

Sweden – Kronoberg case study

Case study forest area: 662,000 ha

Ownership: 79% private

Forest goods and services:

Timber, pulpwood and biomass, recreation, foraging for mushrooms and berries, hunting, heritage, game production, biodiversity, water and soil conservation.

Special local conditions:

The Right of Public Access is part of the Swedish constitution and allows the general public to roam the land and to pick wild berries, mushrooms and flowers, regardless of land ownership.

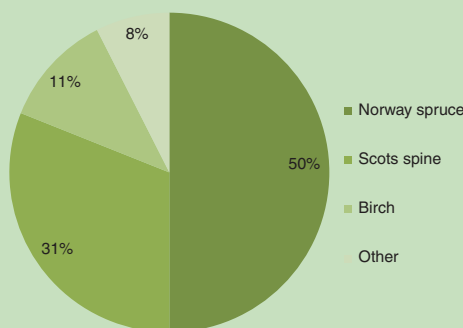
Stakeholders

Land owners, general public, nature conservation agencies, Kronoberg County Board, Swedish Forest Agency, wood and pulp based industry.

Management and governance issues

In 1993 the Swedish Forestry Act was revised. With that revision, the objective of maintaining biodiversity took equal priority with production objectives. Other public interests are also taken into account in forest management. Owners are able to influence the management of their forests to a greater extent than pre 1993. The clear-felling silviculture system is applied on almost all productive forest land. However, according to current regulations planting or measures for natural regeneration must have been completed by the end of the third year after felling or when agricultural land falls into disuse. Forest certification systems have been developed to promote responsible use of forests. Owners wishing to follow the rules may certify their forestry on a voluntary basis. In Sweden a vast majority of the productive forest land is certified.

Proportion of species of Kronoberg

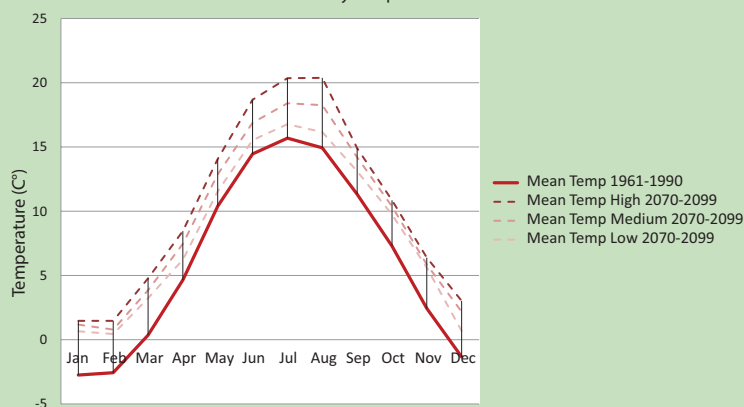




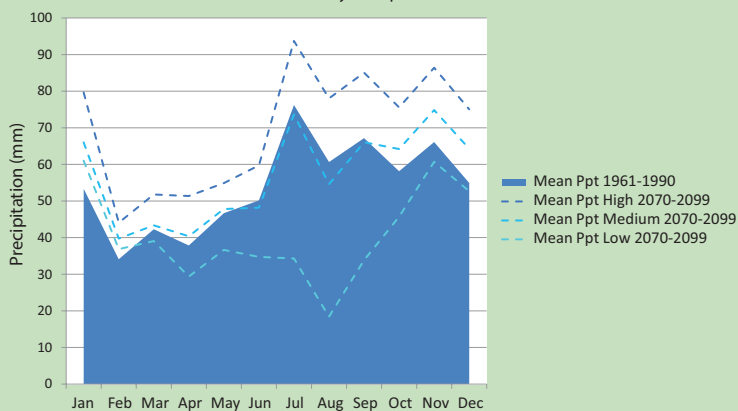
Climate change challenge

With respect to addressing climate change issues, an individuals' strength of belief in local effects of climate change and measures for adaptation are crucial for explaining whether and what adaptive measures are taken. Among Swedish private individual forest owners belief in local effects of climate change appears to be less strong than among Swedish citizens in general.

Mean Monthly Temperature



Mean Monthly Precipitation



Under changing climate, the growth of forests in Sweden is expected to in general increase significantly towards the end of this century unless biotic and abiotic damage increases. The growth of Norway spruce is expected to suffer from water stress especially in south-eastern Sweden on sites with low water-holding capacity.



Photo: Mikael Andersson.



Photo: Kristina Blennow.

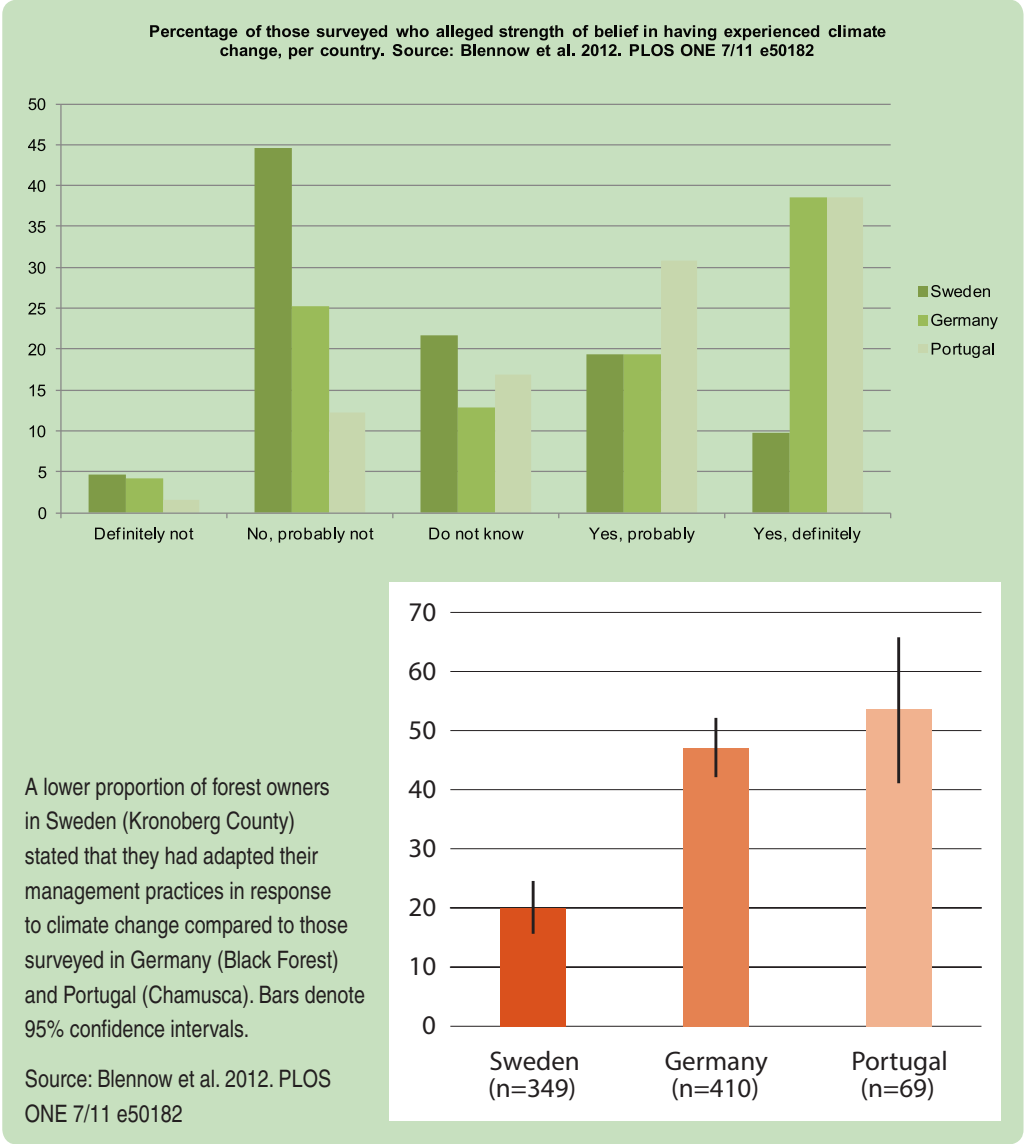
The susceptibility of the forest to wind is expected to increase under a warmer climate and maintained management regime. The future wind climate is uncertain, but it cannot be ruled out that the windiness will increase in which case the probability of wind damage will increase further.

Climate change may result in shorter winters which would also make forests more susceptible to wind.



Photo: Martin Ahlström.

When forest owners believe in and see the effects of climate change, they are more likely to have taken adaptive measures. These two personal factors almost completely explain and predict forest owners’ adaptation to climate change.



Conclusion

The probability of wind damage to forests can be decreased by spatial and temporal forest planning, the choice of tree species, adapted thinning regime, and reduced length of the rotation period. Communicating evidence of climate change and its effects is crucial to facilitate adaptation.