

# Management of Natural Disturbances

## Logging Companies

Management

Controlling

Public Placing for Forestry Operations

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# Outline

Need for additional Workforces → Contractors

## Problem Statement

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Salvage logging → More timber to be processed at the same time  
→ Own capacities or regular cooperating partner overextended

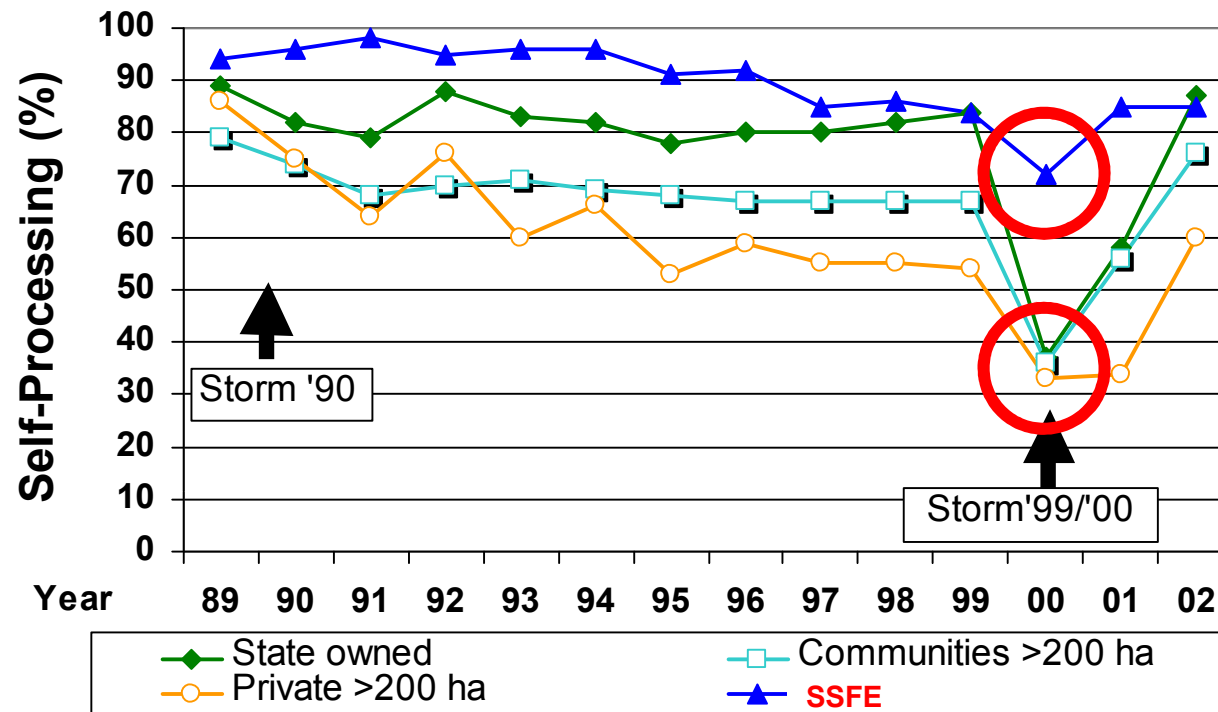
Employment of additional contractors necessary

Number and capacity of contractors in Europe is basically higher than the annual cut

Contractors are only a bottleneck in case of multinational natural disturbances

Not the case in Slovenia

# Increasing Employment of Contractors



Higher share of external manpower

→ Increased span of control

Increase in workload for managers for controlling

Limitation to 2-3 external working groups / district ranger.  
Take your time! Aim for quality and security over speed.

Reduce dynamics !

## Experiences after Storm “Lothar” I

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- Dissatisfaction with contractors from other regions and especially from other countries [9]
- Language problems – weak communication [10]
- Contractors, especially sub-contractors, are not trained and partially not equipped for difficult conditions [6]
- Sub – contractors worked with changing teams and sometimes 10 days in a row [4]
- Bad experiences with unknown contractors
  - poor quality [4]
  - untrustworthy [3]
  - poor education and training [2]
  - unplanned change of working areas [3]
- OSH regulations partially disregarded, personal protective equipment partially missing and / or insufficient[4]

## Experiences after Storm “Lothar” II

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- In case of the employment of subcontractors contact persons were partially missing
- There was sometimes, especially at the beginning of the campaign, a feeling that contractors are in a dominant position,
- Fear to dismiss contractors
- During the salvage logging a relevant number of contractors were dismissed
- Contractors partially overwhelmed
- Sometimes processing worked faster than skidding → logistical problems
- Contractors had partially additional options for timber selling

## Experiences after Storm “Lothar” III

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- Competition between forest regions / districts in hiring contractors increased the prices notable (see below)
- Exchange of experiences between forest regions / districts facilitates the coordination and controlling of contractors
- Cooperation and exchange of views about best practice procedures notably increases the efficiency and effectiveness
- Harvesters were partially more expensive (per m<sup>3</sup>) than the traditional processing by chainsaw
- Easily available contractors are usually not the best
- After the end of a contract the following process steps are crucial:
  - Intensive briefing in respect of working procedures
  - Intensive briefing in respect of quality standards
  - Detailed regulation about the kind of timber measurement (as basis for payment of the contractors)

## Recommendations I

- Prefer well-known contractors, who are interested in future contracts
- New contractors should provide references (from colleagues you trust)
- Check all references
- Ask colleagues in less (or non) affected regions for good contractors
- Ask good contractors for recommendations
- First contracts with new contractors: Limited size of the contract (e. g. 5.000 m<sup>3</sup>)
- New contractor- more effort for control needed
- It is more rational to wait and better not to make agreements under time pressure
- The cheapest might not be the most inexpensive contractor. Keep secondary costs in mind.
- General contractors who provide all services (logging, skidding, measurement) are desirable.
- Avoid frequent change of teams and their leaders



# Quality Standards I - Principles

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We are responsible for quality standard.

Only who takes care for high quality work gets it.

We decide about working procedures and machinery,  
not the contractor.

## Quality Standards I - Rules








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1. Concentration of driving on existing or predefined skidding roads
2. Strict prohibition of driving outside of skidding (and main) roads
3. Width of skidding roads has to be limited to 5 m
4. Minimum distance of 40 m between skidding roads on all soils which are susceptible to soil compaction
5. All other soils: Minimum distance 20 m (plain stands), 30 m (mountains)
6. Stabilisation of damaged skidding road prior to new ones
7. Higher costs or loss of timber is justified as long as it can be explained by soil protection
8. No new skidding roads only for reasons of increased efficiency
9. Soil protection law was binding
10. Water framework directive was binding (today even more important)
11. Damages on road infrastructure has to be repaired in the initial stage → later much higher costs








## Quality Standards → Defined Procedures and Machinery <sup>11</sup>

- Manual about efficient and effective working procedures
  - available on the Internet, partially made part of the contracts
  
- The requirements for machinery applied have to fixed in the contracts
  
- Salvage logging requires more power than regular logging operations
  - Especially if wheeled harvesters are utilised

# Quality Standards → Defined Procedures II

Kranzone						Verfahren Nr. <b>2</b>
Abstocken	Entzerren	Entasten	Einschneiden	Rücken	Lagern	
						
Harvester gross 8 – 20 m <sup>3</sup> /h				Tragschlepper 10 – 20 m <sup>3</sup> /h Klemmbank 10 – 30 m <sup>3</sup> /h		
Zwischenblock						
Abstocken	Entzerren	Entasten	Einschneiden	Rücken	Lagern	
						
4 – 12 m <sup>3</sup> /h		Harvester mittel 8 – 15 m <sup>3</sup> /h Harvester gross 12 – 25 m <sup>3</sup> /h		Tragschlepper 10 – 20 m <sup>3</sup> /h Klemmbank 10 – 30 m <sup>3</sup> /h		
<p><b>Einsatzbereich:</b></p> <ul style="list-style-type: none"> <li>- Einzelwürfe, Nester und Flächenschäden</li> <li>- Vorwiegend Nadelholz (Laubholz möglich)</li> </ul> <p><b>Vorteile:</b></p> <ul style="list-style-type: none"> <li>- Reisig auf der Gasse; Schlagräumung grösstenteils ausgeführt</li> <li>- Bodenpfleglichkeit; Fahrlinienabstand &gt; 20 m</li> </ul> <p><b>Nachteile:</b></p> <ul style="list-style-type: none"> <li>- Hoher Organisationsaufwand</li> <li>- Arbeitssicherheit beim manuellen Abstocken</li> <li>- Kosten</li> </ul>						

# Quality Standards → Defined Procedures III

Abstocken	Entzerren	Entasten	Einschneiden	Rücken	Lagern	Verfahren Nr. <b>8</b>
						
3 – 10 m <sup>3</sup> /h						
<p><b>Einsatzbereich:</b></p> <ul style="list-style-type: none"> <li>- Einzelwürfe, Nester und Flächenschäden</li> <li>- Laub- und Nadelholz; kein Schwachholz</li> <li>- Rückegassen- und Maschinenweggelände</li> </ul> <p><b>Vorteile:</b></p> <ul style="list-style-type: none"> <li>- Alle Elemente des Verfahrens sind meist im eigenen Forstbetrieb vorhanden</li> <li>- Einfache Organisation für Sofortmaßnahmen</li> <li>- Fahrlinienabstände &gt; 20 m</li> </ul> <p><b>Nachteile:</b></p> <ul style="list-style-type: none"> <li>- Niedrige Leistung</li> <li>- Arbeitssicherheit</li> </ul>						

# Costs of Logging and Skidding I

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## Logging

BHD	Procedure				
	Nr. 1, 8		Nr. 2, 3, 4, 5, 6, 7, 9, 10		Nr. 11, 12, 13
	Chainsaw		Harvester / combined		Cable crane
	Gradient %		Gradient %		Gradient%
	-30	31-50	-30	31-50	>50
Euro / m <sup>3</sup>					
21-30	43	56,50	41	57,50	102
31-40	48	49	46,50	47	72
>40	46	41	49	50,50	76
Mittelwert	46	45	44	51	83

Cost were at least partially more dominated by market forces than by characteristics of the single operation

# Costs of Logging and Skidding II

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## Logging

Type of Damage	Procedure	Characteristics									
		Topography	N	N	m <sup>3</sup> total	m <sup>3</sup> /tree	Processing Min.	Breaks Repair ... Min.	Σ Presence Min.	Output m <sup>3</sup> /h	Costs €/m <sup>3</sup>
			Days	Trees							
Large-scale damage	cutting with chainsaw	slope	15	2.204	1.039	0,47	7.300	1.669	8.969	6,9	20,30
Damage on single trees or small areas	with specialist for cutting	plains	8	988	479	0,48	2.952	558	3.540	8,2	17,04
Large-scale damage	without cutting	plains	1	152	118	0,8	227	57	284	24,9	5,51
		plains	1	332	258	0,8	528	132	660	23,5	6,02
		plains	N.N.	1.840	1.730	0,9	-	-	-	23,2	6,02
Σ i.e. Æ			-	2.324	2.106	0,9	755	189	944	23,9	6,02
Large-scale damage	cutting with chainsaw	plains	1	132	183	1,39	391	98	489	22,5	6,27
		plains	4	984	748	0,76	1.392	312	1.704	26,4	5,26
		plains	2	295	223	0,72	330	83	413	32,3	4,26
Σ bzw. Æ			7	1.411	1.154	0,82	2.113	493	2.606	26,5	5,26

Even if there is scattered type of damage, 8 m<sup>3</sup>/h is possible  
Basically the BHD is the most important driving force for logging costs

## Costs of Logging and Skidding III

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Skidding:

m <sup>3</sup> /tree	Topography	N turns	Skidding distance	Time min/turn	Load / Unload	Output m <sup>3</sup> /h
0,23	Hang	19	600	13,5	21,0	17,0
0,39	Ebene	15	75	3,6	14,8	36,0



# Contracts and Control

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Imperfect contracts → increased risk of imperfect performance and quality

However:

Perfect contracts → no guarantee for perfect work. Intensity of control is crucial

Missing quality has to be discussed immediately  
In case of ongoing problems → Dismissal

# Public Placing for Forestry Operations

Call for Bids and Contracting  
Conditions Using the Example of  
ForstBW

## Table of Content

- Conditions for Applications
- Award
- Duties of the Company
- Duties of the Customer
- Execution of the Work
- Inspection by the Customer
- Acceptance of the Contract Work and Clearing
- Reasons for Withdrawal and Dismissal
- Judicial Detail

## Conditions for Applications

- Tenders can be submitted for a single lot, or groups of lots
- Only single bidders are permitted (no bidding consortium)
- Planned collaborations with sub-contractors have to be revealed as part of the tender
- Suitability of the company has to be proofed beforehand (see duties of the company)
- Restraints of competition is prohibited (no collusions etc.)
- Costs related to the tender preparation are not repaid
- Responses to questions from bidders are made public

## Award

- A binding period for the tenders exists
- The most economically favorable tender is accepted, but
- Tenders with unreasonably high or low offers cannot be accepted
- Announcement and information
  - EU proceeding
    - 10 days before the conclusion of the contract
    - The successful bidder is named
    - Reasons for non-considerations are named
  - National proceeding
    - Bidder has to request information in written form

## Duties of the Company (1)

- Pays **taxes, fees** and **charges**
- Meets all necessary **commercial requirements**
- No ongoing **insolvency proceedings**, no **liquidation**
- Is a member of a **mutual insurance association**
- Possesses an **employer's liability insurance**
- Can provide **permits** for non-EU-employees
- No **illegal employment**
- Is certified by **PEFC** and **FSC**

## Duties of the Company (2)

- Director of operations
  - Communication skills in the local language (written and oral)
  - Always available
  - Authorised to make additional arrangements
- Personnel
  - Expert forestry knowledge required
  - PEFC and FSC qualifications (motor saw)
  - Able to communicate with locals (Rescue Chain)
- Equipment
  - In accordance with prevailing regulations
  - In good and safe conditions

## Duties of the Customer

- Provides a written work assignment and a briefing
- Informs about issues concerning the rescue chain
- Establishes conditions that allow for the conduction of the work
- Gives permission to use forest roads
  - Use of roads at one's own risk
  - Speed-limit (30 km/h)
  - Compliance with traffic regulations



## Execution of the Work

- Official quality requirements of Forst-BW are binding and part of the contract
- Customer is authorised to suspend the work if weather conditions are unfavorable
- Company is required to suspend the work if it is unable to fulfill the quality requirements
  - It has to inform the customer
  - It should use alternative operating techniques if possible (in accordance with the customer)

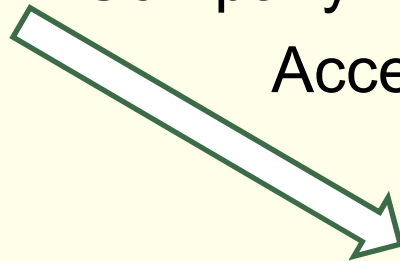
## Inspections by the Customer

- Possible at any time
- Unheralded
- No compensation for the company
- Samples can be taken from hydraulic oil, motor saw oil and fuel
  - On account of the company if unauthorized fluids are detected

## Acceptance and Clearing

- Completion of the work

Company informs customer



Acceptance by customer (no extra payment)

Handing over data for invoice

Invoice in duplicate

- Advance payments for already finished work is possible if contract value is higher than 2,500 EUR
  - Max payment 80% of total value
  - If conventional (free of defects, attention to finish work)

## Reasons for Withdrawal and Dismissal

- Reasons
  - If task has not been finished on time
  - If company has violated contract's provisions
  - If the company has endangered the safety of persons, property or the environment
  - If the company has violated safety regulations
- Form
  - Within five work days after the customer is notified about the incident
  - Written form
- Consequences
  - Company is excluded for the following two tender offers (at least 18 months)
  - No claim on lost profit or financial damage possible

## Judicial Detail

- **Contract penalty**
  - If company does not comply with a term
  - Up to 0.15% of total contract value (but max. 5%)
- **Accountability**
  - Customer and its employees, only in the case of intent or gross negligence
  - Company for all culpable damage
  - Company exempts customer and its employees from all third-party claims (including legal expenses) in connection to the work order
- **Safeguarding provision**
- **Place of jurisdiction and law is the court responsible for the customer**

Thank you very much for your  
attention!

