Developing with Nature guidance – supporting NPF4 ambition

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CIEEM Scottish LPAs - NPF4 and Developing with Nature Guidance - 19th January 2022

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Policy 3 Nature Crisis

- 6 NPF outcomes – '*securing positive effects for biodiversity*'

- Universal policy 3e) Local Development

  "… should only be supported if they ***include appropriate measures to*** enhance biodiversity***, in proportion to the nature and scale of development****. …"*

- Supported by *Developing with Nature* guidance
  - for applicants and planners

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The Appropriate Measures

PLANTING

1 Plants

2 Meadow

3 Orchard

4 Trees & scrub

5 Living roof

6 Green wall

7 Hedge

HOMES

8 Log & leaf pile

9 Hibernacula

10 Bees

11 Bugs

12 Hedgehogs

13 Small birds

14 Owls

15 Bats

16 Wildlife wall

17 Wildlife tower

18 Lighting

WATER

19 Rain garden

20 Swale & ditch

21 SuDS pond

22 Wildlife pond

23 Drain escape

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Appropriate measures format

- Description
- Nature benefitted
- Key requirements (to be successful)
- Future management needs
- Complementary measures
- Nature notes
- Sources for further information

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Measure 19: **Rain garden**

These features channel water for the purpose of water control but are designed and managed in a way to provide for wildlife.

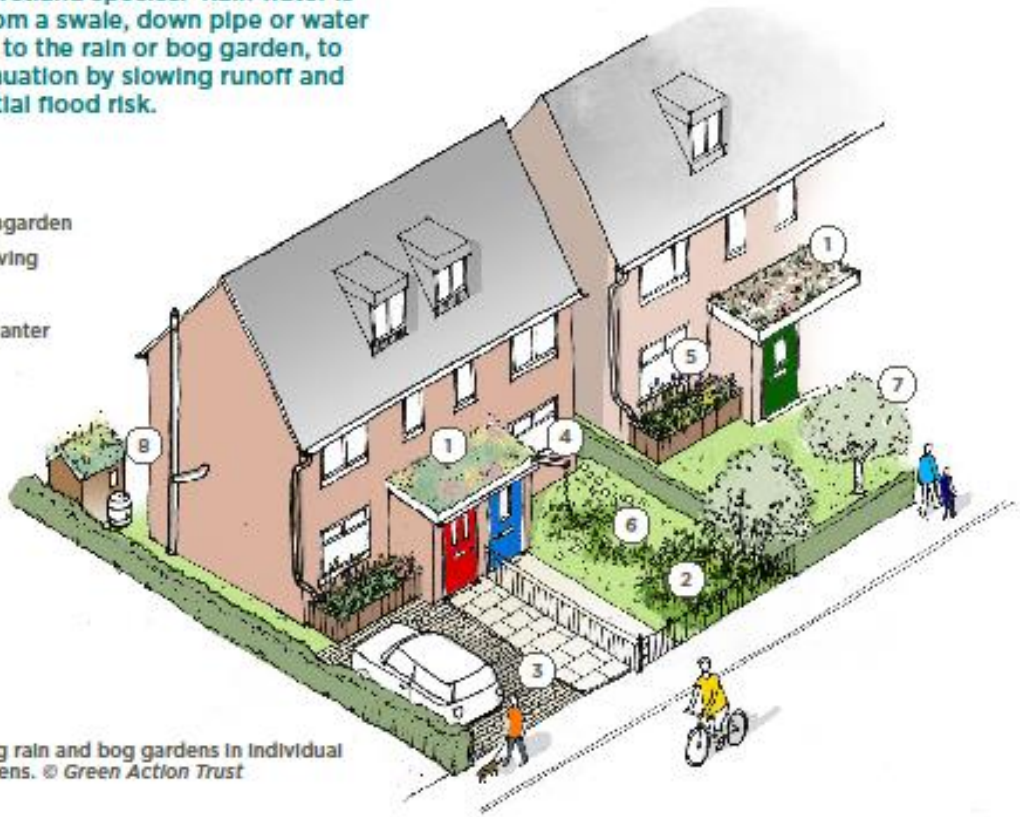
Rain and bog gardens for Buildings

Rain gardens consist of planters and low lying garden areas, planted with wet loving or tolerant plants that temporarily retain water for slow release into the surrounding area. The bog garden is similar, lined to increase water retention if necessary, and planted with water loving wetland species. Rain water is channelled from a swale, down pipe or water butt overflow to the rain or bog garden, to increase attenuation by slowing runoff and reduce potential flood risk.

Rain gardens for streets

Street rain gardens incorporate swales and road kerbs to channel runoff from roads, parking areas and paths. Designed to absorb larger volumes of water they are usually planted with trees and shrubs for greater take up of water. Some include deep hidden wells dug along the street edge with a tree planted on top.

1. Green roof
2. In-ground raingarden
3. Permeable paving
4. Rain chain
5. Raingarden planter
6. Swale
7. Trees
8. Water butt



Ideas for creating rain and bog gardens in individual houses and gardens. © *Green Action Trust*

© *Lorne Gill/NatureScot*

Nature benefitted

- The damp or wet habitat areas created support many invertebrate and amphibian species. These areas can be especially beneficial to pollinators as the availability of water in dry weather can help increase nectar production.
- With their enhanced water storage capacity the plants and trees planted in the rain garden can remain healthier, providing more shelter and a better food source for invertebrates.

Plants can provide a better food source for invertabrates. © *Lorne Gill/NatureScot*

Key requirements

Rain and bog gardens can be relatively small areas, incorporated in to any scale of development as long as any excess water can be safely diverted away. The area needs to be of a gradient that allows water to sit or slowly pass through and not run off immediately (a bog garden requires a dip in the landscape), with soil not so free draining to allow some accumulation of water. A bog garden may require a liner if the ground is very permeable.

Rain gardens for streets can be accommodated in developments with a paved street or communal area from where water can be channelled. Careful consideration of the volume of water that the landscaped area can absorb is required, with a suitable overflow into further features in case the volume of water exceeds its capacity.

Future management

Regular but low level maintenance is required to ensure the feature and vegetation within in it are functioning correctly.

- Ensure water can flow freely in to the rain garden and also from the outflow, without eroding the soil. Debris can be easily washed in and should be regularly 'litter' picked.
- Trees and plants within the rain garden require checking to ensure the wet conditions are suitable, and regular weeding to prevent any invasives becoming established or other species dominating.

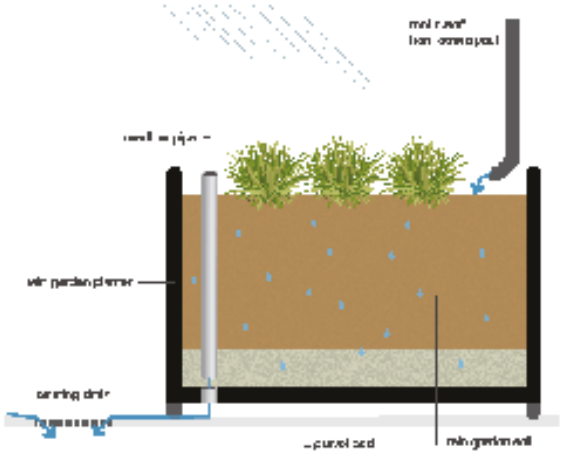
Complementary measures

Rain gardens can be planted with a range of suitable wildlife and pollinator friendly plants (measure 1). Wildlife swales and ditches (measure 20) can be used to channel water into a rain garden, and provide for its overflow, and can link to SuDS ponds (measure 21).

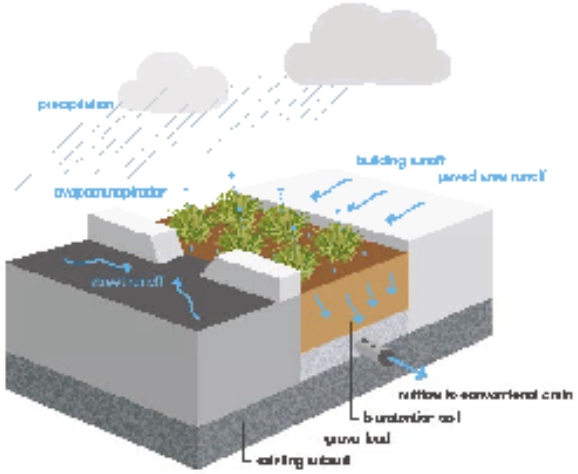
Bug hotels and log and leaf piles (measures 11 and 8) can be placed in rain gardens, providing a damper environment that is particularly beneficial to invertebrates and amphibians in dry weather.

Nature notes

By retaining water these features reduce the risk of flooding both on site and downstream of the development. These areas will remain damper for longer periods than the surrounding area which can be important for invertebrate species, especially amphibians during periods of exceptional dry weather. As with all vegetated areas they contribute to urban cooling.



How to create a bog garden in a planter
© www.raingardens.info



How to create a pavement-side rain garden
© www.raingardens.info

Further information

- On creating a rain garden see the ***Rain garden guide***, Green Action Trust's ***10,000 raingardens for Scotland*** campaign and the **Royal Horticultural Society website**
- On creating a bog garden see The Wildlife Trust's ***How to make a bog garden***

Selecting appropriate measures

- Scale and form of development
- Ecological considerations
  - Locally relevant
  - Species choice
  - Connected and permeable
  - Space for adaption
  - Allow for synergies
  - Scale of provision
- Practical considerations
  - People and nature
  - Long term retention & management
  - Local community involvement
  - Multiple benefits

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How much enhancement?

No set rules but consider:

- Nature, scale and location of development
- Nature, quantity, cost and future management
- Time and uncertainty in delivering benefits
- Opportunity for enhancement

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Consultation Questions

1. **The list of measures and features identified in the guidance** - are these the appropriate ones, and are there any others that should be included?
2. **The level of detail provided on each of the individual measures and features** – is there adequate information set out to inform understanding of the range of biodiversity measures that can be incorporated in a development?
3. The clarity and accessibility of the guidance as a means of **a) informing project design, and b) decision making** on the measures to be included in individual applications?

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Next Steps

- Consultation closes 4th March 2022

www.nature.scot/doc/consultation-developing-nature-guidance

- March – review comments and report to SG

- April – July? – revise, design and publish?

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