

The activity of European spruce bark beetle *Ips typographus* (L.) inside the Boubín natural forest core area and in adjacent forests after the Emma wind disturbance

Specialized map set

1. Boubín natural forest and surrounding forests – species structure

Main map displays the beech dominance in Boubín natural forest core area and several southern forest stands. Beech prevails mainly in mixtures (with spruce and fir). But spruce dominates nearly all the stands around the core, particularly in mixtures. Only minor parts represent other species. Minor map (left) illustrates the same topic just in core area at regular grid (size of 50m). Data have origin in stem position map. Beech dominates in the center and southern part of the core. Spruce dominates at water affected areas. Minor map (below right) shows spruce proportion on total standing stems volume at the same regular grid. High values of spruce proportion fit to spruce dominance displayed in the previous minor map.

Key words:

Boubín natural forest, core area, dominance, spruce, beech

2. Boubín natural forest surroundings – forest stands registered damages by wind and European spruce bark beetle (2006–2011)

Set of six maps represent six years of both wind and bark beetle damage registry. Cartograms were constructed to display total timber volume of salvage cutting caused by wind. Carthodiagrams show show total timber volume of felling caused by bark beetle. Three colors of diagram distinguish kinds of felling – primarily affected trees, secondarily affected windfallen trees, horizontal traps. Wind damages culminated in 2007 and then decreased. Damages by bark beetle peaked in 2008-2009, in 2010 (horizontal traps) respectively. Appended graphs (below) show three types of bark beetle damages and their development through years 2005–2014.

Key words:

Boubín natural forest surroundings, wind, bark beetle, timber volume

3. Boubín natural forest – mean grab of European spruce bark beetle adults to pheromone traps (2006–2011)

Set of four maps represent four years of bark beetle grab registry. Cartograms were constructed to display mean number of bark beetle individuals caught into pheromone traps. Circle point sign (size) show total number of pheromone traps installed. Bark beetle grab culminated in 2009, one season after Emma hurricane flown over Boubin forests. Four climographs follow the map set representing the years of trap registry. Collective graph (below) illustrates number of bark beetle individuals grabbed through the decades of a season (April 21st – September 20th). Each year (2008–2011) has its color. Nearly each year the number culminated in decade of May 11th to 20th.

Key words:

Boubín natural forest, bark beetle, pheromone trap, grab

4. Boubín natural forest core area – wind disturbance location and European spruce bark beetle dispersion (2008-2011)

Stem position map was created as a result of census in 2010 (inside 46ha of core area). All bark beetle affected individual trees are displayed. Color distinguishes year when tree attacked (2008-2011) and graph (below left) helps to read total number of affected spruce individuals. Map user can differentiate several (6-8) nests of affected spruces with the largest one by the creek confluence close to center lower border. Minor map (above right) brings information about recalculated lying spruce timber volume across regular grid (size 10m) in 2010. Only stems with decomposition level „hard“ were evaluated as the possible convenient environment for bark beetle.

Key words:

Boubín natural forest core area, spruce, bark beetle, affected tree