Tab. 1: Description of the study sites in the research areas Bełchatów (BE), Puszcza Knyszyńska (PK), and Ruhr valley (RV).

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| **Study site** | **Description** |
| **Research area Bełchatów** |
| BE1 | Plantation on ash heap, dominated by robinia (*Robinia pseudoacacia*), sea buckthorn (*Hippophäe rhamnoides*),and Siberian peashrub (*Caragana arborescens*), about 8 years old in 2004 |
| BE2 | Plantation on ash heap, dominated by birch (*Betula* sp.) and pine (*Pinus sylvestris*), about 10 years old in 2004 |
| BE3 | Plantation on ash heap, dominated by robinia (*Robinia pseudoacacia*)and sea buckthorn (*Hippophäe rhamnoides*), about 12 years old in 2004 |
| BE4 | Pine (*Pinus sylvestis*) plantation on spoil heap, 3 years old in 2004 |
| BE5 | Pine (*Pinus sylvestis*) plantation on spoil heap, 10 years old in 2004 |
| BE6 | Pine (*Pinus sylvestis*) plantation on spoil heap, 14 years old in 2004 |
| BE7 | Pine (*Pinus sylvestis*) plantation on spoil heap, 21 years old in 2004 |
| **Research area Puszcza Knyszyńska** |
| PK1 | Black alder (*Alnus glutinosa*) stand with spruce (*Picea abies*), 3 years old in 2007 |
| PK2 | Black alder (*Alnus glutinosa*) stand with spruce (*Picea abies*), birch (*Betula pubescens*), and oak (*Quercus robur*), 3 years old in 2007 |
| PK3 | Black alder (*Alnus glutinosa*) stand with spruce (*Picea abies*) and oak (*Quercus robur*), 3 years old in 2007 |
| PK4 | Black alder (*Alnus glutinosa*) stand with spruce (*Picea abies*), sporadically oak (*Quercus robur*), 4 years old in 2007 |
| PK5 | Black alder (*Alnus glutinosa*) stand with spruce (*Picea abies*) and ash (*Fraxinus excelsior*), 7 years old in 2007 |
| PK6 | Black alder (*Alnus glutinosa*) and spruce (*Picea abies*) stand, with ash (*Fraxinus excelsior*) and oak (*Quercus robur*), 8 years old in 2007 |
| PK7 | Oak (*Quercus robur*) and black alder (*Alnus glutinosa*) stand with spruce (*Picea abies*) and ash (*Fraxinus excelsior*), 13 years old in 2007 |
| PK8 | Mixed stand with black alder (*Alnus glutinosa*), oak (*Quercus robur*), hornbeam (*Carpinus betulus*), and birch (*Betula pubescens*), sporadically pine (*Pinus sylvestis*), 22 years old in 2007 |
| PK9 | Black alder (*Alnus glutinosa*) stand with birch (*Betula pubescens*), 26 years old in 2007 |
| PK10 | Black alder (*Alnus glutinosa*) stand with birch (*Betula pubescens*), ash (*Fraxinus excelsior*), and spruce (*Picea abies*), 28 years old in 2007 |
| PK11 | Black alder (*Alnus glutinosa*) and birch (*Betula pubescens*) stand with spruce (*Picea abies*) and ash (*Fraxinus excelsior*), 29 years old in 2007 |
| PK12 | Black alder (*Alnus glutinosa*) stand with birch (*Betula pubescens*), 46 years old in 2007 |
| PK13 | Birch (*Betula pubescens*) and black alder (*Alnus glutinosa*) stand with spruce (*Picea abies*), 46 years old in 2007 |
| PK14 | Spruce (*Picea abies*) stand with pine (*Pinus sylvestis*) and black alder (*Alnus glutinosa*), sporadically oak (*Quercus robur*) and birch (*Betula pubescens*), 68 years old in 2007 |
| PK15 | Black alder (*Alnus glutinosa*) stand with spruce (*Picea abies*) and birch (*Betula pubescens*), 73 years old in 2007 |
| PK16 | Black alder (*Alnus glutinosa*) stand with spruce (*Picea abies*), sporadically birch (*Betula pubescens*) and ash (*Fraxinus excelsior*), 78 years old in 2007 |
| PK17 | Spruce (*Picea abies*) and black alder (*Alnus glutinosa*) stand with birch (*Betula pubescens*) and ash (*Fraxinus excelsior*), sporadically aspen (*Populus tremula*) and lime (*Tilia cordata*), 81 years old in 2007 |
| PK18 | Black alder (*Alnus glutinosa*) stand with spruce (*Picea abies*) and birch (*Betula pubescens*), sporadically pine (*Pinus sylvestis*), 83 years old in 2007 |
| PK19 | Spruce (*Picea abies*) stand with birch (*Betula pubescens*), pine (*Pinus sylvestis*), and aspen (*Populus tremula*), 91 years old in 2007 |
| PK20 | Black alder (*Alnus glutinosa*) and spruce (*Picea abies*) stand with birch (*Betula pubescens*) and ash (*Fraxinus excelsior*), 93 years old in 2007 |
| PK21 | Spruce (*Picea abies*) stand with black alder (*Alnus glutinosa*), sporadically pine (*Pinus sylvestis*), 93 years old in 2007 |
| PK22 | Spruce (*Picea abies*) stand with pine (*Pinus sylvestis*) and black alder (*Alnus glutinosa*), sporadically birch (*Betula pubescens*) and ash (*Fraxinus excelsior*), 101 years old in 2007 |
| PK23 | Spruce (*Picea abies*) stand with black alder (*Alnus glutinosa*) and birch (*Betula pubescens*), sporadically aspen (*Populus tremula*) and ash (*Fraxinus excelsior*), 103 years old in 2007 |
| PK24 | Black alder (*Alnus glutinosa*) stand with few spruce (*Picea abies*), 127 years old in 2007 |
| **Research area Ruhr valley** |
| RV1 | Beech (*Fagus sylvatica*) stand with larch (*Larix* sp.) and cherry (*Prunus* sp.), 1 year old in 2009 |
| RV2 | Beech (*Fagus sylvatica*) stand with 5 % cherry (*Prunus* sp.), 1 year old in 2009 |
| RV3 | Beech (*Fagus sylvatica*) stand, 3 years old in 2009 |
| RV4 | Beech (*Fagus sylvatica*) stand, 4 years old in 2009 |
| RV5 | Beech (*Fagus sylvatica*) stand, 13 years old in 2009 |
| RV6 | Beech (*Fagus sylvatica*) stand, 20 years old in 2009 |
| RV7 | Beech (*Fagus sylvatica*) stand with 10 % larch (*Larix* sp.), 26 years old in 2009 |
| RV8 | Beech (*Fagus sylvatica*) stand with larch (*Larix* sp.) and cherry (*Prunus* sp.), 28 year old in 2009 |
| RV9 | Beech (*Fagus sylvatica*) stand with 10 % larch (*Larix* sp.), 52 years old in 2009 |
| RV10 | Beech (*Fagus sylvatica*) stand with 10 % oak (*Quercus* sp.), 26 years old in 2009 |
| RV11 | Beech (*Fagus sylvatica*) stand, 146 years old with 10-year-old byplants in 2009 |
| RV12 | Beech (*Fagus sylvatica*) stand, 146 years old in 2009 |
| RV13 | Beech (*Fagus sylvatica*) stand with 10 % oak (*Quercus* sp.), 152 years old in 2009 |
| RV14 | Beech (*Fagus sylvatica*) stand, 165 years old in 2009 |