

## **APPENDIX B**

### **EXTRACT FROM THE HIGHLAND COUNCIL STRUCTURE PLAN NATURAL HAZARDS**

## 2.19 NATURAL HAZARDS

2.19.1 In creating the infrastructure for Highland communities, it is essential that full regard is taken of the constraints that exist because of natural hazards. This is a fundamental component of sustainable development, because insufficient attention to natural hazards at the outset can require considerable remedial expenditure in the future. There may also be difficulty in reconciling remedial action with the quality of the natural environment. Some natural hazards have increased in prominence as a result of the consequences of global warming. The issue relates strongly to the strategic themes of pro-actively planning for Highland's natural environment and of providing for quality living environments.

### Flooding

2.19.2 Combinations of high rainfall, snow melt, high tides and "storm surges" can lead to serious flood occurrences at lower-lying, near-coastal locations. Localised flooding can occur after periods of very heavy rainfall, abetted perhaps by river defence works upstream or the limited capacity of culverts and drainage infrastructure. Recent years have seen flood incidents on, for example, the Rivers Spey, Ness and Kerry. Given the geography of Highland and its land use pattern, The Council believes flooding to be a localised issue, and so the over-riding strategic approach is included within Strategic Policy G2.

2.19.3 Flood consultation areas will be indicated in Local Plans. One source of information can be 1:50,000 scale flood frequency maps prepared for the Scottish Environment Protection Agency, based on current hydrological datasets. Within such areas, development should be assessed for its compatibility with the flood risk in terms, for example, of its permanency of occupation, associated flood alleviation measures, and consequences for downstream flows/flow back-up.

### Proposal NH1 Flood consultation areas

Local Plans will identify areas with a perceptible risk of flooding. Within these areas, all development proposals will be assessed for their compatibility with the flood risk and with the flow character of the watercourse.

2.19.4 The Council has statutory responsibilities in respect of flood protection for non-agricultural land. Flood Appraisal Groups have been set up elsewhere in Scotland where flooding is a major issue and a co-ordinated integrated approach is essential. Whilst the problem is not so acute and concentrated in Highland, the anticipated scale of future development in the Inverness area lends The Council to believe that such a Group for this area may be prudent.



## INFRASTRUCTURE

### Policy Links

- GENERAL STRATEGIC POLICIES
- INTEGRATED RURAL DEVELOPMENT

### COMMUNITY

- HOUSING
- RETAILING
- SERVICES AND FACILITIES
- SPORT AND RECREATION

### ECONOMY

- BUSINESS AND INDUSTRY
- TOURISM
- AGRICULTURE AND CROFTING
- FISHERIES AND AQUACULTURE
- FORESTRY
- MINERALS AND PEAT
- ENERGY PRODUCTION

### ENVIRONMENT

- NATURE CONSERVATION
- LANDSCAPE
- BUILT AND CULTURAL HERITAGE

### INFRASTRUCTURE

- TRANSPORT & COMMUNICATIONS
- WASTE
- UTILITIES
- NATURAL HAZARDS



#### **Proposal NH2 Flood Appraisal Group**

The Council will establish a Flood Appraisal Group, in partnership with key agencies, to provide a co-ordinated approach to flood management and inform Local Plans. This will focus initially within the Inverness area.

2.19.5 Flooding will be one issue covered within Integrated Catchment Management Plans. The Council will support the production and implementation of these strategies (see Policy RD1). In view of the impending designation of the Rivers Spey and Kerry as Special Areas of Conservation under the EU Habitats Directive, the catchments of these rivers should be a priority for integrated strategies. The Council would expect central funding to be made available to facilitate this.

#### **Policy NH3 Integrated Catchment Management Plans**

The Council will support the production of Integrated Catchment Management Plans, to include flood management. In view of the prospect of securing EU assistance for preparation, past flood events and the implications of Natura 2000 designation, The Council will support early work on the Rivers Spey and Kerry.

#### **Coastal erosion**

2.19.6 The future threat of rising sea levels has increased concern generally regarding coastal erosion where shorelines are low-lying and formed of soft material. There is much uncertainty over this issue, partly in view of the counter-acting force of isostatic rising of land for Scotland as a whole. Broad advice in Government guidance is that natural processes should be allowed to proceed, since eroded materials may form natural offshore defence mechanisms in the longer term. Coastal defence works may, however, be necessary where the economic and social consequences of inundation would be unacceptable.

2.19.7 On a strategic basis, the shoreline of the Inner Moray Firth area around the Beauly, Cromarty and Dornoch Firths has tentatively been identified as at risk from sea level rising (Natural Environment Research Council Report, 1989). Strategic Policy G2, therefore, allows for consideration of resisting developments in coastal zones where the implications in respect of coastal erosion would be unacceptable. This may be either because of future hazard to the development itself, or because development would inhibit the natural opportunity for landward materials to migrate offshore for natural defence purposes.

2.19.8 Detailed work in respect of Nairn and Burghead to the Souters Gap has already been carried out with the preparation of Shoreline Management Plans. Continued monitoring of the situation is recommended to determine appropriate action. The Moray Firth Partnership and the Cromarty Firth Liaison Group provide vehicles for discussion on appropriate measures.

#### **Policy NH4 Coastal erosion**

The Council will work with the Moray Firth Partnership and the Cromarty Firth Liaison Group to ensure that coastal management along the Inner Moray Firth is sustainable bearing in mind climate change, particularly the increased incidence of storm damage.

### Land instability

2.19.9 Development proposals on steeply sloping land not only face the possible risk of future slope failure, but also the costs of relevant servicing (particularly roads) tends to be high. For these reasons, as a general rule of thumb, land of more than 1 in 7 gradient is not regarded as appropriate for development. Development proposals on ground steeper than this should be accompanied by engineering reports.

#### Proposal NH5 Land instability

Local Plans will identify land slopes of greater than 1 in 7 gradient within settlement areas, within which Strategic Policy G2 will apply.

### Radon gas

2.19.10 Radon is a radioactive gas which occurs naturally in low-concentration uranium within general rocks and soils. Some level of radon is found everywhere, but in certain areas it is released in greater volumes. Inside homes and other buildings the gas can accumulate and become a health risk. The Government advises that when recorded levels exceed 200 becquerels per cubic metre of air, the exposure to the gas should be reduced.

2.19.11 While this level can be exceeded in any building wherever located, householder measurements to date have indicated that a particular concentration occurs in South East Sutherland and South East Caithness. These areas have been designated as a "Radon Affected Area", where radon measurements are particularly recommended. Existing and new buildings can reduce internal exposure to the gas by the installation of an extractor sump or enhanced methods of ventilation.

#### Policy NH6 Radon gas

Local Plans should identify designated Radon Affected Areas. Within these areas, proposed occupied buildings should incorporate provision for reduction of exposure to the gas.