

2013-04

Redogörelse för Erik Stenströms Stiftelse för Ekskogsbrukets främjande

2015-01-09

Projekt "Management of single oak trees under pine canopy"

The research project was successfully carried out during 2014 and will finish in April 2015. The reason for the prolongation is the delayed start of the second master work. The main achievements during the year 2014 are one submitted and one written manuscript, one finished master thesis and one master thesis on its way, participation in scientific conferences, and a field excursion with forest owners and practitioners from south Sweden (see box below for the list achievements). The re-measurements of the oak trees and regeneration in the study stand in Tönnersjöheden (Halland) were carried out according to the proposed schedule. Participation in conferences, article writing and excursion were also accomplished according to schedule.

- Re-measurement of oak trees, competition and crown size, and of oak seedlings, light and ground vegetation
- Master theses (1. http://stud.epsilon.slu.se/7425/7/balster_r_141020.pdf; 2. Single oak trees and diameter growth in relation to competition)
- Participation in two scientific conferences (1. "Forest landscape mosaics: disturbance, restoration and management" in Tartu in Aug about canopy gaps and stand development of the study stand and manuscript submission to the Special issue of the conference in the Can J For Res, back with major revision; 2. "8th IUFRO Conference on Forest Vegetation Management" in Halmstad in Aug about the effect of single-tree harvest and soil preparation on the natural establishment of various tree species of the study stand and written manuscript for the planned special issue of the conference - unfortunately, special issue was cancelled before Christmas)
- Excursion in Tönnersjöheden about "Oak management and single oak trees in mixed stands" on Sept 24 with satisfied 30 participants from south Sweden and Stockholm

The main results are an age distribution of oak trees ranging from 38 to 68 years with a range of dbh from 10 to 30 cm. The maximum diameter growth of the 300 oak trees during the period 2006-2013 was 9 cm. While many suppressed oak trees in the unmanaged forest died or grew only 0-1 cm during the whole period, vital oak trees in the thinned forest grew 5-7 cm during the eight years of observation. In addition, we found 15-20% larger crown sizes of the oak trees with no Norway spruce trees among their three nearest neighbors. The influence of site effects and stand density is analyzed within the ongoing second master work. - Another interesting result is the significantly higher occurrence of small oak seedlings in both, *Vaccinium myrtillus*-dominated vegetation, and in forest canopy gaps on light spots with less than 33% canopy coverage.

In addition to the proposed project, an opportunity to investigate pine-beech stands was used by a European research project on the annual growth rates of both species in mixed and pure stands under the influence of climate change. This collaboration will also result in at least one scientific publication and another master work at our department with special focus on south Swedish conditions.

Finally, also in line with the aim of your foundation, another publication about the landscape laboratory in Snögeholm with special consideration of oak in mixed forest stands was published. The summary is available at <http://dx.doi.org/10.1080/02827581.2015.1005127>, the full text can be requested via Email (Lars.drossler@slu.se).

Jag vill tacka Erik Stenströms stiftelsen för finansiellt stöd och intresse i mitt forskningstema och hoppas att jag kunde nöja er med mitt arbete! Vänliga hälsningar,

