

Integrated Habitat Network data use in masterplanning - case studies

(July 2013)



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The integrated habitat network data use examples have been selected to highlight some elements of good practice.

Central Scotland Green Network Integrated Habitat Network (IHN)

More about CSGN: <http://www.centralscotlandgreennetwork.org/>

‘Creating an environment where nature can flourish’

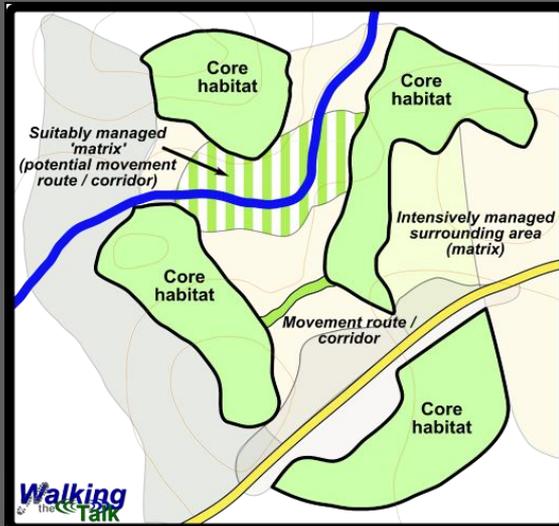
The development of an integrated habitat network (IHN) is a key action underpinning the realisation of the CSGN. Delivered through landscape-scale habitat enhancement projects and local action to prevent the fragmentation of habitats and the loss of species, it will allow our wildlife to adapt to climate change. In 2011 a detailed habitat map for the CSGN was created, and indicative habitat networks modelled in 2011 and 2012. The IHN maps and data can help to achieve CSGN actions, informing our actions at a landscape scale to link fragmented habitats.

The IHN mapping project outputs show an indication of: a) habitat patches, b) a representation of how these patches may be connected, and c) a representation of the ecological role of the land surrounding these habitat patches. The maps are indicative and five broad habitat types have been modelled. [IHN Key Messages](#) and a [Technical Annex](#) explain how to use the data.

The habitat network will contribute to high landscape quality across the Central Belt, provide increased recreational opportunities with associated health and well-being improvements, improve water and air quality, support flood prevention and action to address climate change.

Overarching principles

Helping to deliver the
CSGN
Central Scotland Green Network



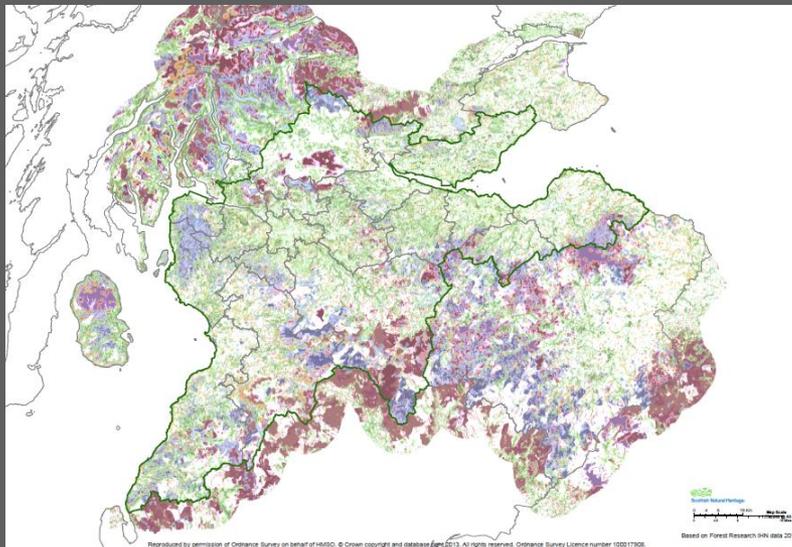
Integrated Habitat Network data – key messages

Overarching principles

IHN Key messages: <http://www.snh.gov.uk/docs/C334188.pdf> Technical Annex 1: <http://www.snh.gov.uk/docs/C340257.pdf>
Guide on the Interpretation and Use of Habitat Network Models: <http://www.snh.gov.uk/docs/B692517.pdf>

The habitat networks shown are indicative; the IHN maps and data should be used alongside other natural heritage datasets and local knowledge:

- To increase our understanding of habitat extent and connectivity;
- To aid the production and implementation of policy and strategy documents such as Strategic and Local Development Plans (specifically Green Network Policies, spatial mapping and Supplementary Guidance), Local Biodiversity Action Plans (LBAP), River Basin Management Plans (RBMP) and Forest and Woodland Strategies (FWS);
- To identify and prioritise areas for habitat conservation, management and expansion to support SRDP, CSGN and LBAP targets; and
 - to steer non-complementary land-use change to areas where impacts on habitat networks will be lesser, and
 - to seek to target habitat conservation measures to areas of most impact;
- To help planners developers, and decision makers to identify the habitat impacts and opportunities from their work (e.g. in development planning, masterplanning, development management); and
 - to steer built development to areas where impacts on habitat networks will be lesser, and
 - to seek to build connectivity within proposals;



IHN HABITAT LAYERS

- Broadleaved & mixed yew woodland
- Neutral grassland
- Wetland (fen marsh swamp)
- Heathland (released 2013)
- Acid grassland (released 2013)

Using the data in the masterplanning process

IHN data viewer:

<http://www.snh.gov.uk/land-and-sea/managing-the-land/spatial-ecology/habitat-networks-and-csgn/map-viewer/>

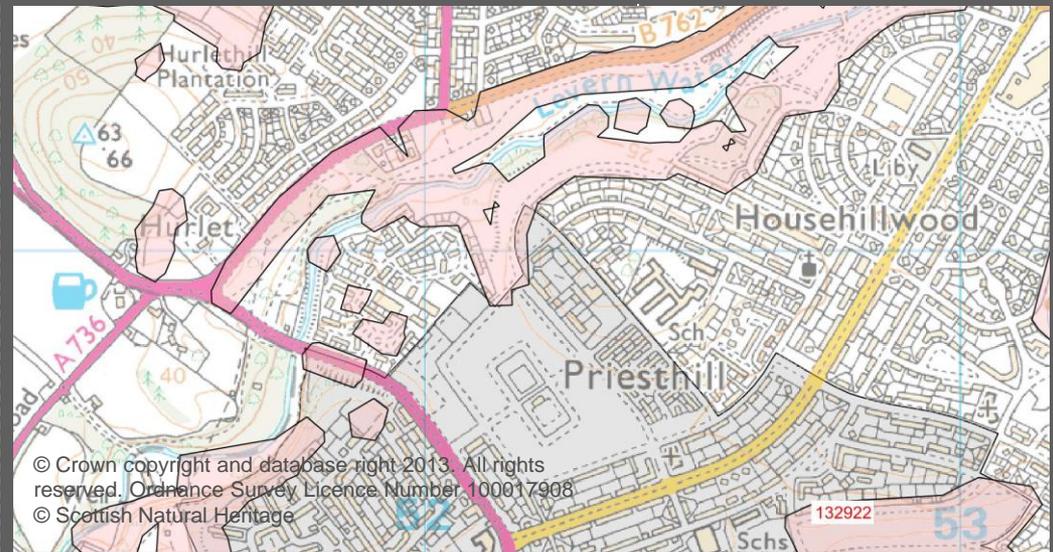
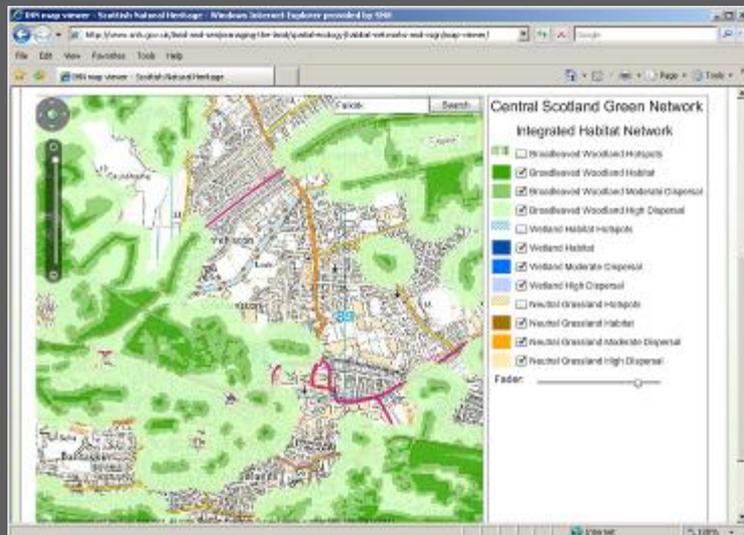
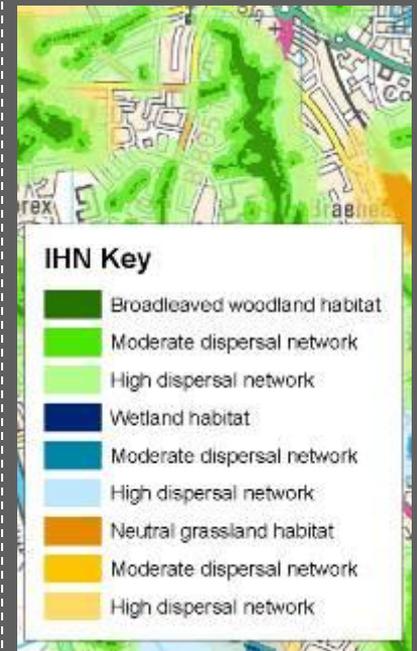
IHN data download site

<http://www.snh.gov.uk/publications-data-and-research/snh-information-service/naturalspaces/>

When using the IHN maps and data within master planning it may be useful to follow the steps outlined below:

1. IHN mapping can be accessed on SNH web viewer. To use the data in your own system then either download the data as ESRI shapefiles or request data as a PDF map
2. Evaluate currency of data and identify potential need for further site survey, e.g. has land use changed? does the mapping reflect what you know about the site and its environs?
3. Consider the indicative habitat networks for the site and its wider context –
 - What links are existing?
 - Where can further connections be made?
 - How can fragmentation be minimised?
 - How can networks be strengthened?
4. Consider IHN impacts in Options Appraisal
5. For advanced use, for example to model land use changes in a GIS (contact SNH for advice)

Overarching principles



Seven Lochs Wetland Park

Seven Lochs Wetland Park:

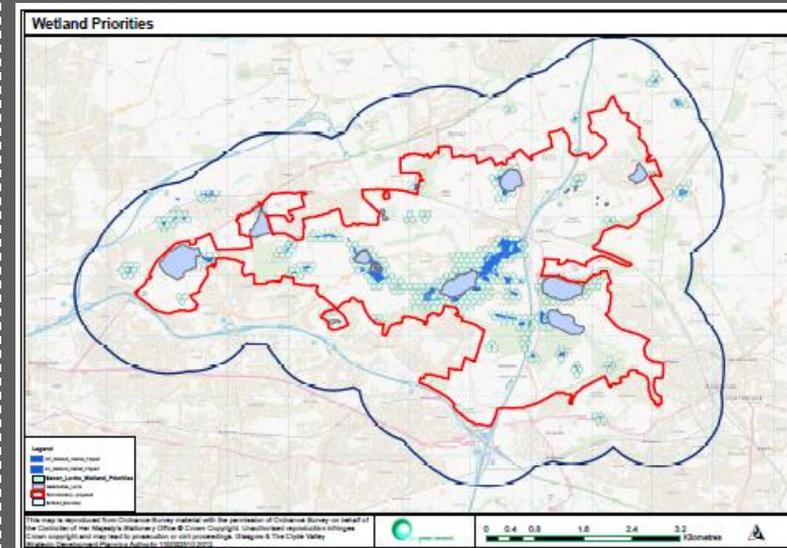
<http://www.govscenetwork.gov.uk/Seven-Lochs-Wetland-Park.htm>

Seven Lochs Wetland Park: Draft Vision and Masterplan

<http://www.govscenetwork.gov.uk/publications/seven-lochs-wetland-park-draft-vision-and-masterplan.htm>

- At the heart of the Gartloch Gartcosh Green Network Strategy is a proposal to create a new Wetland Park of national significance with links to a wider network of green spaces. The proposed Seven Lochs Wetland Park is the mechanism through which work to enhance biodiversity, create opportunities for recreation and tourism, and develop sustainable local communities, will be taken forward.
- IHN analysis formed part of the masterplanning evidence base – as part of a green infrastructure approach – to help identify:
 - opportunities to expand wetland habitats and create a continuous wetland core through the heart of the site
 - opportunities for extensive neutral grassland networks - including networks linked to transport corridors
 - areas where habitat enhancement / new habitat creation can be linked to planned development
- The use of IHN data as part of the evidence base has helped to develop the award winning vision and masterplan that includes proposals for:
 - Integration of development into the surrounding wetland environment through the creation of new green infrastructure
 - Enhancing and developing habitat networks to sustain and enhance the provision of important ecosystem services

Masterplanning & data interpretation



River Forth Multiple Benefits Project

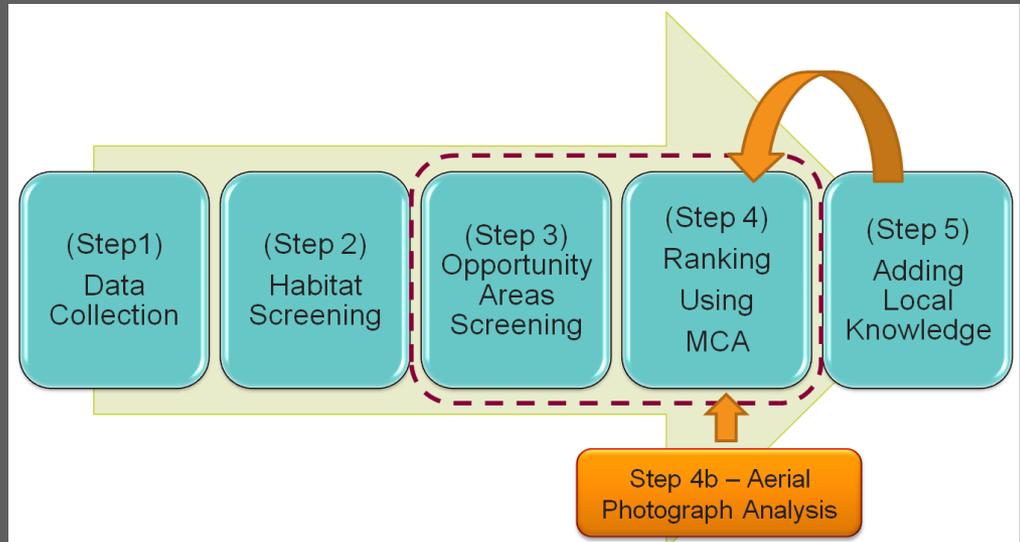
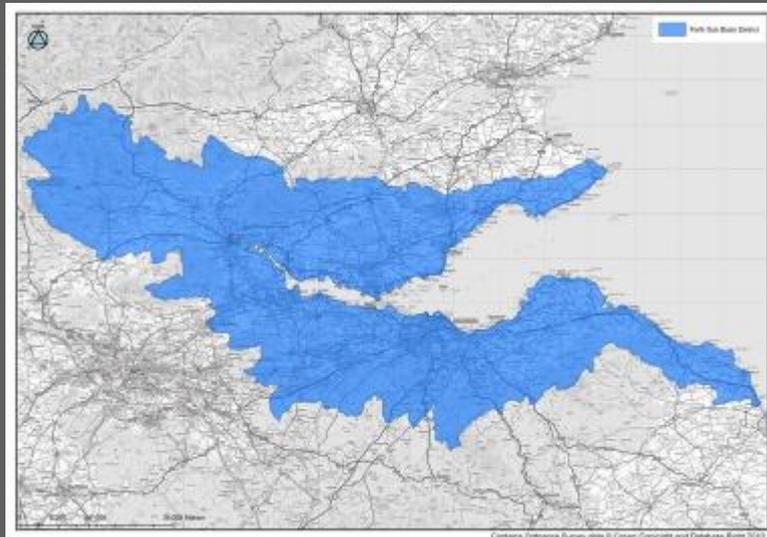
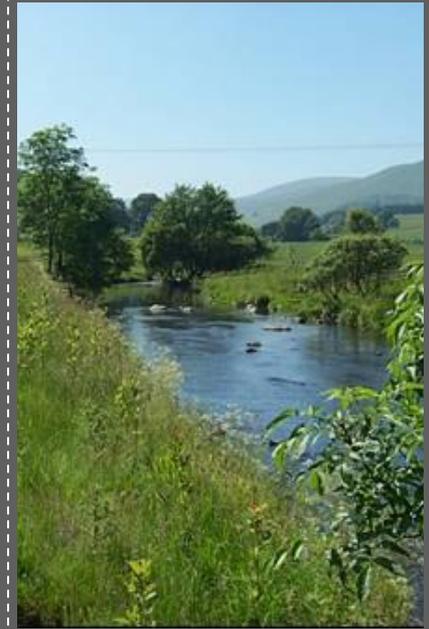
Masterplanning &
Data interpretation

SEPA Delivering Multiple benefits through River Basin Management Planning - Forth:

http://www.sepa.org.uk/water/river_basin_planning/area_advisory_groups/forth/multiple_benefits_project.aspx

The Forth Sub-Basin District covers an area of approximately 4800 km² in central Scotland. This project seeks to identify plans for specific sites starting at a strategic scale.

- In April 2011, SEPA, Forestry Commission Scotland and Scottish Natural Heritage, together with the Central Scotland Green Network Support Unit, commissioned JBA Consulting to undertake a spatial analysis within the Forth sub-basin district to identify areas where opportunities exist to deliver water environment restoration projects which could deliver multiple benefits.
- The key aim of the project was to identify sites, which, if restored, would improve the ecological status of the water body by addressing river basin planning pressures **AND** where the restoration would also strengthen and increase connectivity of woodland, wetland and grassland integrated habitat networks. However, the wider benefits associated with a restored and healthy water environment were also considered within this project.
- The IHN data was used as part of the habitat screening process and opportunity screening as shown in the flow chart below. From the initial screening process stakeholders worked together to identify four sites as priorities for action, with associated improvement plans.



Mydub, Falkirk

The Falkirk Council Local Development Plan (LDP) identified a number of sites for housing development in Denny.

As part of the Strategic Environmental Assessment of the LDP the following question was asked of each proposal:

“Can the proposal enhance the wider Falkirk Integrated Habitat Network?”

Through this assessment it became apparent that housing proposals H15 and H16 and the Denny Eastern Access Road (DEAR) proposal could enable the connection of two large 500m broadleaved and yew woodland habitat networks.

Accordingly the proposals in the LDP have had the following requirement added to them:

“Robust structure planting required on countryside edge of DEAR to form strong boundary with countryside and green belt and to form part of a wider broadleaved habitat corridor.”

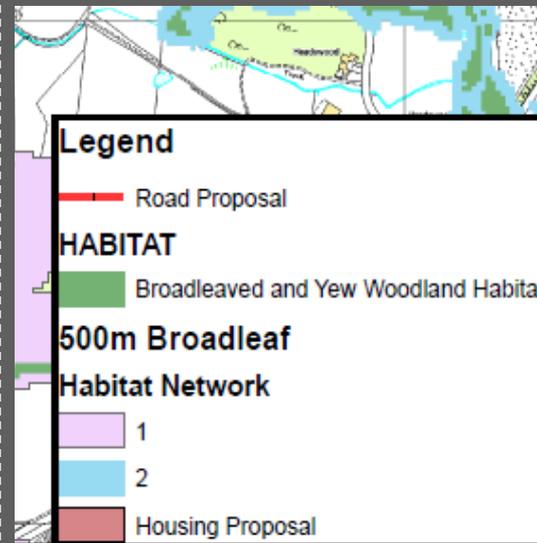
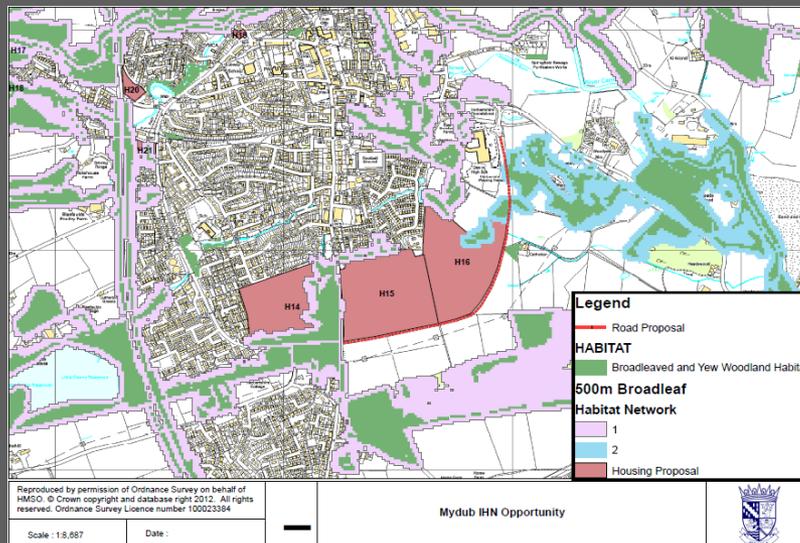
A planning application has been made for site H15 and due to this issue being highlighted early in pre-application discussions the developers (Bett Homes) have agreed to plan for the creation of a broadleaved woodland corridor on the countryside edge of the DEAR. As of April 2013, the planning application remains undetermined.

Masterplanning & data interpretation

- Habitat network 1 covers an area of 1868 hectares

- Habitat network 2 covers an area of 175 hectares

- A combined network would measure at least 2043 hectares (9.4% larger than network 1 alone)



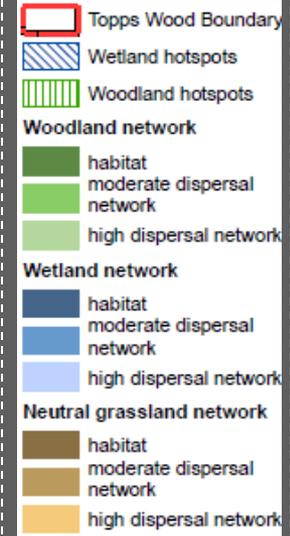
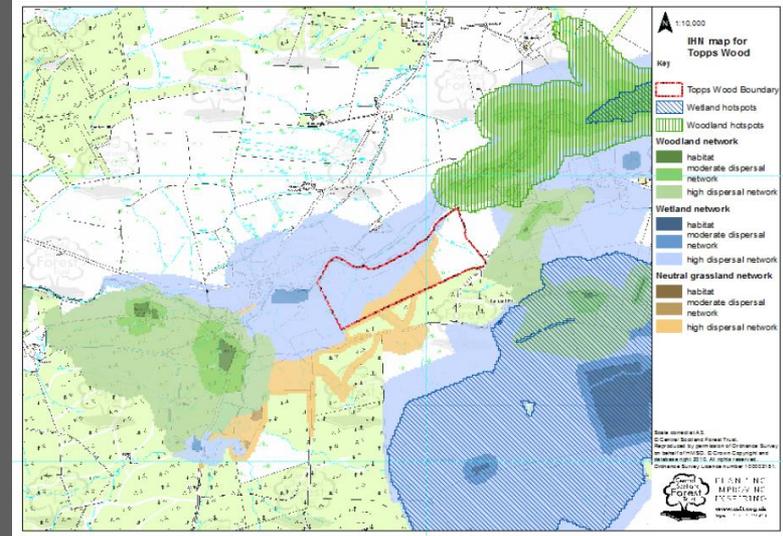
Topps Wood, Falkirk

- Previous grazing land acquired by CSFT in 2008 with a view to creating new woodland in the area. www.csft.org.uk
- The Falkirk Woodland IHN map identified that the planting would link two areas of existing woodland – the plantation at the top of the hill and the SSSI woodland along the River Carron.
- The grassland and wetland data showed that a site with more biodiversity could be created, by incorporating a new wetland area to expand the wetland IHN, and locating the 25% open area allowed by SRDP grants to provide grassland rides in appropriate areas.
- The majority of the planting was done by contractors, but some planting, along with the creation of the wetland, signage, and site furniture was by pupils from the nearby Denny High School as part of their John Muir Award.

Masterplanning & data interpretation



John Muir Award habitat creation work



Cowlairs Urban Village Design Study

Masterplanning & options analysis

Cowlairs Urban Village Design Study:

<http://www.gcvgreennetwork.gov.uk/publications/cowlairs-urban-village-igi-design-study.html>

- The GCV Green Network Partnership has worked with Scottish Government, SEPA, Scottish Water, SNH, Architecture and Design Scotland, the Metropolitan Glasgow Strategic Drainage Partnership and several local authorities to complete Design Studies based on the "IGI Approach" for 6 urban areas across the city region.
- The concept of IGI looks at 5 key elements within Green Infrastructure: Surface Water Management, Access Networks, Habitat Networks, Green & Open Space and Stewardship Over Time. The benefits of the approach include:
 - cost-effective surface water management
 - flood management and routing
 - pollution control
 - resilience to the impacts of climate change
 - better placemaking – improving quality of urban living
 - integrated access and habitat networks
- The integrated habitat network data was used as part of the evidence base in developing masterplan options for the area to ensure that habitat connectivity was a key consideration in taking habitats and biodiversity into account as part of the IGI approach.
- Masterplan proposals were then analysed using a GIS to model the predicted effects of outline proposals on the existing habitat networks.



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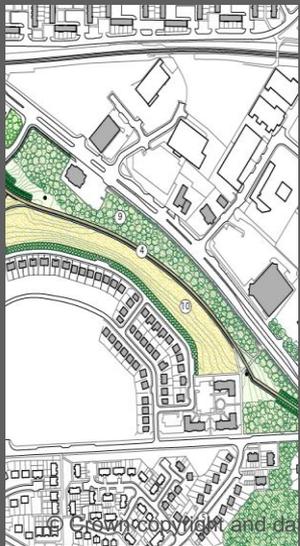
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Nitshill Design Study, South West Glasgow

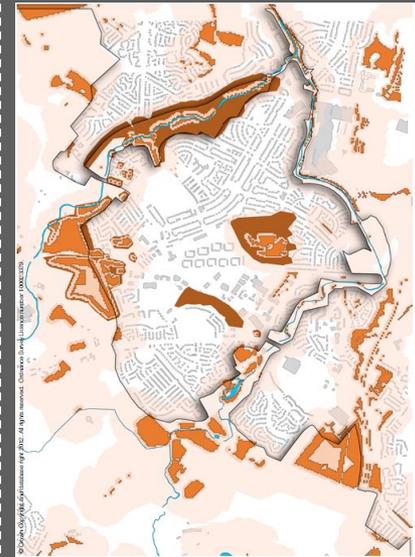
<http://www.qcvgreennetwork.gov.uk/Integrating-Green-Infrastructure.html>

- This award winning* *Integrating Green Infrastructure* (IGI) Design Study looks at a future regeneration site in the south west of Glasgow. This is a large site in need of improvement and the regeneration programme will be greatly enhanced through the creation of multi-functional green infrastructure that may connect otherwise remote areas within, between and beyond the site.
- The concept of IGI looks at 5 key elements within Green Infrastructure; Surface Water Management, Access Networks, Habitat Networks, Green & Open Space and Stewardship Over Time. Analysis included careful consideration of topography and surface water management which then led to determining where opportunities and barriers were present. Based on this analysis, opportunities were identified to improve existing and establish new green networks and recommendations made as to how that infrastructure may be best extended or created to offer greatest benefit to those working and living in the area.
- The integrated habitat network data area was used as part of the evidence base in developing masterplan options for the area, to ensure that habitat connectivity was a key consideration in taking habitats and biodiversity into account as part of the IGI approach.
- Masterplan proposals were then analysed using a GIS to model the predicted effects of outline proposals on the existing habitat networks.

* Integrated Habitat Design Competition Overall Winner 2012 <http://hdc.org.uk/#nitshill-gi-study/4570104722>



Masterplanning & options analysis



3. connected green network

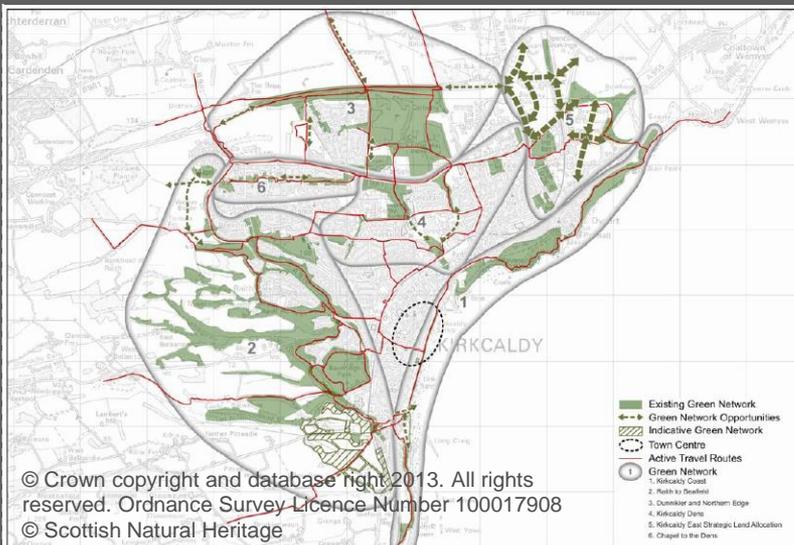
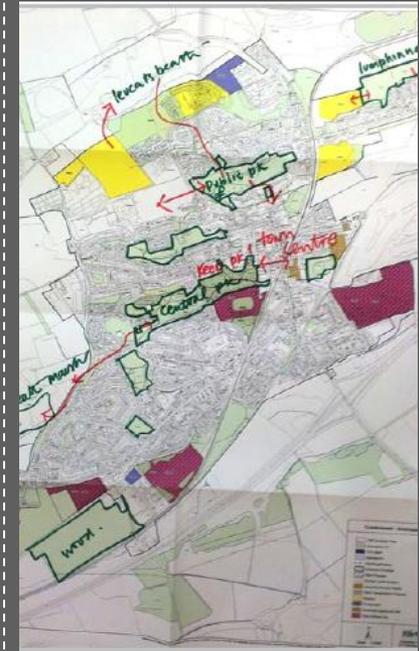
Green Networks in Fife – FIFEplan

FIFEplan item 5 – Main Issues Report (MIR) – Background paper

<http://www.fifedirect.org.uk/news/index.cfm?fuseaction=committee.event&eventid=97BEDD02-F997-25D8-E7CBDA19517FE33A>

- Green Networks in Fife – this FIFEplan MIR Background Paper sets out recommendations as to how green networks should be spatially defined and assessed for inclusion in the Fife Local Development Plan (LDP).
- Green Network Priorities and Key Issues are identified as:
 1. Connecting people and places (Access and Active Travel)
 2. Alleviating drainage and flooding problems (Addressing Climate Change)
 3. Providing useable greenspace for communities (Greenspace)
 4. Providing landscape setting and improving the quality of places (Landscape Setting)
 5. Providing connected habitats for wildlife (Habitat and Biodiversity)
- The CSGN integrated habitat network information formed an important part of the evidence base to inform opportunities and priorities for the Habitat and Biodiversity theme within the overall Fife green network evaluation.

Other Applications
Local Development
Planning



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