

Online Material

APPENDIX A.

Table A. Mortality of non-abundant tree species in the Oranienbaum Park over the 22-year period (1988–2003). The two rates given are for condition class I and II trees (class III excluded) and for all trees alive in 1981 (in brackets). Respectively, n is given for class I and II trees and for all trees alive in 1981 (in brackets).

Species	Annual mortality rate,%	Age, years (in 2003)	N
<i>Abies sibirica</i> Ledeb.	0.8 (0.9)	94 ± 18	130 (132)
<i>Alnus incana</i> (L.) Moench.	4.2 (4.5)	50 ± 29	87 (99)
<i>Betula pendula</i> Roth.	0.2 (0.2)	77 ± 33	108 (108)
<i>Larix sibirica</i> Ledeb.	0.2 (0.3)	135 ± 56	156 (158)
<i>Malus domestica</i> Borkh.	1.1 (1.2)	35 ± 11	149 (151)
<i>Padus avium</i> Mill.	0.2 (0.2)	35 ± 8	137 (141)
<i>Populus alba</i> L.	5.1 (5.3)	85 ± 35	128 (132)
<i>Salix caprea</i> L.	4.8 (4.9)	41 ± 14	92 (93)
<i>Sorbus aucuparia</i> L.	1.4 (1.8)	40 ± 15	110 (121)
<i>Ulmus glarba</i> Huds.	1.3 (1.5)	77 ± 43	175 (186)
<i>Ulmus laevis</i> Pall.	1.2 (1.3)	73 ± 36	113 (119)

APPENDIX B.

Short history of the park

The foundation of the park and palace ensemble dates back to 1711, when Alexander Menshikov, a prominent statesman and a loyal supporter of the Tsar Peter the Ist, started constructing his residence on the southern coast of the Gulf of Finland (Gorbatenko, 2001). The construction of the palaces and the establishment of the Oranienbaum Park took place at the same time. The original park, which is today known as the Lower Park, was a typical example of the so-called *regular* parks, commonly designed in Russia during the first half of the 18th century. J. Bush was the leading designer of the Lower Park. Later, during the time period of Ekaterina the Great (around 1770), adjacent lands were added to the park and became known as the Upper Park. The Upper Park was originally laid out according to the plans of the famous architect and landscape designer A. Rinaldi, together with J. Bush and I. Zeifertits. The Upper Park is a rare example of the *regular* and *landscape* approaches in the park design. Its appearance, preserved until the present day, was completed in the middle of the 19th century. Limited information is available about forest management in the park prior to the coup d'état in 1917, although available historical accounts indicate that the park was apparently managed to maintain its original species composition (Gorbatenko, 2001). The park vegetation was disturbed considerably during the military operations of World War II. It is known that removal of the dead canopy trees took place in the park at the end of the war in 1945. Over the course of the 20th century, and especially during its second half, no silvicultural activities were undertaken in the park forests. A number of prominent architectural monuments are located within the park.