

# 3 Storms

## – Recovery and resilience

### 1 year on

Michael Bruce

Glen Tanar Estate

26 Oct 2022

# Introduction

- Previous experience & related roles
- 3 destructive storms Arwen, Malik and Corrie, winter 2021-22
- Warnings, impacts & immediate responses
- Second and third level impacts
- Local resilience work
- Summary of issues and a few lessons learned

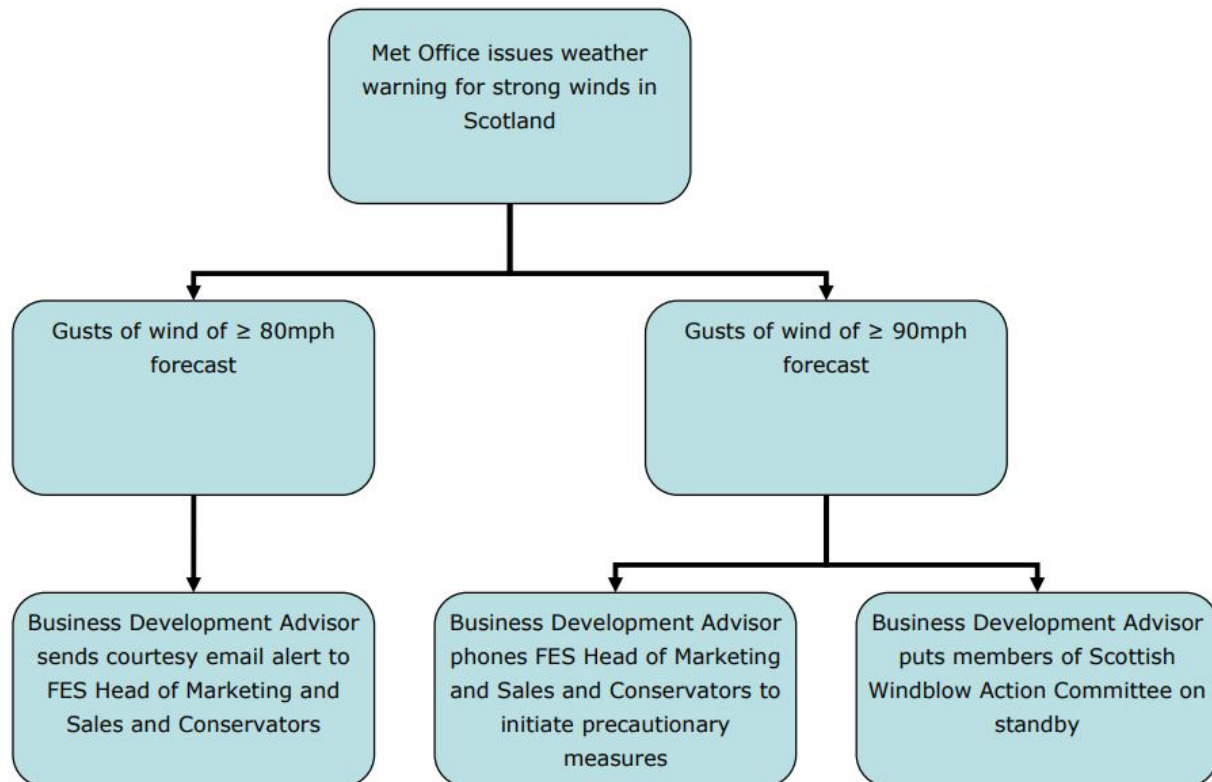
# The Red Warning.....came late in the day....



- Weather was monitored through week & Grampian Local Resilience Partnership (GLRP) met mid-morning 26<sup>th</sup> Nov 2021
- Major incident declared Sat 27<sup>th</sup> Nov 2021
- Police Scotland chaired the multi-agency response
- It held multiple on-line meetings
- Scottish Forestry are not a Cat 1 or Cat 2 responder, FLS invited/attended GLRP

# Scottish Windblow Contingency Plan 2018 (now responsibility of Scottish Forestry)

Key steps before a catastrophic windblow event



- Did the Windblow warning system via Scottish Forestry & Forestry & Land Scotland work?
- Was the Red Warning sent to all key private sector contacts?
- Was the Red Warning sent out to all forest owners & forestry contractors?

# Primary Impacts – trees falling

- Secondary impacts

**No transport - roads blocked**



**No power - lines down**



# Secondary impacts

**No water, or no clean water**



**No communications**



# Cascade of impacts, trees down - power down - communications down & access for generators blocked

**Hilltop mobile phone masts  
& VHF radio & radio broadband**



**Access tracks blocked & cleared (x3 times)**



# Property Damage – woods and houses,

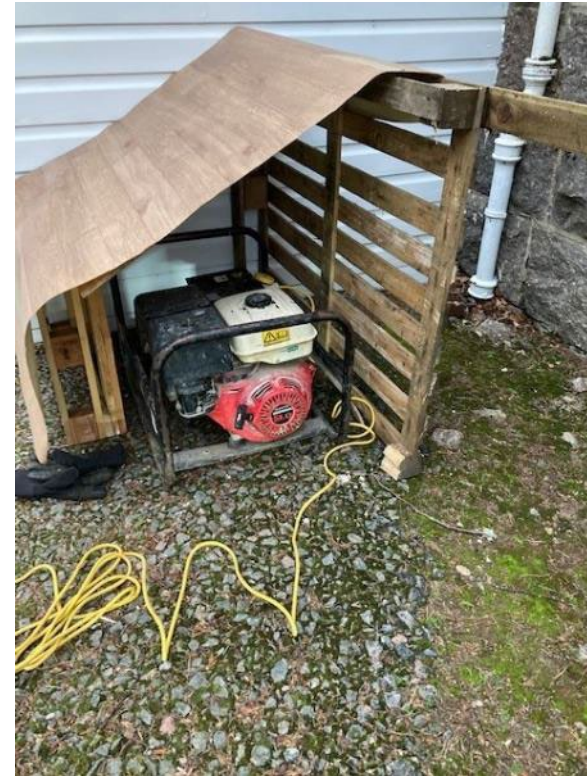


# Wider impacts

**Foot & cycle paths blocked by single & multiple windblow (or ripped up)**



**Local Care Homes**  
– no light, no food & little heat



# GLRP Storm Arwen taskforce surprised by scale of destruction (Press & Journal 5/12/21)

*Superintendent Main (Police Scotland) takes us through the alarming chain of events.*

- He said: “It’s fair to say that the magnitude of the damage was so significant and unprecedented... It was certainly far and above what we had anticipated.”
- “We had four meetings on that Friday, late into the night.”
- “We were dealing with loss of life by then, which showed how dangerous it was.”
- “With thousands of people stuck without power on Saturday, another three sessions were called.”

# Local *ad hoc* responses

- Foresters, forestry contractors, farmers, arborists, Council roads crews & roads contractors
- People with chainsaws, lifting equipment & diggers (some trained, some not)
- Forestry contractors tree harvesters cleared worst multiple windblow off roads e.g. Pass of Ballater
- Specialized tree harvesters (fixed head) + normal tree harvesters + chainsaw operators supported SSE



# Scottish Forestry

## - (part of Scottish Government)

- Organised a series of virtual industry meetings
- Commissioned Forest Research to carry out initial damage assessment, using satellite information
  - Initial estimate was only c. 0.5M tonnes windthrow
  - There is still NO complete estimate of damage
- Industry estimate is that many millions of tonnes have been blown, well over >1M tonnes in timber forecasting zones and well over >1.5M tonnes combined
- The Scottish Government / Scottish Forestry have not officially formed the Scottish Windblow Action Committee
- Scottish Forestry relaxed some Felling Permission constraints, and Conservancy staff worked extremely hard to process permissions

# Forest Industry

- Diverted resources immediately to affected areas
- Reduced felling in other areas (as much as long term contract, market and cashflow constraints have allowed)
- Focused on processing Pine to minimise degradation from Blue Stain
- Innovated by finding markets outside the region (boats have gone as far as Portugal)

# Forests & Electricity lines

## – a difficult interface

LV lines – only 4m clearance required



Only specific SSE staff or SSE controlled contractors can operate in the red zone

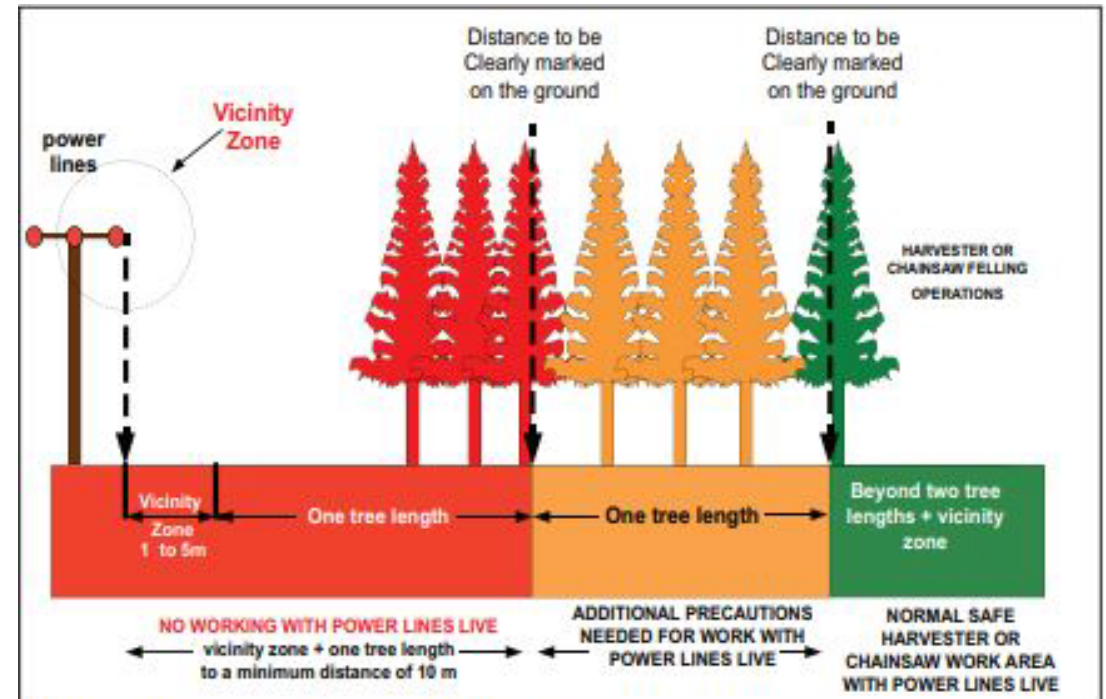


Figure 2: Red/Amber Zones (Uniform height crop)

# Experience

- *Despite best efforts* Felling Permissions / Long Term Forest Plan amendments have taken too long
- The emergency period with relaxations was too short.
- The overall regulatory burden and control of detail is too high and inflexible in the face of the need for speedy response to deal with *catastrophic windblow event(s)*
- Control of detail is hindering *common sense* prevention & response work
- The volume of regulatory work catastrophic windblow creates, and the consequent hindrance to prevention and response, was underestimated by the Scottish Parliament (Confor vigorously objected to windthrow Felling Permission being required in 2018 Forestry Act)

# Loose windblow group initial aim / objectives

- Aim (from the Minister): Stabilise the timber market
- Other objectives mentioned:
  - Balance markets, harvesting and transport, with lumpy supply from forest owners
  - Minimise damage to existing white wood customer base
  - Maintain forest owner/investor confidence
  - Leave trees “on the root” as long as possible
  - Re-planting (re-establishment) requirement

# MASSIVE CONCERN & RESPONSE BY COMMUNITIES -

## DRAFT MDCC Aboyne Area Resilience Plan Risk Assessment

ID	Event	Impact on Individuals (Per CRR <small>note1</small> )	Likelihood	Severity	Description	Mitigation Actions
2.a.	Severe Weather - Storm	Death or serious injury through falling trees, short circuit powerlines, clearing windthrow. Property Damage			Trees falling on houses/cars & occupants, power and telephone lines. Communication systems damaged. Lack of capacity of emergency services / council / electricity companies . Severe weather overwhelming or preventing council / emergency service / electricity & communications companies responses.	Raise awareness of Amber and Red Warnings. Avoid working or visiting woods in Amber or Red conditions. Shelter in a safe place until storm has passed. <b>Support resilience/emergency plans for households.</b> Mobilise competent staff with right equipment for tree cutting (landowner, arborist, farmer, and forest contractor resources). Assist with staff & equipment within level of knowledge and competence/as requested by emergency/council services. Check on and assist vulnerable people with accessing essential medication and health care.

TREES FALLING IDENTIFIED AS AN “ESCALATOR EVENT”

# Lessons learned post-Storms:

## - Data collection

- Satellite info, rapid initial overview, but inaccurate - some significant windthrow missed e.g. under canopy “heavy thinning”
- At start lack of procedure for input of *ground-truthed data* collected by foresters
- Confor Processor Group - high level strategic information required - Volume (m<sup>3</sup>) Millwood & SRW - split by Spruce / Pine / Mixed conifer – not provided, and still not done
- Lack of guidance on appropriate data collection methods through discussion / agreement between SF / FR and Confor

# Key recovery constraints

- Limited regional processor capacity to absorb excess production (sawmill, panel board & biomass plants)
- Lower productivity - higher harvesting and transport costs
- Biological issues all need management strategies (blue stain, weevil and deer)
- Shortages of seedlings, fencing materials and contractors for re-planting
- Continuing shortages of windblow qualified chainsaw operators / training

# Significant modal shifts needed

- Much clearer information needed on damage: tonnage, area, species, tree size and likely timber degradation.
- Estimate of financial and economic impacts needed
- Higher forest re-establishment grants needed to support forest owners (establishment, pest/disease control and deer management)
- Forest owners and the forest industry needs to work closely with local communities on *prevention activities* – this will also need the co-operation of Scottish Forestry & local authorities
- The regulatory framework for forestry may need *adjustment*

# Lessons learned?

- *The private sector* needs much better links to the resilience partnerships to enable communication and resource allocation in emergencies
- There is a need for a temporary industry *Task Force* structure to better cope with *catastrophic windblow* - develop & agree aim and objectives, the grouping of issues and work groups & allocation of tasks
- *Prevention work with local communities is essential*
- Detailed discussions with Electricity companies needed
- Key resilience skills and equipment shortages need to be addressed a.s.a.p. e.g. chainsaw operators, directional felling heads for harvesters
- A formal *Lessons Learned* process needs to be started!