



# Implementing the Flood Risk Management (Scotland) Act 2009 – The Highland Council Experience

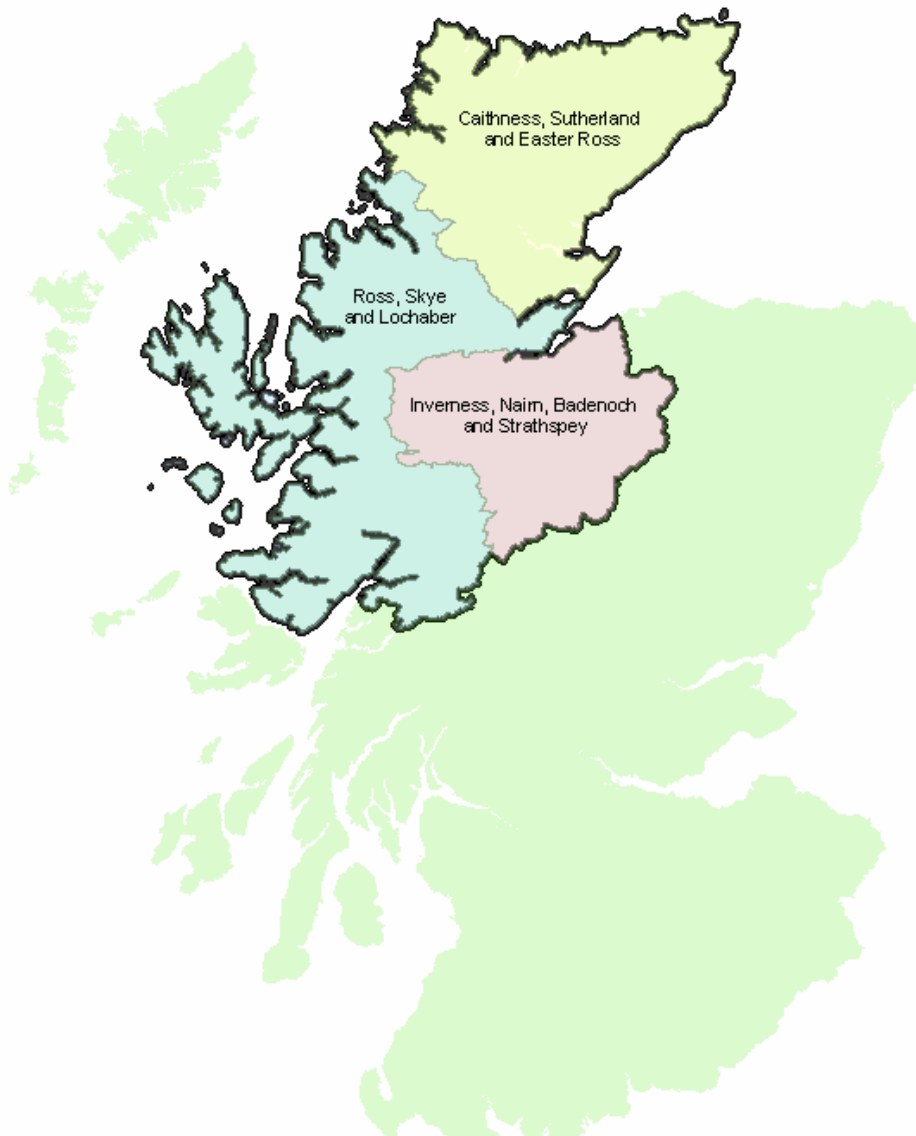
Martin Boshoff



# Contents

- Share what we do on a practical level
- Demonstrate where we're with regards FRM Act implementation
- Share other flood risk management initiatives
- Recommendations and 'lessons learned'

# The Highland Council Area in Context



- Total Land Area:
  - 26,484km<sup>2</sup> (33% of Scotland or 11.4% of Great Britain)
- Length of Coastline:
  - Including Islands: 4,905km (21% of the Scottish total)
  - Excluding islands: 1,900km (49% of Scotland)
- Properties at 1:200 flood risk (based on SEPA flood map)
  - Fluvial: 2,276
  - Coastal: 1,300

# Key LA FRM Duties

- GENERAL DUTY to 'exercise flood risk related functions with a view to reduce overall flood risk'
- Supply information to SEPA
- Produce Maps of Bodies of Water, including SuDS
- Assess Bodies of Water
- Upkeep & publish register of maintenance, clearance & repairs
- Advice to Planning & Development Services
- Powers to promote Flood Protection Schemes
- Maintain register of Flood Protection Schemes
- Participate in FRAG's
- Prepare FRM Plans

# The Highland Council Flood Team

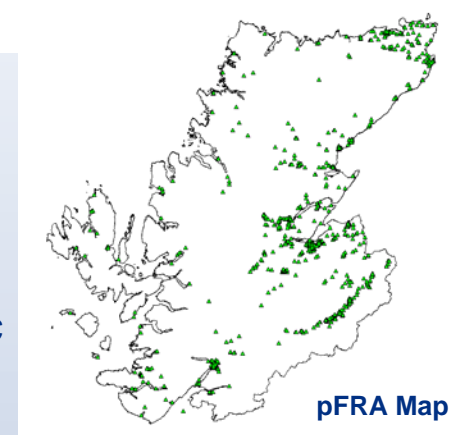
- Establishment approved by TECS committee on 18-03-2010
- Funding allocated by Scottish Government (£220k/annum)
- Team to consist of 5 staff members:
  - Principle Engineer/Team Leader
  - Engineer
  - Senior Technician
  - GIS Technician
  - Inspector
- Part of Project Design Unit which in turn is part of TECS
- Office in Dingwall
- Principle Engineer/Team Leader appointed July 2011
- 4 remaining positions currently being recruited

# Flood Team / R&CW Responsibilities

FLOOD TEAM	R&CW
<b>Strategic</b> FRM functions and overall responsibility for FRM Act Implementation	<b>Operational</b> FRM functions including Emergency Planning
Overall responsibility for Watercourse Assessments	Clearance & Repair responsibilities
Engage with Development Planning (i.e. Structure, Local Plans) and Major Applications processes	Responsible for Development Control on a site-specific basis
Provide guidance & training to equip Area Teams and Planning colleagues with appropriate tools for dealing with flood risk and drainage through DC process	
Develop tools and procedures for dealing more efficiently with flood incidents (i.e. flood incident report, post-flood questionnaires etc)	Responsible for dealing with flood incidents operationally
Set up an Assessment/Maintenance Task Group	Areas to participate in Assessment/Maintenance Task Group
Design a Council-wide watercourse assessment regime using Mill Burn as pilot project	Explore introduction of Framework Call-off Agreement for minor works
Develop an intranet site for internal resource centre and flood repository	

# pFRA Work

- Deadline for information to SEPA: Aug 2010
- 7 Biennial reports
- Collated all flood information from 8 THC offices
- Consulted internet resources, archives, libraries, reports etc
- Flood incident database with 1,213 entries
- Currently compiling an historic flood extent map from sufficiently descriptive information sources



Millburn Rd, Inverness - Sep'02



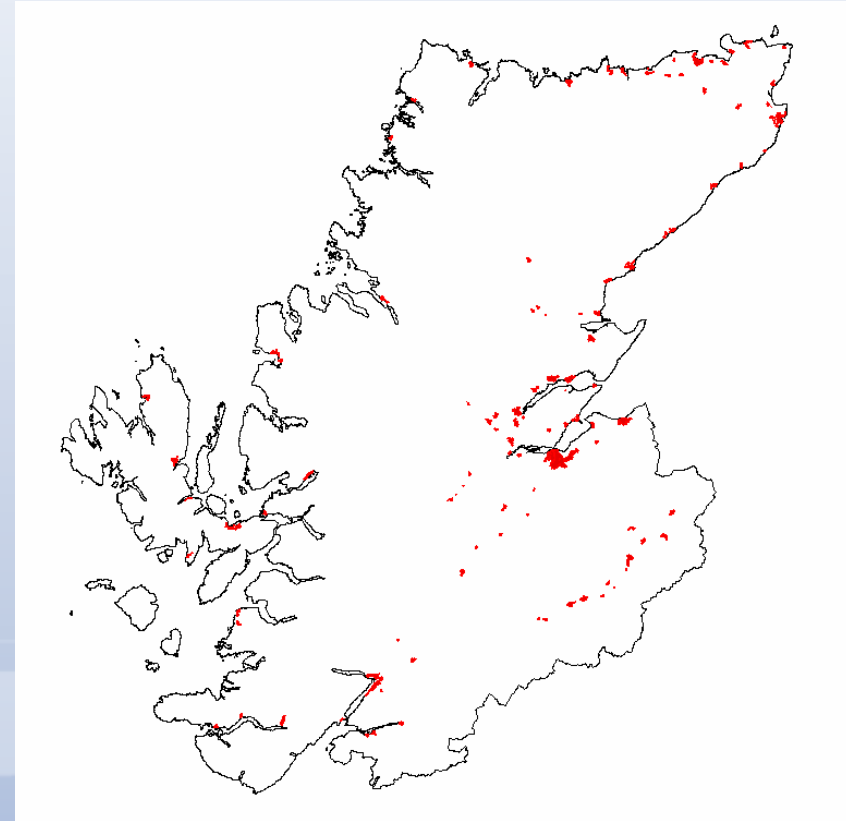
Millburn Rd, Inverness - 1956

# Watercourse Assessment

- Task Group consisting of 8 inter-area members
- Purpose: to design and steer the process
- Buy-in and input from R&CW Area Teams considered essential
- Meet twice/annum

# Watercourse Assessment Prioritisation

- Risk-based approach
- Assessment of catchments based upon:
  - Historic flooding records
  - Existing inspection priorities
  - Developed pressures
- 112 high risk areas
- Prioritised high risk areas based on No of properties at risk



# Watercourse Baseline Surveys

## WATERCOURSE ASSESSMENT REPORT



AREA: Inverness, Nairn, Badenoch and Strathspey

LOCHARDIL BURN

Date: 19<sup>th</sup> May 2011

TEC Services Project Design Unit FLOOD TEAM Tel: (01349)868800 Fax: (01349)864081 Site 11	Council Buildings Auness High Street DINGWALL IV15 9QN
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- Identify bodies of water in high risk areas
- Produce 1 baseline assessment report for each
- Main purpose: referencing

TEC SERVICES - PROJECT DESIGN UNIT  
FLOOD TEAM



Ref 12 6/RN/As/SLB.46)  
Footbridge at 55 Drummond Road.  
Bridge size: 2.900x0.830 @ 900(wide)



Ref 14 6/RN/As/SLB.50)  
Outlet of concrete box culvert at Drummond Road.  
Size: 1.880 x 0.760.



Ref 14 6/RN/As/SLB.50)  
Upstream of concrete box culvert at Drummond Road.



Ref 14 6/RN/As/SLB.50)  
Inlet of concrete box culvert at Drummond Road.



Ref 15  
Wooded area near inlet of culvert.



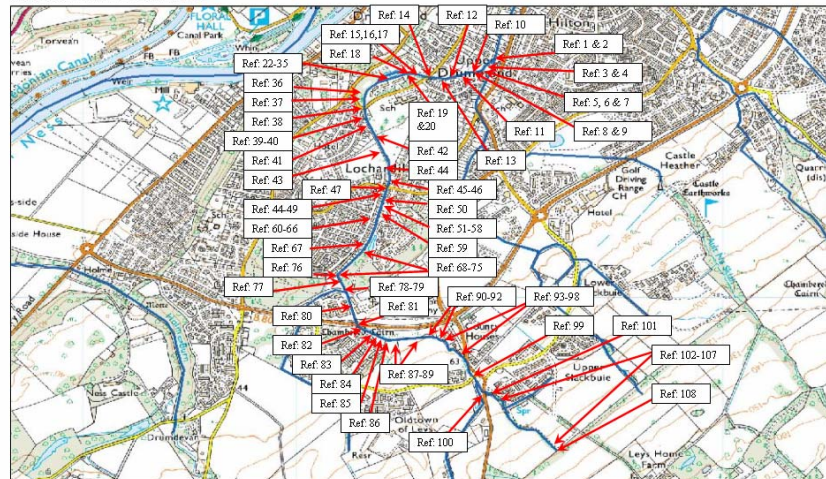
Ref 15  
Wooded area in Drummond culvert.

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TEC SERVICES - PROJECT DESIGN UNIT  
FLOOD TEAM

WATERCOURSE ASSESSMENT REPORT

### WATERCOURSE LOCATION MAP



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# Assessment Frequency

ASSESSMENT PRIORITY		Potential Impact on 'adverse consequences'		
		High	Medium	Low
Probability of Flooding	High	1	2	4
	Medium	2	3	4
	Low	4	4	4

## Assessment of Impact:

- High: Internal flooding to properties, major disruption to infrastructure
- Medium: External flooding to properties, some disruption to infrastructure
- Low: Minor disruption, low amenity areas affected

## Resultant Priority and Inspection Frequency:

- Priority 1: Immediate resolution required (Council to intervene with Emergency Powers or Monthly Inspection)
- Priority 2: Effective short term solutions to be developed ASAP and/or 3-monthly inspections
- Priority 3: Solutions to be developed in the medium-long term and/or 3-monthly inspections
- Priority 4: Solutions to be developed when resources permit and/or yearly inspections

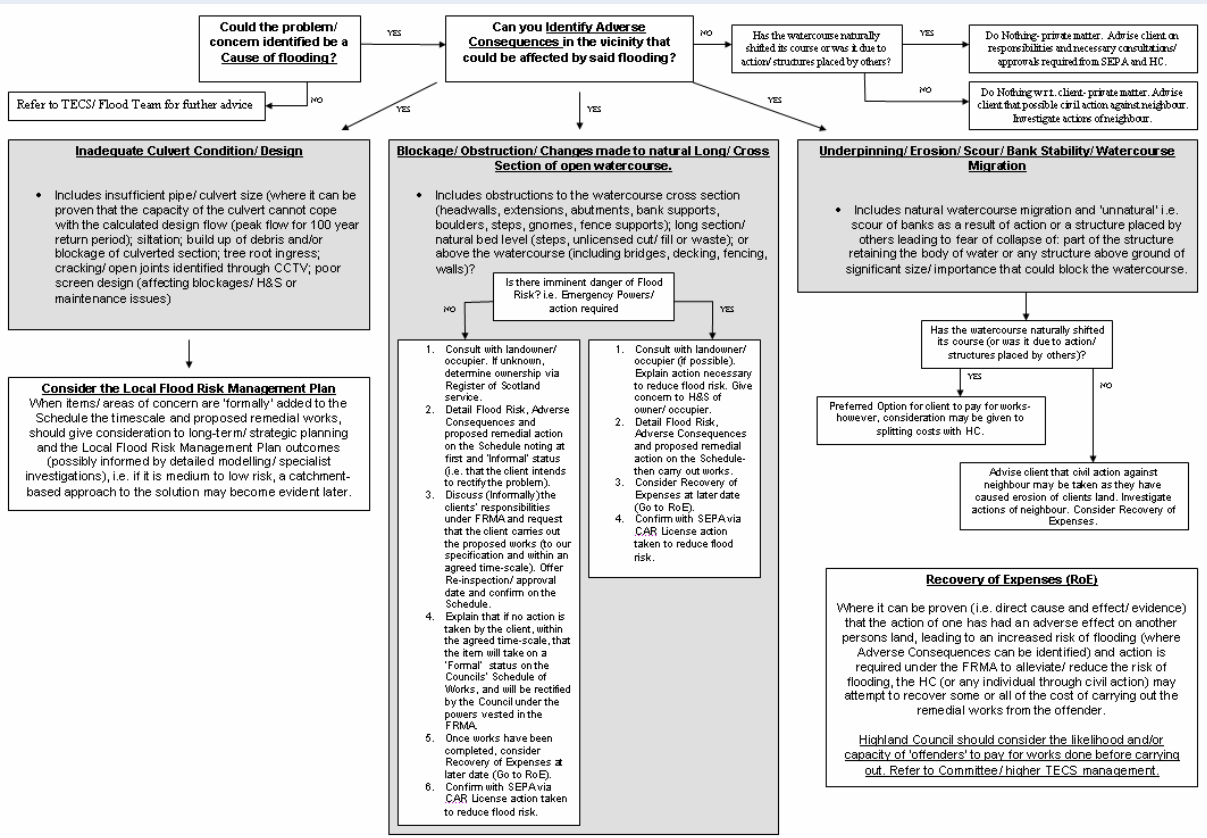
## Assessment of Probability:

- High: Flooding will occur again if action is not taken
- Medium: Flooding may/may not occur depending on event
- Low: Flooding unlikely to occur

# Severe Weather Protocol

- Protocol designed for high risk urban areas
- Triggered by:
  - Severe weather warnings
  - SEPA flood forecasts
- Involves local staff

# Watercourse Assessment & Maintenance Process Map



- Major works identified have to feed into the FRMP
- Unless emergency works are required negotiation with landowner is considered crucial, first informal and then, if need be formal
- The latter will involve scheduling the works item and consideration of recovery of expenses