



# Standards – an Update

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# Why Standards for SuDS?

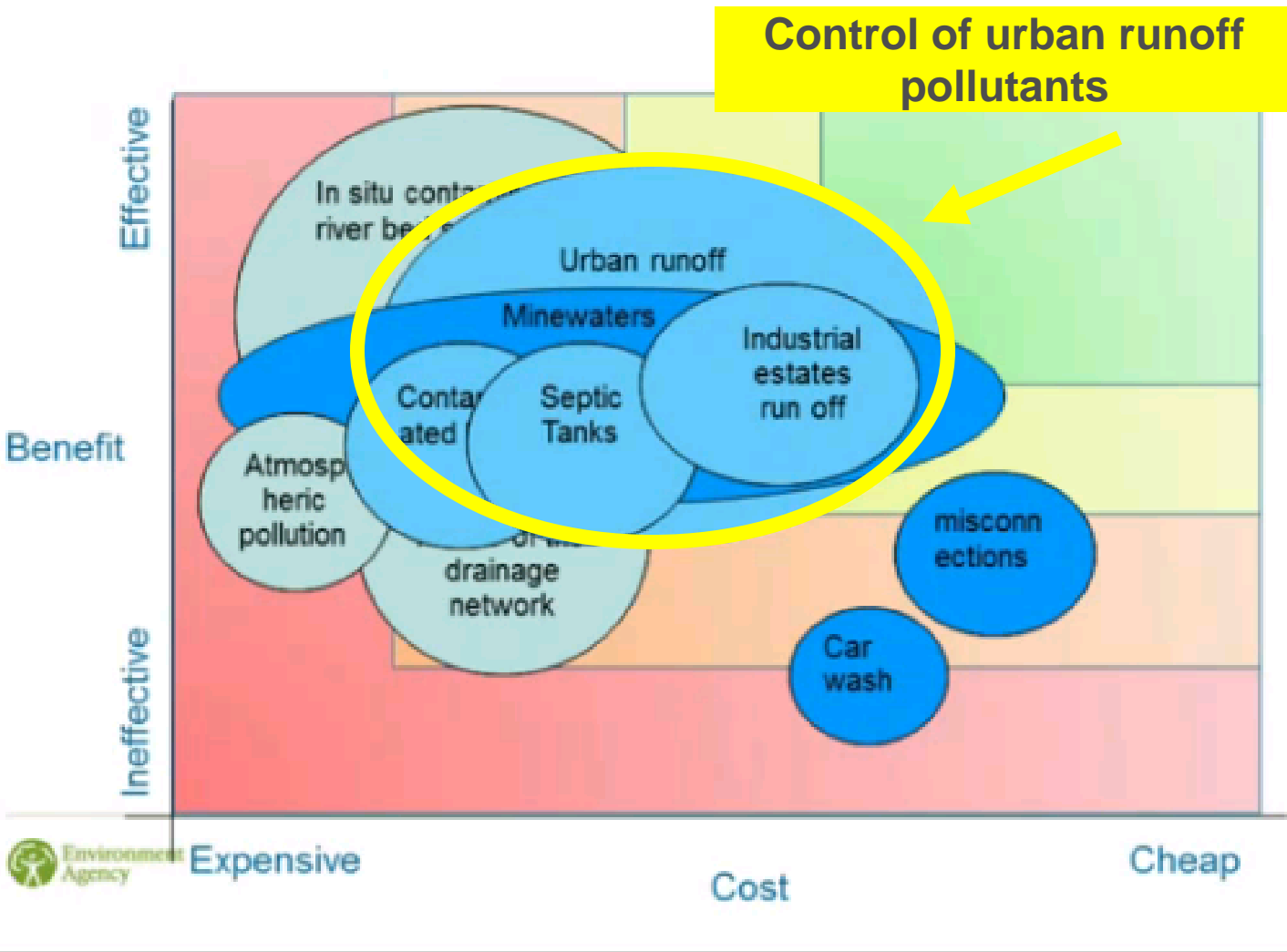
Because we need more SuDS... at a consistent standard... to help manage increasing environmental risks

## 1. Water Framework Directive

- 1. 25% of failures result from diffuse pollution**
- 2. 25% of diffuse pollution failures from urban runoff**



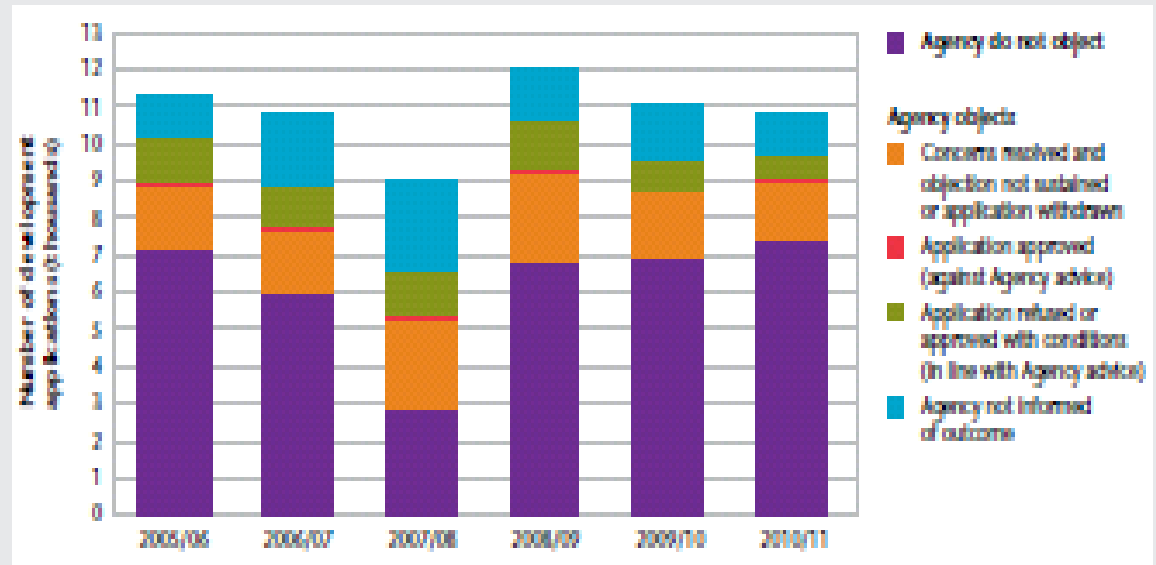
# Defra, Draft Non Agricultural Diffuse Pollution Strategy, 2012



## Key CCRA (2012) findings...

- Increased damages from surface water flood risk (£0.3 billion to as much as £1 billion in 50 years?)
- Increased pressure on water resources
- Health risks related to hotter summer conditions
- Increased pressure on sensitive ecosystems

# ASC Progress Report 2012



## BUT:

- Poor SuDS policies in Development Plans
- 40% uptake of ‘some form of SuDS’
- Area of hard surfacing in urban areas increasing & only a small proportion permeable (0.5%)

## Key measures to control SW flood risk:

- > Minimising urban creep
- > Implementing SuDS – new build and retrofit
- > Maintaining/upgrading sewers

# What Standards/Codes do we have?

1. Draft **British Standard (Code of Practice) on Surface Water Management** for Development Sites, BS 8582, September 2012
2. Draft **National Standards for Sustainable Drainage Systems**, December 2011
3. **Code for Sustainable Homes**, Sur 1, Management of Surface Water Runoff from Developments, 2007
4. **DMRB**, Volumes 4 and 11, 2006

# Relevant British Standards

- BS 8515, **Rainwater Harvesting** Code of Practice, 2009 (under revision)
- BS 8515-1,2, **Greywater Systems** Code of Practice, Equipment, Requirements, Testing, 2010
- BS 8595. A **Strategy for Water Re-Use** Code of Practice, Draft
- BS 8533, **Assessing and Managing Flood Risk in Development** Code of Practice, 2011
- BS EN 752, **Drain and Sewer Systems** Outside Buildings, 2008
- BS EN 1433, **Drainage Channels**, 2002



## Wales

- Plans for Welsh Standards and guidance (?)
- TAN 15, 2004

## Scotland

- Sewers for Scotland, 2007
- Water Environment (Controlled Activities) (Scotland) Regulations, GBR 10, 2011
- SEPA Regulatory Method, WAT-RM-08, v4 (2008)

## Northern Ireland

- PPS 15, 2006

## EIRE

- GDSDS Regional Drainage Policies (Vol 2: New Development), 2005

# Local 'Adoption' Design Standards

- Local authority .....:
  - Cambridge City / Cambridgeshire
  - Hertfordshire
  - Islington
  - Essex
- Water company .....:
  - Anglian



## The SuDS Schedules of the FWMA (2010) require:

- A SAB to approve drainage systems before any construction work with drainage implications can start
- The SAB to adopt and maintain the drainage system upon satisfactory completion, where it affects the drainage of more than one property
- The Minister to publish National Standards for the design, construction, maintenance and operation of new drainage systems which must be met for a system to be approved
- Connection of surface water drainage from new development to the public sewerage system conditional on the surface water drainage system being approved by the SAB

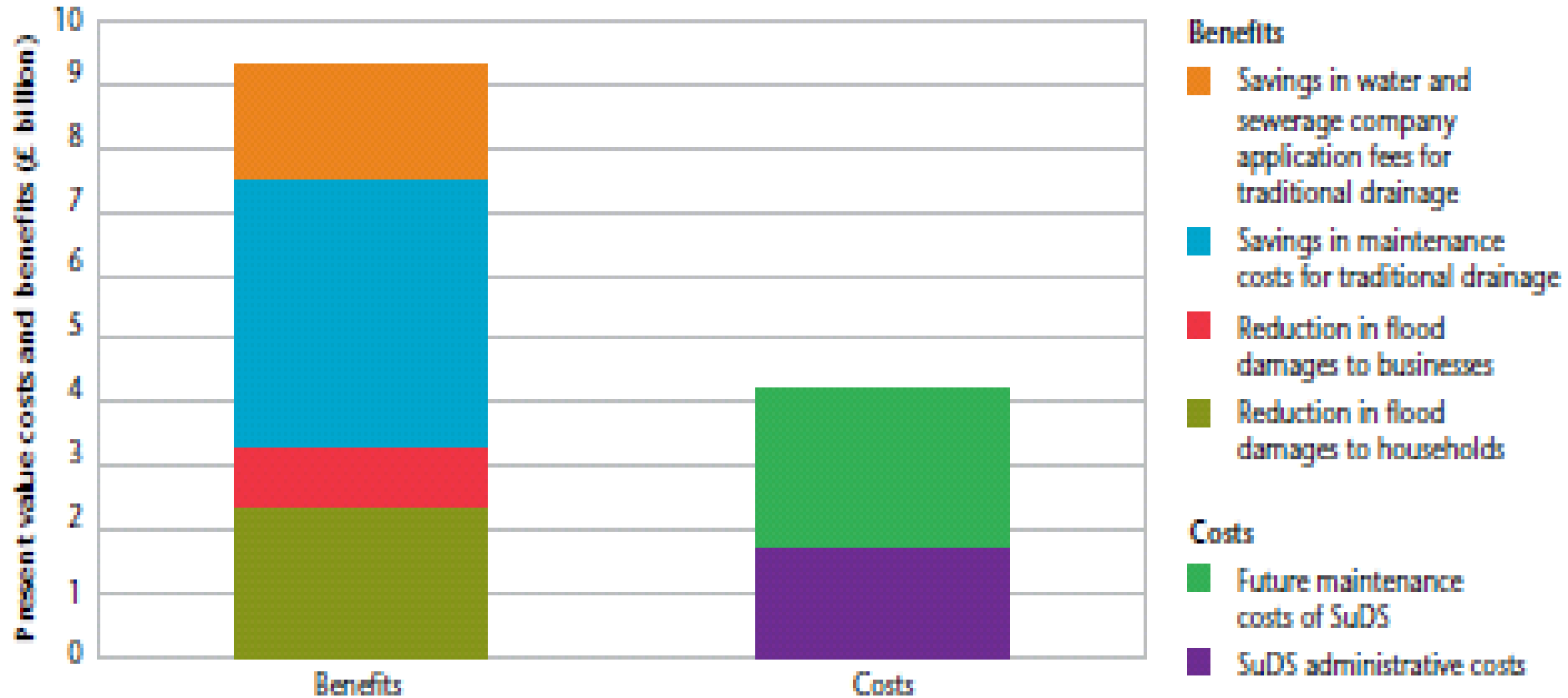
## Public consultation on implementation of SuDS provisions: Dec 2011 – March 2012: on:

1. Impact Assessment
2. Draft National Standards  
(including the need for technical guidance)
3. Draft Statutory Instruments, dealing with approval and adoption procedures and appeals

## Summary of consultation responses published, August 2012 from:

- 302 written responses
- Consultation workshops (>750 attendees)

# Q1: The Impact Assessment



## Concerns

- Resource implications underestimated
- Intangible benefits should be accounted for
- Land-take costs should be accounted for
- Benefits assumed high levels of SuDS uptake and flood damage reduction
- Whole life accounting not robust



## Q3: Commencement date

- Not October 2012
- Now unlikely to be April 2013
- Adequate preparation time for LLFA's crucial

Note: generally de-regulation / localism on the political agenda ... may account for slow progress

## Q4: Phasing of approval process

- Only 60% agreement
- **FOR:** Allows sharing of experience, skills & resources to be developed slowly
- **AGAINST:** orphaned SuDS ?, uncertainty over SAB capacity need, lack of message clarity

## Q6: SuDS feasibility

- Standards wont deliver sustainable and affordable SuDS: majority view...
- Guidance required
- Some technical detail not correct / appropriate
- No further detail here..

## Q7: Cost comparability

- 50% disagreed that SuDS costs were broadly comparable with conventional alternatives
- Issues raised:
  - Strongly site specific
  - Not comparing like with like (eg benefits and land take)
  - Need to include whole life costs and benefits
  - Definitions (e.g 'conventional', 'affordable') need clarity
  - Assessment boundaries

# What do the Standards require?

1. Infiltration to be prioritised
2. Interception of 5mm
3. Peak flow control to greenfield (or no worse than existing) at 1 and 100 year
4. Volume control at 100 year
5. Exceedance flow management. Flood levels and velocities acceptable
6. Construction, maintenance and information requirements fully considered

# How do other Standards compare?

	Recharge matching	Interception Xmm	Peak flow control	Volume control	Treatment Xmm	Treatment Stages
National Standards		✓	✓	✓		✓
CSH		✓	✓	✓		✓
Scottish regulation						✓
Sewers for Scotland					✓	
US Fed'l projects	✓	✓				
US states	✓?	✓?	✓?	✓?	✓?	
EIRE		✓	✓	✓	✓	
Sweden						

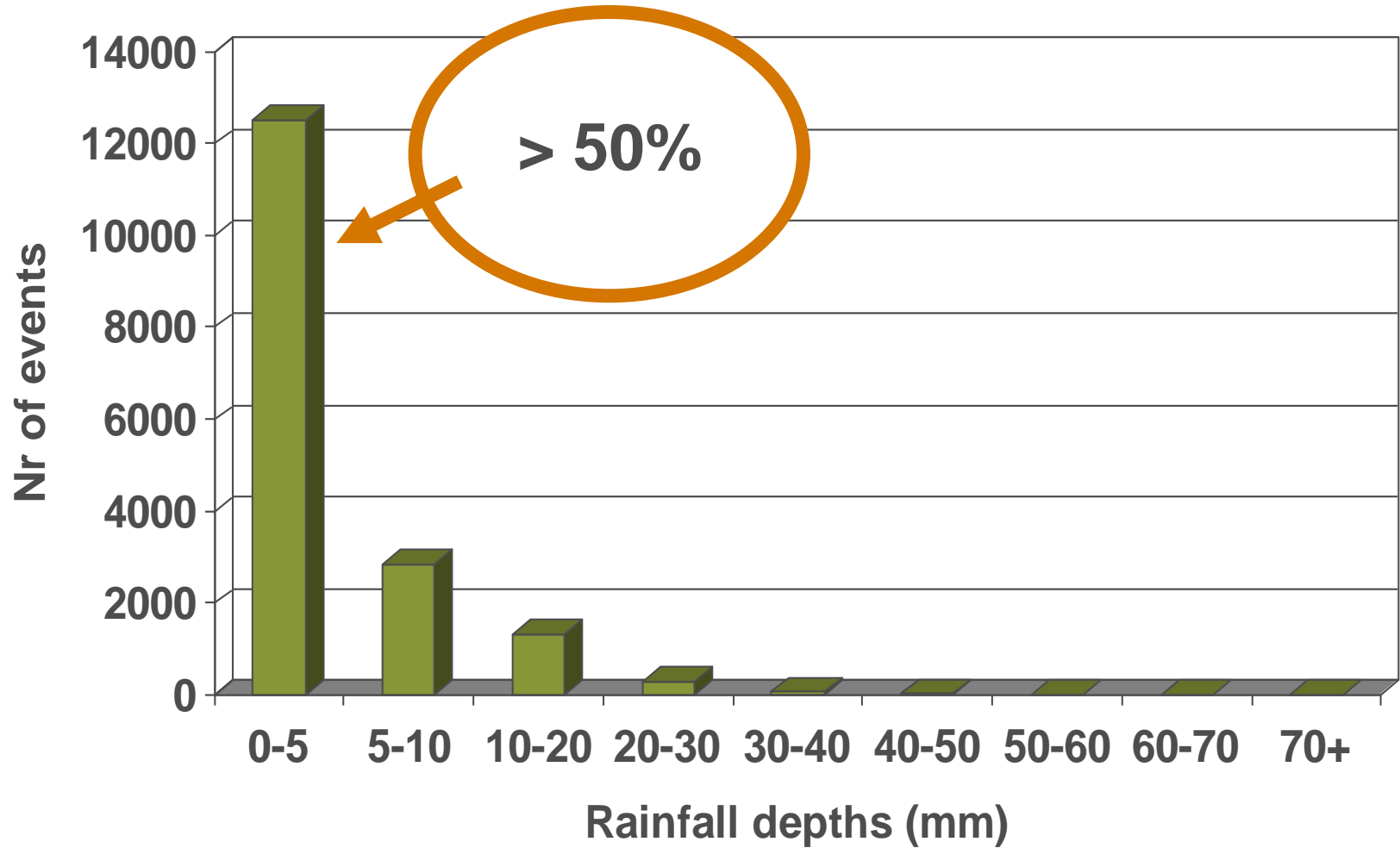
## 1 Interception and Volume Control

***‘Knowledge accumulated during the past 20 years has led stormwater experts to the conclusion that conventional approaches to control runoff are not fully adequate to protect the nation’s water resources (NRC, 2008)’***

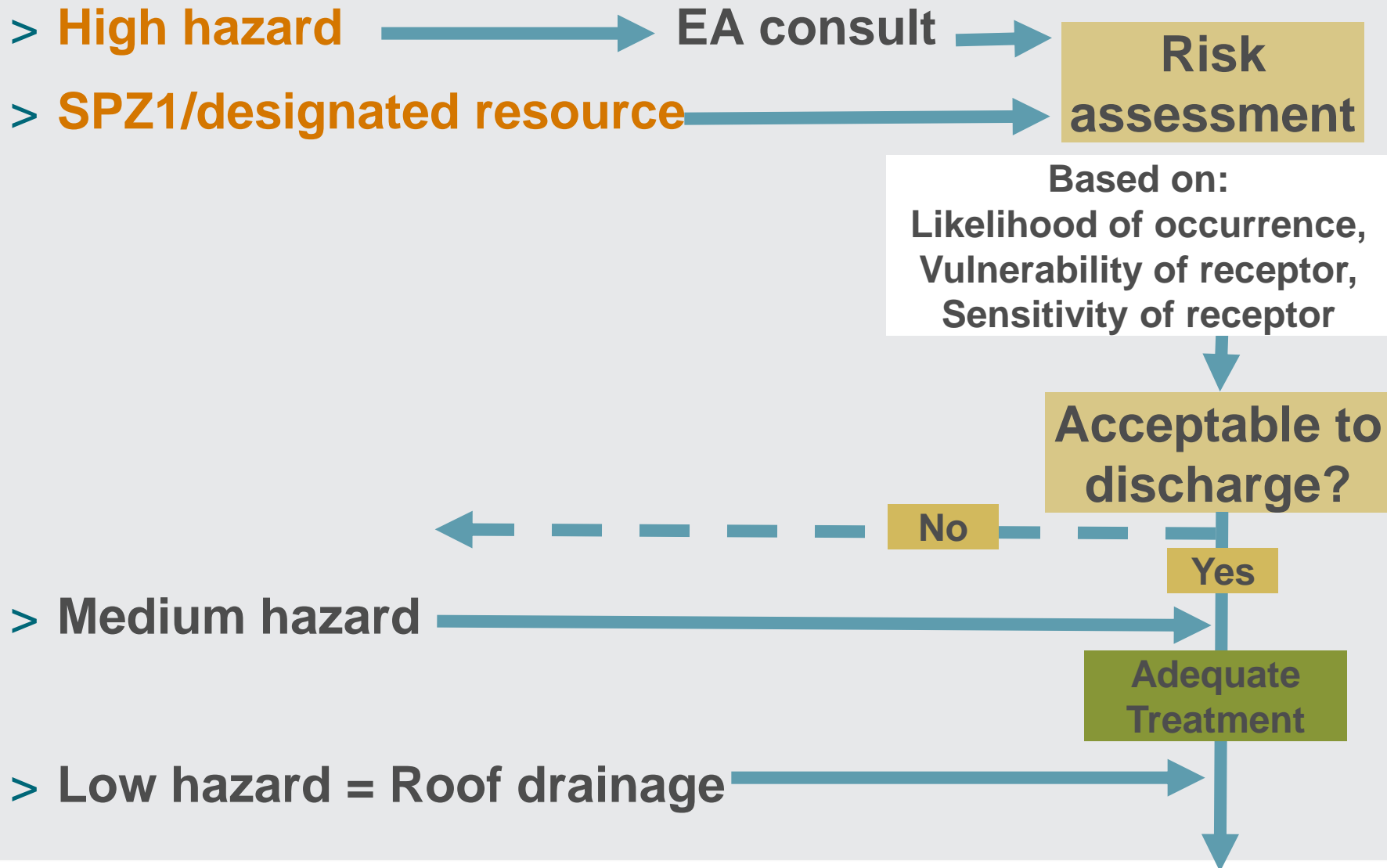
( $> 5000 \text{ ft}^2$ ), EPA guidance:

***‘Wet ponds and extended detention systems have limitations:***

- Poor peak control for small storms***
- Negligible volume reduction***
- Increased duration of peak flow***
- Raised temperatures...’***
  - METF**







1. Reduces risks
2. Encourages source control
3. Encourages multiple treatment types
4. Where numeric standards are set – there are fixed ‘deemed to comply’ design characteristics – or modelling accepted
5. We need to define ‘a treatment stage’
6. We need to monitor

# What is missing from National Standards?

> Stormwater runoff a valuable resource

- Rainwater harvesting
- Biodiversity support
- Urban cooling



> Adding value to urban space

- Amenity
- Quality



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