

Assessing the potential and opportunities of continuous cover forestry in Iceland

Focus on economy, impact of climate change and biodiversity

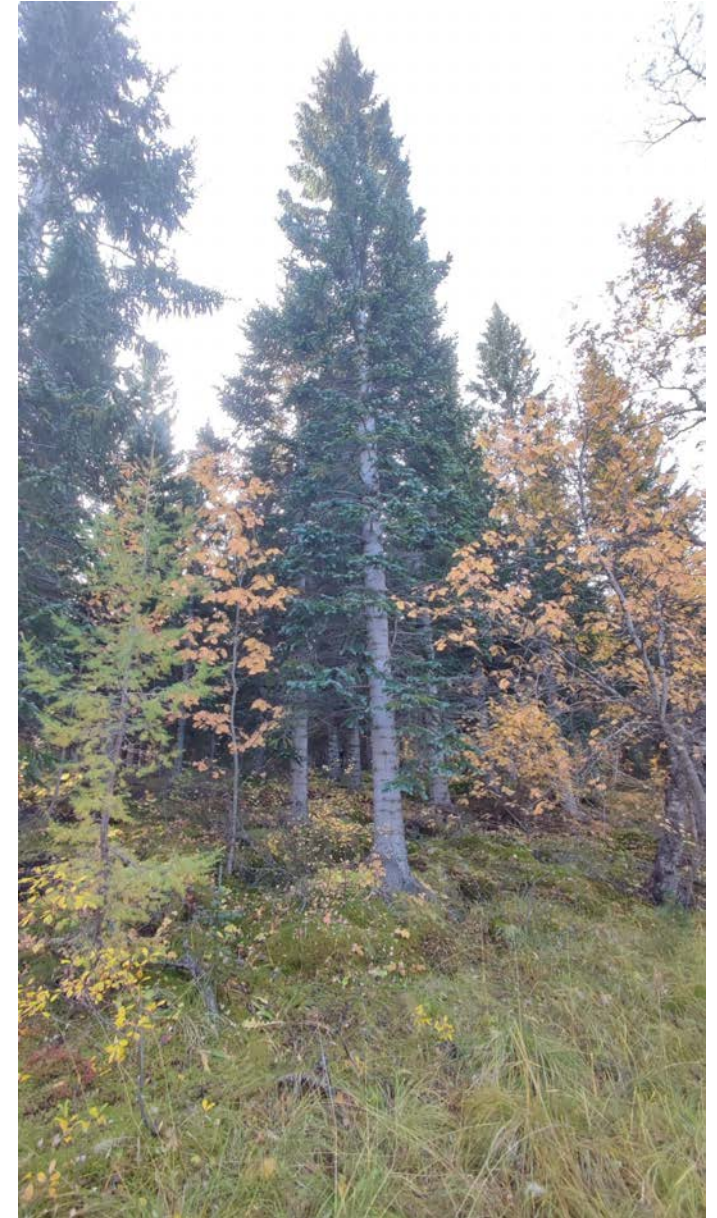
Lucie Fresel

Specialized master "Nature, Forest and Society – International Management"



Summary

- What is continuous cover forestry?
- What are the pros and cons in boreal forests?
- What about Iceland?



East Iceland
Author: Lucie Fresel

What is Continuous Cover Forestry (CCF)?

Definition

- A forest management without clear-cutting
=> smaller and more frequent harvests
- A mixture of trees of different ages and sizes
- A mixture of trees species, when possible
- Natural regeneration, wherever possible =>
Plant only to supplement natural
regeneration or to introduce new species
into the forest



Norway

Author: Esben Kirk Hansen

What is Continuous Cover Forestry (CCF)? Thinning

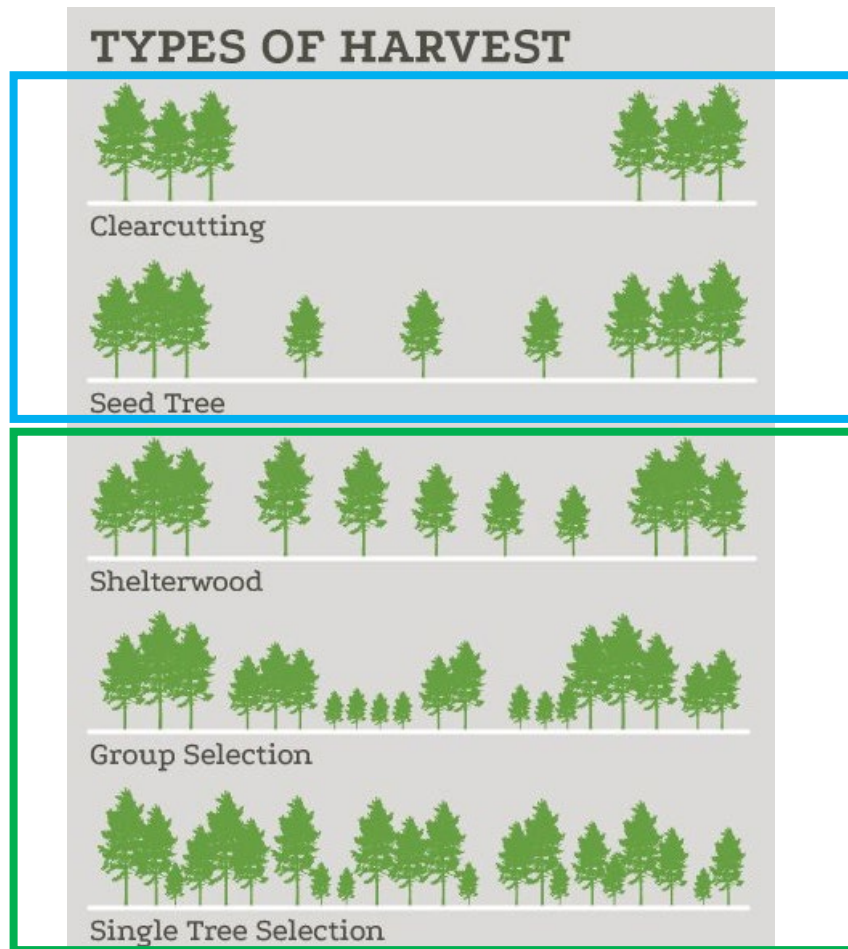
- Thinning mainly based on quality => variable density of trees in the stand



Noway
Author: Sverre Holm

What is Continuous Cover Forestry (CCF)?

Harvesting



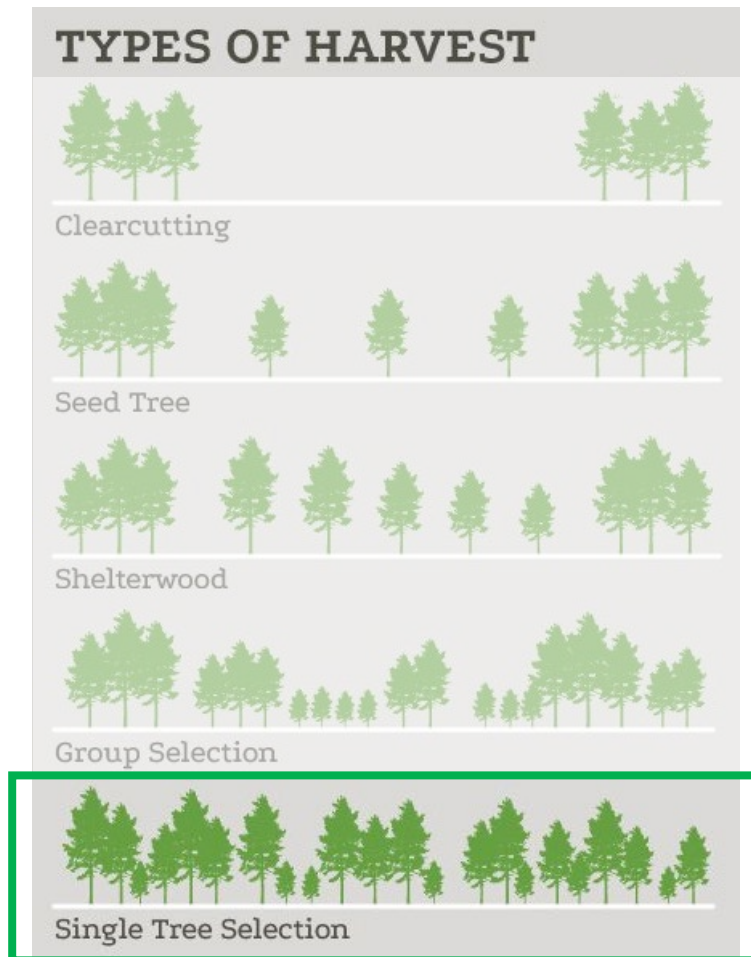
- 3 harvesting methods
 - Single tree selection: cut a single tree, wherever it is in the forest
 - Gap / Group selection: small clear-cut (0.2 ha – 0.5 ha)
 - Shelterwood (controversial): even-aged management where the final cut is made when the natural regeneration looks like a forest (2m – 5m high)

Source: www.walkinthewoodswith.us

Modified by Lucie Fresel

What is Continuous Cover Forestry (CCF)?

Single tree selection



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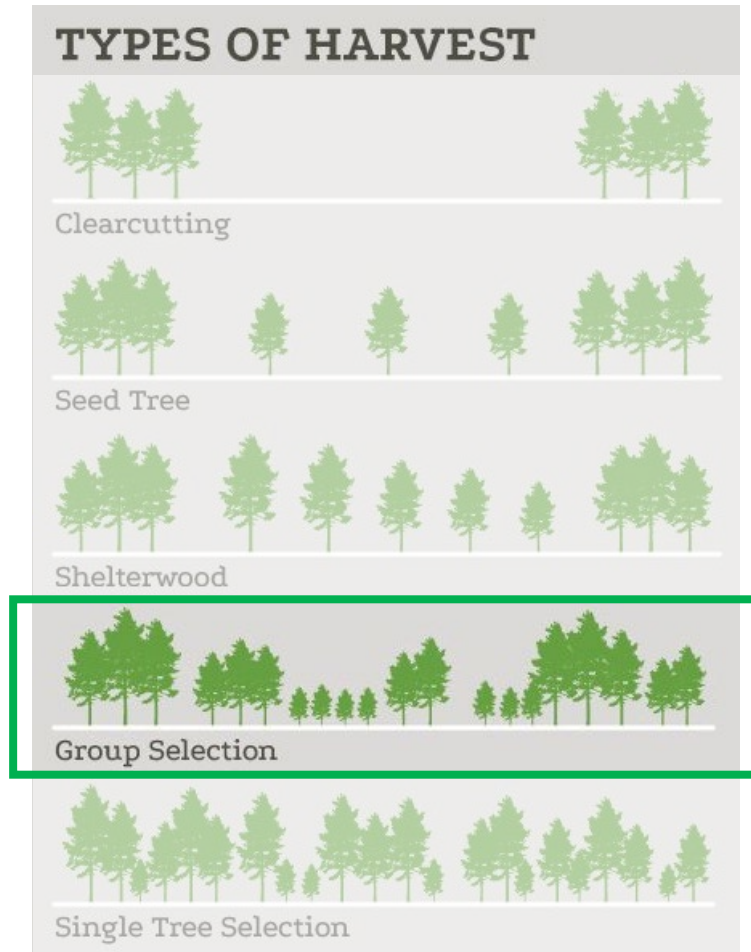


Finland

Author: Riikka Piispanen

What is Continuous Cover Forestry (CCF)?

Gag/ group selection

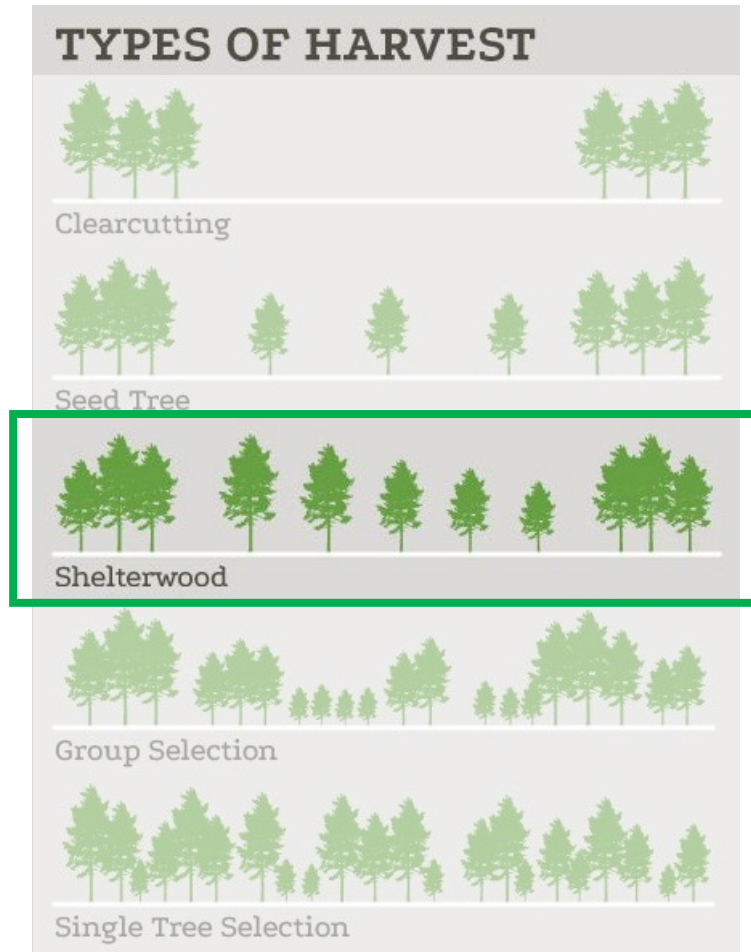


Source: www.walkinthewoodswith.us
Modified by Lucie Fresel



Sweden
Author: Peter Ask

What is Continuous Cover Forestry (CCF)? Shelterwood



Source: www.walkinthewoodswith.us
Modified by Lucie Fresel



Sweden
Author: Peter Ask

What are the pros and cons in boreal forests?

Economy

- Compared to clear-cutting, CCF
 - Has no/lower planting costs
 - Has higher harvesting costs
 - Provides a more constant income
 - Produces more sawlogs
 - May produce less wood
- For most researchers, CCF is more profitable
- For foresters, CCF may be more profitable

➤ Need for more field experience



Sweden
Author: Magnus Bondesson₉

What are the pros and cons in boreal forests?

Impact of climate change

- Wind
 - CCF harvesting methods reduce the risk of wind damages
 - Mixing species improves stability
- Pests and diseases
 - Mixing species spreads the risk
 - Mixing species reduces the damages caused by specialists
- Drought
 - Multi-storey structure reduces the risk of dieback
 - Mixing species optimises water consumption



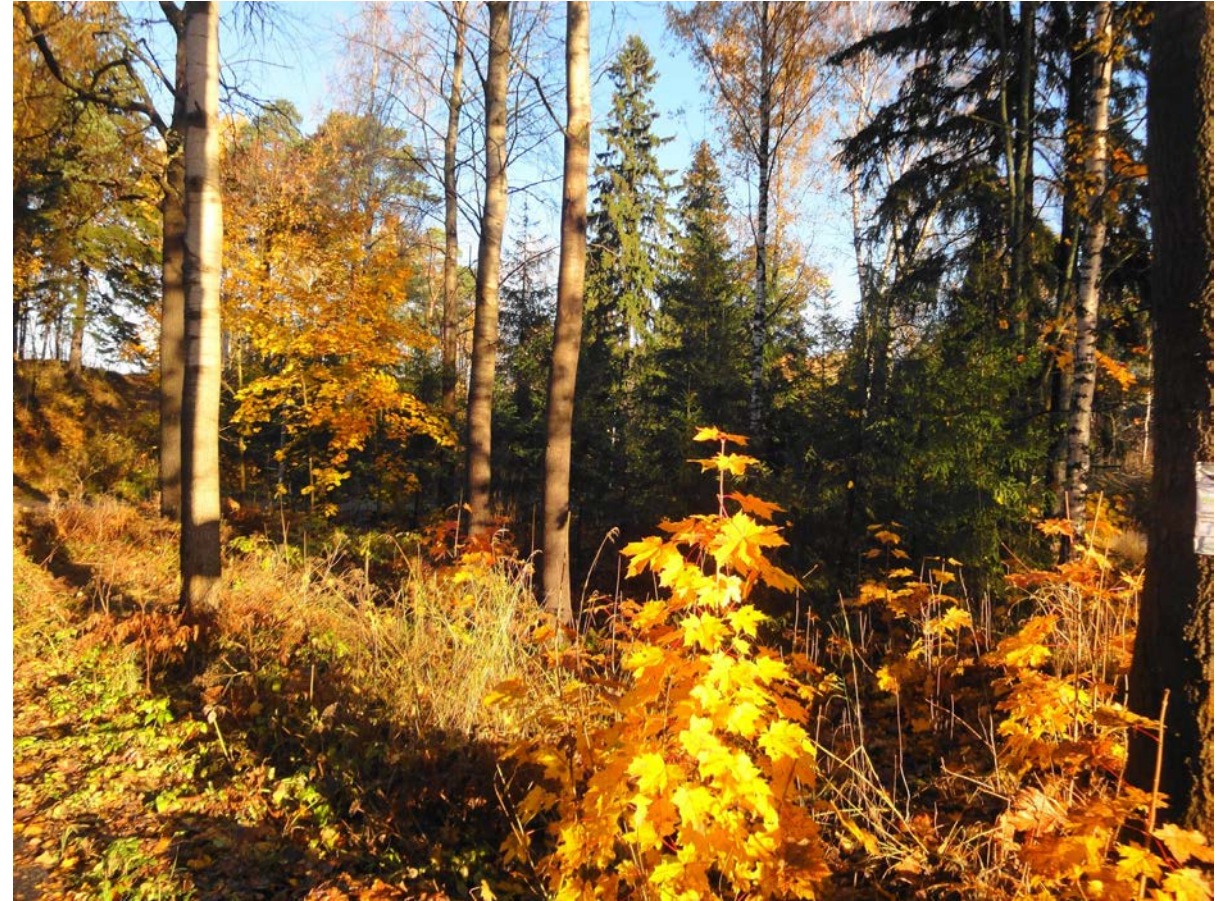
Norway

Author: Esben Kirk Hansen

What are the pros and cons in boreal forests?

Biodiversity

- CCF and clear-cutting are beneficial for different species
- CCF has little impact to the forest ecosystem
- Conservation of old trees and dead wood is essential for biodiversity



Finland

What about Iceland?

Current situation

- Opportunities
 - Natural regeneration is happening
 - Harvesting methods already in use
 - Forests used for both recreational activities and wood production
 - Possibility of using other tree species
- Challenges
 - Improve the CCF experience in Iceland
 - Spend more time in the forests
 - Develop the Icelandic wood market
 - Develop the forest roads



Oak

South Iceland
Author: Hreinn Óskarsson



Beech

South Iceland
Author: Hreinn Óskarsson

What about Iceland?

Next step

- The ideal stand to start CCF
 - With good potential for natural regeneration
 - With good potential for quality trees
 - With good stability
 - With a slight slope
 - With easy access
 - Close to a wood delivery point
 - With high biodiversity or recreational value



East Iceland
Author: Lárus Heiðarsson



Finland
Author: Sauli Valkonen



Sweden
Author: Peter Ask

Takk fyrir!



Norway
Author: Sverre Holm



Norway
Author: Esben Kirk Hansen



Norway
Author: Esben Kirk Hansen



Noway
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Sweden

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