This measure is consistent with the mitigation identified by the Strategic Development Plan and the LDP and the SDP. Carry out HRA where a proposal is likely to affect the Natura 2000 sites, which will outline site specific mitigation measures. Aberdeen Adapts will seek to ensure blue/ green infrastructure schemes are appropriate to habitats, referring to habitat data, carrying out HRA, where relevant, and Landscape Character Assessment and Green Space Network (GSN) policy will be applied so that habitat links are maintained and enhanced. Ecological Assessments to be completed where development of flood scheme or other adaptation measure is likely to affect a designated site or protected species, with specific mitigation measures. Reduce the impact by integrating environmental improvement measures as part of schemes.	When projects are being developed and implemented.	Various stakeholders, with lead project managers taking overarching responsibility.
	Development of measures to safeguard the natural environment including measures for trees and woodlands, habitats and wildlife and blue - green infrastructure, to increase the resilience of the natural environmental will have positive effects on biodiversity.	Enhance positive effects, through measures to protect habitats and wildlife, develop blue-green infrastructure and natural flood management schemes. Supporting open space, flood management and planning objectives.	When projects are being planned, developed and implemented.	

Soil	Potential for soil sealing and compaction in the construction of measures to protect the built environment, such as flood protection schemes, as well as in the construction of some forms of blue- green infrastructure to protect the natural environment. It should be noted, however, any negative impacts would be assessed on a case by case basis.	Those undertaking works will be required to ensure that every effort is made to reduce soil sealing and compaction and create permeable surfaces. Those undertaking works will be required to ensure that every effort is made to minimise the risk of pollution resulting from such works	When projects are being developed and implemented.	Various stakeholders, with lead project managers taking overarching responsibility.
	Potential for positive effects on soil, including longer term benefits in improvement to soil function and reducing run off.	Enhance positive effects developing measures to strengthen policy, improve understanding and protect soil function and quality. This includes the use of permeable/ porous surfaces. Aberdeen Adapts will develop blue-green infrastructure which can to reduce soil saturation and filter pollutants benefiting soil health.	When actions are planned, developed and implemented.	Various stakeholders, with lead project managers taking overarching responsibility.
Climate	Potential for significant positive effects in addressing climate impacts for the city.	Enhance positive effects, building on and replicating nature conservation, transport, open space, flood management and planning objectives to maximise opportunities to increase resilience to climate impacts. In support of SEA preferred options, Aberdeen Adapts should encourage blue/ green infrastructure, develop actions to increase the resilience of people; material assets and the natural environment; reducing the risk of erosion; and supporting flood management.	When projects are being developed and implemented	Steering group covering Aberdeen Adapts, working with various stakeholders.

Landscape	Potential for positive and negative impact on landscape character and visual impact. Potential for the development of blue- green infrastructure and flood alleviation schemes to fragment the landscape.	Aberdeen Adapts should seek to implement blue-green infrastructure and flood alleviation projects that are appropriate and proportionate to the landscape setting to avoid and minimise adverse impacts on the landscape. Landscape impact will be mitigated through screening or sensitive siting within the landscape where appropriate. Projects will take into account Landscape Character Assessment and improve landscape character in line with LDP policy. Green Space Network (GSN) policy will be applied so that habitat links are maintained and enhanced and fragmentation is avoided. Aberdeen Adapts aims to maintain and enhance connectivity in the development greenspace networks, blue-green infrastructure and flood alleviation schemes.	When projects are being developed and implemented.	Various stakeholders.
	Development of actions to safeguard the natural environment, including blue-green infrastructure and measures to increase the resilience of the natural environmental will have positive effects on landscape character and visual impact.	Aberdeen Adapts aims to enhance positive effects, building on open space, flood management and planning objectives. The development of natural flood management measures will seek to re-naturalise and restore areas to a more hydrological response. Necessary permissions will be sought through planning and Controlled Activities Regulations. Natural measures to manage erosion along riverbanks and from the movement of coastal sediment will be		

		considered.		
Population and Human health	Developing measures to improve physical and mental health and address the impacts of climate change will have a positive effect on health.	Aberdeen Adapts will consider enhancing positive effects, building on open space, community, health, flood management and planning objectives. Increased awareness of climate impacts on health and wellbeing.	When projects are being developed and implemented	Health and social care providers. Various stakeholders
Cultural heritage	Potential for projects to affect the historic environment and its setting.	Proposed projects should be required to enhance the setting of any heritage assets present consistent with the LDP policy. Assess risks to locations of any historic or archaeological site in the Aberdeen. Action will be taken to identify cultural heritage sites at risk so that significant negative environmental impacts can be avoided on such sites.	When projects are being developed and implemented	Aberdeen City Council, Archaeology Unit, Aberdeen Heritage Trust
	Potential for projects to have a significant positive effect on the protection of heritage sites and archaeological remains.	Action will be taken to identify climate risks to cultural heritage sites and identify the skills, knowledge and appropriate retrofit requirements so that significant positive environmental impacts can be enhanced on such sites.	When projects are being planned and implemented	Aberdeen City Council, Archaeology Unit, Aberdeen Heritage Trust
Material Assets	Potential for significant positive effects arising from implementation of projects.	Aberdeen Adapts will enhance the positive effects, building on and replicating community benefit, public space and access objectives. Action will be taken to undertake more detailed assessment of climate risks to city buildings and infrastructure and to identify the knowledge and appropriate retrofit requirements so that significant positive environmental impacts can be enhanced for material assets.	When projects are being implemented.	Various stakeholders, with lead project managers taking overarching responsibility.

8 Monitoring

8.1 Monitoring Plan

Aberdeen City Council is required to monitor the significant environmental effects when the plan is implemented. Although significant adverse effects have not been identified, a precautionary approach has been taken, suggesting what might happen if the detailed list of projects and actions give rise to some potential significant adverse effects in the future. Table 8.1 below shows our thinking. But this thinking is subject to modification and refinement when further details are known.

Table 8.1 Monitoring Plan

Effects	What sort of information is required? (indicators)	Where will information be obtained from?	Are there gaps in the existing information and how can it be resolved?	When should the remedial action be considered?	Who is responsible for undertaking the monitoring?	How should the results be presented?	What remedial actions could be taken?
Biodiversity	Evidence of qualitative and quantitative impact on the qualifying features of the River Dee Special Area of Conservation SAC.	SEPA. SNH. Dee Catchment Management Plan.	Project detail and implementation.	When projects under Aberdeen Adapts are being implemented to enhance positive effects. Changes to timescales for action may be amended to protect water quality where data from SEPA and SNH indicate potential pollution in the Dee or when data indicates that there has been an increase in peak or low flow incidents.	Aberdeen City Council Environment Team, Scottish Natural Heritage SNH, Scottish Environment protection Agency SEPA, Dee Catchment Partnership, North East Scotland Biodiversity Partnership	As and when necessary	A review of the actions proposed under Aberdeen Adapts, with advice from relevant parties.
	Number of reports of disturbance to marine wildlife.	HRA, SNH and JNCC	Project detail and implementation.		Aberdeen Adapts, Aberdeen City Council and SNH	As and when necessary	A review of the actions proposed under Aberdeen Adapts, with advice from relevant parties.

Effects	What sort of information is required? (indicators)	Where will information be obtained from?	Are there gaps in the existing information and how can it be resolved?	When should the remedial action be considered?	Who is responsible for undertaking the monitoring?	How should the results be presented?	What remedial actions could be taken?
	Water abstraction	Scottish Water	Project detail and implementation.	When there are changes to water supply / demand projections. This will need to be monitored ahead of abstraction rate license.	Scottish Water	As and when necessary.	A review of the actions proposed under Aberdeen Adapts with advice from Scottish Water and SEPA.
	Habitat fragmentation	Open Space Strategy, Nature Conservation Strategy, North East Scotland Biodiversity Partnership, and Greenspace Network, North East Scotland Biological Records Centre (NESBReC)	Project detail and implementation.	If ecological surveys, assessments or monitoring suggests negative impact on habitats and species are likely	Steering Group covering Aberdeen Adapts, Aberdeen City Council Environment Teams, SNH, SEPA, Dee Catchment Partnership, North East Scotland Biodiversity Partnership.		A review of the project proposed under Aberdeen Adapts with advice from SNH.
Climate	Evidence of qualitative and quantitative data on the mitigation measures proposed.				Steering Group covering Aberdeen Adapts		

Effects	What sort of information is required? (indicators)	Where will information be obtained from?	Are there gaps in the existing information and how can it be resolved?	When should the remedial action be considered?	Who is responsible for undertaking the monitoring?	How should the results be presented?	What remedial actions could be taken?
Air	Levels of nitrogen dioxide and particulate matter.	Aberdeen City Council Local Air Quality Management: Progress Reports. Low Emissions Strategy. Local Transport Strategy.	Project detail and implementation.	If when projects under Aberdeen Adapts are being implemented and when Air Quality monitoring in the City shows a change in PM10 and Nitrogen Dioxide.	Steering Group covering Aberdeen Adapts, working with Aberdeen City Council, Environmental Health.	As part of the Air Quality ongoing monitoring.	A review of the project proposed under Aberdeen Adapts with advice from Environmental Health.
	Evidence of qualitative and quantitative impact on the qualifying features of the River Dee Special Area of Conservation SAC. Including low and peak flow data.	SEPA		When projects under Aberdeen Adapts are being implemented to enhance positive effects. Changes to timescales for action may be amended to protect water quality where data from SEPA and SNH indicate potential pollution in the Dee or when data indicates that there has been an increase in peak or low flow incidents.	SEPA		

Effects	What sort of information is required? (indicators)	Where will information be obtained from?	Are there gaps in the existing information and how can it be resolved?	When should the remedial action be considered?	Who is responsible for undertaking the monitoring?	How should the results be presented?	What remedial actions could be taken?
Water	Enhancing positive effects Water quality in rivers and freshwater bodies	Dee Catchment Management Plan SNH on the impact on the qualifying interests of the River Dee SAC North East Flood Risk Management Plan Scottish Environment Protection Agency	Project detail and implementation.	When projects under Aberdeen Adapts are being implemented. When data from SEPA and SNH indicate potential reduction in water availability and quality from the Dee, timescales for action may need to be adjusted. When data indicates that there has been an increase in flood incidents timescales for action may need to be adjusted. When data indicates that there has been an increase in flood incidents or pollution from run off and sediment action should be taken.	SEPA, SNH Relevant and statutory agencies working with Aberdeen Adapts.	As and when necessary	A review of the project proposed under Aberdeen Adapts with advice from statutory agencies like Scottish Water, SNH, SEPA.
	Evidence of changes to coastal erosion.	Dynamic Coast: Scotland's Coastal Change Assessment					

Effects	What sort of information is required? (indicators)	Where will information be obtained from?	Are there gaps in the existing information and how can it be resolved?	When should the remedial action be considered?	Who is responsible for undertaking the monitoring?	How should the results be presented?	What remedial actions could be taken?
	Changes to the extent of areas potentially vulnerable to flooding.	SEPA (flood maps). North East Flood Risk Management Plan	Flood maps and plan undergo regular review.	Where there are changes to flood map data or where changes to flood risk are indicated in the North East Flood Risk Management. Where there are changes to climate projections and projected increases in winter rainfall.	SEPA. North East Flood Risk Management	As and when necessary.	
	Number of recorded flooding incidents.	SEPA, ACC Flooding and Coastal Management, evidence from project partners	Improved flood monitoring.	Where there are changes to flood reporting, flood maps or to flood risk are indicated in the North East Flood Risk Management. Where there are changes to climate projections and projected increases in winter rainfall.	SEPA. North East Flood Risk Management	As and when necessary.	
	Potential visual impact of projects if they involve construction and development.	Any sites which occupy an especially visible and prominent location within the context of the whole city should not be allocated.	When projects are being implemented.		Various stakeholders, with lead project managers taking overarching responsibility.		

Effects	What sort of information is required? (indicators)	Where will information be obtained from?	Are there gaps in the existing information and how can it be resolved?	When should the remedial action be considered?	Who is responsible for undertaking the monitoring?	How should the results be presented?	What remedial actions could be taken?
	Potential for projects to have negative impacts on the landscape when the siting, size, and operation of proposed projects are determined	Landscape appraisal Landscape character assessment	When projects are being implemented.	Landscape impact will be mitigated through screening or sensitive siting within the landscape where appropriate. When projects under Aberdeen Adapts are being implemented and when landscape appraisal from developments in the city indicate a pressure on landscape and townscape setting.	Various stakeholders, with lead project managers taking overarching responsibility.	A review the project proposed under Aberdeen Adapts with advice from planning.	
Cultural Heritage	Evidence of adverse effects on the historical features and their setting.	Aberdeen City Council, Archaeology Service. Aberdeen Heritage Trust	Project detail and implementation. Ongoing climate risks assessment, giving consideration to policy and guidance from Historic Environment Scotland.	When projects under Aberdeen are being implemented. When climate risk assessments indicate changes in pressure on historic buildings, archaeological sites and conservation areas.	Steering Group covering Aberdeen Adapts, Aberdeen City Council, Archaeology Service. Aberdeen Heritage Trust working with Development Management, developers and HES.	As and when necessary	A review of the project proposed under Aberdeen Adapts, with advice from relevant stakeholders.

Effects	What sort of information is required? (indicators)	Where will information be obtained from?	Are there gaps in the existing information and how can it be resolved?	When should the remedial action be considered?	Who is responsible for undertaking the monitoring?	How should the results be presented?	What remedial actions could be taken?
	Evidence of potential significant positive effects derived from appropriate retrofitting of traditional buildings and adapting heritage assets and sites.	Aberdeen City Council, Archaeology Service. Aberdeen Heritage Trust	Yes. Further work is required to assess site specific climate risks. Ongoing monitoring of climate risk process and of the Implementation Programme.	When projects under Aberdeen are being planned and implemented. Changes to timescales or levels for action may be amended based on data from climate projections or climate risk process.	Steering Group covering Aberdeen Adapts, Aberdeen City Council, Archaeology Service. Aberdeen Heritage Trust working with Development Management, developers and HES.	As part of Aberdeen Adapts monitoring	
Population & Human health	Evidence of enhanced positive effects for population and human health.	Aberdeen Adapts, NHG Grampian, Aberdeen Community Planning Partnership, Aberdeen Health and Social Care Partnership,	Yes. Project detail and implementation.	When projects under Aberdeen are being planned and implemented. Changes to timescales or levels of action may be amended based on data from climate projections or climate risk process.	Steering Group covering Aberdeen Adapts working with relevant stakeholders.	As part of Aberdeen Adapts monitoring	A review of the project proposed under Aberdeen Adapts, with advice from relevant stakeholders.

Effects	What sort of information is required? (indicators)	Where will information be obtained from?	Are there gaps in the existing information and how can it be resolved?	When should the remedial action be considered?	Who is responsible for undertaking the monitoring?	How should the results be presented?	What remedial actions could be taken?
	Uptake of property protection measures	Aberdeen City Council, Flooding and Coastal Management	None	When projects under Aberdeen are being planned and implemented. Changes to timescales or levels of action may be amended based on data from climate projections or flood risk.	Aberdeen City Council, Flooding and Coastal Management	As part of monitoring for Aberdeen Adapts and the North East Flooding and Coastal Management Plan.	
Material Assets	Building condition and suitability. Evidence of significant positive effects derived from retrofitting buildings, where required and adapting heritage assets.	Aberdeen Adapts project monitoring. Scottish Housing Survey data. Asset Management Plans.	Project detail and implementation. Further work is required to assess site specific climate risks. Ongoing monitoring of climate risk process and of the Implementation Programme.	When projects under Aberdeen are being planned and implemented. Changes to timescales or levels of action may be amended based on data from climate projections or climate risk process.	Steering Group covering Aberdeen Adapts, working with planners, developers and asset managers.	As part of Aberdeen Adapts monitoring.	A review of the project proposed under Aberdeen Adapts, with advice from planning.

https://www.gov.scot/Publications/2006/09/13104943/17

8.2 An outline of the reasons for selecting the alternatives dealt with

The preferred option (Option 3) is chosen as it is the option with the most positive effects on the environment (see table 6.3). Producing a coherent, long-term vision across multiple organisations will require joined up working, increase impetus to adapt to climate change and help to avoid ad-hoc individual development projects, ensuring that development is well planned and has the least possible impact on the environment.

8.3 General Difficulties, Weaknesses and Limitations

A difficulty of this Environmental Report is that Aberdeen Adapts is a high level multi-organisation driven framework document and therefore could not go into detail about every individual project that is expected to fall out of it and leaves the assessment at a fairly high strategic level.

9. Appendices: Aberdeen Adapts Context, Baseline & Assessments

At the time of writing this report, this is the list we are working with. We do not think the list is exhaustive but the ones listed here capture main themes. If new PPS are known before the Aberdeen Adapts is adopted, the report will be updated.

Appendix 9.1 - Links to other PPS & Environmental Protection Objectives

	Name of PPS / Environmental protection objective	Main Requirements of the PPS	Implications of the PPS for Aberdeen Adapts
INTERNATIONAL			
Climate Change			
1.	EU Adaptation Strategy	3 key objectives. Promoting action by member states and supporting adaptation in cities. Promoting adaptation in vulnerable sectors and ensuring Europe's infrastructure is more resilient. Better informed decision making by addressing gaps in knowledge about adaptation.	Aberdeen Adapts will identify goals, objectives and action areas for the city to adapt to climate change.
2.	Europe 2020	EU agenda for smart, sustainable and inclusive growth.	Aberdeen Adapts should align with mitigation targets.
3.	2030 Climate and Energy Framework	Sets three key targets for the year 2030: At least 40% cuts in greenhouse gas emissions (from 1990 levels); At least 27% share for renewable energy; At least 27% improvement in energy efficiency	Aberdeen Adapts should align with mitigation targets.
4.	EU Cohesion Policy 2014-2020	The EU Cohesion Policy will be the EU's principle investment tool for delivering the Europe 2020 goals: creating growth and jobs, tackling climate change and energy dependence, and reducing poverty and social exclusion.	Aberdeen Adapts will identify climate adaptation measures which will help to achieve these goals.
5.	EU Sustainable Development Strategy (2006)	Includes key objectives in environmental protection, social equity and cohesion, economic prosperity.	Aberdeen Adapts should encourage sustainable development.
Air			
6.	Ambient Air Quality Directive 2008/50/EC	Establishes the need to reduce pollution to levels which minimise harmful effects on human health, paying particular attention to sensitive populations, and the	Aberdeen Adapts should understand climate change could have an impact on air quality and promotes measures to

		environment as a whole, to improve the monitoring and assessment of air quality including the deposition of pollutants and to provide information to the public. Transposed through the Air Quality Standards (Scotland) Regulations 2010.	improve air quality. -
Nature Conservation			
7.	The Habitats Directive 92/43/EEC	Aims to protect biodiversity, protecting and conserving habitats and species. Gives basis to classify Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).	Aberdeen Adapts should comply with the Directive and ensure the protection of species and habitats.
8.	The Birds Directive 2009/147/EC	Aims to protect wild birds, their nests, eggs and their habitats. Including through the designation of Special Protection Areas (SPAs).	Aberdeen Adapts should ensure the protection of all wild, rare and vulnerable birds, their nests, eggs and habitats.
9.	European Biodiversity Strategy to 2020	Promotes the conservation and sustainable use of biological diversity.	Aberdeen Adapts should support the conservation and sustainable use of biological diversity.
Water			
10.	Water Framework Directive 2000/60/EC	Managing and protecting water bodies including rivers, lochs, transitional waters and groundwater. Safeguard the sustainable use of surface water; transitional waters, coastal waters and groundwater. Supports the status of aquatic ecosystems and environments; Addresses groundwater pollution; flooding and droughts; river basin management planning.	Aberdeen Adapts should consider sustainable use of water; mitigate the effects of floods and droughts; and address run off polluting watercourses.
11.	Floods Directive (2007/60/EC)	Requires Member States to assess if all water courses and coast lines are at risk from flooding, to map the flood extent and assets and humans at risk in these areas and to take adequate and coordinated measures to reduce this flood risk.	Aberdeen Adapts should address flood risk and develop measures to reduce inland and coastal flooding.
12.	Groundwater Directive (2006/118/EC)	Protection of groundwater from pollution and provides details on the criteria for assessing good groundwater status, the identification of significant and sustained upwards trends, and the starting points for trend reversal.	Aberdeen Adapts should address the risks of groundwater pollution from severe weather events.
13.	The Nitrates Directive 91/676/EEC	Reduce water pollution caused or induced by nitrates from agricultural sources; and preventing further such pollution.	Aberdeen Adapts should address the risks of water pollution caused or induced by nitrates from increased run

			off or surface water flooding.
Soil			
14.	Thematic Strategy for Soil Protection	Preventing further soil degradation; safeguarding soil functions; responsible soil use and management; as well as restoring degraded soils to an acceptable level.	Aberdeen Adapts should recognise the pressures of climate change on soils; the need to protect soil function and address soil quality; and reduce degradation.
Noise			
15.	Environmental Noise Directive 2002/49/EC	Includes actions to prevent and reduce environmental noise where necessary.	Aberdeen Adapts should seek to develop blue, green infrastructure to support noise management objectives.
Waste			
16.	The Landfill Directive 99/31/EC	The Directive seeks to prevent or reduce as far as possible negative effects of landfill on the environment, in particular on surface water, groundwater, soil, air, and on human health from the landfilling of waste by introducing stringent technical requirements for waste and landfills.	Aberdeen Adapts should seek to reduce the risk of flooding and erosion to waste infrastructure to reduce risk of pollution.
17.	The Waste Framework Directive 2008/98/EC	Requires the planning system to: • Provide policies and sites for waste disposal. • Recover or dispose of waste without endangering human health and without processes or methods which could harm the environment. • Liaison between planning authorities and SEPA.	Aberdeen Adapts should protect waste infrastructure from the impacts of climate change.
NATIONAL			
Overarching Planning Policy			

18.	National Planning Framework for Scotland 3	A natural resilient place is a key planning outcome for Scotland, helping to protect and enhance our natural cultural assets and facilitating their sustainable use. In addition outcomes include: a low carbon place, – reducing our carbon emissions and adapting to climate change is a key outcome of the planning outcomes for Scotland. In addition outcomes include; a connected place – supporting better transport and digital connectivity; and a successful sustainable place – supporting economic growth, regeneration and the creation of well-designed places.	Aberdeen Adapts should take account of the spatial and environmental issues set out in the NPF3 to deliver benefits for communities, the economy and the wider environment, such as: • A more integrated approach and 'greening' of the urban environment through green infrastructure and retrofitting. • Adapting urban infrastructure Sustainable land management and ecosystems enhancement, flooding, erosion, changing water supplies and water quality issues and vulnerability of buildings.
19.	Planning (Scotland) Act 2019	Sets provision for the preparation, examination and publication of development plans. Defines duty of planning authorities to exercise development planning functions to contribute to sustainable development.	Aberdeen Adapts should align with planning requirements and seek to contribute to sustainable development.
20.	Scottish Planning Policy 2014	Identifies the Scottish Government's central purpose at sustainable economic growth. SPP sets out the main purpose and tasks of the planning system and national policies across all policy sectors.	Aberdeen Adapts must act in accordance with the national policies set out in the SPP including a natural resilient place; a low carbon place; a successful, sustainable place; and a connected place.
Cross-Sectoral			
21.	Environmental Protection Act 1990	Provision for improved control of pollution.	Aberdeen Adapts should seek to support measures which control pollution of the environment.
22.	Scotland's National Transport Strategy (2016)	Sets a high level vision for transport. Have high level objectives to protect our environment and improve health; promote social inclusion, improve safety for people; improve integration and promote economic growth.	Aberdeen Adapts should support the aims of strategic transport planning. It should seek to protect critical transport infrastructure; and keep transport networks open, safe and accessible; and develop sustainable drainage solutions.
23.	Scotland's Transport Projects Review	Seeks to promote sustainable travel, access to transport routes, improve journey times and transport reliability.	Aberdeen Adapts should seek to support the strategic transport aims and improve

			access and reliability of transport routes to the effects of flooding, heavy rainfall and high temperatures.
24.	Scotland's Economic Strategy (2015)	Identifies strategic priorities critical to achieving sustainable economic growth.	Aberdeen Adapts should support sustainable economic growth whilst meeting the differing needs of a diverse population. It should address the resilience of city businesses and investigate opportunities for economic growth and innovation in adaptation.
25.	Choosing Our Future: Scotland's Sustainable Development Strategy (2007)	Sets a framework for sustainable development. It highlights the need to build a sustainable future taking account of public well-being, travel, natural resources and waste.	Aberdeen Adapts should aim to conserve Scotland's biodiversity whilst reducing resource depletion and encouraging responsible use of our natural resources.
26.	Tourism Scotland 2020	A strategy to grow visitor spend and tourism employment.	Aberdeen Adapts should consider the opportunities for tourism with projected increases in temperatures.
Climate Change			
27.	Climate Change Act 2008	Sets UK targets to reduce greenhouse gas emissions and makes provision to adapt to climate change.	Aberdeen Adapts should seek to deliver adaptation measures that support the delivery of the Climate Change Act 2008.
28.	Climate Change (Scotland) Act 2009	Sets targets for greenhouse gas emission reductions of 80% by 2050; requires public bodies to contribute to the delivery of the statutory adaptation programme.	Aberdeen Adapts should seek to deliver adaptation measures that support the delivery of the Climate Change (Scotland) Act 2009.
29.	Climate Ready Scotland: Scottish Climate Adaptation Plan	Addresses the impacts for Scotland identified in the UK Climate Risk Assessment. It sets out key objectives for Scotland under the themes of buildings and infrastructure, natural environment and society and economy.	Aberdeen Adapts should seek to deliver adaptation measures that support the delivery of Climate Ready Scotland.
30.	Climate Change Plan: The third report on Proposals and Policies.	Framework for our transition to a low carbon Scotland. It includes proposals and polices to reduce emissions from electricity generation, housing, transport, services, industry, forestry, peatlands, waste, and agriculture.	Adaptation has cross cutting issues with the mitigation agenda.
Air			
31.	Air Quality Standards (Scotland) Regulations 2010	Transpose the Ambient Air Quality Directive requirements (2008/50/EC) into Scottish legislation.	Aberdeen Adapts should recognise the impact of climate change on air quality and supports the delivery of air quality

			management measures.
32.	Air Quality (Scotland) Amendment Regulations 2016	Requires local authorities in Scotland to review air quality within their areas against objectives for several pollutants of concern for human health. Amend the Air Quality (Scotland) Regulations 2000.	Aberdeen Adapts should recognise the impact of climate change on air quality and supports the delivery of air quality management measures.
33.	Air Quality Strategy for England, Scotland, Wales and Northern Island (2007)	Sets air quality standards and objectives for protecting human health and the environment to be included in regulations for the purposes of Local Air Quality Management, relating to concentrations of, amongst others, carbon monoxide, lead, nitrogen dioxide, ozone and particulates.	Aberdeen Adapts should recognise the impact of climate change on air quality and supports the delivery of air quality management measures.
34.	Cleaner Air for Scotland – The Road to a Healthier Future 2015	Sets out the Scottish Government's proposals for delivering further improvements to air quality. Considers a joined up approach to air quality and climate change.	Aberdeen Adapts supports the delivery of air quality management measures.
Heritage, Design and Regeneration			
35.	Historic Environment Scotland Act 2014	Sets out the functions for Historic Environment Scotland in investigating, caring for and promoting Scotland's historic environment.	Aberdeen Adapts should seek to promote and manage the adaptation and maintenance of historic buildings and sites in a sustainable way, without loss of character.
36.	Our Place in Time: The Historic Environment Strategy for Scotland 2014	Sets out a vision to that Scotland's environment is understood and valued, cared for and protected. The key outcome is to ensure that the cultural, social, environmental and economic value of Scotland's historic environment continues to make a strong contribution to the wellbeing of the nation and its people.	Aberdeen Adapts should seek to promote and manage the adaptation and maintenance of historic buildings and sites in a sustainable way, without loss of character.
37.	Historic Environment Policy for Scotland	Designed to support and enable good decision-making about changes to the historic environment. Sets out a series of principles and policies for the recognition, care and sustainable management of the historic environment and promotes a way of understanding the value of the historic environment.	Aberdeen Adapts should seek to promote and manage the adaptation and maintenance of historic buildings and sites in a sustainable way, without loss of character so benefits are secured for present and future generations.
38.	The Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997	Prescribes the approach to be taken in planning for listed buildings, conservation areas and designed landscapes and gardens.	Aberdeen Adapts should ensure that listed buildings, conservation areas and designed landscapes and gardens are not adversely affected by new development. As well as adapting and maintaining the historic environment,

			without loss of character.
39.	Creating Places: a policy statement on architecture and place for Scotland	Outlines Scottish Government position on architecture and place. Considers themes of people and communities; sustainable development; design economic advantages; health outcomes, culture and identity; and landscape and the natural environment.	Aberdeen adapts seeks to support the development of sustainable places and the protection of existing buildings.
40.	Designing Streets: A Policy Statement for Scotland (2010)	Policy statement on street design with emphasis of guidance on street design towards place-making. It is used for the design, construction, adoption and maintenance of new streets, and is applicable to existing streets subject to re-design.	Aberdeen Adapts should seek to integrate adaptation in street design to protect street from climate impacts and develop natural flood management measures. So streets are adaptable, safe, resource efficient, with appropriate SUDs techniques and easy to move around in.
41.	Achieving a Sustainable Future: Regeneration Strategy	Provides the Scottish Government's vision for regeneration and outlines the economic, physical and social outcomes that are required in order to deliver sustainable communities, recognising that some places need additional support and interventions in order to become sustainable.	Aberdeen Adapts should take into account regeneration priorities as a means to integrate adaptation measures in upgrade opportunities.
42.	People and Place: Regeneration Policy Statement	Maximising Scotland's potential for regeneration.	Aberdeen Adapts should consider opportunities for adaptation in city regeneration.
43.	Ancient Monuments and Archaeological Areas Act 1979	Investigating, preserving and recording matters of archaeological or historical interest.	Aberdeen Adapts should consider the impact of climate change on archaeological and historical areas.
44	Green Infrastructure: Design and Placemaking 2011	Provides guidance on shaping our built and green environments by highlighting the advantages of taking an integrated approach to green infrastructure designs and showing how green infrastructure can contribute to each of the six qualities of successful places.	Aberdeen Adapts should align with the integrated approach to green infrastructure design.
Landscape and Soil			
45	The Scottish Soil Framework (2009)	Promotes the sustainable management and protection of soils, consistent with the economic, social and environmental needs of Scotland. Acknowledges climate change and loss of organise measures are significant pressures on soils. Seeks to integrate soil protection into new and existing policies.	Aberdeen Adapts should recognise the pressures of climate change on soils, the need to protect soil function, address soil quality and reduce degradation. Aberdeen Adapts should promote the sustainable management of soils.
46	Getting the best from our land; A land use	Reflects the varied nature of the interactions between	Aberdeen Adapts should ensure

	Strategy for Scotland 2016 - 2021	different interests and land use. Working with nature to contribute more to Scotland's prosperity and responsible stewardship of natural resources. It seeks to understand and manage Scotland's natural resources to conserve ecosystem services for future generations.	responsible stewardship of resources.
47	SNH Landscape Policy Framework Policy Statement 05/01	Sets out SNHs approach for Scotland's landscape. It includes a priority to work with others to regenerate landscapes that have deteriorated as a result of human activities, and damaged environments close to where people live. It recognises that Scotland's landscapes will continue to change and this change can be positive and negative.	Aberdeen Adapts will seek to safeguard and enhance the distinct identity, the diverse character and the special qualities of city landscapes.
Homes, Population and Health			
48.	Community Empowerment (Scotland) Act 2015	A framework to increase community empowerment. Requires local authorities to produce a food growing strategy.	Aberdeen Adapts should promote community resilience and support the resilience of local community food growing.
49.	Good Places Better Health	Identifying what is needed to create places that nurture health and wellbeing and reduce health inequalities.	Aberdeen Adapt will consider the impacts of climate change on health inequalities.
50	Equally Well	A public health strategy for Scotland which aims to tackle health inequalities	Aberdeen Adapt should consider the impacts of climate change on health inequalities.
51	Scotland's National Food and Drink Policy	Aims to ensure our food supplies are secure and resilient to change.	Aberdeen Adapts should support measures to encourage food security.
52	Let's Make Scotland More Active: A Strategy for Physical Activity (2003)	Aims to increase and maintain the proportion of physically active people in Scotland setting out targets to 2022.	Aberdeen Adapts should seek to support the aim of keeping people active, through measures to increase the resilience of local play and sports areas.
53	Equalities Act 2010	Sets out a framework which prevents individuals from unfair treatment and promotes a more equal society.	Aberdeen Adapts should consider the needs of disabled people and address climate inequalities.
54	Disability Discrimination Acts 1995 & 2005	Ensures that discrimination law covers all the activities of the public sector; and requires public bodies to promote equality of opportunity for disabled people. Aims to end the discrimination that many disabled people face and gives disabled people rights in the areas of	Aberdeen Adapts should consider the needs of disabled people and address climate inequalities.

		employment, education, access to goods, facilities and services and buying or renting land or property.	
55	Resilient Communities Strategic Framework and Delivery Plan 2017-2021	Encouraging resilient communities through an engaged public, empowered communities, enabled collaboration, education and evaluation	Aberdeen Adapts should promote community resilience taking opportunities to engage communities.
Nature Conservation			
56	Wildlife and Countryside Act 1981 (as amended)	Gives protection to listed species from disturbance, injury intentional destruction or sale.	Aberdeen Adapts should ensure that its objectives and outcomes lead to protection of wildlife from disturbance, injury and intentional destruction.
57	The Nature Conservation (Scotland) Act 2004	Sets out a series of measures, which are designed to conserve biodiversity and to protect and enhance the biological and geological natural heritage of Scotland. Places a general duty on all public bodies to further the conservation of biodiversity.	Aberdeen Adapts should promote and protect biodiversity including protecting species, habitats and landscape from flooding, erosion, high temperatures, pests and disease and fragmentation.
58	Scottish Biodiversity Strategy 2006	A strategy, which sets out a vision for the future health of Scotland's biodiversity to 2030. It highlights the need to: • Halt the loss of biodiversity with targeted action to prevent loss of species and habitats. • Better planning, design and practice for landscapes and ecosystems; encourage more engagement with people in biodiversity conservation. • Take biodiversity into account in decision making.	Aberdeen Adapts should promote and protect biodiversity including protecting species, habitats and landscape from flooding, erosion, high temperatures, pests and disease and fragmentation. It should ensure the protection and conservation of biodiversity and assist in reversing the decline of important species and habitats; and maximise habitat linkage.
59	2020 Challenge for Scotland's Biodiversity	Supplements the 2004 Scottish Biodiversity Strategy it sets out Scotland's response to the Aichi targets set by the UN Convention on Biological Diversity placing consideration on ecosystem services. It aims to protect biodiversity on land and at sea and support healthier ecosystems.	Aberdeen Adapts should promote and protect biodiversity including protecting species, habitats and landscape from flooding, erosion, high temperatures, pests and disease and fragmentation. It should ensure the protection and conservation of biodiversity and assist in reversing the decline of important species and habitats; and maximise

			habitat linkage.
60	UK Post-2010 Biodiversity Framework	Identifies and builds on common conservation priorities across the UK.	Aberdeen Adapts should seek to identify, manage and protect wildlife and habitats vulnerable to climate change.
61	The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) The Conservation (Natural Habitats, &c.) Amendment (Scotland) Regulations 2007	These Regulations implement the Habitats and Wild Birds Directives. The Regulations provide for the: • designation and protection of 'European sites' (e.g. SACs); • protection of 'European protected species' from deliberate harm; and • adaptation of planning and other controls for the protection of European sites. The Habitats Regulations only apply as far as the limit of territorial waters (12 nautical miles from baseline). The amended Regulations: • simplifies the species protection regime to better reflect the Habitats Directive; • provides a clear legal basis for surveillance and monitoring of European protected species (EPS); • toughens the regime on trading EPS that are not native to the UK ensures that the requirement to carry out appropriate assessments on water abstraction consents and land use plans is explicit.	Aberdeen Adapts should not adversely affect protected species and habitats.
62	Scottish Forestry Strategy 2019-2029	Framework for well planned, well managed forests. Includes an objective to Improve the resilience of Scotland's forests and woodlands and increase their contribution to a healthy and high quality environment. With priorities for resilience and woodland expansion.	Aberdeen Adapts should seek to increase tree coverage, understand the benefits of trees in adapting to climate change and protect tree populations from damage, degradation and pests and disease.
63	Making the Links: Greenspace for a more successful and sustainable Scotland' (2009)	Sets out the key actions that are needed to ensure that greenspace delivers for people, communities and places across the whole of urban Scotland.	Aberdeen Adapts should take account of the actions required to deliver quality greenspace to shape better places and increase quality of life for those working and living in the SDP area.

Water			
64	Water Environment and Water Services (Scotland) Act 2003	Ensures that all human activity that can have a harmful impact on water is controlled. Preventing further deterioration of, and protecting and enhancing, the status of aquatic ecosystems; promoting sustainable water use based on the long-term protection of available water resources; ensuring the progressive reduction of pollution of groundwater and preventing further pollution; contributing to mitigating the effects of floods and droughts. Defines the establishment of River Basin Management Plans (RBMPs)	Aberdeen Adapts should seek to reduce impacts on the water environment from severe weather events. It seeks to, reduce level of run off, pollution to watercourses and address challenges from flooding and drought.
65	Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) and The Water Environment (Miscellaneous) (Scotland) Regulations 2017.	Implements the obligations of section 20 of the Water Environment and Water Services (Scotland) Act 2003 (WEWS Act), and the requirements of the Water Framework Directive (2000/60/EC). Applies regulatory controls over activities which may affect Scotland's water environment including rivers, lochs, transitional waters, coastal waters, groundwater and groundwater dependent wetlands. Sets out the framework for protecting the water environment that integrates the control of pollution, abstractions, dams and engineering activities in the water environment.	Aberdeen Adapts should aim to reduce impacts on the water environment from severe weather events. It seeks to, reduce level of run off, pollution to watercourses, address challenges from flooding and drought
66	Flood Risk Management (Scotland) Act 2009	A framework in which organisations involved in flood risk management can co-ordinate actions to deliver sustainable and modern approaches to flood risk management. Requires the creation of flood risk management plans for all inland and coastal areas at risk of flooding, integrating their development and employment with existing River Basin Management Plans.	Aberdeen Adapts should seek to reduce flood risk. It should actively promote sustainable flood risk management and align with actions under the North East Flood Risk Management Plan and River Basin Management Plan.
67	River Basin Management Plan for the Scotland River Basin District 2015-2027	Protecting and improving the water environment of the Scotland river basin district. Sets out what relevant authorities must do to tackle the pressures and improve the condition of affected watercourses. Details the strategy and requirements for River Basin Management Planning in Scotland.	Aberdeen Adapts should support improved resilience to climate change and flood risk management, the integration of natural flood management measures, reduction in diffuse pollution in the North East Scotland River Basin Management Plan covering the River Dee SAC and River Don and catchment area.

68	Your Future and Waste Water Services 2013	Aims to provide continuous high quality drinking water; protect and enhance the environment; invest in future water services; and supporting Scotland's economy and communities.	Aberdeen Adapts recognises the impact of water variability on Aberdeen's water supply as well as the challenges for waste water drainage.
69	Always Serving Scotland – Scottish Water Business Plan 2015 to 2021	Sets out plans for a high quality, safe and reliable water supply and waste water management.	Aberdeen Adapts will promote the use of SUDs and natural flood management to reduce pressure on drainage systems. It will promote sustainable water management.
70	SEPA (2009) Groundwater Protection Policy for Scotland v3	To protect groundwater quality by minimising the risks posed by point and diffuse sources of pollution, and to maintain the groundwater resource by influencing the design of abstractions and developments, which could affect groundwater quantity.	Aberdeen Adapts should address flood risk and promote planning practice that does not adversely affect ground water supplies, through water abstraction and point source pollution.
71	Water Environment (Groundwater and Priority Substances) (Scotland) Regulations 2009	To protect groundwater quality by minimising the risks posed by point and diffuse quality by minimising the risks posed by point and diffuses sources of pollution.	Aberdeen Adapts should address flood risk and promote planning practice that does not adversely affect ground water supplies, through water abstraction and point source pollution.
72	The Water Environment (Diffuse Pollution) (Scotland) Regulations 2008	Controls the impact of diffuse pollution on the water environment from rural land use activities.	Aberdeen Adapts should consider the risks of diffuse pollution.
73	Engineering in the Water Environment: Good Practice Guide River Crossing 2010	Good practice guide produced by SEPA to help people select sustainable engineering solutions that minimise harm to the water environment.	Aberdeen Adapts should seek to support engineering practice that minimise harm to the environment.
74	The Water Intended for Human Consumption (Private Supplies) (Scotland) Regulations 2017	Aim to protect human health from the adverse effects of any contamination of water intended for human consumption by ensuring that the water meets water quality standards.	Aberdeen Adapts seeks to promote sustainable water management.
Waste			
75	Scotland's Zero Waste Plan (2010)	The plan outlines Scotland's key objectives in relation to waste prevention, recycling and reducing the amount of waste sent to landfill on the journey to a zero waste Scotland. The plan proposes targets for Scotland's waste	Aberdeen Adapts should protect waste infrastructure from the impacts of climate change.
Marine and Coastal			
76	A Strategy for Marine Nature Conservation in Scotland's Seas	Marine Scotland's vision is for a clean, healthy, safe, productive and biologically diverse marine and coastal environment that meets the long term needs of people and	Aberdeen Adapts should promote clean, safe, healthy and productive coastal and water environments.

		nature.	
77	National Marine Plan 2015	A framework presenting a duty to protect and enhance the marine environment; including marine planning, marine licensing, marine conservation, seal conservation and enforcement.	Aberdeen Adapts should support the delivery of plans to protect and enhance the marine environment.
78	Marine (Scotland) Act 2010	Expresses outcomes for the UK marine area and underpins the development of the joint Marine Policy Statement (MPS) guides development of national and regional marine plans.	Aberdeen Adapts should support the delivery of plans to protect and enhance the marine environment.
79	UK Marine and Coastal Access Act	Provides for the designation of conservation zones. It changes the way marine fisheries are managed.	Aberdeen Adapts should support the delivery of plans to protect and enhance the marine environment.
Noise			
80	The Environmental Noise Regulations (Scotland) 2006	Requires the preparation noise maps and action plans to manage and reduce environmental noise.	Aberdeen Adapts should seek to develop blue, green infrastructure to support noise management objectives.
National Planning Advice & Guidance			
81	PAN 60: Planning for Natural Heritage	Provides advice on how development and the planning system can contribute to the conservation, enhancement, enjoyment and understanding of Scotland's natural environment. Encourages developers and planning authorities to be positive and creative in addressing natural heritage issues.	Aberdeen Adapts should contribute to the conservation, enhancement, enjoyment and understanding of the natural environment.
82	PAN 61 Planning & Sustainable Urban Drainage Systems	Describes how the planning system has a central co-ordinating role in getting SUDS accepted as a normal part of the development process. In implementing SUDS on the ground, planners are central in the development control process, from pre-application discussions through to decisions, in bringing together the parties and guiding them to solutions which can make a significant contribution to sustainable development	Aberdeen Adapts should support the development of sustainable drainage systems (SUDs).
83	PAN 63 Waste Management Planning	Ensures that development plans reflect the land use requirements for the delivery of an integrated network of waste management facilities. Provides a basis for more informed consideration of development proposals for waste management facilities.	Aberdeen Adapts should protect waste infrastructure from the impacts of climate change.
84	PAN 65: Planning and Open Space	Provides advice on the role of the planning system in	Aberdeen Adapts should support the

		protecting and enhancing existing open spaces and providing high quality new spaces. Sets out how local authorities can prepare open space strategies and gives examples of good practice in providing, managing and maintaining open spaces	development and protection of high quality open space.
85	PAN 69 Planning and Building Standards Advice on Flooding	Aims to safeguard land and development from the consequences of flooding. States that natural and manmade features which help reduce the impact of flooding or flood risk should be identified and appropriately protected from development.	Aberdeen Adapts should support the measures to manage and reduce the impacts and risk of flooding.
86	PAN 75 Planning for Transport	Creates greater awareness of how linkages between planning and transport can be managed for a safe, reliable and sustainable transport system. Provides good practice guidance which planning authorities, developers and others should carry out in their policy development, proposal assessment and project delivery; creates greater awareness of how linkages between planning and transport can be managed.	Aberdeen Adapts should support improved linkages and improvements to the transport network.
87	PAN 77 Designing safer places	Aims to ensure that new development can be located and designed in a way that deters antisocial and criminal behaviour - as poorly designed surroundings can create feelings of hostility, anonymity and alienation and can have significant social, economic and environmental costs.	Aberdeen Adapts should help to deliver safer spaces for people.
88	PAN 78 Inclusive Design	Seeks to deliver high standards of design in development and redevelopment projects; and widens the user group that an environment is designed for. Makes is a legal requirement to consider the needs of disabled people under the terms of Disability Discrimination legislation.	Aberdeen Adapts should promote high standard of design.
89	PAN 83 Masterplanning	Encourages the design of high quality, sustainable environments and engagement of communities by applying agreed design principles. It includes identifying sensitive areas and site vegetation and designing in provision for open space.	Aberdeen Adapts should support the masterplanning process with integration of adaptation into development sites.
REGIONAL			
Overarching Planning Policy			
90	Aberdeen City and Shire Strategic Development Plan (2014)	Creates a long-term sustainable framework of settlements in a hierarchy, which focuses major development on the main settlements in the North East. Sets the strategic	Aberdeen Adapts should promote water saving measures and reduce pressures on the River Dee. It should seek to

		context for Aberdeen City Local Plan which in turn set the framework for land use development. Has targets including: to avoid having to increase the amount of water Scottish Water are licensed to take from the River Dee, as a result of the new developments proposed in the plan; for all new developments to use water-saving technology; and to avoid developments on land which is at an unacceptable risk from coastal or river flooding (as defined by the 'Indicative River and Coastal Flood Map for Scotland' or through a detailed flood risk assessment), except in exceptional circumstances.	promote planning processes that reduce flood risk and erosion.
Cross-Sectoral			
91	Flood Risk Management Strategy North East Local Plan District	Aims to set short to long term ambition for flood risk management.	Aberdeen Adapts should support measures to reduce and manage flood risk in Aberdeen.
92	North East Local Flood Risk Management Plan	Contains the statutory duties that Aberdeen City will be required to undertake during Cycle 1 of the plan. The obligations will start on 1 July 2016. The Plan has been produced in partnership with SEPA, Moray Council, Aberdeenshire Council and Scottish Water to meet the requirement of the Flood Risk Management (Scotland) Act 2009.	Aberdeen Adapts should support measures to reduce and manage flood risk in Aberdeen.
93	Regional Economic Strategy- securing the Future of the North East Economy	A vision and strategy for the north east of Scotland economy. The strategy is focused on four themes: Innovation, Internationalisation, Infrastructure and Inclusivity.	Aberdeen Adapts should support measures to manage and reduce the threats of climate change on the north east economy. It should seek measures to improve business resilience, consider impacts for key sectors and support opportunities for sustainable economic growth.
94	Regional Transport Strategy (RTS) 2013-2035,	Sets the long-term framework to improve the transport network in the North East, including: • integrating land use and transportation; • creating a long-term sustainable framework; • providing communities with a choice of means of travel and improving people's access to jobs; • improving air quality both locally and globally; • improving external links to the area by rail, road, sea and	Aberdeen Adapts should contribute to the goals of the RTS by promoting resilient transport networks.

		air; and • Integrating different modes of transport to provide seamless interchange.	
95	Regional Tourism Strategy, Building on our Strengths 2013	A strategy for driving growth and maximising the regions contribution to the national strategy Tourism Scotland 2020. Aims to make Aberdeen City and Shire a sustainable destination of choice, with skilled and passionate people delivering value for money and memorable customer experiences, by enhancing our region's outstanding assets.	Aberdeen Adapts should support opportunities for tourist sector under climate change.
96	Strategy for an Active Aberdeen 2016-2020	Improving the quality of the sports facilities across Aberdeen, generating investment where it will have the most impact	Aberdeen Adapts should promote measures to reduce climate impacts to sports and recreation grounds and facilities.
Nature Conservation			
97	North East Biodiversity Partnership Action Plan 2014-17	Ensures the protection and enhancement of the biodiversity in the north east through the development of effective, local, working partnerships; Ensure that national targets for species and habitats, as specified in the UK Action Plan, are translated into effective local action.	Aberdeen Adapts should promote and protect biodiversity.
98	River Dee Catchment Management Plan	Records the current state of the Dee catchment, including water quality, the type and extent of habitats and species in the catchment, and important land management activities. Identifies key issues and puts forward potential solutions through a series of actions.	Aberdeen Adapts should contribute to delivering the actions proposed in the Catchment Management Plan.
99	North East Scotland River Basin Management Plan	Plans to protect and improve the water environment.	Aberdeen Adapts should contribute to delivering the actions proposed in the River Basin Management Plan.
100	Proposed Aberdeen Trees and Woodlands Strategy	The Proposed Tree and Woodland Strategy aims to identify objectives and actions for the protection, expansion, management, promotion and evaluation of trees, forests and woodlands in urban and rural areas. This will include informing the location and design of new woodland and tree planting and their management.	Aberdeen Adapts should support the aims of promoting and developing trees and woodlands to support adaptation; as well as increasing resilience to pests and disease.
LOCAL			
101	Aberdeen Local Development Plan 2016	It sets the framework for development in the city in the next 25 years consistent with the SDP. It includes a specific policy on Flooding, Drainage and Water Quality (policy	Aberdeen Adapts should support and promote the planning objectives under the LDP and seek to integrate adaptation

		NE6) and it further supported by newly adopted Supplementary Guidance (SG). The aim of the policy and SG are to manage and reduce flood risk by ensure that new development does not take place on areas that are susceptible to flooding and incorporates appropriate and sustainable surface water management measures. The policy and SG also seek to protect land and green infrastructure, with the potential to contribute to natural flood risk management from developments. The SG provides guidance on statutory roles and responsibilities, arrangements for flood risk management planning in Scotland, Flood Risk Assessments, Drainage Impact Assessments, Sustainable Drainage Systems (SuDS), Regional SuDS and Waste and Foul Drainage. Further to this, Policy R7 and its associated supplementary guidance focus on water efficiency; all new buildings are required to use water saving technologies and techniques.	measures in development policy.
102	Aberdeen Local Transport Strategy 2016 - 2021	Take full account of the environment, social and economic implications of transport. It aims to build infrastructure which is more sustainable, climate resilient and adapted to our environment, ecological conditions and landscape setting". It includes objectives: to ensure that the transport network is as resilient as possible in case of flooding from extreme weather conditions; *and* to contribute to Aberdeen's carbon emissions targets and develop climate resilient infrastructure.	Aberdeen Adapts seeks to support resilience of the city transport network.
103	Air Quality Action Plan 2011	To reduce nitrogen dioxide within the 3 Air Quality Management Areas (AQMA) in Aberdeen, and reduce particulates (PM_{10}) through short, medium and long term infrastructure and other projects.	Aberdeen Adapts should support the implementation of actions proposed in the Action Plan, in order to improve air quality with the AQMA.
104	Aberdeen Local Outcome Improvement Plan 2016-2026	The Community Planning Aberdeen, Local Outcome Improvement Plan was approved in acknowledges climate change and extreme weather events also pose a significant risk of harm to our communities and seeks to develop community and business resilience as well as enhancing ability to respond. It includes, safe and resilient communities - Aberdeen is a place where people are safe from harm. The locality plans sets out the priority outcomes	Aberdeen Adapts should support the development of community and business resilience. As well as adaptation measures that increase community safety. Aberdeen Adapts should support priorities for the 3 city locality plans

		for improvement of the localities - Torry/ Middlefield, mastrick, Cummings park, Northfield, Heathryfold/ Seaton, Tillydrone, Woodside. The plans detail priorities for people, place, economy and technology and improvement measures.	
105	Aberdeen City Nature Conservation Strategy 2010-2015	Aims to control and maintain remaining natural habitats and associated wildlife through the identification of designated sites and additional non-statutory sites. This will benefit both biodiversity and the citizens that live, work and visit the City of Aberdeen. The strategy considers the future impacts of climate change and highlights the links between biodiversity and climate change. Specifically, the strategy recognises that biodiversity loss and climate change are interlinked and that both threaten the availability of the natural resources. The strategy covers the period 2010-2015 and is now currently an interim strategy while work takes place on updating it.	Aberdeen Adapts should seek to protect and reduce impacts for species and habitats. It should seek to promote natural flood management measures that can have benefits for biodiversity.
106	Open Space Audit and Strategy 2011-2016	This Strategy sets out a strategic vision, aims and objectives for open space in Aberdeen. Its main purpose is to ensure the city has enough accessible and good quality open space. The Strategy is based on the findings of the Aberdeen Open Space Audit 2010. The strategy contains a key objective and series of actions to, "Maximise opportunities to mitigate and adapt to climate change and further biodiversity." This is through encouraging SUDS, protecting open spaces for the role they play in flood management, planting native and wildlife friendly species.	Aberdeen Adapts should support the aims of the open space strategy and maximise opportunities to adapt open spaces including promote natural flood management measures that can have benefits for biodiversity, health and wellbeing and the development of quality open spaces.
107	Aberdeen City Core Paths Plan	Core Paths Plans are required under the Land Reform (Scotland) Act 2003 for each council area *sufficient for the purpose of giving the public reasonable access throughout their area*. They set out the core paths network. The Plans are developed in consultation with local communities, user groups, land managers and other stakeholders. Drafts are expected in 2008. Their aims include: connecting residential areas, green-spaces, amenities, other attractions and the wider countryside; forming a basic, safe framework for outdoor recreation and sustainable and active travel;	Aberdeen Adapts should promote resilient path networks.

108	Aberdeen Local Housing Strategy 2018	Outlines the strategy approach to local housing including fuel poverty, energy efficiency and climate change. Increase energy efficiency and introduce carbon reduction measures in our processes and our housing and non-housing assets to reduce our carbon footprint, save money and to bring people out of fuel poverty.	Aberdeen Adapt should develop natural flood management measures including tree planting, green walls and roofs, which can help to reduce noise.
109	Aberdeen Landscape Strategy 2002 and Proposed Landscape Strategy 2018	Landscape planning approach for Aberdeen.	Aberdeen Adapts should take account of landscape character in the development of natural flood and climate management measures.
110	Aberdeen Contaminated Land Strategy (2001)	The Contaminated Land Strategy sets out how local authorities deal with potentially contaminated land.	Aberdeen Adapts should avoid development actions that contaminate land.
111	Powering Aberdeen – Aberdeen's Sustainable Energy Action Plan	City wide plan with targets to reduce emissions. It aims to increase energy efficiency measures and promote a transition to a low carbon economy.	Aberdeen Adapts should align with the mitigation measures set out in Powering Aberdeen. Natural flood management measures and the development of trees and woodlands can support carbon sequestration.
112	Aberdeen City Council Building Performance Policy	Aims to take a strategic view ensuring new and refurbished buildings are future proofed and designed to reduce the financial liability of council building stock.	Aberdeen Adapts seeks to consider the long term impacts of climate change on city buildings.
113	City Centre Masterplan & other masterplans	Regeneration of the city centre, providing the capacity, quality and reliability of infrastructure required by businesses and residents and utilising resources responsibly. Other masterplans exist for Local Development Plan opportunity sites.	Aberdeen Adapts should support objectives under the masterplan to make the city centre a more liveable place and to be environmentally responsible. Consider objectives under the masterplan to exploit the city centre waterscapes for interest and activity. It should seek to support the masterplanning process with integration of adaptation into development sites.
114	Sustainable Urban Mobility Plan	A transport masterplan which aims to increase sustainable transport options in the city centre.	Aberdeen Adapts should seek to support the resilience of sustainable transport options.
115	Proposed Granite City Growing	Sets a long-term framework for collaborative action, to strengthen capacity to increase and support opportunities	Aberdeen Adapts should encourage resilience in the development and

		for food-growing in Aberdeen.	management of community food growing sites.

Summaries of key SEA findings and mitigation measures of related PPS. Relevant mitigation measures :

- Regional transport strategy – reducing congestion, better integration of transport and land use planning, Sustainable Urban Drainage Systems (SUDS) should be considered, drainage systems should be sufficient to cope with the volume of run-off
- SDP - water-efficient technologies will be employed to protect the River Dee, development not to be built on land at risk from flooding, avoiding building on land which is at an unacceptable risk from coastal or river flooding
- ALDP – Buffer zones put in place, prohibit development in areas at risk from coastal erosion and flooding, does not permit developments likely to destroy or erode the character and/or function of the Green Space Network, proposes a strategic-level Regional SuDS by Aberdeen City Council to provide sustainable flood risk management at a strategic scale, applications to provide a Flood Risk Assessment (FRA) and Drainage Impact Assessment for areas liable to flooding and for developments of any size that affect sensitive areas.
- Aberdeen City Nature Conservation Strategy - enhance or restore sites of low ecological value (including contaminated land and brownfield sites), Where the ecological value is low in any water habitat, action should be taken to enhance or restore such sites which will help to improve water quality and the environment for those species that depend on it.

- **Appendix 9.2 Baseline Data Appendix 9.2.1**

SEA Indicator	Quantified information	Comparators and targets	Trends	Issues/constraints	Data source(s)
Natural Resources Consumption (footprint)	Aberdeen City's annual global footprint: Total: 5.73gha/per Energy and Consumption: 1.14gha (20% Food and Drink 1.07gha/p(19%) Land Travel: 0.81ha/p (14%) Other: 2.7gha/p (48%) Scotland's annual global footprint: Total: 5.37gha/per	Aberdeenshire's annual global footprint - in global hectares per person (gha/p) Total: 5.60gha/p Energy Consumption: 1.09gha/p (19%) Food and drink: 1.11gha/p (20%) Land Travel: 0.74ha/p (13%) Other (Government, capital investment, holiday activities, consumables, services and sports), 2.7gha/p (48%)	Both Aberdeenshire and Aberdeen City's global footprint is higher than the Scottish average. The main contributors to the NE's global footprint are energy consumption, food and drink and land travel. Compared to Scotland's footprint, both the City and the shire have higher footprints	Energy is the largest contributor to Aberdeen City and Aberdeenshire's Global Footprint and indicates high energy consumption associated with domestic fuels like gas, oil, electricity and other fuels. The North East's Global Footprint Project identified transport, the Built Environment and Energy as areas in which global footprint reductions could be achieved.	North East Global Footprint Project http://www.scotlandsfootprint.org/tthe-project/north-east.php Aberdeen City Council and Aberdeenshire Council (2006) Scotland's Global Footprint Project – Reduction Report for North East Scotland Global Footprint Project, Joint Global Footprint Co-ordinator, Aberdeen City Council
Total CO_2 emissions (kt)	Aberdeen City 2012 - 1,653.9 2013 - 1,569.7 2014 - 1,405.1 2015 - 1,335.2	Aberdeenshire 2012 - 2,095.6 2013 - 1,963.3 2014 - 1,800.1 2015 - 1,792.1	Falling in both the City and the Shire	It appears that issues are improving	Department for Business, Energy & Industrial Strategy data published on 29 June 2017 (Online) Available at https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-2015 Accessed 8/1/18

Per Capita CO_2 emissions (kt)	Aberdeen City 2012 - 7.4 2013 – 6.9 2014 – 6.1 2015 – 5.8	Aberdeenshire 2012 – 8.2 2013 - 7.6 2014 - 6.9 2015 - 6.8	Falling in both the City and the Shire	It appears that issues are improving	Department for Business, Energy & Industrial Strategy data published on 29 June 2017 (Online) Available at https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-2015 Accessed 8/1/18
Industry and Commercial CO_2 emissions (kt)	Aberdeen City 2012 - 798.0 2013 - 741.8 2014 - 656.6 2015 - 601.3	Aberdeenshire 2012 - 665.0 2013 - 653.7 2014 - 620.2 2015 - 615.3	Falling in both the City and the Shire	It appears that issues are improving	Department for Business, Energy & Industrial Strategy data published on 29 June 2017 (Online) Available at https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-2015 Accessed 8/1/18
Domestic CO_2 emissions (kt)	Aberdeen City 2012 - 528.0 2013 - 506.6 2014 - 423.6 2015 - 406.1	Aberdeenshire 2012 - 722.1 2013 -693.1 2014 - 596.7 2015 - 562.1	Falling in both the City and the Shire	It appears that issues are improving	Department for Business, Energy & Industrial Strategy data published on 29 June 2017 (Online) Available at https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-2015 (Accessed 8/1/18
Road Transport CO_2 emissions (kt)	Aberdeen City 2012 - 319.8 2013 - 317.5 2014 - 322.6 2015 - 324.9	Aberdeenshire 2012 - 599.7 2013 - 602.1 2014 - 618.1 2015 - 628.9	There appears to be a slight improvement in Road Transport emissions	Increased travel by accounts for this	Department for Business, Energy & Industrial Strategy data published on 29 June 2017 (Online) Available at https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-2015 Accessed 8/1/18
LULUCF* CO_2 emissions (kt)	Aberdeen City 2012 - 8.1 2013 - 3.8 2014 - 2.3 2015 - 2.8	Aberdeenshire 2012 - 108.9 2013 - 14.4 2014 - -34.9 2015 - -14.2	The rate of fall in LULUCF CO2 emissions in variable for both the Shire and the City as is the case for all Scotland	This depends on the way we use our land and Forest resources	Department for Business, Energy & Industrial Strategy data published on 29 June 2017 (Online) Available at https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-2015 Accessed 8/1/18

Potential Vulnerable Area (PVA) to flooding No of Area	23 PVAs in Aberdeen City and Aberdeenshire		No trend	PVA areas and issues have to be taken into account and allocating land for development and imposing conditions on development.	SEPA (2016) Flood Risk Management (Scotland) Act 2009: Flooding in Scotland – Flood Risk Management Strategy http://apps.sepa.org.uk/FRMStrategies/norh-east.html A second set of Flood Risk Management Strategies and Local Flood Risk Management Plans will be published in December 2021 and June 2022 respectively
Estimated Weighted Annual Average damages within PVA	Aberdeen City • 2011- £22,390,000.00 • 2016 • 17,6000,000.00	Aberdeenshire • 2011 - £17,080,000.00 • 2016 • £8,714,230.00	Worsening	Cost implication for developing areas at risk from flooding must be taken into account and allocating land for development and imposing conditions on development.	SEPA (2016) Flood Risk Management (Scotland) Act 2009: Flooding in Scotland – Flood Risk Management Strategy http://apps.sepa.org.uk/FRMStrategies/norh-east.html A second set of Flood Risk Management Strategies and Local Flood Risk Management Plans will be published in December 2021 and June 2022 respectively
Damage by Flood likelihood	Aberdeen City (Dee, Don, Denmore Catchments) • 2016 • £64.5m-£537m	Aberdeenshire (Aggregate of all areas) • 2016 • £52.7m - £273.25m	Worsening	This range takes into account residential, non-residential, roads, vehicles and agriculture	SEPA (2016) Flood Risk Management (Scotland) Act 2009: Flooding in Scotland – Flood Risk Management Strategy http://apps.sepa.org.uk/FRMStrategies/norh-east.html A second set of Flood Risk Management Strategies and Local Flood Risk Management Plans will be published in December 2021 and June 2022 respectively

Total Area (Km 2) in PVA	Aberdeen City • 2011 – 344 • 2016 - 126	Aberdeenshire • 2011- 529	the value appears to be lower but this reflects actual figures than an earlier estimate	It has implications for land allocation and development.	SEPA (2016) Flood Risk Management (Scotland) Act 2009: Flooding in Scotland – Flood Risk Management Strategy http://apps.sepa.org.uk/FRMStrategies/norh-east.html
Residential Properties in PVA	Aberdeen City • 2011- 1,943 • 2016 –10,440	Aberdeenshire • 2011- 1820 2016 -4,540	Worsening	It has implications for land allocation and development.	SEPA (2016) Flood Risk Management (Scotland) Act 2009: Flooding in Scotland – Flood Risk Management Strategy http://apps.sepa.org.uk/FRMStrategies/norh-east.html A second set of Flood Risk Management Strategies and Local Flood Risk Management Plans will be published in December 2021 and June 2022 respectively
Non-Residential Properties in PVA	Aberdeen City • 2011- 375 • 2016- 2,510	Aberdeenshire • 2011- 272 • 2011 -1,380	Worsening	It has implications for land allocation and development.	SEPA (2016) Flood Risk Management (Scotland) Act 2009: Flooding in Scotland – Flood Risk Management Strategy http://apps.sepa.org.uk/FRMStrategies/norh-east.html A second set of Flood Risk Management Strategies and Local Flood Risk Management Plans will be published in December 2021 and June 2022 respectively
UK Climate Projections	• UK CP 09 • UKCP 18 – indicates current and future climate data against a range of emission pathways.			It has implications for across all SEA topics.	https://www.metoffice.gov.uk/research/collaboration/ukcp

Dynamic Coast	• Coastal erosion vulnerability mapping		It has implications for land management.	http://www.dynamiccoast.com/

Appendix 9.2.2: SEA Topic - Air

SEA Indicator	Quantified information	Comparators and targets	Trends	Issues/constraints	Data source(s)
Annual Mean Concentration of No_2	Aberdeen City 2013:12.9-70.4 2014:10.5-63.8 2015:10.0-58.2 2016: 09.6-54.1	Aberdeenshire 2013: 8:5 -33.1 2014:11.3-38.0 2015: 9.4–35.4 2016: None Objective 40µg/m^3	Out of measurements at 62 monitoring stations, the EU objective has been breached in 23 locations in 2013, 22 locations in 2014, 19 locations in 2015 and 18 locations in 2016. The locations with highest readings include Market Street in 2013 and 2016, Great Northern Road in 2014 and Union Street in 2015. The Objective is not breached in Aberdeenshire	Traffic mainly	2017 Air Quality Annual Progress Report (APR) for Aberdeen City Council 2016 Air Quality Annual Progress Report (APR) for Aberdeenshire Council
Annual Mean Concentration of PM_{10}	Aberdeen City 2013:13-26 2014:15-26 2015:12-20 2016:12-16	Aberdeenshire None Objective 18µg/m^3	There were exceedances in 4 out of 6 stations in 2013; 3 out of 6 in 2014, 2 out of 6 in 2015 and none in 2016.	Traffic, construction	2017 Air Quality Annual Progress Report (APR) for Aberdeen City Council
Annual Mean Concentration of $PM_{2.5}$	Aberdeen City 2013:9 2014: 10 2015: 8-11 2016:5-7	Aberdeenshire None Objective 10µg/m^3	Apart from 2015 when 2 stations experienced exceedances, there has not been any other exceedances		2017 Air Quality Annual Progress Report (APR) for Aberdeen City Council

Appendix 9.2.3: SEA Topic - Water

SEA Indicator	Quantified information	Comparators and targets	Trends	Issues/constraints	Data source(s)
Overall Status of surface water High	Aberdeen 2014 – 3 2016 - 3 2021 – 3 2027 – 3	Aberdeenshire 2014 – 18 2016 - 14 2021 - 18 2027 - 18	Almost at the same level by 2027	Modifications to beds, banks and shores; rural defuse pollution; man-made barriers to fish migration; waste water (sewerage) discharges; public water supply; and industrial use can activities; urban and rural land use	https://www.environment.gov.scot/our-environment/water/scotland-s-freshwater/ https://www.sepa.org.uk/data-visualisation/water-environment-hub/ Accessed 9/1/18
Overall Status of surface water Good	Aberdeen 2014 – 2 2016 - 3 2021 – 6 2027 – 12	Aberdeenshire 2014 – 71 2016 - 84 2021 - 95 2027 - 171	Increasing	Same as above	https://www.environment.gov.scot/our-environment/water/scotland-s-freshwater/ https://www.sepa.org.uk/data-visualisation/water-environment-hub/ Accessed 9/1/18
Overall Status of surface water Moderate	Aberdeen 2014 – 5 2016 - 4 2021 – 4 2027 – 3	Aberdeenshire 2014 – 51 2016 - 45 2021 - 40 2027 - 19	Increasing	Same as above	https://www.environment.gov.scot/our-environment/water/scotland-s-freshwater/ https://www.sepa.org.uk/data-visualisation/water-environment-hub/ Accessed 9/1/18
Overall Status of surface water Poor	Aberdeen 2014 – 4 2016 - 4 2021 – 4 2027 – 0	Aberdeenshire 2014 – 37 2016 - 34 2021 - 29 2027 - 2	The following water bodies in Aberdeen City are poor. Den Burn, Elrick Burn - d/s, Newmachar WWTP, Black Burn and Leuchar Burn	The following water bodies in Aberdeenshire are poor. Burn of Brydock, Rosy Burn, Burn of King Edward River Isla - source to	https://www.environment.gov.scot/our-environment/water/scotland-s-freshwater/ https://www.sepa.org.uk/data-visualisation/water-environment-hub/ Accessed 9/1/18

				Keith, River Bogie - Culdrain to Huntly, Burn of Auchmacoy, River Ugie - North/South confl to tidal limit, Crooko Burn, North Ugie Water - upper catchment, South Ugie Water - Stuartfield to Longside, Burn of Ludquharn Quhomery Burn, Burn of Keithfield/ Raxton Burn Ebrie Burn, Youlie Burn / Bronie Burn, Findon Burn Burn of Muchalls, Carron Water, Bervie Water - upper catchment, Elrick Burn - d/s Newmachar WWTP, Elrick Burn - u/s Newmachar WWTP Black Burn, Newmill Burn, Tuach Burn / Tillakae Burn, Shevock Burn, Esset Burn, Leuchar Burn Water of Feugh - lower catchment, Beltie Burn, Dess Burn - upper stretch, River Muick - Allt an Dubh Loch, Loch of Strathbeg, Loch of Skene, and Loch	

				Kinord	
Overall Status of surface water Bad	Aberdeen 2014 – 4 2016 = 4 2021 – 2 2027 – 0	Aberdeenshire 2014 – 33 2016 - 33 2021 - 28 2027 - 0	The following water bodies in Aberdeen are bad South Mundurno Burn, River Dee - Peterculter to tidal limit, Gormack Burn and Brodiach Burn / Ord Burn	The following water bodies in Aberdeenshire are bad. Water of Philorth / Water of Tyrie, Burn of Savoch/ Logie Burn, Black Water - u/s St Fergus, Burn of Fortrie, Idoch Water, Burn of Turriff, Keithny Burn / Forgue Burn, Shiel Burn Slains Burn, Water of Cruden - u/s Hatton WWTP, Laeca Burn Forvie Burn, Tarty Burn, Foveran Burn, South Mundurno Burn, Faichfield Burn, Greenspeck Burn, Crichie Burn, Leeches Burn Water of Fedderate, South Ugie Water - New Deer to Stuartfield, Burn of Elsick, Forthie Water, Bervie Water - lower catchment, River Dee - Peterculter to tidal limit, Gormack Burn, Brodiach Burn / Ord Burn, Kinnernie Burn, Bo Burn, Dess Burn / Lumphanan Burn,	https://www.environment.gov.scot/our-environment/water/scotland-s-freshwater/ https://www.sepa.org.uk/data-visualisation/water-environment-hub/ Accessed 9/1/18

				Tarland Burn and Cowie Burn	
Overall water chemistry - Pass	Aberdeen 2016 – 33	Aberdeenshire 2016 - 209	Increasing	Same as above	Same as above
Overall water chemistry - fail	Aberdeen 2016 – 0	Aberdeenshire 2016 - 1	In Aberdeenshre only Potterton Burn has failed this test. In Aberdeen City no water body has failed this test.	Same as above	Same as above
Overall water ecology- High	Aberdeen 2016 – 3	Aberdeenshire 2016 - 14		Same as above	Same as above
Overall water ecology - Good	Aberdeen 2016 – 1	Aberdeenshire 2016 - 83		Same as above	Same as above
Overall water ecology - Moderate	Aberdeen 2016 – 4	Aberdeenshire 2016 - 46		Same as above	Same as above
Overall water ecology - Bad	Aberdeen 2016 – 4	Aberdeenshire 2016 - 33	In Aberdeenshire the following water bodies are bad. Kessock Burn, Water of Philorth / Water of Tyrie, Burn of Savoch/ Logie Burn, Black Water - u/s St Fergus, Burn of Fortrie, Idoch Water, Burn of Turriff, Keithny Burn / Forgue Burn, Shiel Burn, Slains Burn, Water of Cruden - u/s Hatton WWTP, Laeca Burn,	The following water bodies are bad in the City. South Mundurno Burn, River Dee , Peterculter to tidal limit, Gormack Burn and Brodiach Burn / Ord Burn	

			Forvie Burn, Tarty Burn, Foveran Burn South Mundurno Burn, Faichfield Burn, Greenspeck Burn Crichie Burn, Leeches Burn, Water of Fedderate, South Ugie Water - New Deer to Stuartfield, Burn of Elsick, Forthie Water, Bervie Water - lower catchment, River Dee - Peterculter to tidal limit, Gormack Burn, Brodiach Burn / Ord Burn, Kinnernie Burn, Bo Burn, Dess Burn / Lumphanan Burn, Tarland Burn and Cowie Burn		
Overall water ecology - Poor	Aberdeen 2016 – 6	Aberdeenshire 2016 - 34	In Aberdeenshire the following water bodies are poor. Burn of Brydock, Rosy Burn, Burn of King Edward, River Isla - source to Keith, River Bogie - Culdrain to Huntly, Burn of Auchmacoy, River Ugie - North/South confl to tidal limit Crooko Burn, North Ugie Water - upper catchment, South Ugie Water - Stuartfield to Longside, Burn of Ludquharn Quhomery Burn, Burn of Keithfield/ Raxton Burn, Ebrie Burn, Youlie Burn / Bronie Burn, Findon Burn	In the City the folowing water bodies are poor. Den Burn, Elrick Burn - d/s Newmachar WWTP, Black Burn, Leuchar Burn, Dee (Aberdeen) Estuary and Don Estuary to Souter Head (Aberdeen)	

			Burn of Muchalls, Carron Water, Bervie Water - upper catchment, Elrick Burn - d/s Newmachar WWTP, Elrick Burn - u/s Newmachar WWTP, Black Burn, Newmill Burn, Tuach Burn / Tillakae Burn, Shevock Burn, Esset Burn, Leuchar Burn, Water of Feugh - lower catchment, Beltie Burn, Dess Burn - upper stretch, River Muick - Allt an Dubh Loch, Loch of Strathbeg. Loch of Skene and Loch Kinord		
Overall water hydrology- High	Aberdeen 2016 – 10	Aberdeenshire 2016 - 161	None	None	Same as above
Overall water hydrology - Good	Aberdeen 2016 – 2	Aberdeenshire 2016 - 23	None	None	Same as above
Overall water hydrology - Moderate	Aberdeen 2016 – 1	Aberdeenshire 2016 - 8	None	None	Same as above
Overall water hydrology - Bad	Aberdeen 2016 – 0	Aberdeenshire 2016 - 0	None	None	Same as above
Overall water hydrology - Poor	Aberdeen 2016 – 0	Aberdeenshire 2016 - 0	None	None	Same as above

Overall Status of ground water High	Aberdeen 2016 - 0	Aberdeenshire 2016 - 0		Modifications to beds, banks and shores; rural defuse pollution; man-made barriers to fish migration; waste water (sewerage) discharges; public water supply; and industrial use can activities; urban and rural land use	https://www.environment.gov.scot/our-environment/water/scotland-s-freshwater/ https://www.sepa.org.uk/data-visualisation/water-environment-hub/ Accessed 9/1/18
Overall Status of ground water Good	Aberdeen 2016 - 8	Aberdeenshire 2016 - 37	None	As above	https://www.environment.gov.scot/our-environment/water/scotland-s-freshwater/ https://www.sepa.org.uk/data-visualisation/water-environment-hub/ Accessed 9/1/18
Overall Status of ground water Moderate	Aberdeen 2016 - 0	Aberdeenshire 2016 - 0	None	As above	https://www.environment.gov.scot/our-environment/water/scotland-s-freshwater/ https://www.sepa.org.uk/data-visualisation/water-environment-hub/ Accessed 9/1/18
Overall Status of ground water Poor	Aberdeen 2016 - 0	Aberdeenshire 2016 - 9	In Aberdeenshire, the following water bodies are poor: Cullen, St Cyrus, Montrose, Stonehaven, Drumlithie, Laurencekirk, Ellon, North Esk Sand and Gravel, South Esk Valley and Montrose Coastal.		https://www.environment.gov.scot/our-environment/water/scotland-s-freshwater/ https://www.sepa.org.uk/data-visualisation/water-environment-hub/ Accessed 9/1/18
Overall Status of ground water Bad	Aberdeen 2016 - 0	Aberdeenshire 2016 - 0	None	As above	https://www.environment.gov.scot/our-environment/water/scotland-s-freshwater/ https://www.sepa.org.uk/data-visualisation/water-environment-hub/

					Accessed 9/1/18
Overall water - ground water ecology - Bad	Aberdeen 2016 – 4	Aberdeenshire 2016 - 33	In Aberdeenshire the following water bodies are bad. Kessock Burn, Water of Philorth / Water of Tyrie, Burn of Savoch/ Logie Burn, Black Water - u/s St Fergus, Burn of Fortrie, Idoch Water, Burn of Turriff, Keithny Burn / Forgue Burn, Shiel Burn, Slains Burn, Water of Cruden - u/s Hatton WWTP, Laeca Burn, Forvie Burn, Tarty Burn, Foveran Burn South Mundurno Burn, Faichfield Burn, Greenspeck Burn Crichie Burn, Leeches Burn, Water of Fedderate, South Ugie Water - New Deer to Stuartfield, Burn of Elsick, Forthie Water, Bervie Water - lower catchment, River Dee - Peterculter to tidal limit, Gormack Burn, Brodiach Burn / Ord Burn, Kinnernie Burn, Bo Burn, Dess Burn / Lumphanan Burn, Tarland Burn and Cowie Burn	The following water bodies are bad in the City. South Mundurno Burn, River Dee , Peterculter to tidal limit, Gormack Burn and Brodiach Burn / Ord Burn	Same as above

Overall water - ground water ecology - Poor	Aberdeen 2016 – 6	Aberdeenshire 2016 - 34	In Aberdeenshire the following water bodies are poor. Burn of Brydock, Rosy Burn, Burn of King Edward, River Isla - source to Keith, River Bogie - Culdrain to Huntly, Burn of Auchmacoy, River Ugie - North/South confl to tidal limit Crooko Burn, North Ugie Water - upper catchment, South Ugie Water - Stuartfield to Longside, Burn of Ludquharn Quhomery Burn, Burn of Keithfield/ Raxton Burn, Ebrie Burn, Youlie Burn / Bronie Burn, Findon Burn Burn of Muchalls, Carron Water, Bervie Water - upper catchment, Elrick Burn - d/s Newmachar WWTP, Elrick Burn - u/s Newmachar WWTP, Black Burn, Newmill Burn, Tuach Burn / Tillakae Burn, Shevock Burn, Esset Burn, Leuchar Burn, Water of Feugh - lower catchment, Beltie Burn, Dess Burn - upper stretch, River Muick - Allt an Dubh Loch, Loch of Strathbeg. Loch of Skene and Loch Kinord	In the City the folowing water bodies are poor. Den Burn, Elrick Burn - d/s Newmachar WWTP, Black Burn, Leuchar Burn, Dee (Aberdeen) Estuary and Don Estuary to Souter Head (Aberdeen)	

Overall water - ground water hydrology- High	Aberdeen 2016 – 10	Aberdeenshire 2016 - 161	None	None	As above
Overall water - ground water hydrology - Good	Aberdeen 2016 – 2	Aberdeenshire 2016 - 23	None	None	As above
Overall water - ground water hydrology - Moderate	Aberdeen 2016 – 1	Aberdeenshire 2016 - 8	None	None	As above
Overall water - ground water hydrology - Bad	Aberdeen 2016 – 0	Aberdeenshire 2016 - 0	None	None	As above
Overall water - ground water hydrology - Poor	Aberdeen 2016 – 0	Aberdeenshire 2016 - 0	None	None	As above
Water quality of surface water Good	Aberdeen 2014 – 5 2021 – 8 2027 – 10	Aberdeenshire 2014 - 87 2021 - 111 2027 - 127	None	None	https://www.environment.gov.scot/our-environment/water/scotland-s-freshwater/ https://www.sepa.org.uk/data-visualisation/water-environment-hub/ Accessed 9/1/18
Water quality of surface water Moderate	Aberdeen 2014 – 7 2021 – 4 2027 – 3	Aberdeenshire 2014 - 52 2021 - 32 2027 - 19	None	None	https://www.environment.gov.scot/our-environment/water/scotland-s-freshwater/ https://www.sepa.org.uk/data-visualisation/water-environment-hub/ Accessed 9/1/18
Water quality of surface water Poor	Aberdeen 2014 – 1 2021 – 1 2027 – 0	Aberdeenshire 2014 - 9 2021 - 5 2027 - 2	None		https://www.environment.gov.scot/our-environment/water/scotland-s-freshwater/ https://www.sepa.org.uk/data-visualisation/water-environment-hub/

					Accessed 9/1/18
Water quality of surface water Bad	Aberdeen 2014 – 0 2021 – 0 2027 – 0	Aberdeenshire 2014 - 0 2021 - 0 2027 - 0	None	None	https://www.environment.gov.scot/our-environment/water/scotland-s-freshwater/ https://www.sepa.org.uk/data-visualisation/water-environment-hub/ Accessed 9/1/18
Physical conditions of surface water High	Aberdeen 2014 – 3 2021 – 3 2027 – 3	Aberdeenshire 2014 - 44 2021 - 44 2027 - 44	None	None	https://www.environment.gov.scot/our-environment/water/scotland-s-freshwater/ https://www.sepa.org.uk/data-visualisation/water-environment-hub/ Accessed 9/1/18
Physical conditions of surface water Good	Aberdeen 2014 – 4 2021 – 8 2027 – 15	Aberdeenshire 2014 - 94 2021 - 102 2027 - 166	None	None	https://www.environment.gov.scot/our-environment/water/scotland-s-freshwater/ https://www.sepa.org.uk/data-visualisation/water-environment-hub/ Accessed 9/1/18
Physical conditions of surface water Moderate	Aberdeen 2014 – 7 2021 – 4 2027 – 3	Aberdeenshire 2014 - 52 2021 - 32 2027 - 19	None	None	https://www.environment.gov.scot/our-environment/water/scotland-s-freshwater/ https://www.sepa.org.uk/data-visualisation/water-environment-hub/ Accessed 9/1/18
Physical conditions of surface water Poor	Aberdeen 2014 – 2 2021 – 1 2027 – 0	Aberdeenshire 2014 - 27 2021 - 15 2027 - 0	None	None	https://www.environment.gov.scot/our-environment/water/scotland-s-freshwater/ https://www.sepa.org.uk/data-visualisation/water-environment-hub/ Accessed 9/1/18

Physical conditions of surface water Bad	Aberdeen 2014 – 4 2021 – 2 2027 – 0	Aberdeenshire 2014 - 33 2021 - 28 2027 - 0	None	None	https://www.environment.gov.scot/our-environment/water/scotland-s-freshwater/ https://www.sepa.org.uk/data-visualisation/water-environment-hub/ Accessed 9/1/18
Overall Status of ground water	No data	No data	None	None	https://www.sepa.org.uk/data-visualisation/water-environment-hub/ Accessed 9/1/18
Water quality of ground water	No data	No data	None	None	https://www.sepa.org.uk/data-visualisation/water-environment-hub/ Accessed 9/1/18
Physical conditions of ground water	No data	No data	None	None	https://www.sepa.org.uk/data-visualisation/water-environment-hub/ Accessed 9/1/18

Appendix 9.2.4: SEA Topic - Soil

SEA Indicator	Quantified information	Comparators and targets	Trends	Issues/constraints	Data source(s)
Land contamination	Aberdeen None .	Aberdeenshire 4 statutorily identified contaminated sites no statutorily identified contaminated sites in Aberdeen 900 potentially contaminated sites	Legal regime is in place to deal with contaminated sites therefore this position should improve in the future.	Contaminated land places financial and technological constraints on development. . .	Aberdeen City Council Contaminated Land Strategy August 2016 (Online) Available at https://www.aberdeencity.gov.uk/sites/aberdeen-cms/files/2017-12/Contaminated%20Land%20Inspection%20Strategy.pdf Accessed 9 January 2018 Aberdeenshire Council (2011) *Public Register of Contaminated Land (online) Available at http://www.aberdeenshire.gov.uk/media/17044/public-register-of-contaminated-land-index-nov11.pdf* Accessed 9 January 2018 https://www.sepa.org.uk/regulations/land/contaminated-land/local-authority-contaminated-land-support/ Accessed 9 January 2018

Prime agricultural land (Grades 1 to 3.1)	Aberdeen contains very little prime agricultural land (300ha).	Aberdeenshire's prime agricultural land is concentrated in central and southern Aberdeenshire. Grade 2 near Laurencekirk (approx 950ha)	Climate change could increase the level of prime agricultural land in Scotland, however this may cause conflicts with sites of high biodiversity value, sensitive or designated sites.	Potential impacts of climate may constrain prime agricultural land available in the future. Prime agricultural land may require further protection from development as demand for development rises and as land for food production rises.	Scottish Executive Statistics (2005): Economic Report on Scottish Agriculture http://www.scotland.gov.uk/Publications/2005/06/2290402/05121 Scottish Government (2009): The Scottish Soil Framework http://www.scotland.gov.uk/Publications/2009/05/20145602/6
Waste generated	Aberdeen 2013 - 94117 2014 – 96130 2016 - 96123	Aberdeenshire 2013 - 131811 2014 – 131390 2016 - 131863	Falling and rising	Human attitudes is very hard to change but education has to increase	http://www.environment.scotland.gov.uk/get-interactive/data/household-waste/ https://www.environment.gov.scot/data-analysis-applications/household-waste/ (Online) Accessed 9 January 2018
Rate (kg/person)	Aberdeen 2013 - 414 2014 – 420 2016 – 418	Aberdeenshire 2013 - 527 2014 – 504 2016 - 503	Falling and rising	Human attitudes is very hard to change but education has to increase	www.environment.scotland.gov.uk/get-interactive/data/household-waste/ https://www.environment.gov.scot/data-analysis-applications/household-waste/ (Online) Accessed 9 January 2018
Waste recycled	Aberdeen 2013 - 34956 2014 – 36742 2016 - 37498	Aberdeenshire 2013 - 47220 2014 - 52479 2016 - 57305	Falling and rising	Human attitudes is very hard to change but education has to increase	www.environment.scotland.gov.uk/get-interactive/data/household-waste/ https://www.environment.gov.scot/data-analysis-applications/household-waste/ (Online) Accessed 9 January 2018
Rate %	Aberdeen 2013 – 37.27 2014 - 37.14 2016 – 39.01	Aberdeenshire 2013 – 35.55 2014 - 35.82 2016 – 43.46		Human attitudes is very hard to change but education has to	www.environment.scotland.gov.uk/get-interactive/data/household-waste/ https://www.environment.gov.scot/data-

				increase	analysis-applications/household-waste/ (Online) Accessed 9 January 2018
Waste landfilled	Aberdeen 2013 - 59051 2014 – 59034 2016 - 58021	Aberdeenshire 2013 - 84421 2014 – 78734 2016 - 72995	Falling	Human attitudes is very hard to change but education has to increase	www.environment.scotland.gov.uk/get-interactive/data/household-waste/ https://www.environment.gov.scot/data-analysis-applications/household-waste/ (Online) Accessed 9 January 2018
Rate %	Aberdeen 2013 – 62.72 2014 - 62.74 2016 – 60.36	Aberdeenshire 2013 – 64.45 2014 - 64.05 2016 – 55.36	Falling and rising	Human attitudes is very hard to change but education has to increase	www.environment.scotland.gov.uk/get-interactive/data/household-waste/ https://www.environment.gov.scot/data-analysis-applications/household-waste/ (Online) Accessed 9 January 2018
Waste other diversion	Aberdeen 2013 - 109 2014 – 354 2016 - 604	Aberdeenshire 2013 - 170 2014 – 177 2016 - 1564	Rising	Human attitudes is very hard to change but education has to increase	www.environment.scotland.gov.uk/get-interactive/data/household-waste/ https://www.environment.gov.scot/data-analysis-applications/household-waste/ (Online) Accessed 9 January 2018
Rate %	Aberdeen 2013 – 0.12 2014 - 0.12 2016 – 0.63 2016 – 1.19	Aberdeenshire 2013 - 0 2014 – 0.13		Human attitudes is very hard to change but education has to increase	www.environment.scotland.gov.uk/get-interactive/data/household-waste/ https://www.environment.gov.scot/data-analysis-applications/household-waste/ (Online) Accessed 9 January 2018
Peat soils	4 types of peaty soils • Blanket peat • Peaty podsols • Peaty gleys • Organic soils rich in peat	With respect of the rest of Scotland Aberdeen City and Shire seem to be at the fringes of peat soils	Blanket peat is moderately distributed to the southwest of Aberdeen City and Shire and with a few dots in the northeast of the region Peaty podzol is densely distributed to the southwest of Aberdeen City and Shire and with a few dots in the northeast of the region Peaty gleys is sparsely distributed to the southwest of Aberdeen City and Shire and	Because of the relationship between peat and climate change development must be directed away from peat soils	https://soils.environment.gov.scot/maps/

			with a few dots in the northeast of the region Organic soils rich in peat is moderately distributed to the southwest of Aberdeen City and Shire and with a few dots in the northeast of the region		

Appendix 9.2.5: SEA Topic - Biodiversity, Flora and Fauna

SEA Indicator	Quantified information	Comparators and targets	Trends	Issues/ constraints	Data source(s)
Land Over	Aberdeenshire				Land Use Change Issues and Opportunities for Aberdeenshire (January 2015) (online) Available at https://www.aberdeenshire.gov.uk/media/20170/aberdeenshire-land-use-strategy-pilot-overview-report-full.pdf Accessed on 10 January 2018 Countryside Survey's Land Cover Map 2007 (LCM2007) (online)Available at https://www.ceh.ac.uk/sites/default/files/LCM2007%20dataset%20documentation.pdf Accessed on 10 January 2018
Broad leaf woodland (%)	2015 – 4 2018 - None	No comparators	No trend	None	Same as above
Coniferous woodland (%)	2015 – 11 2018 - None	No comparators	No trend	None	Same as above
Arable (%)	2015 – 26 2018 - None	No comparators	No trend	None	Same as above
Improved grassland (%)	2015 – 23 2018 - None	No comparators	No trend	None	Same as above
Rough and semi-natural grassland (%)	2015 – 8 2018 - None	No comparators	No trend	None	Same as above
Water and wetland (%)	2015 – 3 2018 - None	No comparators	No trend	None	Same as above
Heather moorland (%)	2015 – 14 2018 - None	No comparators	No trend	None	Same as above
Montane and bare land (%)	2015 – 9 2018 - None	No comparators	No trend	None	Same as above

Urban and sub-urban (%)	2015 – 2 2018 - None	No comparators	No trend	None	Same as above
International natural heritage designations (Ramsar)	Aberdeen City site – 0 hectare - 0	Aberdeenshire – 4 sites namely: Loch of Skene, Loch of Strathbeg, Muir of Dinnet and Ythan Estuary and Meikle Loch Hectares – 1208.61	No trend	New development has the potential to put pressure on site	SNHi accessed in July 2016 http://gateway.snh.gov.uk/sitelink/index.jsp
International natural heritage designations (Special Areas of Conservation (SAC)	Aberdeen City site – 1 hectare - 155	Aberdeenshire – sites – 12 Hectares – 5545	No trend	New development has the potential to put pressure on site	SNHi accessed in July 2016 http://gateway.snh.gov.uk/sitelink/index.jsp
International natural heritage designations (Special Protection Areas (SPA)	Aberdeen City site – 1 hectare – 60.51 Ythan Estuary, Sands of Forvie and Meikle Loch (Extension) (pSPA)	Aberdeenshire – sites – 9 Hectares – 2227	No trend	New development has the potential to put pressure on site	SNHi accessed in July 2016 http://gateway.snh.gov.uk/sitelink/index.jsp
National natural heritage designations - Sites of Special Scientific Interest (SSSI)	Aberdeen City site – 4 hectare - 47	Aberdeenshire – sites – 85 Hectares - 15,655	No trend	New development has the potential to put pressure on site	SNHi accessed in July 2016 http://gateway.snh.gov.uk/sitelink/index.jsp
National natural heritage designations National Nature Reserve (NNR)	Aberdeen City site – 0 hectare - 0	Aberdeenshire – sites – 7 Hectares - 1072	No trend	New development has the potential to put pressure on site	SNHi accessed in July 2016 http://gateway.snh.gov.uk/sitelink/index.jsp
Local Nature Conservation	Aberdeen City site – 16	Aberdeenshire – sites – 79	No trend	New development has the potential to put pressure	Aberdeenshire Council internal data

Sites (LNCS)				on site	
Local natural heritage designations - Scottish Wildlife Trust Reserves	Aberdeen City site – 0 hectare – N/A	Aberdeenshire – sites – 4 Hectares – N/A	No trend	New development has the potential to put pressure on site	Aberdeenshire Council internal data
Local natural heritage designations - RSPB Reserves	Aberdeen City site – 0 hectare – N/A	Aberdeenshire – sites – 3 Hectares – N/A	No trend	New development has the potential to put pressure on site	Aberdeenshire Council internal data
Local natural heritage designations - Ancient Woodland	Aberdeen City site – 140 hectare – N/A	Aberdeenshire – sites – 2,584 Hectares - 45,000	No trend	New development has the potential to put pressure on site	SNH, *SNHi* http://gateway.snh.gov.uk/sitelink/index.jsp (Accessed 12 March 2013) *Source:* SNH 2009
Country Park	Aberdeen City 0	Aberdeenshire 4 sites	No trend	New development has the potential to put pressure on site	SNHi accessed in July 2016 http://gateway.snh.gov.uk/sitelink/index.jsp
Area Covered by S.49 Agreement	Aberdeen City 0	Aberdeenshire 1 site	No trend	New development has the potential to put pressure on site	SNHi accessed in July 2016 http://gateway.snh.gov.uk/sitelink/index.jsp
Local Nature Reserve	Aberdeen City 4 sites	Aberdeenshire 2 sites	No trend	New development has the potential to put pressure on site	SNHi accessed in July 2016 http://gateway.snh.gov.uk/sitelink/index.jsp
Quality and availability of public open space in urban and rural areas	The Aberdeen City audit identified 3471 hectares of open space (not including private gardens or sites under 0.2 hectares). The quality of open space varies across the city with public parks and gardens rating the	Data for Aberdeenshire Councils Open Space Audit was not available. .	The poorest quality parks and open spaces tend to be found within the regeneration priority areas. It is more difficult to provide open space within densely populated areas.	Development pressure to build on urban open spaces. Revised standards for open space could encourage the development of more useful, publicly desirable and efficient types of open space, such as	Aberdeen City Council (2010) Open Space Audit

	highest and allotments and business amenity open space scoring the lowest rating			natural areas, green corridors, play spaces and allotments. This detail is likely to be taken forward through the local development plan and supplementary guidance.	
How "Protection of nature conservation sites" Policy is applied to Planning Applications	Aberdeen City o	Aberdeenshire Applications Received • 06/12-10/12 – 0 • 10/12- 06/13- 20 No of Approvals • 06/12-10/12 – 0 • 10/12- 06/13- 16 No of Refusals • 06/12-10/12 – 0 • 10/12- 06/13- 4	Number of applications have increased	Applications with LSE are being refused while applications consistent with safeguards are being approved	Aberdeenshire Council Monitoring Statement
How "Protection of the wider biodiversity and geodiversity" Policy is applied to Planning Applications	No data	Aberdeenshire Applications Received • 06/12-10/12 – 13 • 0/12- 06/13- 241 No of Approvals • 06/12-10/12 – 9 • 10/12- 06/13- 209 No of Refusals • 06/12-10/12 – 4 • 10/12- 06/13- 33	Number of applications have increased	Applications with LSE are being refused while applications consistent with safeguards are being approved	Aberdeenshire Council Monitoring Statement
How "Protection and conservation of agricultural land" Policy is applied	No data	Aberdeenshire Applications Received • 06/12-10/12 – 1 • 10/12- 06/13- 30	Number of applications have increased	Applications with LSE are being refused while applications consistent with safeguards are being approved	Aberdeenshire Council Monitoring Statement

to Planning Applications		No of Approvals • 06/12-10/12 – 1 • 10/12- 06/13- 26 No of Refusals • 06/12-10/12 – 0 • 10/12- 06/13- 4			

Appendix 9.2.6: SEA Topic - Human Health

SEA Indicator	Quantified information	Comparators and targets	Trends	Issues/ constraints	Data source(s)
Life expectancy at birth (years)	Aberdeen Male • 2002-2004 – 74.4 • 2012-2014 – 76.8 • 2014-2016 - 76.4 Female • 2002-2004 – 79.9 • 2012-2014 – 80.1 • 2014-2016 – 80.8	Aberdeenshire: Male • 2002-2004 -79.4 • 2012-2014 -76.3 • 2014-2016 – 79.2 Female • 2002-2004 -80.8 • 2012-2014 -82.3 • 2014-2016 -82.4	Life expectancy is improving year on year in the City and the Shire compared with Scottish figures. The Shire is faring much better than the City. In both the City and the Shire female life expectancy is much higher	Increasing life expectancy has longer-term cost implications for local authorities for service provisions for ageing population.	National Records of Scotland (2018). *Life Expectancy for areas in Scotland,* [Online] Available at https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/life-expectancy/life-expectancy-in-scottish-areas (Accessed 10 January 2018)
Life expectancy at 65 years	Aberdeen male • 2012-2014 – 18.4 • 2014-2016 – 16.9 female • 2012-2014 – 20.2 • 2014-2016 – 19.7	Aberdeenshire male • 2012-2014 –17.1 • 2014-2016 - 18.3 female • 2012-2014 – 18.5 • 2014-2016 – 20.3	No trend	Healthy Life Expectancy represents the number of years that an individual can expect to live in good health.	Same as above
Care home place for Adults	Aberdeen 2012 -2,036 2015 - 1,769	Aberdeenshire 2012- 2,061 2015 - 2,129	No significant trend	Ageing population and disability will put pressure on resources	Aberdeen City Council (2016) Behind the Granite: Aberdeen Key Facts 2016 Available http://www.aberdeencity.gov.uk/tourism_visitor_attractions/tourists_visitors/statistics/BTG_2016_Care_and_Protection.asp (Accessed 11 July 2016)
Children looked after by LA	Aberdeen 2010 -690	Aberdeenshire 2010 -496	Things are improving in the City and the Shire	Pressure on Government and LA	Same as above

	2011- 642 2014 – 577	2011- 498 2014 – 403		resources	
Children on child protection register	Aberdeen 2009 - 180 2010 - 119 2011- 96 2014 - 73	Aberdeenshire 2009 - 81 2010 -51 2011- 68 2014 – 68	Things are improving in the City compared with the Shire where the situation improved in 2010 but rose again in 2011	Pressure on Government and LA resources	Same as above
All crimes recorded by police	Aberdeen 2013/14 - 15,390 2014/15- 13,912	Aberdeenshire 2013/14 - 6,836 2014/15- 5,681	Things are improving	Crime and fear of crime can affects people's quality of life	Same as above
Fuel poor	Aberdeen 2009-11- 23% 2012-14 - 29%	Aberdeenshire 2009-11 -35% 2012-14 - 39%	Things are worsening	Worsening economy, longer winters, higher fuel prices and falling value of the pounds worsens the situation	Same as above
Income support	Aberdeen Feb 2012 -4420 Feb 2015 - 1,770	Aberdeenshire Feb 2012 -2980 Feb 2015- 1,310	No trend collected	Pressure on Government and LA resources	Same as above
Unemployment benefit claimants Figures (%)	Aberdeen 1/2015 - 1,635 (1.0) 1/2016 - 2,710 (1.7) 5/2016 – 3,405 (1.5) 11/2017 – 3,160 ((2.0)	Aberdeenshire 1/2015 - 1,080 (0.7) 1/2016 - 2,025 (1.2) 5/2016 – 2,470 (1.5) 11/2017 1, 965 (1.2)	Rising in Aberdeen City and the Shire but begins to fall by November 2017. The figures are lower than Scottish average	The down turn in the oil market may be the cause of rising unemployment	https://www.nomisweb.co.uk/reports/lmp/la/1946157405/report.aspx#tabempunemp https://www.nomisweb.co.uk/reports/lmp/gor/2013265931/report.aspx#tabempocc https://www.nomisweb.co.uk/reports/lmp/la/1946157406/printable.aspx Accessed 10 January 2018
Most deprived data zones – SIMD in most	Aberdeen 2009 - 28 2012 – 22	Aberdeenshire 2009 - 5 2012 – 5	Falling	Pressure on Government and LA resources	Aberdeen City Council (2016) Behind the Granite

deprived 15%	2016 - No data	2016 - No data			Aberdeen City Key Facts 2016
Incapacity benefit	Aberdeen 2012– 4840 2015 – 230 2016 – 8,620	Aberdeenshire 2012 – 3810 2015 – 230 2016 – 7,040	Not clear 2016 is for ESA and incapacity benefits	Pressure on Government and LA resources	https://www.nomisweb.co.uk/reports/lmp/gor/2013265931/report.aspx#tabempocc Accessed 10 January 2018

Appendix 9.2.7: SEA Topic - Population

SEA Indicator	Quantified information	Comparators and targets	Trends	Issues/constraints	Data source(s)
Population Projection 2014-based	Aberdeen • 2015 - 231014 • 2016 – 232613 • 2017 - 234284 • 2018 - 235986	Aberdeenshire • 2015 - 262578 • 2016 – 264613 • 2017 - 266756 • 2018 – 268988	The projections show increasing population in the City and the Shire	It has implication for increased provision of housing, industry and services to meet the needs of growing population and therefore the potential pressure on resources	National Records of Scotland (2018). Population Projections for Scottish Areas (2014-based) (Online) Available at https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-projections/sub-national-population-projections/2014-based/detailed-tables Accessed on 10 January 2018
Household projections (based on 2014)	Aberdeen • 2014 – 105287 • 2019 - 109846 • 2024 – 114880	Aberdeenshire • 2014 – 108381 • 2019 - 114391 • 2024 – 120276 •	The projections show increasing households in the City and the Shire	Same as above	National Records of Scotland (2018). Household Projections for Scottish Areas (2014-based) (Online) Available at https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/housholds/household-projections Accessed on 10 January 2018
Average Household size	Aberdeen • 2013 – 2.08 • 2014 – 2.09 • 2015 – 2.10 • 2016 – 2.07	Aberdeenshire • 2013 – 2.38 • 2014 – 2.38 • 2015 – 2.37 • 2016 - 2.35	The projections show falling household size in the City and the Shire	Same as above	National Records of Scotland (2018). Household Projections for Scottish Areas (2014-based) (Online) Available at https://www.nrscotland.gov.uk/files//statistics/household-estimates/2016/house-est-16.pdf Accessed on 12 January 2018
Population Change	Aberdeen 2014 – 228,920 2015 – 230, 350 2016 - 229,840 Change % change (2014-15)	Aberdeenshire 2014 – 260,530 2015 - 261, 960 2016 - 262,190 Change % change (2014-15)	Both areas are doing better than the Scottish average change of 0.6%. Over 10 years the City has added 8,520 persons to its population compared to the Shire's	Components of population change by administrative area,	Aberdeen City (2016) Briefing Paper 2016/03: Population Report, Aberdeen City and Shire. Available at: http://www.aberdeencity.gov.uk/nmsruntime/saveasdialog.asp?lID=71874&sID=3365

	0.6% % change (2015-16) -0.22% Change projected for 2019 (3.8%)	0.5% % change (2015-16) 0.09% % change projected for 2019 (4.1%)	20,660 addition		https://www.nrscotland.gov.uk/files//statistics/population-estimates/mid-year-2016/16mype-cahb.pdf Accessed on 15 January 2018
Population Structure	Aberdeen • 00-15 -14.7% • 16-24 – 14.4% • 25-44 – 32.3% • 45-64 - 23.7% • 65+ - 14.9% •	Aberdeenshire • 00-15 -18.7% • 16-24 – 9.7% • 25-44 – 25.1% • 45-64 – 28.8% • 65+ - 17.8%	A trend exists if data is collected on the basis of male/female. But no trend exists for data collected on the basis of total persons before 2011.	A large proportion of working age population means large future pensionable and ageing population.	Aberdeen City (2016) Briefing Paper 2016/03: Population Report, Aberdeen City and Shire. Available at: http://www.aberdeencity.gov.uk/nmsruntime/saveasdialog.asp?lID=71874&sID=3365
Population density	Aberdeen • Area – 186 Km2 • 2012 – 1187 • 2015 – 1,242 • 2016 – 1,250 • 2017 – 1,259 • 2018 – 1,268	Aberdeenshire • Area – 6313km2 • 2015 - 41 • 2016 – 41.9 • 2017 – 42.3 • 2018 – 42.6	The density is higher in the city than the shire Both densities have risen over time	There will be more pressure on resources provided in the City in one sense but less pressure on burning of fossil fuel on distance travelled in the City	Computed from National Records of Scotland (2018). Population Projections for Scottish Areas (2014-based) (Online) Available at https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-projections/sub-national-population-projections/2014-based/detailed-tables Accessed on 10 January 2018

Appendix 9.2.8: SEA Topic - Cultural Heritage

SEA Indicator	Quantified information	using this column for figures for Jan 2018	Trends	Issues/constraints	Data source(s)
Listed buildings	Aberdeen City Listed buildings • 2013– 1,212 • 2018 – 1220	Aberdeenshire • 2013– 3,715 • 2018 – 3775	Increasing	New development also has potential to maintain or enhance cultural sites	Aberdeen City and Shire LDPA (2009) *Aberdeen City and Shire Structure Plan Monitoring Report*
Listed buildings at risk	Aberdeenshire Aberdeen City • 2013 – 26 • 2018 – 29	Aberdeenshire • 2013– 228 • 2018 – 268 (68 unlisted)	Increasing	New development also has potential to maintain or enhance cultural sites	
Conservation Areas	Aberdeen City • 2013 – 11 • 2018 – 11	Aberdeenshire • 2013 – 42 • 2018 – 41 with another 14 proposed	Decrease but forecast increase in short term	New development has the potential to put pressure on, or be constrained by, built and cultural sites.	
Scheduled Monuments	Aberdeen City • 2016 – 45 • 2018 - 45	Aberdeenshire • 2016 - 552 • 2018 - 552	No change	New development has the potential to put pressure on, or be constrained by, built and cultural sites.	Historic Environment Scotland
Archaeological Sites and Monuments Record	Aberdeen City • 2016 - 5,370 • 2018 – 3,561	Aberdeenshire • 2016 – 20,413 • 2018 – 25,021	falling	New development has the potential to put pressure on, or be constrained by, built and cultural sites.	Aberdeenshire Council Archaeology Service – Historic Environment Records Database

Gardens and designed landscapes	Aberdeen City • 2013 – 1 • 2016 - 1 • 2018 - 1 •	Aberdeenshire • 2013- 27 • 2016 - 34 • 2018 - 34	No change	New development has the potential to put pressure on, or be constrained by, built and cultural sites.	Historic Environment Scotland
Battlefields	Aberdeen City None	Aberdeenshire Alford 1645 Barra 1308 Fyvie 1644 Harlaw 1411	No change		http://data.historic-scotland.gov.uk/pls/htmldb/f?p=2500:10:0

Appendix 9.2.9: SEA Topic - Landscape

SEA Indicator	Quantified information	Comparators and targets	Trends	Issues/constraints	Data source(s)
Landscape character	In Aberdeen there are 27 landscape character areas.	There are 42 landscape character areas in Aberdeenshire, including 9 within the CNP. The four Landscape Character Assessments that cover the North East provides a brief overview of past land use practices and discusses potential land uses for existing landscapes.	No trend	The inappropriate scale and insensitive siting of future new development may adversely affect landscape characteristics (e.g. changing its landscape character type, not respecting local topography/contours). New development not fitting in with the landscape's capacity to absorb further developments (e.g. design, layout and sense of place) – need to promote suitable development capacity.	Scottish Natural Heritage (1997) *National programme of landscape character assessment: Banff and Buchan*, Review No 37. Scottish Natural Heritage (1996) *Cairngorms landscape assessment*, Review No 75. Scottish Natural Heritage (1996) *Landscape character assessment of Aberdeen*, Review No 80 Scottish Natural Heritage (1998) *South and Central Aberdeenshire: landscape character assessment*, Review No 102.
Landscape Devt in Energetica Framework Area (ALDP 01 Bus 5)	Applications Received • 06/12-10/12 - 0 • 10/12- 06/13 – 2 No of Approvals • 06/12-10/12 - 0 • 10/12- 06/13 - 2 No of Refusals • 06/12-10/12 - 0 • 10/12- 06/13 - 0	No data	No significant increase	No known constraint	Aberdeenshire Council Monitoring Statement
Landscape Layout, siting, and design	No data	Applications Received • 06/12-10/12 - 53	Significant application of	There could be mixed effect for landscape	Aberdeenshire Council Monitoring Statement

of new developments ALDP 08 lsd2		• 10/12- 06/13 -1296 No of Approvals • 06/12-10/12 - 40 • 10/12- 06/13 - 1169 No of Refusals • 06/12-10/12 -13 • 10/12- 06/13 - 127 No data	policy		
How "Landscape character" Policy is applied to planning applications	No data	Applications Received • 06/12-10/12 – 21 • 10/12- 06/13- 187 No of Approvals • 06/12-10/12 – 13 • 10/12- 06/13- 130 No of Refusals • 06/12-10/12 – 7 10/12- 06/13- 57	Number of applications have increased	Applications with LSE are being refused while applications consistent with safeguards are being approved	Aberdeenshire Council Monitoring Statement
How "Valued views" Policy is applied to Planning Applications	No data	Applications Received • 06/12-10/12 – 2 • 10/12- 06/13- 19 No of Approvals • 06/12-10/12 – 2 • 10/12- 06/13- 16 No of Refusals • 06/12-10/12 – 0 10/12- 06/13- 3	Number of applications have increased	Applications with LSE are being refused while applications consistent with safeguards are being approved	Aberdeenshire Council Monitoring Statement
How "Public open space" Policy is applied to Planning Applications	No data	Applications Received • 06/12-10/12 – 9 • 10/12- 06/13- 31 No of Approvals • 06/12-10/12 – 8 • 10/12- 06/13- 21 No of Refusals • 06/12-10/12 – 1 • 10/12- 06/13- 10	Number of applications have increased	Applications with LSE are being refused while applications consistent with safeguards are being approved	Aberdeenshire Council Monitoring Statement

Percentage Greenspace type (primary codes only)	%	%	Trend	Constraints/Issues	Greenspace Scotland (February 2018) The Third State of Scotland's Greenspace Report (online) Available at http://www.greenspacescotland.org.uk/Data/Sites/1/media/docs/sosgreport/3rdstateofscotlandsgreenspacereport_010218.pdf (Accessed 7 March 2018)
• Public Park and Garden	8	1	No Trend		Same as above
• Private Garden	27	28	No Trend	Same as above	Same as above
• School Grounds	2	2	No Trend	Same as above	Same as above
• Institutional Grounds	2	1	No Trend	Same as above	Same as above
• Amenity Residential or business	31	23	No Trend	Same as above	Same as above
• Play space	<1	<1	No Trend	Same as above	Same as above
• Playing Fields	2	2	No Trend	Same as above	Same as above
• Golf Course	6	7	No Trend	Same as above	Same as above
• Tennis Course	<1	<1	No Trend	Same as above	Same as above
• Bowling Green	<1	<1	No Trend	Same as above	Same as above
• Other Sports facility	2	1	No Trend	Same as above	Same as above
• Natural total	14	31	No Trend	Same as above	Same as above
• Allotments or community growing space	<1	<1	No Trend	Same as above	Same as above

• Religious grounds	<1	<1	No Trend	Same as above	Same as above
• Cemetery	<1	1	No Trend	Same as above	Same as above
• Camping or caravan park	<1	<1	No Trend	Same as above	Same as above
• Land use changing	5	3	No Trend	Same as above	Same as above
Percentage Greenspace type (primary and secondary codes only)	%	%	Trend	Constraints/Issues	Greenspace Scotland (February 2018) The Third State of Scotland's Greenspace Report (online) Available at http://www.greenspacescotland.org.uk/Data/Sites/1/media/docs/sosgreport/3rdstateofscotlandsgreenspacereport_010218.pdf (Accessed 7 March 2018)
• Public Park and Garden	8	1	No Trend	Same as above	Same as above
• Private Garden	27	27	No Trend	Same as above	Same as above
• School Grounds	2	2	No Trend	Same as above	Same as above
• Institutional Grounds	2	1	No Trend	Same as above	Same as above
• Amenity Residential or business	30	22	No Trend	Same as above	Same as above
• Play space	<1	<1	No Trend	Same as above	Same as above
• Playing Fields	3	3	No Trend	Same as above	Same as above
• Golf Course	6	7	No Trend	Same as above	Same as above
• Tennis Course	<1	<1	No Trend	Same as above	Same as above

• Bowling Green	<1	<1	No Trend	Same as above	Same as above
• Other Sports facility	2	1	No Trend	Same as above	Same as above
• Natural total	14	32	No Trend	Same as above	Same as above
• Allotments or community growing space	<1	<1	No Trend	Same as above	Same as above
• Religious grounds	<1	<1	No Trend	Same as above	Same as above
• Cemetery	<1	1	No Trend	Same as above	Same as above
• Camping or caravan park	<1	<1	No Trend	Same as above	Same as above
• Land use changing	4	3	No Trend	Same as above	Same as above
Summary Area Total of Greenspace types (primary codes only)	%	%	Trend	Constraints/Issues	Greenspace Scotland (February 2018) The Third State of Scotland's Greenspace Report (online) Available at http://www.greenspacescotland.org.uk/Data/Sites/1/media/docs/sosgreport/3rdstateofscotlandsgreenspacereport_010218.pdf (Accessed 7 March 2018)
• Public Park and Garden	492	59	No Trend	Same as above	Same as above
• Private Garden	1,737	1,619	No Trend	Same as above	Same as above
• School Grounds	146	130	No Trend	Same as above	Same as above
• Institutional Grounds	133	65	No Trend	Same as above	Same as above
• Amenity Residential or	1,960	1,357	No Trend	Same as above	Same as above

business					
• Play space	14	16	No Trend	Same as above	Same as above
• Playing Fields	124	91	No Trend	Same as above	Same as above
• Golf Course	358	425	No Trend	Same as above	Same as above
• Tennis Course	2	1	No Trend	Same as above	Same as above
• Bowling Green	6	4	No Trend	Same as above	Same as above
• Other Sports facility	142	50	No Trend	Same as above	Same as above
• Natural total	874	1,804	No Trend	Same as above	Same as above
• Allotments or community growing space	16	7	No Trend	Same as above	Same as above
• Religious grounds	16	12	No Trend	Same as above	Same as above
• Cemetery	28	32	No Trend	Same as above	Same as above
• Camping or caravan park	4	15	No Trend	Same as above	Same as above
• Land use changing	286	169	No Trend	Same as above	Same as above
• Total	6,338	5,858			
Summary Area Total of Greenspace types (primary and secondary codes only)	%	%	Trend	Constraints/Issues	Greenspace Scotland (February 2018) The Third State of Scotland's Greenspace Report (online) Available at http://www.greenspacescotland.org.uk/Data/Sites/1/media/docs/sosgreport/3rdst

					ateofscotlandsgreenspacereport_010218.pdf (Accessed 7 March 2018)
• Public Park and Garden	492	59	No Trend	Same as above	Same as above
• Private Garden	1,741	1,620	No Trend	Same as above	Same as above
• School Grounds	146	130	No Trend	Same as above	Same as above
• Institutional Grounds	138	68	No Trend	Same as above	Same as above
• Amenity Residential or business	1,969	1,360	No Trend	Same as above	Same as above
• Play space	19	22	No Trend	Same as above	Same as above
• Playing Fields	168	160	No Trend	Same as above	Same as above
• Golf Course	358	425	No Trend	Same as above	Same as above
• Tennis Course	5	2	No Trend	Same as above	Same as above
• Bowling Green	9	5	No Trend	Same as above	Same as above
• Other Sports facility	156	58	No Trend	Same as above	Same as above
• Natural total	940	1,967	No Trend	Same as above	Same as above
• Allotments or community growing space	16	7	No Trend	Same as above	Same as above
• Religious grounds	16	12	No Trend	Same as above	Same as above
• Cemetery	28	32	No Trend	Same as above	Same as above

• Camping or caravan park	4	16	No Trend	Same as above	Same as above
• Land use changing	286	169	No Trend	Same as above	Same as above
Total	6,490	6,112			
National Coastal Assessment					Rates of coastal change across Scotland http://www.dynamiccoast.com/about_project.html.

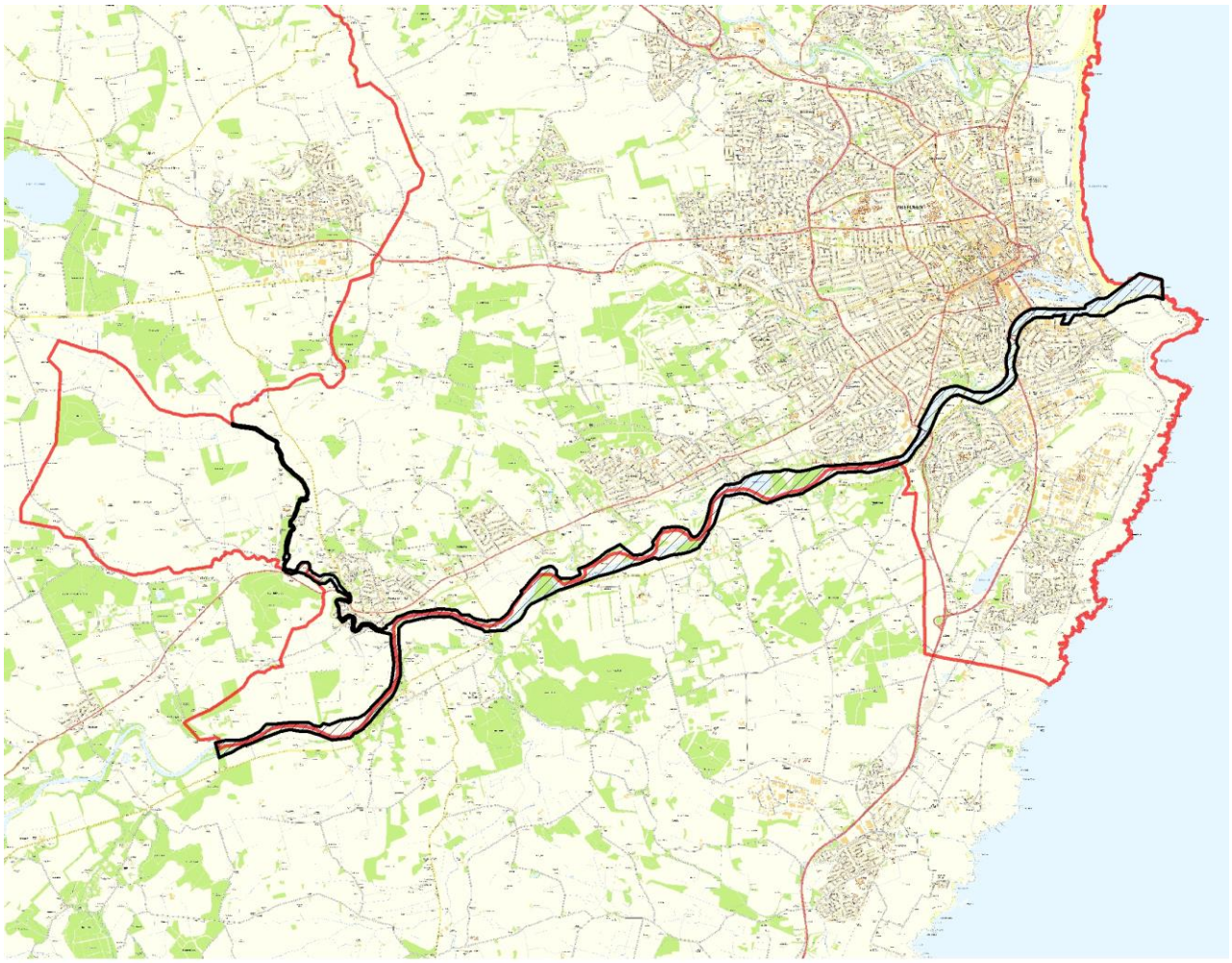
Appendix 9.2.10: SEA Topic - Material Assets

SEA Indicator	Quantified information	Comparators and targets	Trends	Issues/constraints	Data source(s)
Council tax Band D	Aberdeen 2010/11 - £1230. 2011/12 - £1230. 2016.17 - £1,230.	Aberdeenshire 2010/11 - £1141 2011/12 - £1141 2016/17 - £1,141	No change	Government policy on keeping household costs down affects how much councils can charge	Council Tax Help Scotland - counciltaxadvisorsscotland.com
Household tenure – owner occupied	Aberdeen 2009/10 – 60% 2015/16 – 57%	Aberdeenshire 2009/10 – 74% 2015/16 – 73%	Substantial owner housing in City and Shire although it is higher in the Shire	House prices for first time buyers may be a constraint as so is the general economic climate	Behind The Granite 2016 Sections available at http://www.aberdeencity.gov.uk/tourism_visitor_attractions/tourists_visitors/statistics/BTG_2016_Housing.asp (assessed 11 July 2016)
Household tenure – social rent	Aberdeen 2009/10 – 24% 2015/16 -24%	Aberdeenshire 2009/10 – 17% 2015/16 – 16%	Low compared those living in their own homes	Ability of social landlords to build more homes	Same as above
Household tenure – private rent	Aberdeen 2009/10 – 14% 2015/16 –0.9 %	Aberdeenshire 2009/10 – 8% 2015/16 -17%	Lowest tenure	Probably open market rental values will constrain choice in this sector	Same as above
Public-sector housing stock	Aberdeen March 2012 - 22,740 March 2015 - 22,328	Aberdeenshire March 2012 - 12,877 March 2015 - 12,856	The Stock is falling	Issue is energy efficiency in this sector	Same as above
New Dwellings – Housing Completion	Aberdeen 2010/11 - 607 2013/14 - 717 2014/15 - 570	Aberdeenshire 2010/11 - 1,471 2013/14 - 1,122 2014/15 - 1,368	Rise in the latest data for the Shire but a fall in the latest data for the City	The economic climate can constrain how many new houses could be completed	Behind The Granite 2016 Sections available at http://www.aberdeencity.gov.uk/tourism_visitor_attractions/tourists_visitors/statistics/BTG_2016_Housing.asp (assessed 11 July 2016)
Economic	Aberdeen	Aberdeenshire	Rising in the Shire but	Falling oil prices	Same as above

Activity Rates,	2012 - 83.0% 2014 – 2015 – 80.5%	2012 - 82.6% 2014-2016- 84.0%	falling in the City		
Average Gross Weekly earnings	Aberdeen 2011/12 - £574.9 2014/14 - £617.0	Aberdeenshire 2011/12 -£456.7 2014/14 - £482.5	Quite high for the City and the Shire compared with national average	The oil industry seems to be boosting performance in the North East	Same as above
Established Housing Land Supply (EHLS) (including small sites)	Aberdeen 2016 – 21,271 2017 - 20,651	Aberdeenshire 2016 – 25, 634 2017 - 25, 486	Falling in both City and Shire	Reflection of Constrains	Aberdeen City Council and Aberdeenshire Council (2016) Housing Land Audit, Aberdeen. Aberdeen City Council and Aberdeenshire Council (2017) Housing Land Audit, Aberdeen.
EHLS on Greenfield (%) (For Aberdeen Housing Market)	Aberdeen 2016 – 86 2017 - 86	Aberdeenshire 2016 – 94 2017 - 94	Unchanged	Reflection of Constrains	Same as above
EHLS on Brownfield (%) (For Aberdeen Housing Market)	Aberdeen 2016 – 14 2017 - 14	Aberdeenshire 2016 – 6 2017 - 6	Unchanged	Reflection of Constrains	Same as above
Constrained Housing Land Supply	Aberdeen 2016 – 3, 020 2017 - 2, 915	Aberdeenshire 2016 – 6, 808 2017 - 7, 083	Falling in the City but rising in the Shire	Reflection of Constrains	Same as above
5 – year effective housing land	Aberdeen 2016 – 6, 648 2017 - 6, 631	Aberdeenshire 2016 – 8, 112 2017 - 7, 727	Falling in the City but rising in the Shire	Reflection of Constrains	Same as above

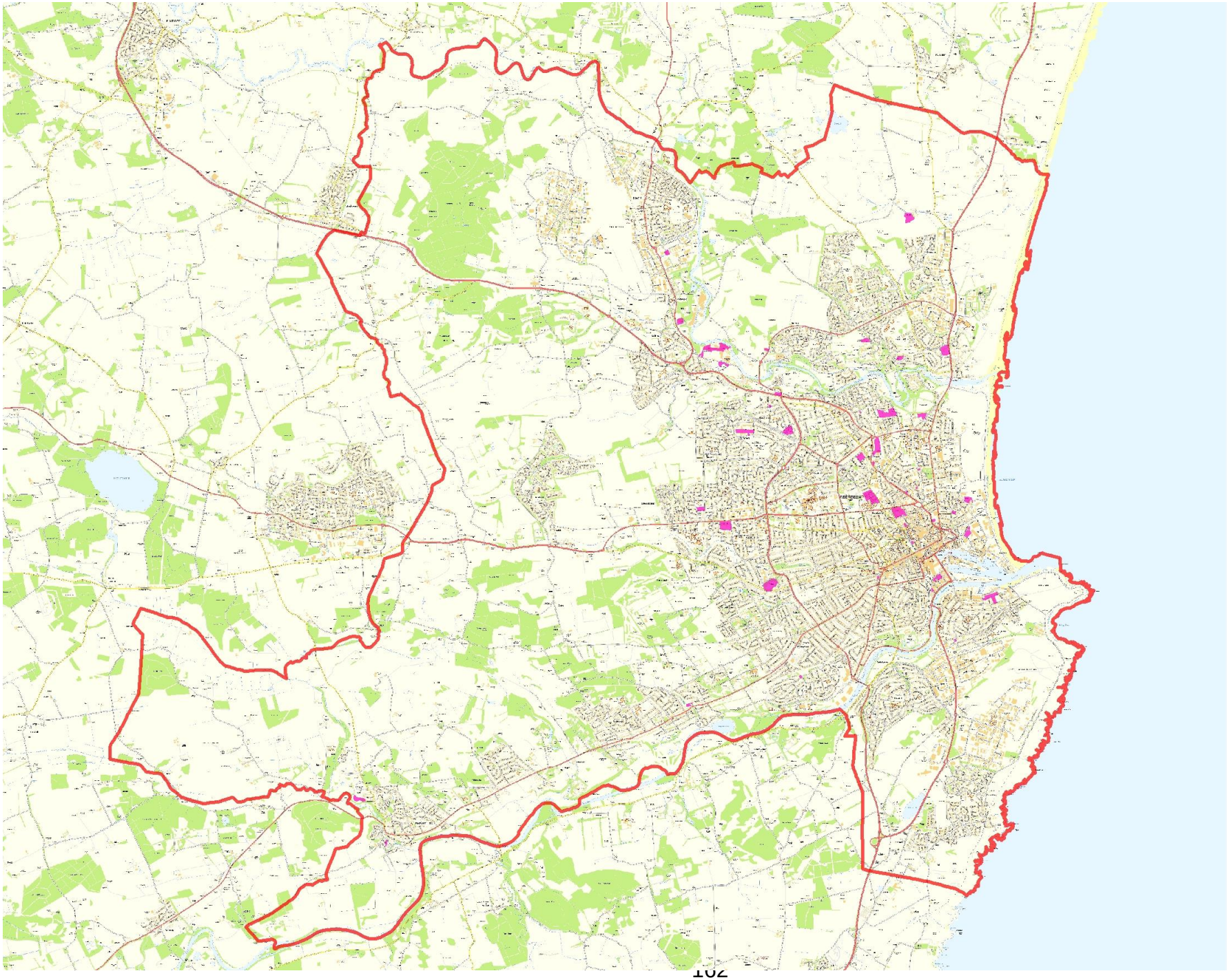
supply(including small sites)					
Effective Units Programmed Beyond Year 5 in 2016 and 2017	Aberdeen 2016 – 11, 603 2017 - 11, 105	Aberdeenshire 2016 – 10, 714 2017 - 10, 678	Falling in the City but rising in the Shire	Reflection of Constrains	Same as above
Housing completions (2017 figures are anticipated)	Aberdeen 2015 - 798 2016 – 833 2017 - 1, 274	Aberdeenshire 2015 – 1,304 2016 – 1, 133 2017 - 935	Falling in the City but rising in the Shire	Reflection of Constrains	Same as above

Map 1: Areas in Aberdeen at 0.5% risk of annual flooding from river (light blue) and coastal (dark blue hatched) sources.

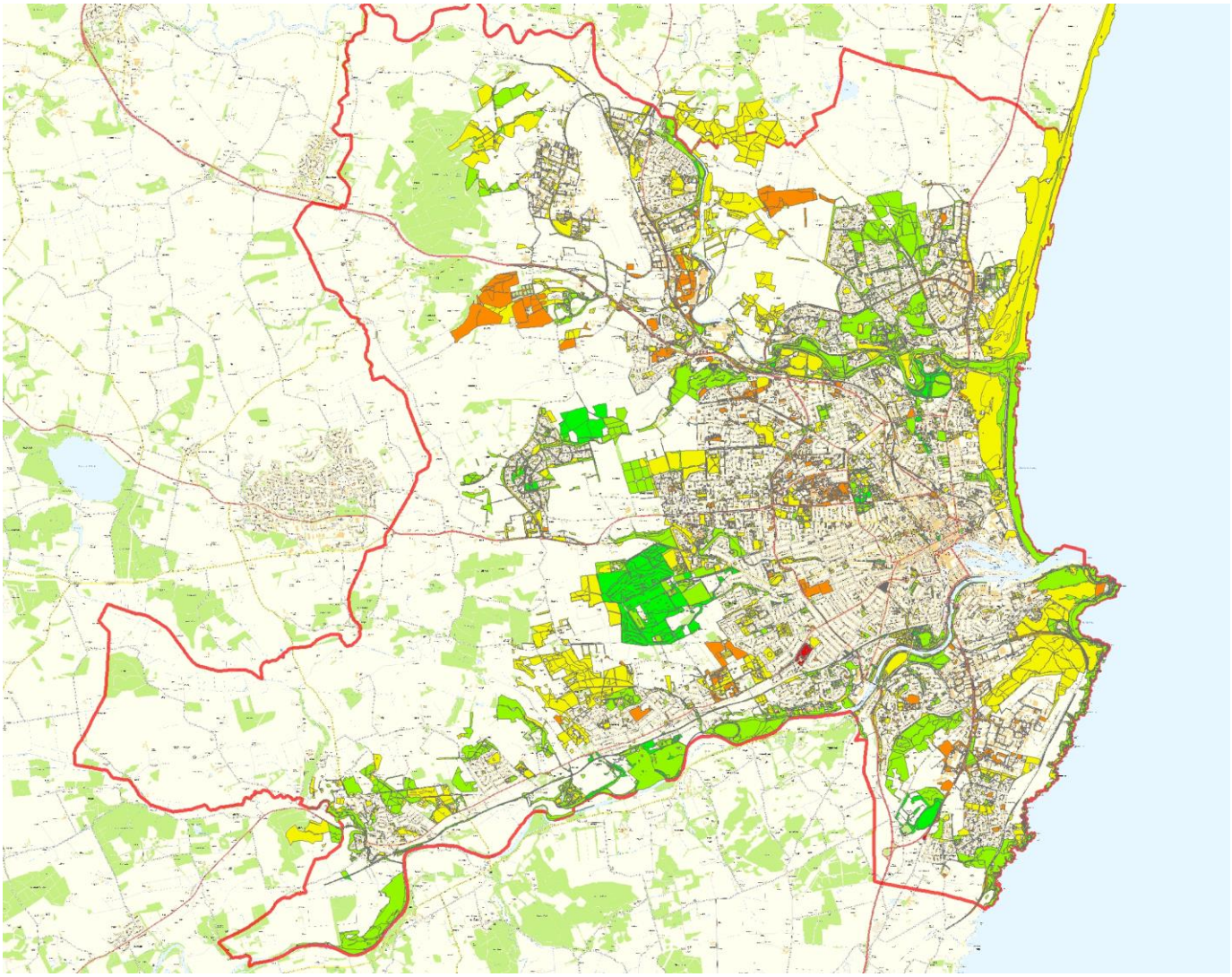


Map 2: River Dee Special Conservation Area in Aberdeen City

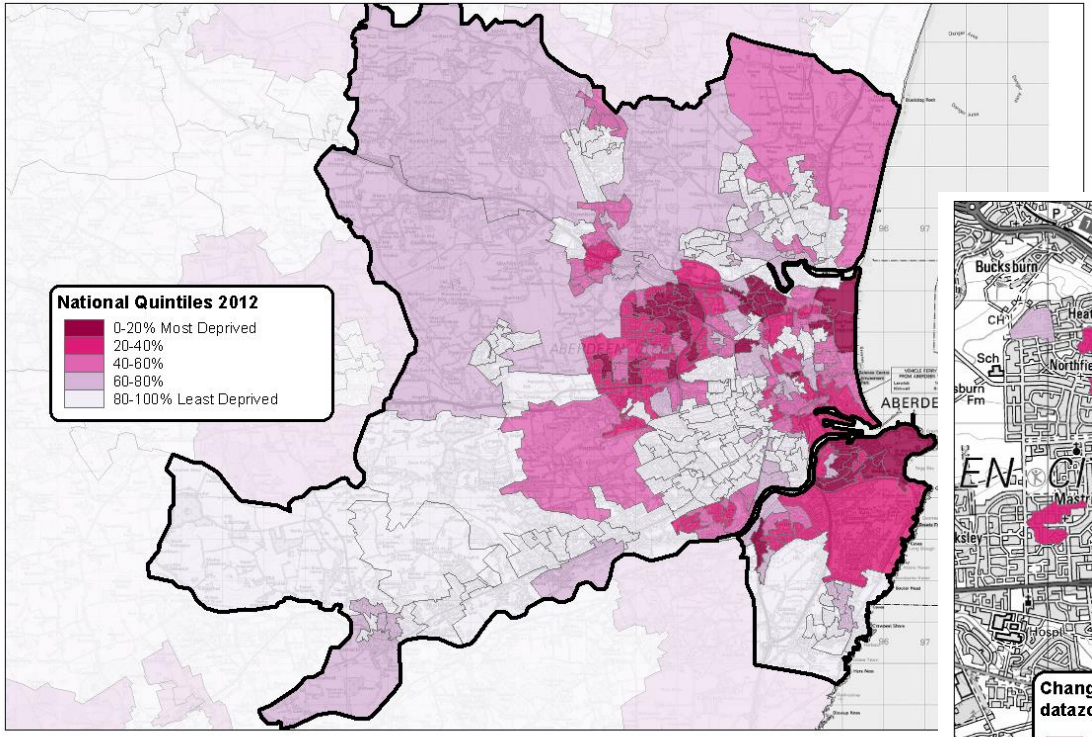
Map 3: Local Nature Conservation Sites (purple) and Local Nature Reserves (brown outline) in Aberdeen



Map 4: Vacant and Derelict Land Survey Sites 2012

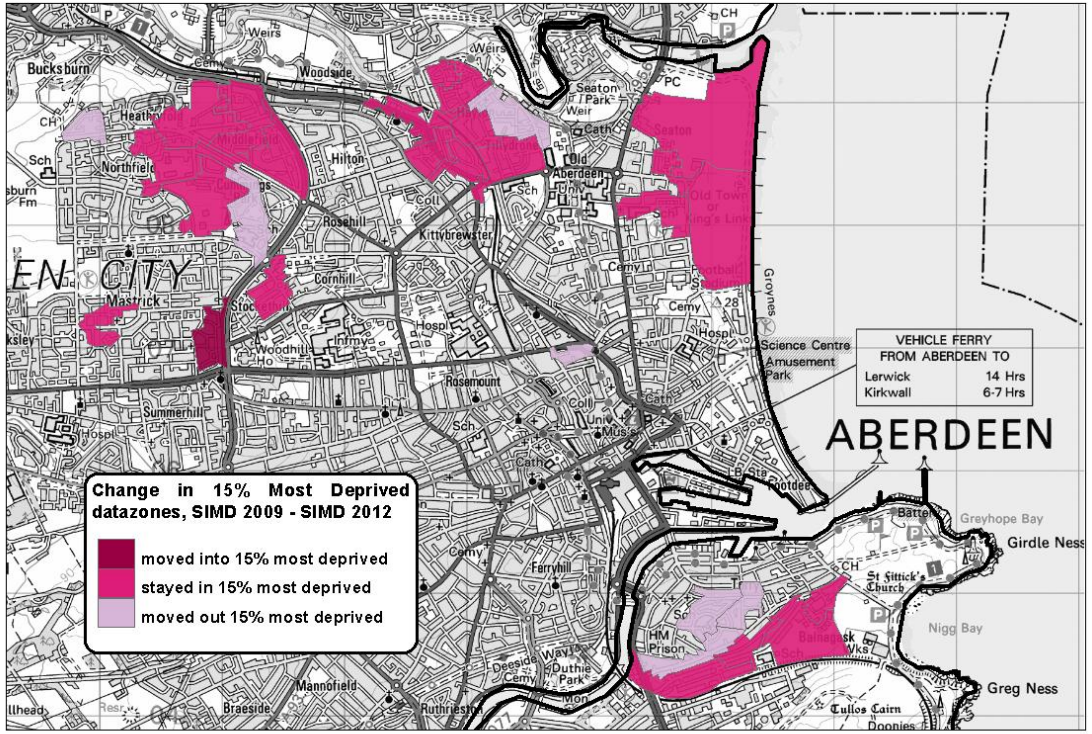


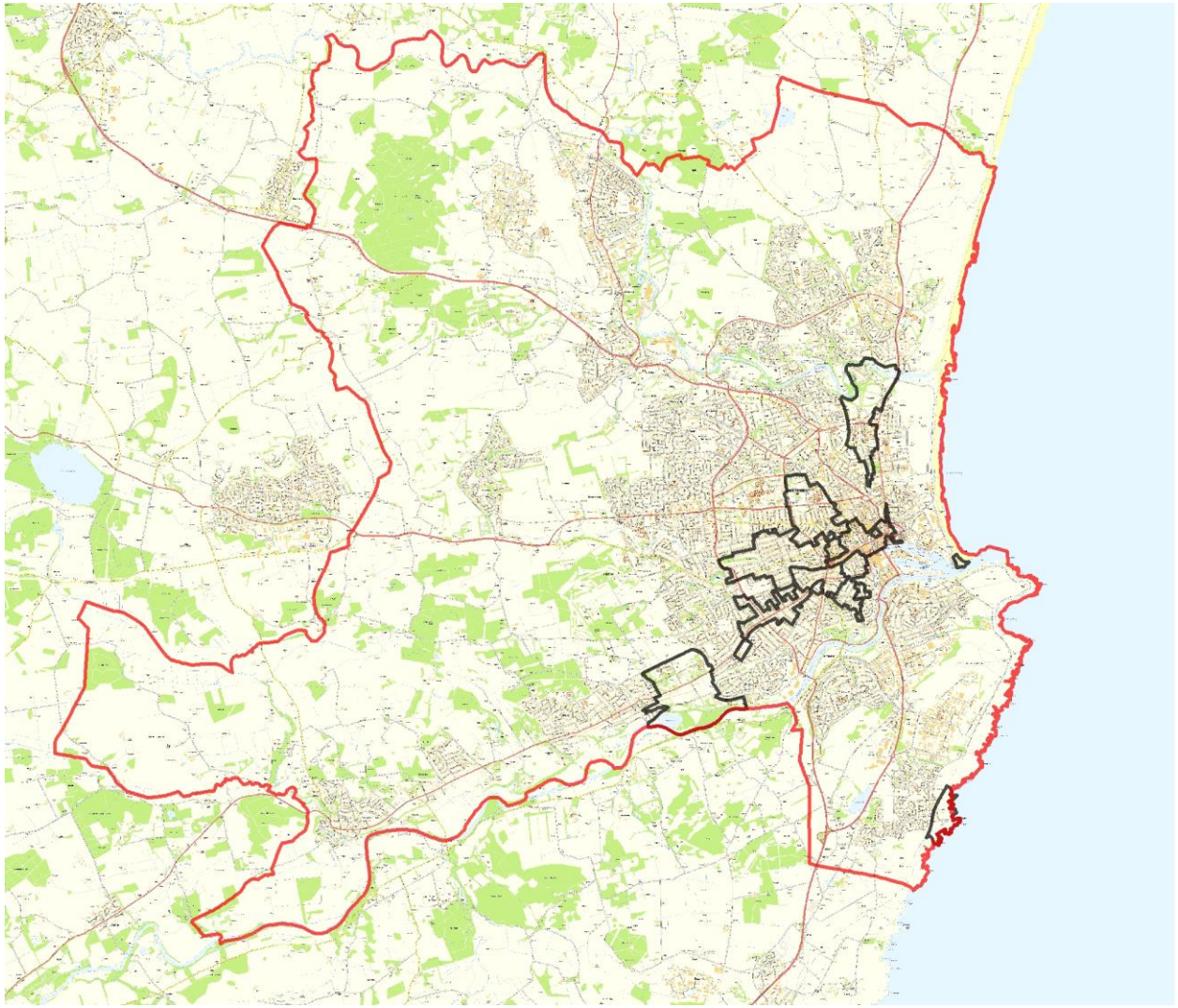
Map 5: Open Space Audit 2012- Quality of Open Spaces (Green= highest quality; red= lowest quality)



Map 7: Change in 15% Most Deprived Datazones between SIMD 2009 and SIMD 2012 in Aberdeen. Source: SIMD 2012

Map 6: Scottish Index of Multiple Deprivation: Aberdeen City datazones by national quintile. Source: SIMD 2012





Map 8: Conservation Areas in Aberdeen