

Interim Scottish Windblow Contingency Plan

October 2010–October 2011

A strategy for dealing with
catastrophic windblow events
in Scottish forests

Contents

Catastrophic windblow key steps diagram

Introduction

Resilience and Integrated Emergency Management

Interim arrangements for 2010/2011 windblow season

Definition of a catastrophic windblow event

Assessment phase

Prevention phase

Preparation phase

Weather warnings

Taking precautionary measures in the event of a high wind forecast

Preparing to respond to a catastrophic windblow event

Response phase

Key response 1

Key response 2

Survey and damage assessment

Recovery phase - developing a clearance and restocking strategy

Monitoring and evaluation

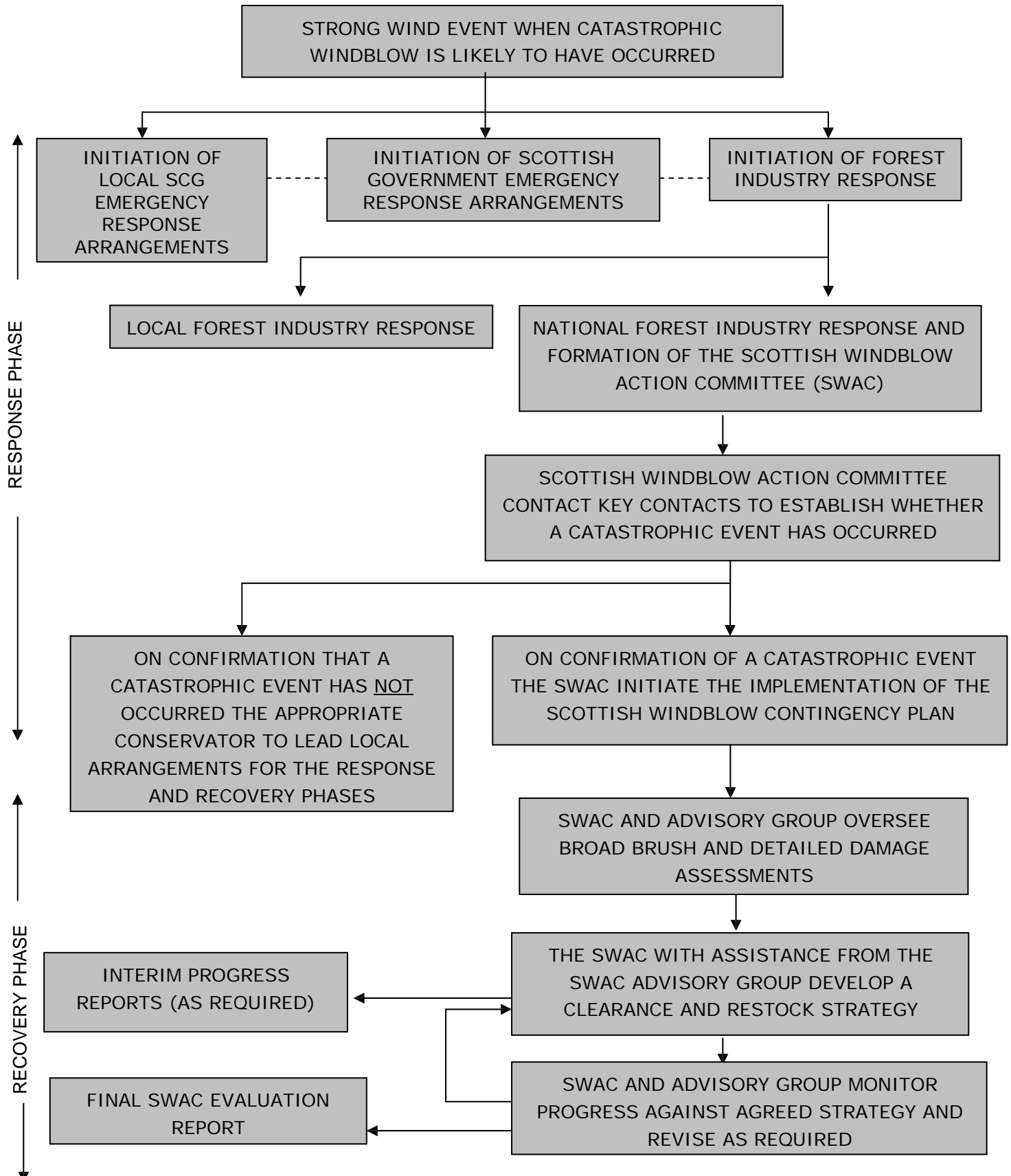
Appendix 1: Scottish Windblow Action Committee membership details and draft terms of reference

Appendix 2: Scottish Windblow Action Committee Advisory Group membership details and draft terms of reference

Appendix 3: Issues for consideration by the SWAC when developing the clearance strategy

Appendix 4: Scottish Windblow Contingency Plan Owner details

Catastrophic windblow event key steps



Introduction

Catastrophic windblow events are rare and their frequency, scale and location are unpredictable. These events have the potential to cause major disruption to society preventing access by emergency services, disrupting electricity, water, phone and gas services and public transport. Such an event will also have a significant financial and practical impact on the Scottish forest industry by disrupting timber supplies to mills, effecting existing contract commitments and causing knock-on effects throughout supply chain from the wood processing industry to the construction market.

UKCP09¹ recognises that severe windstorms around the UK have become more frequent in the past few decades. A warming climate is predicted to result in an increased frequency of intense and extreme weather events like storms and droughts. In 2008 a report published by Forest Research on the Impacts of Climate Change on Forestry in Scotland² identified that while wind scenarios have high uncertainty attached, it is likely that changes in the frequency of extreme winds may cause more wind damage. Good preparation is therefore essential and the Forestry Commission Scotland (FCS) Climate Change Action Plan 2008–2011³ sets out an action to develop a contingency plan to provide a co-ordinated response to the increasing risks of catastrophic wind damage.

This plan is written for anyone who may have a part to play in planning for and responding to a catastrophic windblow event. Interested parties will include the Scottish Government, Forestry Commission Scotland staff, private sector forest management companies, the timber processing industry and small woodland owners.

It is important to note that in the implementation of this plan, regardless of the severity of the windblow event and the urgency of the response, health and safety is paramount. The co-operative structures laid out in this plan aim to ensure that health and safety is a primary consideration in the emergency response to a windblow event.

¹ Link to the UK Climate Programme 2009 climate change scenarios

http://www.ukcip.org.uk/index.php?option=com_content&task=view&id=469&Itemid=477

² Link to Forest Research note January 2008 Impacts of climate change on forestry in Scotland – a synopsis of spatial modelling research

[http://www.forestry.gov.uk/pdf/fcrn101.pdf/\\$FILE/fcrn101.pdf](http://www.forestry.gov.uk/pdf/fcrn101.pdf/$FILE/fcrn101.pdf)

³ Link to the FCS Climate Change Action Plan 2008 – 2011

<http://www.forestry.gov.uk/ccapscotland>

Resilience and Integrated Emergency Management

Central Government's approach to contingency planning is built around the concept of *resilience*, which is outlined in the Scottish Government publication *Preparing Scotland*⁴. Resilience is defined as the ability "at every relevant level to detect, prevent and, if necessary, to handle and recover from disruptive challenges". Scottish Government emergency planning and response is based upon the principles of Integrated Emergency Management (IEM).

The guidance in this contingency plan is based around the five core activities of IEM; assessment, prevention, preparation, response, and recovery, which are at the heart of resilience. The plan defines the key roles, responsibilities and co-operative IEM management structures to support the emergency planning network and the forest industry in preparing for and responding quickly and efficiently to a major windblow event at a regional, Scottish and/or cross border level. It is not intended to be an operations manual but to establish good practice based on lessons learned from planning for, and dealing with major windblow at all levels.

Interim arrangements for 2010/2011 windblow season

The adoption of an IEM structure for dealing with a catastrophic windblow event is a new concept to both the forest industry and the emergency response network. Consequently specific sections in this plan will require 'buy in' from key players and the adoption of a fully functioning IEM structure will take time to embed. This plan makes a number of key recommendations, which will be actioned during winter 2010/11 to secure a fully functional IEM structure. It is therefore proposed that this interim plan will be used if a catastrophic windblow event occurs during the 2010–2011 windblow season (October 2010 to April 2011). A review will be carried out in spring 2011 and the final plan will be published for October 2011.

To support the implementation of the interim plan (if and when required) and to oversee the development of the final plan, the FCS Policy Adviser, Sustainable Forest Management will work with the forest industry to ensure that the key recommendations are taken forward.

⁴ Scottish Government guidance on preparing for emergencies 'Preparing Scotland'
<http://www.scotland.gov.uk/Publications/2007/06/12094636/0>

Definition of a catastrophic windblow event

A catastrophic windblow event can be defined as having two significant elements:

1: The impacts of the windblow event will fall under the definition of emergency in the Civil Contingencies Act 2004⁵. To constitute an emergency this event or situation must also require the implementation of special arrangements through the Strategic Co-ordinating Groups⁶. The emergency is likely to cause major regional/national disruption to infrastructure and/or services.

2: To initiate a forest industry response a catastrophic windblow event is said to have occurred when the volume of windblown timber is equal to 100% of the annual cut (in cubic metres) or more than 1 million cubic metres in any one of the production forecasting zones or more than 1.5 million cubic metres across combined zones.

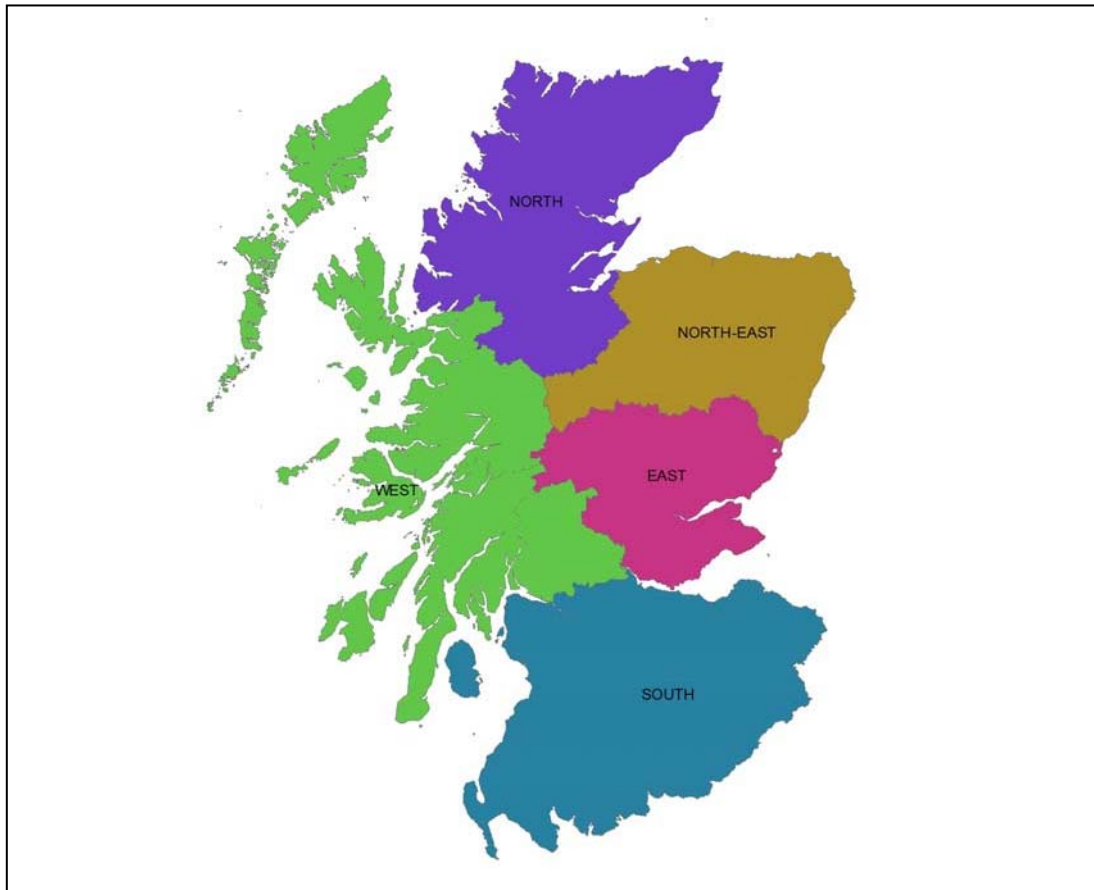
Figure 1: Breakdown of the volume of timber, which would equate to a catastrophic windblow event in each production forecast zone.

Production forecast zone	Annual Cut in M ³	Volume of windblown timber resulting in a catastrophic windblow event
North	616 000	616,000
North East	1 100 000	1 000 000
East	700 000	700 000
West	1 700 000	1 000 000
South	2 900 000	1 000 000

⁵ An emergency is defined in the Civil Contingencies Act 2004 as: an event or situation which threatens serious damage to human welfare in a place in the UK, the environment of a place in the UK, or war or terrorism which threatens serious damage to the security of the UK. Additionally, to constitute an emergency, an event or situation must also pose a test to an organisation's ability to perform its normal functions.

⁶ Scottish Government information on Strategic Co-ordinating Groups
<http://www.scotland.gov.uk/Publications/2007/06/12094636/11>

Figure 2: Scotland 2011 production forecast zones covering both the National Forest Estate and private sector woodlands



© Crown copyright. All rights reserved. Forestry Commission. 100025498. 2009.

Assessment phase

Risk assessment is both an integral component of risk management and the first step in the emergency planning process. Risk assessment for this plan focuses on increasing the state of preparedness of emergency responders and the forest industry to deal with a catastrophic windblow event.

Within the IEM structure both resilience building and preparation for responding to emergencies is carried out at a local level through eight Strategic Co-ordinating Groups (SCG's)⁷. Risk assessment is carried out at a local level through the development by

⁷ Map of SCG areas <http://www.scotland.gov.uk/Topics/Justice/public-safety/emergencies/regions>

SCGs of Community Risk Registers⁸ (CRR). The CRR is intended to inform communities of the range of potentially disruptive events that the responder agencies have considered and to confirm the state of preparedness to deal with the occurrence of such emergencies ensuring a swift return to normality.

The CRR will also provide the basis for the responder agencies to develop, implement and monitor emergency response arrangements. From the CRR both generic and specific emergency plans are developed. It is important that each SCG CRR captures the nature of the regional hazards that are likely to accompany a catastrophic windblow event to ensure a permanent state of readiness.

KEY RECOMMENDATION 1: FES (through the Forest District Manager), FCS (through the Conservator) and local Confederation of Forest Industries⁹ (ConFor) and UK Forest Products Association¹⁰ (UKFPA) representatives should liaise with the local Strategic Co-ordinating Group Co-ordinators¹¹ to ensure measures to tackle a catastrophic windblow event are comprehensively considered in the SCG Community Risk Registers (CRR).

During this assessment the following should be considered:

- Completion of a risk assessment of the known limiting factors in effectively managing a catastrophic windblow within each SCG area and development of an action plan to address these issues.
- Identification of health and safety and wider training requirements of those who will be involved in the emergency response.
- Development of a list of local emergency contact numbers for a windblow related event including Forest Enterprise Scotland, private sector management companies and private landowners.
- Compilation and maintenance of a contractor database covering harvesting equipment, cable crane resources, chainsaw operators (with windblow certificates), tree surgeons, and helicopter and fixed wing aircraft companies that can be used in the event of an incident.
- Testing of emergency arrangements to ensure the emergency plans are current, valid and effective.
- Raising awareness of the Scottish Windblown Contingency Plan within the forest industry and the emergency response sector.

⁸ Risk assessment and Community Risk Registers

<http://www.scotland.gov.uk/Publications/2007/06/12094636/13>

⁹ Confederation of Forest Industries <http://www.confor.org.uk/?pid=1>

¹⁰ UK Forest Products Association (UKFPA) <http://www.ukfpa.co.uk/>

¹¹ SCG Co-ordinator contact details <http://www.scotland.gov.uk/Topics/Justice/public-safety/emergencies/regions>

Prevention phase

Prevention requires measures to be taken to eliminate, isolate or reduce identified risks so far as is reasonably practicable. It is important to note that while forest managers can risk assess individual woodlands and use appropriate management regimes to help prevent endemic windblow, it is very difficult to manage woodlands to withstand catastrophic windblow, however the guidance listed below may help to reduce the impact.

The prediction of risk and use of preventative windblow measures are important elements of forest management. Many factors can influence the ability of a crop to withstand strong winds including exposure to prevailing winds, cultivation methods, soil type, tree species, cultivation methods, ground conditions, and thinning regime.

Risk assessment can be carried out at individual forest level and the use of windthrow hazard classification, DAMS (Detailed Aspect Method of Scoring) and ForestGALES¹², a GIS decision support tool, all enable forest managers to estimate the probability of wind damage to forests. These assessment tools then enable decisions to be made on adopting silvicultural measures to reduce the risk of windblow. In addition Forests and Wind: management to minimise damage¹³, Climate Change Impacts on UK Forests Chapter 4¹⁴, Forest Design Planning: A Guide to Good Practice¹⁵ and the European STORMRISK¹⁶ project each give advice on the silvicultural measures which can be taken to increase the resilience of forests to storm events. These documents are useful references when designing forests and woodlands to reduce the risk of windblow.

Preparation phase

Preparation for responding to emergencies involves planning, training, exercising and informing people, and should focus on placing individuals in a position where they carry out their normal functions at a time of emergency. Through the establishment of forest industry involvement with the Strategic Co-ordinating Groups and the development of specific regional arrangements for emergency response, all individuals and organisations that might have to respond to an catastrophic windblow event will be prepared to do so and understand their role and responsibilities.

¹² Link to the Forest Research ForestGALES web page

<http://www.forestresearch.gov.uk/forestgales>

¹³ Forests and Wind: management to minimise damage

<http://www.forestresearch.gov.uk/website/publications.nsf/WebpubsbyISBN/0117103322>

¹⁴ Climate Change Impacts <http://www.forestresearch.gov.uk/fr/INFD-5ZYJ8B>

¹⁵ Forest Design Planning: A Guide to good Practice

[http://www.forestry.gov.uk/pdf/fdp.pdf/\\$FILE/fdp.pdf](http://www.forestry.gov.uk/pdf/fdp.pdf/$FILE/fdp.pdf)

¹⁶ STORMRISK project <http://www.forestry.gov.uk/fr/INFD-7G4A7Z>

Weather warnings

Having advanced knowledge that the risk of a catastrophic windblow event is high enables precautionary measures to be taken. By studying past windblow events Forest Research has concluded that winds of 90 miles an hour and above (>40 metres per second) are likely to cause catastrophic windblow damage.

KEY RECOMMENDATION 2: For this interim plan the Met Office National Severe Weather Warning Service¹⁷ (NSWWS) should be used to give advance warning of strong winds.

For the 2010/2011 windblow season FCS National Office will arrange for weather warnings from the Met Office NSWWS to be received directly by all Forest District and Conservancy offices. The Met Office will issue warnings of severe gales when a threshold of 70 mph is expected to be reached or exceeded. There is a further threshold at 80 mph which will trigger a storm warning. Wind speeds at these strengths must also be expected to occur over a widespread area before warnings will be issued. Where a weather warning suggests elevated risk of a windblow event FCS National Office will liaise with the Met Office Public Weather Service Adviser (PWWS) function for further details, specifically more details on predicted wind speeds over the affected region.

When high winds (>90 mph) are forecast by the PWWS, FCS National Office will inform the appropriate Forest District Managers and Conservator(s). Forest District Managers should ensure key staff are warned and precautionary measures are taken. Similarly Conservators should ensure key private sector interests are also contacted. Additional guidance on this service will be provided for Forest Districts and Conservancies on publication of this interim plan.

KEY RECOMMENDATION 3: Options for the provision of a bespoke high wind alert service should be explored.

Whilst providing useful information about possible high wind events at a regional scale, the NSWSS has limited ability to deliver weather warnings at a local level. To enhance the provision of locally accurate wind information, options for the provision of a bespoke high wind warning service were explored. It was concluded that this provision would not be cost-effective and that the generic warning service outlined in Key Recommendation 2 should be used as a trigger for local staff to request detailed weather reports from the Met Office as and when required.

¹⁷ Met Office NSWWS <http://www.metoffice.gov.uk/publicsector/nswws/index.html>

Taking precautionary measures in the event of a high wind forecast

Where practical, in the event that winds >90 mph are forecast a number of precautionary measures can be taken by the forest industry to improve the response to the event.

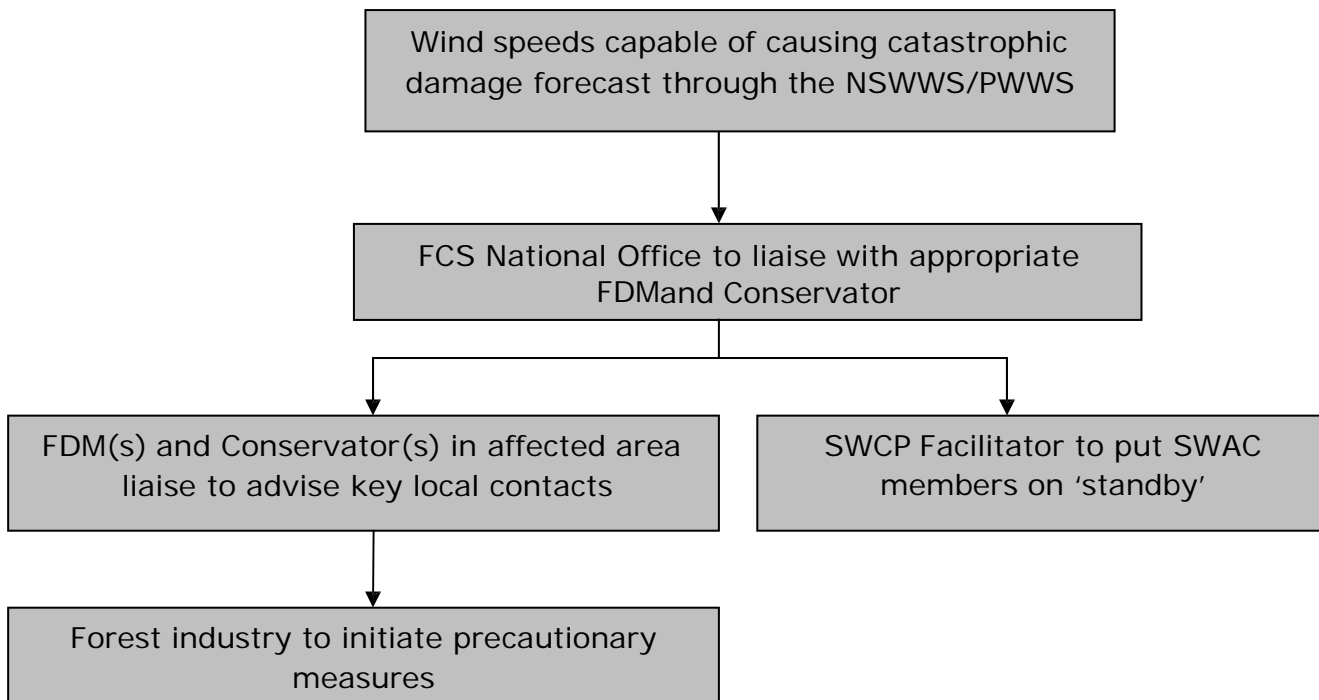
- Move all essential equipment (harvesters, fuel bowsers, civil engineering plant) from potentially vulnerable areas, where practical, to a location that will be easily accessible in the event that windblown trees blocks forest roads.
- Place trained chainsaw operators/tree surgeons/cable crane operators on standby.
- Place available staff on standby to undertake ground surveys once the high winds have subsided.
- Advise organisers of forest events to cancel/postpone activities.
- Warn the public of potential dangers eg local radio adverts, warning signs at recreation sites and key forest access points.

Preparing to respond to a catastrophic windblow event

In the aftermath of the storm an organised initiative will be required to determine the full extent of the damage and to develop a strategy for tackling it. This will be achieved through the formation of a Scottish Windblow Action Committee (SWAC) which will ensure a co-ordinated approach and will secure direct and efficient co-operation between Forestry Commission Scotland, Forestry Commission England (in the case of a cross border event) and the private forestry sector. Appendix 1 gives further details of the SWAC membership, draft terms of reference and contact details.

The forecast of winds strong enough to cause a catastrophic windblow will initiate the formation of the SWAC. The Conservator(s) and FDM(s) in the effected area should liaise and the appropriate Conservator should inform who will put the members of the SWAC on standby. After the storm event, if there are reports of serious windblow and following guidance given in key response 2 (page 13), the SWAC will subsequently initiate response activities, or stand down as appropriate.

Figure 3: Summary of key steps in the preparation phase



Response phase

There are two key responses to catastrophic windblow which, while successive in this plan, are likely to be carried out simultaneously. It is also important to note that, dependant on the nature of the event, it is possible that only one or both of these responses will be necessary.

KEY RESPONSE 1: Initiation of SCG emergency response arrangements

It is likely in a catastrophic windblow event that other widespread damage will have occurred, including transport and utilities infrastructure. In that case one or more of the eight Scottish local area Strategic Co-ordinating Groups (SCGs) would be activated to co-ordinate the multi-agency emergency response.

The major initial focus of clearance operations will be to restore transport links and public utility services. As part of the overall emergency response, these clearance and other associated activities will be co-ordinated through the SCGs. The SCGs also will continue to co-ordinate the response beyond the initial emergency phase and into the recovery period.

Note: This part of the response phase will not be initiated in the interim plan. The adoption of key recommendation 1 will ensure that Key Response 1 can be implemented for the final plan.

KEY RESPONSE 2: Initiation of a two-fold forest industry response

Local/regional forest industry response

The local forest industry response will focus on securing public safety and regaining access to the forests. The following key steps should be taken, where appropriate, to secure public safety.

- Closure of formal recreation facilities and provision of on site signage at known access points to warn of the potential dangers in a windblown forest.
- Liaison with local access officers over facility closures and the impacts of the storm on core paths and rights of way.
- Cancellation of all planned in forest events and suspension of and formal permissions e.g. firewood permits and sporting permissions.

In addition, and where available, local resources may be focused as appropriate on gaining access to key internal forest roads to provide access for inaccessible harvesting equipment, facilitate damage assessments, and secure access to existing roadside timber stocks to maintain supply to mills and processing plants. This local response is likely to be appropriate whether or not the windblow event is classified as 'catastrophic'.

National forest industry response – role of the Scottish Windblow Action Committee

Post storm, trying to establish whether damage can be classed as 'catastrophic', can be challenging. To ensure the initiation of the most appropriate response, it will be the role of the chair of the SWAC to contact a pre-selected number of key players within the forest industry, to attempt to gauge the severity and scale of the damage. Ideally this should be completed within the first 48 hours of the storm, however due to the scale and location of the damage this may take longer.

The SWAC chair should contact the following people (see Appendix 2 for contact details).

- Head of Operations, Forest Enterprise Scotland
- Executive Director, UK Forest Products Association
- National Manager for Scotland, Confederation of Forest Industries

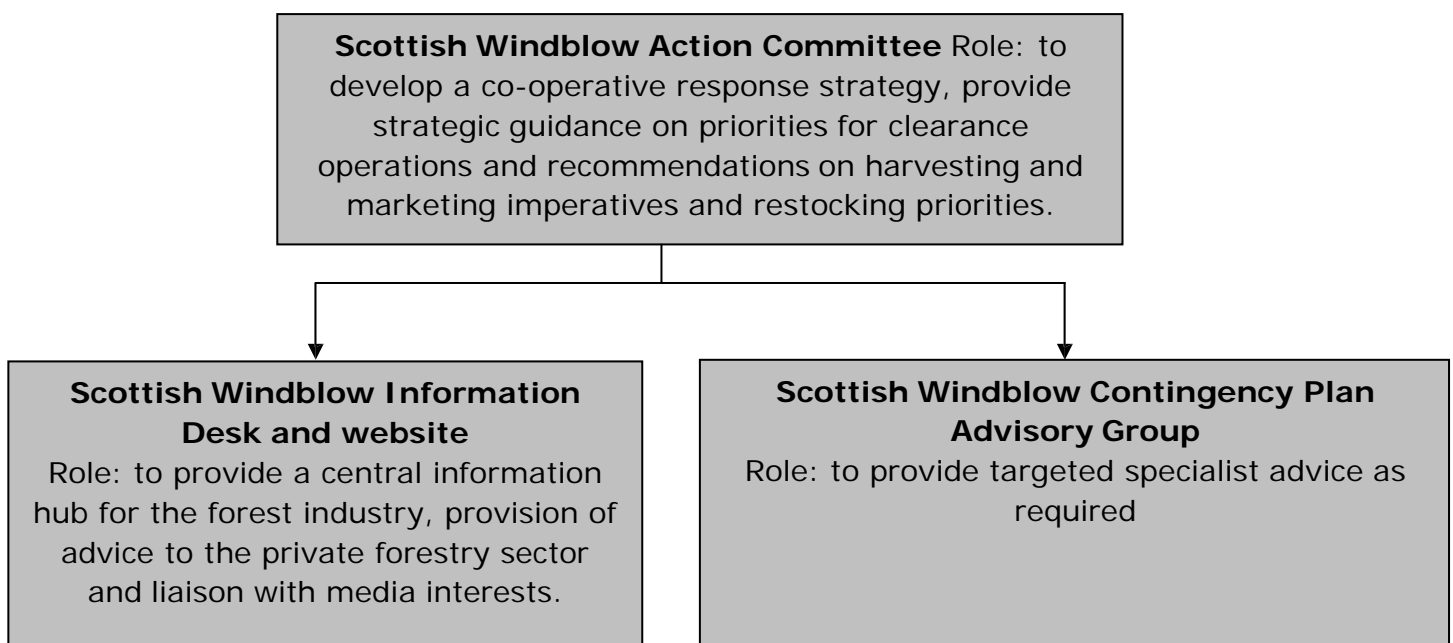
While this will be a preliminary estimate, it is likely that the SWAC will receive enough information from the forest industry to be able to make a decision whether the windblow can be dealt with at a local/regional level or whether the Scottish Windblow Contingency Plan should be initiated. The preliminary estimate will be confirmed or shown to be incorrect by subsequent damage assessments.

When a windblow event falls outwith the definition of ‘catastrophic’ it may still have a significant local/regional impact. The relevant Conservator, in liaison with the relevant FDM and private sector representatives, should lead the response and recovery phase, liaising with FES Head Office as necessary.

In the event that initial estimates collated by the SWAC indicate that a catastrophic event has occurred, the SWAC will have a key strategic role in developing a co-ordinated and efficient response. Once established, the SWAC will draw on the expertise of an Advisory Group for specialist advice on particular aspects of the response and recovery stage such as harvesting marketing and health and safety. This Advisory Group will include representatives from FCS and external organisations whose expertise can be drawn on as necessary as the response and recovery strategy is developed. The SWAC and SWAC Advisory Group may be located centrally (Silvan House, Edinburgh) or in the area affected, as is deemed appropriate. See Appendix 3 for the membership, draft terms of reference and contact details of the Advisory Group.

As appropriate, the SWAC may also choose to set up a Scottish Windblow Information Desk (SWID) and a Scottish Windblow Information website to act as a central point of contact for media interests and to gather, evaluate and disseminate information as required by the SWAC.

Figure 4: Scottish Windblow Action Committee structure



Survey and damage assessment

When it is deemed probable that a catastrophic windblow event has occurred there will be an immediate and urgent need for information. This information will be gathered by a 2-stage damage assessment process:

- 1: Initially a broad-brush assessment will be carried out to provide an estimate of the extent of the damage and its likely implications.
- 2: Subsequently a systematic and detailed assessment will establish the scale of the damage in enough detail to develop a reasoned and co-ordinated clearance strategy.

Broad-brush damage assessment

This broad-brush assessment will provide an estimate of the scale of the damage and satisfy the initial requests for information. The time that it will take to carry out this assessment will be highly dependent on the extent and nature of the damage. Ideally this assessment should be completed within four weeks of the storm, however past experience has shown this could take significantly longer.

This broad-brush assessment should aim to provide an estimate of the total volume blown, area, species and report on the implications for the normal harvesting programmes. The assessment will either confirm or disprove that a catastrophic event has occurred. The damage assessment should be carried out by rapid helicopter aerial surveys and should be co-ordinated through liaison between the appropriate Conservator(s) and the appropriate Forest District Manager(s) to ensure local priorities are targeted. Conservators should liaise with local private management companies to assist with gathering estimates of damage in private forests within their Conservancy.

The information from these broad-brush damage assessments should be collated by the Advisory Group and reported to the SWAC.

Detailed damage assessment

Following the preliminary survey there may be a requirement for a more accurate assessment to be completed to confirm the total volume of blown timber and enable accurate evaluations of the resources required and duration of the clear up operation. Other issues that need to be considered include the split of damage between public and private forests, anticipated impact on timber markets, species composition and scale of the restocking programme. The length of time this assessment takes will be dependent on the scale and nature of the windblow event.

Key information required in this detailed assessment includes:

- location of the damage including the forest name, grid reference;
- volume and hectarage of blown trees;

- breakdown of volume by species;
- breakdown of species by size class;
- nature of damage – snap, crown damage, leaning, fallen, totally or partially uprooted, random or systematic damage, group or stand damage;
- terrain description – slope, aspect etc;
- site conditions including the availability and condition of access roads.

A combination of further aerial surveys and detailed ground based surveys will be required, as appropriate, for this detailed damage assessment. The relevant Forest District Manager and Conservator should co-ordinate these aerial surveys. If time and resources allow it may be possible that fixed wing aircraft can be used to provide aerial photography of the damage. Existing production forecasting programmes can then be used to provide detailed figures on the volume of effected species and expected product assortment.

It is important to note that experience has shown that the final volume removed from windblow sites can greatly exceed the assessed volume. This is due to the practical difficulties and safety implications of assessing storm damage. In addition stands that have been damaged by windblow often have increased susceptibility to secondary damage. Tree roots can be loosened and new boundaries created along non-windfirm edges which can make the trees more vulnerable to subsequent winds and influence landscape design considerations.

Recovery phase - developing a clearance and restocking strategy

Once accurate estimates of the distribution and extent of the damage have been acquired a realistic and well co-ordinated clearance strategy should be developed. This will be the responsibility of the Scottish Windblow Action Committee in liaison with the SWAC Advisory Group. The strategy should:

- set out the overall priorities and targets for the clearance operations;
- define the roles and responsibilities of the key players in implementing the strategy;
- detail the priorities for marketing of the windblown timber;
- detail measures to limit the impact on the timber market and define strategic priorities and actions;
- indicate the priorities for restocking and how they will be achieved;
- identify the risks in achieving the strategy.

The structure of the strategy will be highly dependent on the particular nature of the windblow event and the main factors that are likely to influence the rate and form of the clearance operations and restocking priorities are detailed in Appendix 4.

Monitoring and evaluation

As the clearance strategy is implemented it is essential to monitor progress against the proposed targets. This is required to respond to interim requests for progress reports, to enable the review and when necessary the amendment of the recovery strategy and to evaluate the effectiveness of the strategy. The SWAC will be responsible for commissioning an independent evaluation of the response to the event and reporting the results to the SWAC. The final SWAC report should include a section on the lessons learnt from the incident and give recommendations on how the response and recovery phase could be improved for future windblow events.

Appendix 1: Scottish Windblow Action Committee

Membership and draft Terms of Reference

The Scottish Windblow Action Committee will be brought together in the event of a catastrophic windblow event to implement the Scottish Windblow Contingency Plan (SWCP) and to develop a response and recovery strategy. These terms of reference will be agreed by the SWAC in the event that the SWCP is implemented.

Membership

Director Scotland, Forestry Commission Scotland Chair
Chief Executive, Forest Enterprise Scotland
Executive Director, UK Forest Products Association
Chief Executive, Confederation of Forest Industries
Head of Policy, Forestry Commission Scotland
Head of Communications and Secretariat, Forestry Commission Scotland
Policy Adviser, Sustainable Forest Management, Forestry Commission Scotland

Remit

- Ensure the effective implementation of the Scottish Windblow Contingency Plan.
- Develop a co-operative response and recovery strategy in liaison with the SWAC Advisory Group, including strategic guidance on priorities for clearance operations, recommendations on harvesting and marketing imperatives and restocking priorities.
- Ensure the effective use of resources across the forest industry.
- Provide progress reports, as required, to the FCS Management Board, Forestry Commissioner, Ministers and the media.

Reporting

- A preliminary report will be produced, ideally within six weeks of the storm event, giving an assessment of the damage, proposed action and outline implications to the forest industry.
- An interim report should be produced after the detailed damage assessment has been completed. This report will outline the detailed assessment findings and confirming proposed actions and implications to the forest industry.
- Further interim reports to be published as required.
- A final report should be produced focusing on the functioning of the SWAC and its Advisory Group, reporting on the clearance and restock operations and summarising the lessons learned from the event.

Scottish Windblow Action Committee Members Contact Details

Name/ Job title	Address	Phone number
Dr Bob McIntosh Director Scotland	Silvan House 231 Corstorphine Road Edinburgh EH12 7AT	0131 334 0303
Simon Hodge Chief Executive Forest Enterprise	Forest Enterprise Scotland Head Office 1 Highlander Way Inverness Business Park Inverness IV2 7GB	01463 232 811
David Sulman Executive Director	United Kingdom Forest Products Association Office 14, John Player Building Stirling Enterprise Park Springbank Road Stirling FK7 7RP	01786 449029
Stuart Goodall Chief Executive	Confederation of Forest Industries 59 George St Edinburgh EH2 2JG	0131 240 1410
A.N. Other Head of Policy	Forestry Commission Scotland Silvan House 231 Corstorphine Road Edinburgh EH12 7AT	0131 334 0303
Sheryl May Head of Communications and Secretariat	Forestry Commission Scotland Silvan House 231 Corstorphine Road Edinburgh EH12 7AT	0131 334 0303
Hugh Clayden Policy Adviser, Sustainable Forest Management	Forestry Commission Scotland Silvan House 231 Corstorphine Road Edinburgh EH12 7AT	0131 334 0303

Appendix 2: Contact details for key response 2

Name/ Job title	Address	Phone number
Les Bryson Head of Operations	Forest Enterprise Scotland Head Office 1 Highlander Way Inverness Business Park Inverness IV2 7GB	01463 232 811
David Sulman Executive Director	United Kingdom Forest Products Association Office 14, John Player Building Stirling Enterprise Park Springbank Road Stirling FK7 7RP	01786 449029
Stuart Goodall Chief Executive	Confederation of Forest Industries 59 George St Edinburgh EH2 2JG	0131 240 1410

Appendix 3: Scottish Windblow Action Committee Advisory Group

Membership and draft terms of reference

The Scottish Windblow Action Committee Advisory Group will provide support, as necessary, to the SWAC to help develop the response and recovery phases of the SWCP. The SWAC Advisory Group will agree these terms of reference in the event that the SWCP is implemented.

Membership

Head of Policy, Forestry Commission Scotland (Chair)
Head of Operations, Forest Enterprise Scotland
Head of Grants and Licences, Forestry Commission Scotland
Head of Corporate Services, Forestry Commission Scotland
National Manager for Scotland, ConFor
Chair of UKFPA Harvesting and Contracting Committee
Head of Civil Engineering, Forestry Civil Engineering
Programme Leader, Tree Stability and Climate, Forest Research
Scottish Government Civil Contingencies Unit
Head of Communications and Secretariat, Forestry Commission Scotland
Head of Sustainable Forestry & Land Management, FC England (in a cross-border event)
Head of Inventory, Forecasting and Operational Support, Forestry Commission
Policy Adviser, Sustainable Forest Management, Forestry Commission Scotland
Trade representatives will be invited onto the group as appropriate.

Remit

- Provide support and advice to the SWAC on aspects of the response and recovery phase of the plan.
- Oversee the setting up of the Scottish Windblow Information Desk and website as required.
- Co-ordinate damage assessment information and report as necessary to the SWAC.
- Ensure good liaison and co-operation with the private forestry sector.
- Ensure good liaison and co-operation between FCS and FC England in the event of a cross border windblow event.
- Produce guidance eg advisory leaflets, as required, for the forest industry on the response and recovery stages.
- Monitor the response and recovery stages.

- Report to the UNECE Timber Committee (TC) and the FAO European Forestry Commission (EFC)¹⁸ on request. (The Committee periodically collates information on catastrophic windblow events throughout Europe).

Contact details for the SWAC Advisory Group members

Name/Job title	Address	Phone number
A.N.Other Head of Policy	Forestry Commission Scotland Silvan House 231 Corstorphine Road Edinburgh EH12 7AT	0131 334 0303
Les Bryson Head of Operations	Forest Enterprise Scotland Head Office 1 Highlander Way Inverness Business Park Inverness IV2 7GB	01463 232 811
James Simpson Head of Grants and Licences	Forestry Commission Scotland Silvan House 231 Corstorphine Road Edinburgh EH12 7AT	0131 334 0303
Paul Snaith Head of Corporate Services	Forestry Commission Scotland Silvan House 231 Corstorphine Road Edinburgh EH12 7AT	0131 334 0303
Jamie Farquhar National Manager for Scotland	Confederation of Forest Industries 59 George St Edinburgh EH2 2JG	031 240 1410
Chair of UKFPA Harvesting and Contracting Committee Contact via: David Sulman	UK Forest Products Association United Kingdom Forest Products Association Office 14 John Player Building Stirling Enterprise Park Springbank Road Stirling FK7 7RP	01786 449029
Frank MacCulloch Head of Forestry Civil Engineering	Forest Enterprise Scotland Head Office 1 Highlander Way Inverness Business Park Inverness IV2 7GB	01463 232 811
Bruce Nicol Programme Leader, Tree	Northern Research Station Roslin	0131 445 2176

¹⁸ The UNECE Timber Committee (TC) and the FAO European Forestry Commission (EFC) work together to promote sustainable forest management in Europe, the Commonwealth of Independent States (CIS) and North America through their integrated programme of work <http://timber.unece.org/index.php?id=13>

Name/Job title	Address	Phone number
Stability and Climate	Midlothian EH25 9SY	
Johann MacDougall Scottish Government Civil Contingencies Unit	Scottish Resilience 1R St Andrew's House Regent Road EDINBURGH EH1 3DG	0131 244 3032
Sheryl May Head of Communications and Secretariat	Forestry Commission Scotland Silvan House 231 Corstorphine Road Edinburgh EH12 7AT	0131 334 0303
Brian Mahoney Head of Sustainable Forestry & Land Management, FC England	620 Bristol Business Park Coldharbour Lane Bristol S16 1EJ	0117 906 6000
Peter Weston Head of Inventory, Forecasting and Operational Support	Forestry Commission Scotland Silvan House 231 Corstorphine Road Edinburgh EH12 7AT	0131 334 0303
Hugh Clayden Policy Adviser, SFM	Forestry Commission Scotland Silvan House 231 Corstorphine Road Edinburgh EH12 7AT	0131 334 0303

Appendix 4: Issues for consideration by the SWAC when developing the clearance strategy

- **Harvesting resource availability and skills base**

The availability and skills base of contractors to undertake machine harvesting and chainsaw operations may limit the speed and rate of clearance. Measures can be taken however to reduce the scale of this problem and increase resources by restricting normal harvesting operations, the redeployment of existing contract resources onto windblow clearance operations and bringing in additional contractors from outwith the area.

- **Ability of FCS and the private sector to restrict or adjust existing thinning and felling commitments**

Ideally all normal programmes should be suspended to enable resources to be diverted to more urgent areas or to enable new contracts to be negotiated to help achieve the clearance strategy targets. Priority should be given to remove timber lying at stump or at roadside as soon as the transport network is available. The final decisions on these issues will be taken by the SWAC in discussions with the UKFPA and ConFor.

- **Expected rate of deterioration of the timber**

Research shows that pine degrades more rapidly than spruce once felled due to its susceptibility to attack by bark beetles and sap stain fungi (blue stain). Although blue stain has no effect on timber quality, for many end uses blue stained timber is not acceptable due to its appearance. Other species, including spruces, Douglas fir, larches and some broadleaves may degrade at a slower rate, but will still be susceptible to decay where their moisture content remains at elevated levels for prolonged periods. The SWAC should take advice from Forest Research on the latest guidance on windblown timber degradation.

- **Capacity of the timber markets to absorb additional volume**

Following an assessment of the scale of the damage, likely rate of degrade, restriction of normal production and the expected product split, it will be possible to determine the markets required for the windblown timber and the capacity of these markets to absorb additional timber volumes. The SWAC should undertake this assessment to determine the ability of the domestic market to absorb the windblow volume and outline the timescale required. Consideration should also be given to any geographical constraints between the location of the windblown timber and the available markets. The SWAC may also choose to explore the capacity of sawmills and pulp mills to increase production to absorb some of the windblown timber.

When UK market capacity is exceeded it may be necessary to explore export markets. Experience has shown that catastrophic windblow events often effect other parts of Europe, which may also effect the availability of export markets. The UNECE Timber Committee (TC) and the FAO European Forestry Commission will hold information on the extent of the windblown in other European countries.

- **Timber storage and preservation options** (if required)

For previous windblow events in England it has been necessary to use water storage for high quality pine products (green sawlogs) to prevent the development of blue stain and other fungal decay. The practical limiting factors are the availability of bulk storage sites, the economic haulage distance from the forest to the storage site, and availability of harvesting resource to process the timber before it degrades. Spruce can be successfully stored under water but the economic viability of this may be limited. Forestry Commission Bulletin 117: Water storage of timber: experience in Britain¹⁹ gives further guidance on this issue. It is unlikely that the bulk storage of high-grade timber will be required in Scotland due to the different climatic conditions to England. The SWAC will be responsible for assessing any storage requirements and should take advice from Forest Research on the latest guidance on the storage of timber.

- **Financial considerations**

Experience from past catastrophic windblow events has shown that it is probable that timber industry representatives will lobby the Government for subsidies to assist with the clearance, haulage and restocking operations. Any subsidies will most likely be paid to the private sector and will not be available to Forestry Commission Scotland.

- **Health and safety**

Harvesting windblown wood is extremely dangerous work (much more dangerous than normal forest harvesting), and should only be carried out by fully trained and properly equipped professionals. Safe working practices requires well-defined working methods and organisation, and adequate tools and equipment. Technical Development Branch should be consulted on the safe working methods for dealing with windblow and the Health and Safety Advisory Group will be responsible for the provision of help and advice on health and safety matters during the response and recovery stage.

- **Restocking considerations**

The site conditions following catastrophic windblow damage often require the adaptation of normal establishment techniques either due to pressure on resources or because of the greater quantities of brash, unharvested timber and the presence

19

[http://www.forestresearch.gov.uk/website/publications.nsf/searchpub/?SearchView&Query=\(water+and+storage\)&SearchOrder=4&SearchMax=0&SearchWV=TRUE&SearchThesaurus=TRUE](http://www.forestresearch.gov.uk/website/publications.nsf/searchpub/?SearchView&Query=(water+and+storage)&SearchOrder=4&SearchMax=0&SearchWV=TRUE&SearchThesaurus=TRUE)

of large upturned root plates. These will make access to the site more difficult and will dictate the appropriate establishment technique.

The availability of plants, labour and machinery to carry out site preparation, planting and subsequent maintenance can also be a limitation on the size of programme, which can be undertaken. Careful budgeting for the restocking operations will be required as restock costs can be expected to be higher than for normal restock sites due to the difficult site conditions. Other issues which will require consideration include risk of invasion of vegetation which will be difficult to control, likelihood of natural regeneration of an acceptable species, the opportunity cost of not using the site, and the visual and environmental impact of delaying restocking.

- **Forest planning**

There is likely to be implications for the planning resource where there is a requirement to amend or review Forest Design Plans on the national forest estate and Forest Plans for private sector forests which will need to be carefully managed.

In this planning phase there will be many issues to consider. One key task will be to review forest management adjacent to key utilities (power lines, gas mains etc), recreational facilities, important conservation areas with the aim of increasing the resilience to and reducing the impact of future windblow events.

Appendix 5: Scottish Windblow Contingency Plan owner details

This plan is owned by Forestry Commission Scotland Policy Group and the lead contact is currently Hugh Clayden.

Hugh Clayden
Policy Adviser, Sustainable Forest
Management Forestry Commission
Scotland
Silvan House
231 Corstorphine Road
Edinburgh EH12 7AT

Mobile: 07885 592 014
Office: 0131 334 0303
hugh.clayden@forestry.gsi.gov.uk