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**Residual and Cumulative Effects Assessment****7.1 Residual Effects**

Residual effects of the MIR preferred options were identified after the consideration of mitigation (see methodology outlined in Chapter 5, section 5.6). As illustrated in the previous chapter, the majority of the proposed mitigation was accepted for incorporation into the MIR. This ensured that the majority of the policies had beneficial residual effects however some still retained an adverse or uncertain rating.

All residual effects of the preferred options are identified within Appendix F of this report. These residual effects were taken forward into the cumulative effects assessment to establish any significant effects which could occur when looking at the policy options as whole, in addition to assessing potential effects per policy option across the SEA topics.

**7.2 Cumulative Effects**

Cumulative effects were considered after the acceptance or otherwise by South Ayrshire Council of the proposed mitigation / recommendations stemming from the environmental assessments. The methodology for the cumulative effects assessment is outlined in Chapter 5, section 5.7. Maps 1 to 4 in the MIR show the cumulative impact of the development of proposed sites / land parcels.

The full cumulative effects assessment can be found in Appendix F of this Report.

**7.2.1 Cumulative Effects across all SEA Topics**

Reading across the columns within the Appendix F matrix illustrates the potential cumulative effects across all SEA topics for each of the preferred options. Those options which were envisaged to only have significant effects to one SEA topic were therefore considered to have no significant cumulative effects.

One preferred option, relating to Glasgow Prestwick Airport expansion plans, was considered to have potential adverse effects. This was thought possible due to the predicted uncertain adverse effects in relation to local biodiversity, landscape character, air quality and noise with mixed effects to climatic factors and soils which cumulatively were envisaged to have adverse effects. Project-level mitigation was identified as important to avoid or minimise uncertain adverse effects, but this is a detailed design matter and so cannot be recommended by the SEA.

The preferred option relating to the Galloway and Southern Ayrshire Biosphere Reserve was thought to have moderate to major cumulative benefits across topics. This was considered likely due to the significant benefits to biodiversity and the landscape and the potential for benefits to the water environment, soils, human health and population.

Many of the other options were considered to have uncertain effects or uncertain benefits and it was thought that several of the effects would be clearer at project-level stage rather than at this strategic level.

**7.2.2 Cumulative Effects for each SEA Topic**

Reading down the rows within the Appendix F matrix indicates the potential cumulative effects of all of the preferred options combined on each SEA topic. No adverse effects on any SEA topic were considered to be present though the cumulative effect of all MIR preferred options.

The majority of the SEA topics were predicted to benefit through the implementation of preferred options within the MIR. These were generally of minor significance, affecting the local to regional area. It was envisaged that some uncertainty would remain as to the extent of effects on some topics namely, biodiversity, the landscape and noise.

Although, individually, some options were considered to have adverse effects (for example, several had uncertain adverse effects predicted to air quality), other preferred options were thought to counteract this adversity (e.g. the option to develop an LPD policy which ensures that proposals which may affect air quality are assessed against the National Air Quality Objectives).

The most significant cumulative effects were predicted for South Ayrshire’s population, with moderate to major benefits envisaged in both the short and long term. This was due to the many options that were perceived to have a beneficial effect through appropriate housing provision, possible economic growth, increased accessibility and a general improvement to the community environment and quality of life.

**7.2.3 Summary and Overall Interaction**

Overall, minor to moderate long term benefits to the natural and built environment of South Ayrshire are envisaged. Greater benefits have been achieved through the continuous incorporation of SEA findings into the MIR development.

The main benefits likely to be achieved through the MIR are considered to relate to the population of South Ayrshire, through a commitment to sustainable economic growth, enhanced employment opportunities and the development of a better quality of life and community environment, encouraging people to live and work in the region.