Welcome to the Farmers Workshop

Tuesday 9th March 2010

Commercial Hotel, Tarland

Aim of Workshop

- To get important information about working with farmers from farmers themselves, in relation to farmers as water managers;
- To get feedback on the draft flood risk maps used to assess possible natural flood management options; and
- To update local stakeholders on the ‘Aquarius: Farmers as Water Managers’ project

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Agenda

18:00	**Soup and sandwiches**
18:30	Welcome and Introduction
18:45	Feedback from Questionnaires
19:00	Flooding Tarland in catchment
	Tea, coffee, biscuits during exercise
20:15	Potential climate change in area
20:45	Introduction to Natural Flood Mgmt
21:25	Next steps for the project
21:30	**Close meeting**

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Aquarius Project

- European North Sea Region Interreg programme to stimulate transnational cooperation

- Trans-national Project
  - working with Denmark (Lead Partners), Norway, Sweden, Germany, Delfland & Drenthe in Netherlands
- Enabling farmers to act as water managers in changing climatic conditions
- Implementing EU policies e.g. WFD, Floods Directive
- Produce a manual for farmers and recommendations on future land and water management planning.
  - http://www.northsearegion.eu/ivb/projects/details/&tid=90

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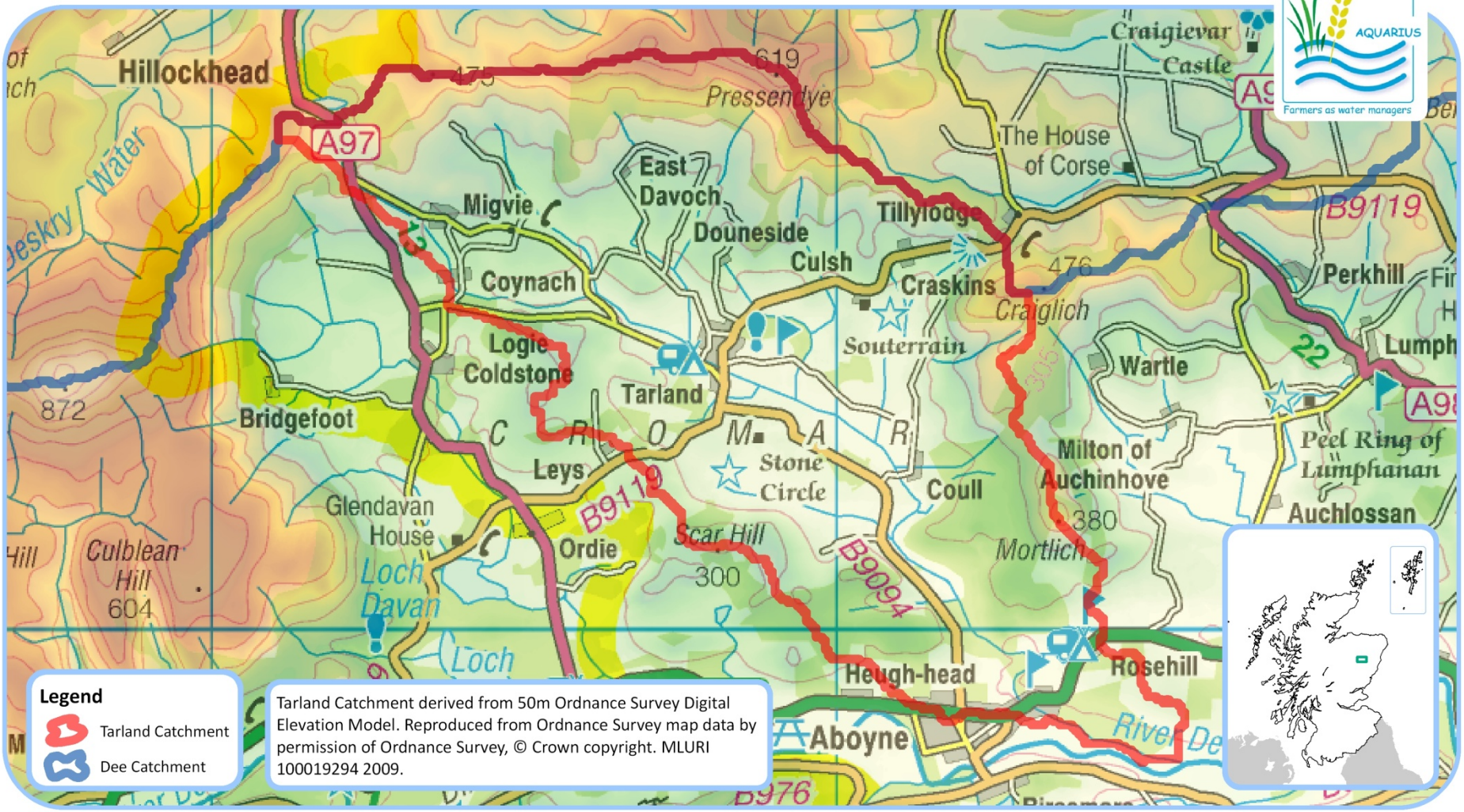
Tarland Burn Catchment Area



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Scottish Case Study

- Options to alleviate flooding problems in the catchment
- Contribution Natural Flood Management could make
- Understanding the costs and benefits for land managers
- Consider multiple objectives
  - Resilience of rural land based industries;
  - Biodiversity;
  - Water quality; and
  - Landscape character as well as flood alleviation.
- Contribution to the Tarland Flood Prevention Scheme

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Project Timetable

Phase 1 BASELINE: Mar – Dec 09 - *completed*

- current conditions, predictions for climate change and its impacts, survey preferences of local stakeholders;

Phase 2 OPTIONS: Jan – Dec 10

- explore possible options, their feasibility and identify a possible pilot demonstration site;

Phase 3 PILOT: Sep 10 – June 11

- implementation of option in a pilot site

Phase 4 EVALUATION: July 11 – Jan 2012

- evaluate the pilot in order to inform policy and funding mechanisms for Flood Risk Management (Scotland) Act.

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Roles

Your Role:

- Feed in information and opinions
- Tell others about what we are learning
- Tell us what you need to know in future

Our Role:

- Share information and ideas
- Listen to your views
- Feedback to Scottish & European policymakers

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Questions?

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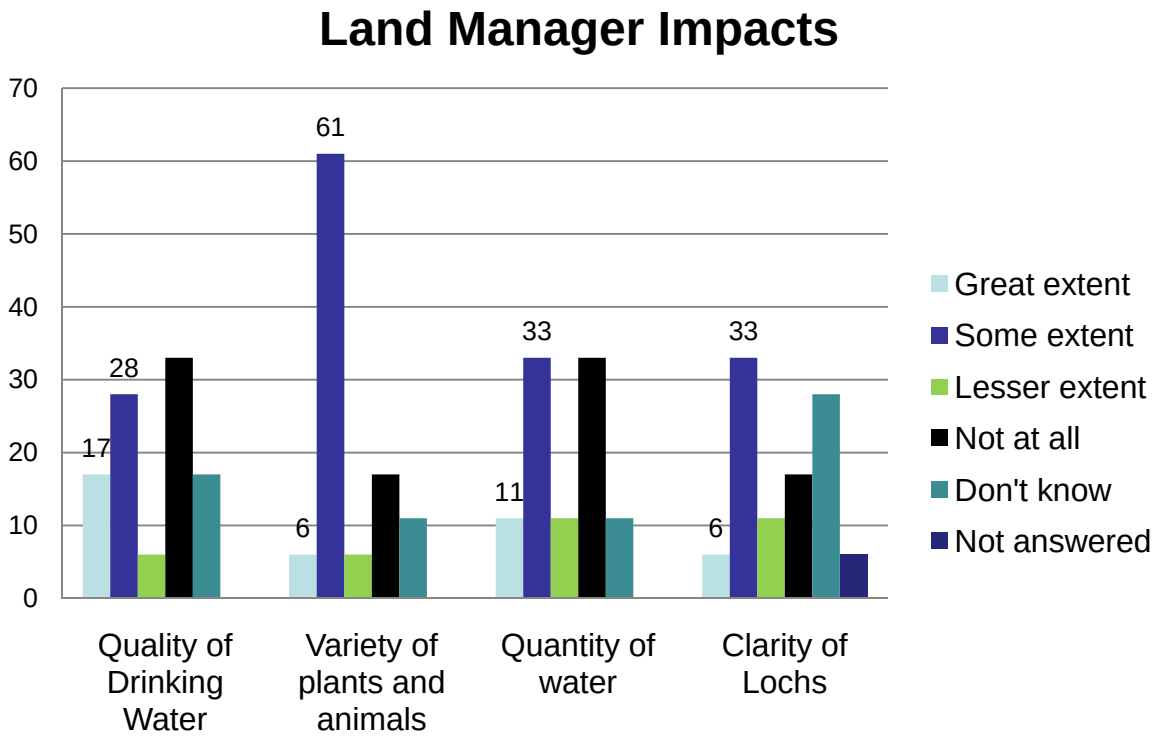
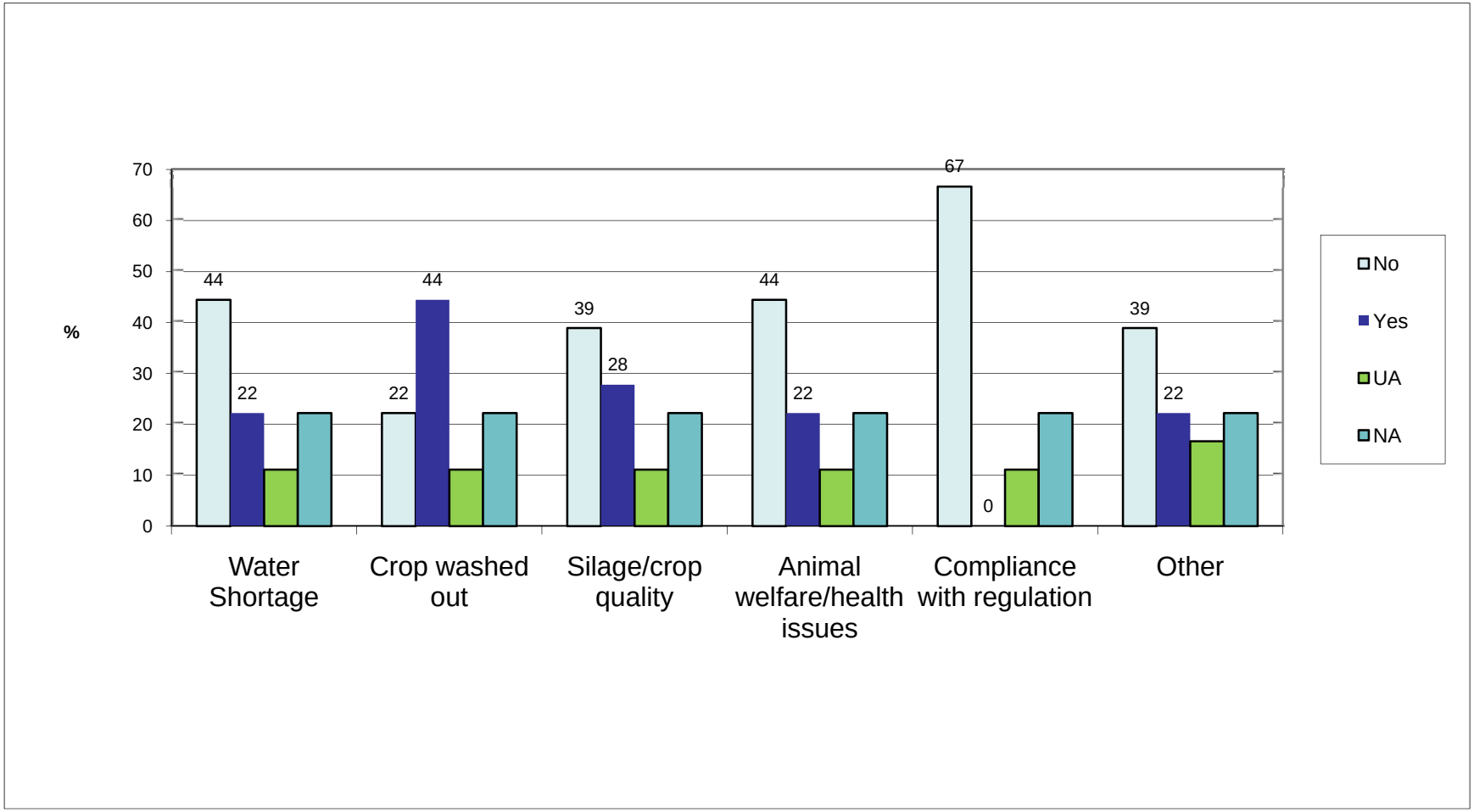
Questionnaire

- 83% believe farmers have important or very important role as water managers



Impact of too much or too little water on farming



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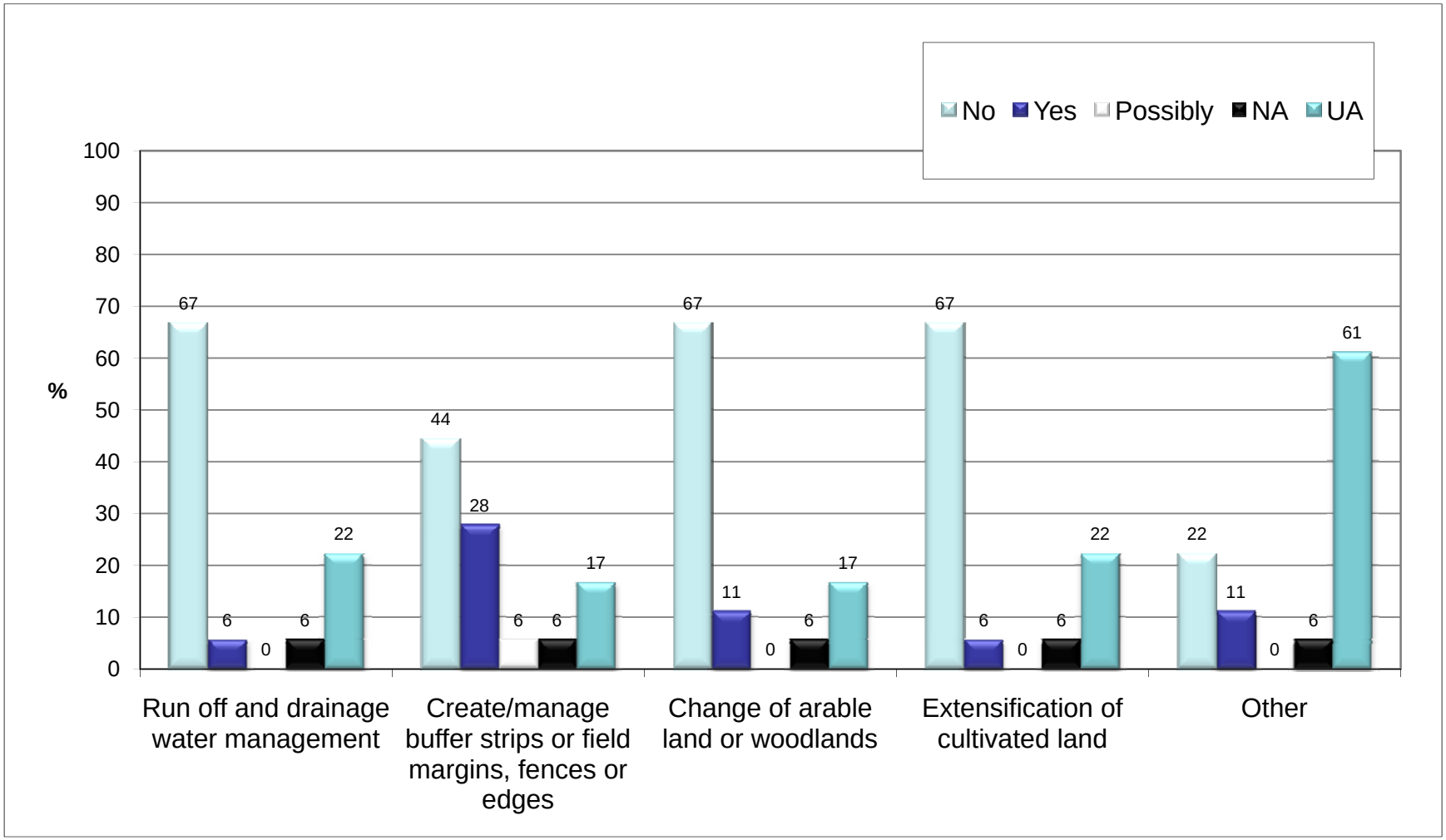
Intentions



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Views on Climate Change

- 44% believe climate change affected area
- 72% thought climate change had **not** affected their businesses
- 72% not adjusted their farm management

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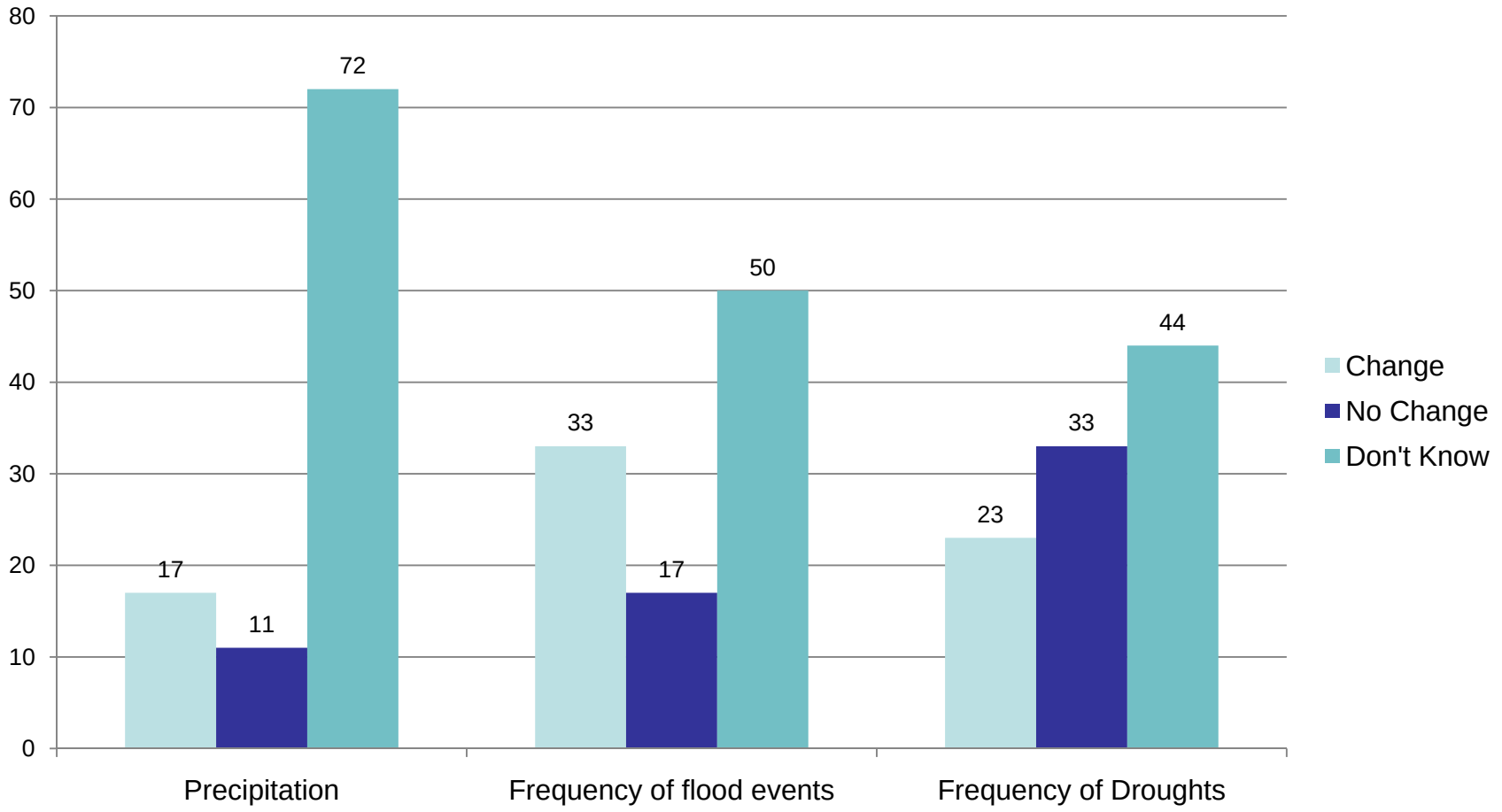
Views on Future Events



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What is Flooding?

(Temporary) covering of land by water

Sources of flooding:

- overtopping from rivers / burns,
- high groundwater levels or saturated ground,
- surface water runoff,
- lack of capacity/obstructions in sewers or drainage
- coastal flooding,
- combination of the above

Affects property, infrastructure, agricultural land….

Social & Economic Impacts

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Tarland Burn Flood Prevention Scheme

- Commenced following flooding in 2002
- Focus on protection to settlements (Tarland and Aboyne)
- Some improvements already in place
- Past 12 – 18 months working with Atkins on Hydrology and River Modelling
- About to start the options appraisal stage

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Assessment of Flood Risk

- Analysis of rainfall and water level data collected in and around the catchment
- Identify and characterise main sub-catchments of the Tarland Burn
- Route rainfall into and through the catchment using a computer model
- Calibrate the model using real rainfall and water levels during high flow events

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Assessment of Flood Risk

- Use model to map out areas likely to flood (from the burn) during a range of possible flood events
- Compare flood extents from model with actual observations from high flow events
- Amend model to reflect observations
- Produce a range of theoretical flood maps which can be used to assess potential flood damage
- Derive economic impact data of existing situation

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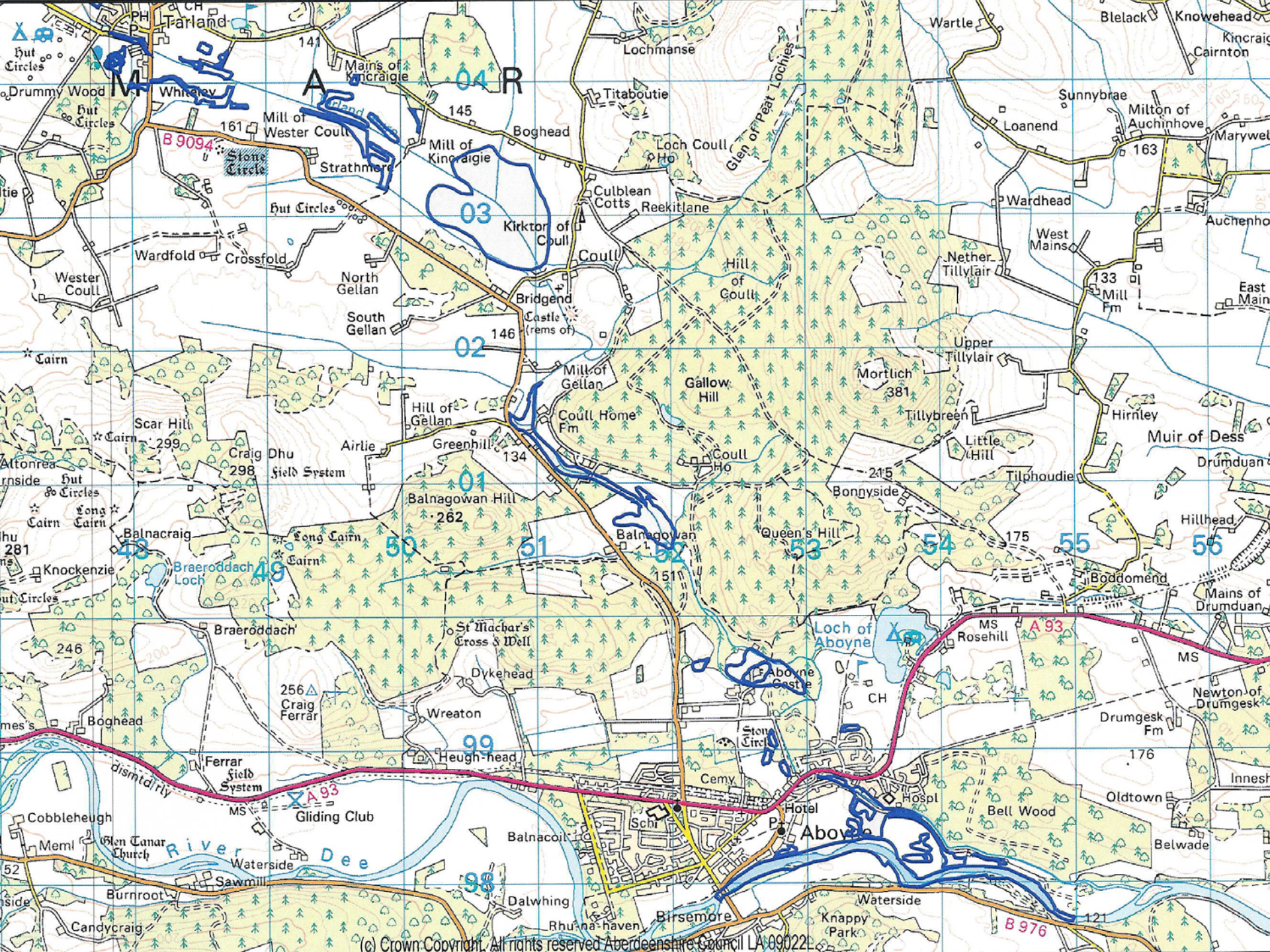
Tarland
Hut Circles
Drummy Wood
Whitecley
Mains of Kincraigie
Titaboutie
Lochmanse
Wartle
Blelack
Knowehead
Kincraig
Cairnton
Sunnybrae
Milton of Auchinhove
Loanend
Marywel
Mill of Wester Coull
Boghead
Loch Coull Ho
Glen of Peat Lochies
Stone Circle
Strathmore
Mill of Kincraigie
Culblean Cotts
Reekitlane
Wardhead
Auchenho
Hut Circles
Kirkton of Coull
Coull
West Mains
Wardfold
Crossfold
Wester Coull
North Gellan
South Gellan
Bridgend
Castle (rems of)
Nether Tillylair
Hill of Coull
Mill Fm
East Main
Cairn
Mill of Gellan
Gallow Hill
Upper Tillylair
Mortlich
381
Hill of Gellan
Coull Home Fm
Tillybreen
Hirnley
Muir of Dess
Scar Hill
299
Cairn
Airlie
Greenhill
134
Coull Ho
Little Hill
Drumduan
Craig Dhu
298
Field System
Tilphoudie
215
Bonnyside
Balnagowan Hill
262
Long Cairn
Balnacraig
Balnagowan
Queen's Hill
175
Hillhead
Knockenzie
Braeroddach Loch
Braeroddach
Boddomend
Mains of Drumduan
St Machar's Cross & Well
Loch of Aboyne
MS
Rosehill
A 93
246
Dykehead
Aboyne Castle
CH
Newton of Drumgesk
256
Craig Ferrar
Wreaton
Drumgesk Fm
Boghead
Heugh-head
176
Ferrar Field System
Cemy
Innesh
Oldtown
Cobbleheugh
Gliding Club
Hotel
Hospl
Bell Wood
Glen Tanar Church
River Dee
Balnacoil
Belwade
Waterside
Sawmill
Burnroot
Dalwhing
Waterside
Birsemore
Knappy Park
Candycraig
Rhu-na-haven
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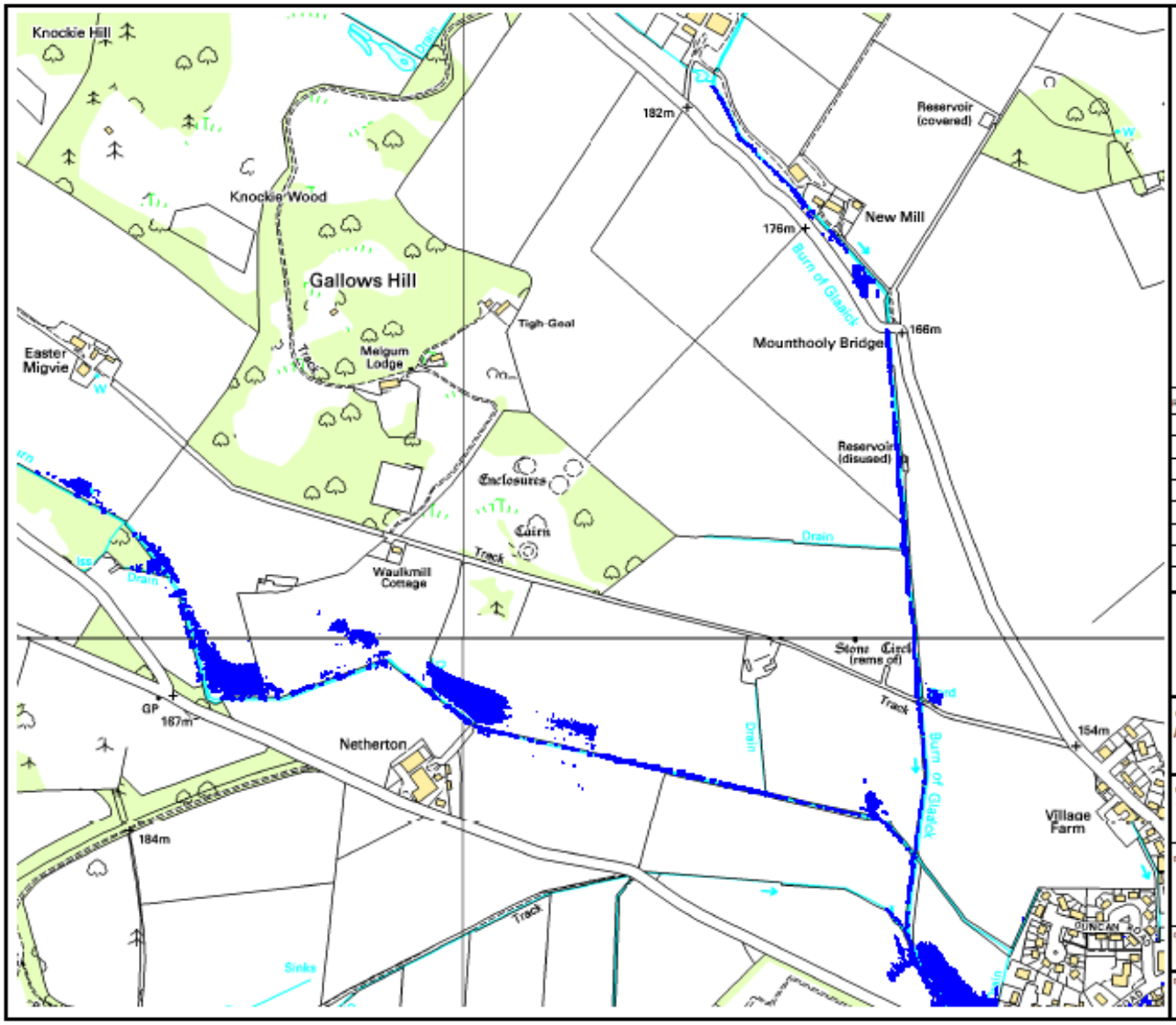

ATKINS

DRAFT

0.5% AEP Flood Outline
1:200 Return Period

Notes:

1. DO NOT SCALE FROM THIS DRAWING.
2. FLOOD OUTLINE INDICATES FLOODING FROM MODEL WATERCOURSE ONLY.

Rev.	Description	By	Date	Chk'd	Auth
B	REVISED DRAFT		28/10		
A	DRAFT FOR COMMENT		29/09		
Purpose of Issue		Rev	Date		Authorised

ATKINS

Client
ABERDEENSHIRE COUNCIL

Project title
TARLAND BURN FLOOD CATCHMENT STUDY

Drawing title
Q200: TARLAND VILLAGE UPSTREAM EXTENT

Original Size	Drawn	Checked	Authorised
NOT TO SCALE	R.Hutton	A.Chan	
	Date 29/10/2009	Date 29/10/2009	Date

Drawing Number
5075838/062/DWG/020

Rev
B

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Cost of Flooding

- Identify property or other assets within floodplain
- Assess probability and impact of flooding for each asset over range of design events (e.g. 5, 10, ….200 year)
- Average annual damage due to flooding from the Tarland Burn = a long term estimate of flood damage
- How much is the total flood damage cost from the Tarland Burn (100 year discounted)?

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Cost of Flooding - Tarland

- 21 properties affected, 7 above floor level in the 25 year event
- 30 properties affected, 14 above floor level in the 200 year event
- Provides average annual damage of £25k to £30k and total benefits of £800k for 100 years
- Not particularly high for justifying flood prevention works

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Cost of Flooding - Aboyne

- 72 properties affected, 18 above floor level in the 25 year event
- 101 properties affected, 36 above floor level in the 200 year event
- Provides average annual damage of £90k to £95k and total benefits of £2,400,000 for 100 years
- Provides some scope for flood alleviation but will need to allow for some flood damages even with scheme in place

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Annotating Flood Risk Maps

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Keith to present climate metrics

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Natural Flood Management

Utilises natural shapes in the landscape

Slow water to prevent downstream damage

A catchment approach

Range of shapes and sizes:

- Meandering
- Retention basins (temporary or permanent)
- Wetlands
- Combination of above

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NFM Characteristics

Questions we are exploring:

- Technical aspects
  - how much, where, when, how often, how long, impact on water quality ….
- Economic aspects
  - impact on crop; restrictions on land management
- Institutional aspects
  - adoption issues; land ownership; health & safety; grants/insurance; impact on designations
- Other benefits
  - amenity value; conservation values; sporting/shooting benefits; eco-tourism

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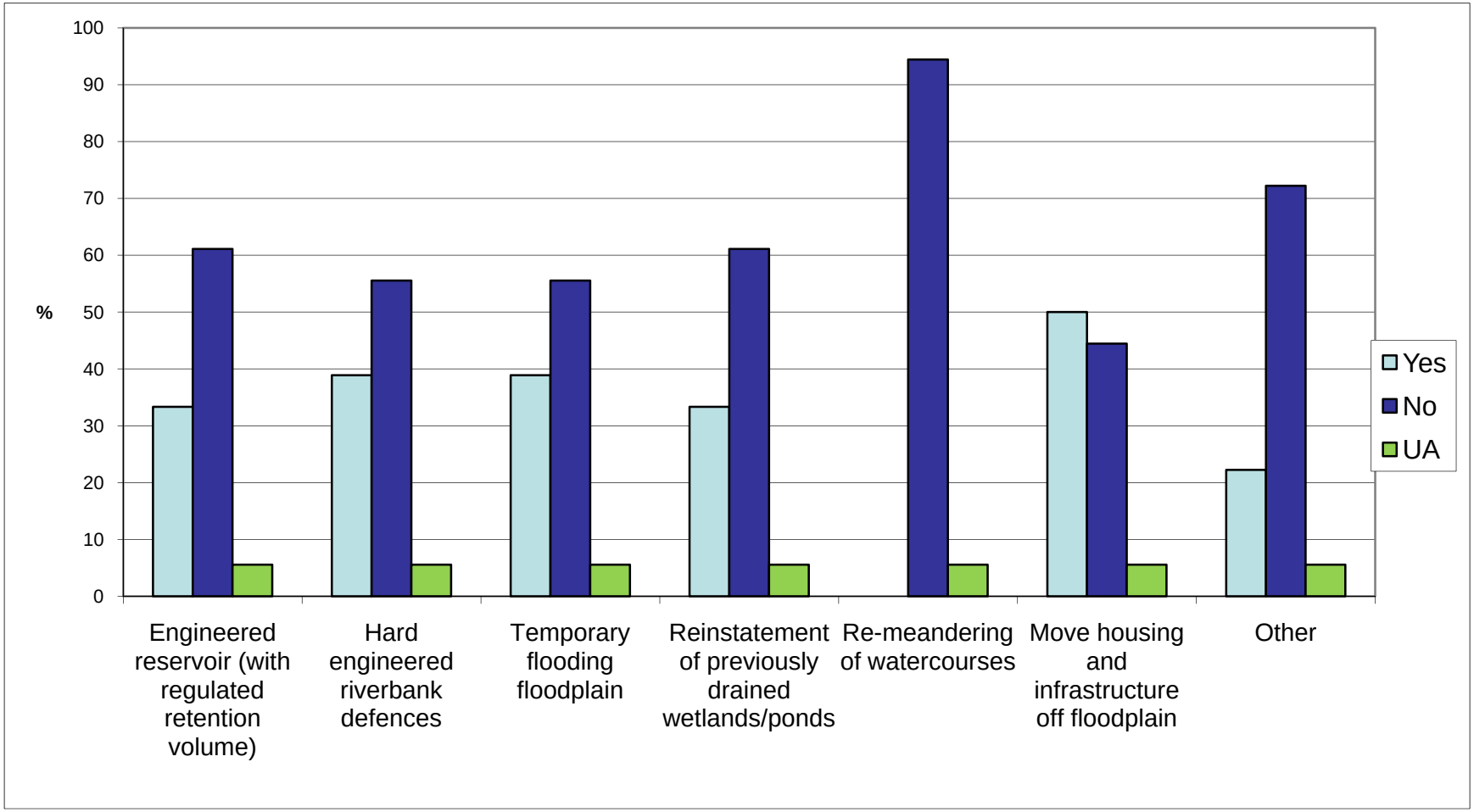
Questionnaire responses to potential flood measures



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Questionnaire – NFM measures

Incentives:

- financial gain (89% agreed)
- ability to tailor the measure to suit (72%).
- Farmer led approach, responsibility and avoid regulation (all > 33% agreed)

Barriers:

- financial costs (94% agreed)
- disruption to farm management (78%) and
- Limited availability/suitability of ground (67%)
- dislike to the measure/approach taken (44%)

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NFM policy

Questionnaire: Role for Agencies

- Facilitate a voluntary approach (67%)
- Finance measures on private land (78%)
- Not enforce a regulatory approach (78%)

National Policy Driver:

- NFM integral part of new SG Floods Bill
  - Flood risk maps by 2012
  - Flood risk plans by 2016 (inc measures)

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Aquarius

Need to know:

- How to alleviate of flood risk to communities
- Opportunities and constraints for farmers
- How NFM works - demonstration sites
- What are the appropriate processes & incentives

What are your views?

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Discussion

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What Next?

Scottish next steps

- Workshop report circulated end March
- Factors meeting – March?
- One to one meetings with interested parties
- Further meetings? Mill of Gellan visit? Tweed visit?
- Update to Agencies, Community Council etc late summer
- Ongoing communication via newsletter and website or just ring us!

Transnational next steps

- Transnational – share good practice about participation, market incentives, regulations, design etc.
- Workshops in June and November

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Thank you for your input!

Please fill out our feedback form

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