



### Characterisation of forests distributed in Poznań agglomeration

The total forest area in the Poznań agglomeration in 2008 amounted to 58 143,92 ha, although forest areas in individual communes varied considerably with the smallest area (50,26 ha) in Luboń commune and the largest (7718,74 ha) – in Murowana Goślina commune. Forests make up 21,2% of the total agglomeration area which shows that its woodiness is lower than the average woodiness of the Wielkopolska Voivodeship (25,6%) and significantly lower in comparison with the mean country woodiness (29,0%). Woodiness of individual communes of the discussed agglomeration is characterised by large variability ranging from 2,2% (Kleszczewo commune) to 51,6% (Puszczykowo commune). Areas comprising communes of high woodiness can be found in northern and southern parts of the agglomeration which is associated with the occurrence in those regions of large, compact forest complexes; in the north, it is Zielonka Primeval Forest and in the south – Wielkopolska National Park.

The total public forest area in Poznań agglomeration in 2008 amounted to 55 905,58 ha, i.e. 92,9% of all forest land in the discussed agglomeration. The proportion of these kinds of forests for the entire Wielkopolska Voivodeship is slightly lower amounting to 89,8%, whereas for the whole country, it is considerably lower reaching only 82,4%. When analysing all public forests, it should be emphasised that their largest proportion (77,3%) is administered by a State Forest Enterprise known as the State Forests, while 4,9% is administered by communes and the remaining area of public forest land covers the area of 17,7%. Private forests in Poznań agglomeration occur on the area of 4 296,80 ha and constitute 7,1% of all forest area. This value differs from data for the entire Wielkopolska Voivodeship (10,7%) as well as for the entire country (17,6%).

Forests growing in the region of Poznań agglomeration are administered by: 7 different forest districts (situated within boundaries of the Regional Direction of State Forests (RDSF) with its headquarters in Poznań), Wielkopolska National Park, Zielonka Experimental Forest District as well as Municipal Green Area Board in Poznań.

Forests of Poznań agglomeration grow on fertile sites and include: 5,17% of coniferous

sites, 25,47% - mixed coniferous sites, 36,98% - mixed broad-leaved forest sites, 27,41% - broad-leaved sites and 4,97% - alder and riparian forest sites. Conifers are predominant in stand species composition (the proportion of up to 71,00%) with pine as the dominant species (69,34%). Broad-leaved tree species are represented less frequently (29,00%) with oak (12,78%) occurring as a dominant species. The age of most tree-stands ranges from 41-60 years (27,5%), although stands over 100 years of age are also common (17,4%). Due to the position of the discussed forests, they fulfil primarily protective functions (share – 70,4%). Commercial forests constitute 28,2% of the total forest area of the Poznań agglomeration and the area of reservations is very small (1,4%) [11].

### Threats to forests in the agglomeration region

From the point of view of foresters, the following can be considered as the most serious hazards to which forests in Poznań agglomeration are exposed:

- advancing processes of urbanisation resulting in growing forest areas being appropriated for housing and recreation purposes,
- increasingly troublesome neighbourhood of communication routes generating more and more noise, collisions of vehicles with wild animals, fires along railway lines and roads and contamination of the forest environment with noxious compounds,
- industrial contamination of the atmospheric air mainly from the City of Poznań and local heating plants [2, 3, 4, 6, 7, 8, 12, 13, 14],
- increased tourism and recreation in forests causing damages to forest environment (destruction of forest infrastructure, breaking trees and bushes, trampling forest undergrowth, noise, frightening wildlife, littering forests, starting fires),
- problems of quad, motorcycle and car owners as well as amateurs of horse riding in forests who, despite legal ban, can be seen in backwoods more and more frequently,
- forest damages (timber, seedling and Christmas tree thefts, poaching, de-

- destruction of inedible and poisonous mushrooms, theft of protected plants),
- increased fire hazard following purposeful or accidental starting of forest fires,
- forest littering.

### Problems faced by foresters

Foresters report a number of problems part of which is associated with specific threats to forest ecosystems. The most important ones include:

- conflicts with residents of housing settlements and owners of gardening plots neighbouring with forests (example sources of conflicts include: dumping of wastes in forests; cutting or leaving trees that restrict sunlight access to property or 'litter' the property with leaves in autumn; cars, motorcycles, quads using forests as access road to property; unauthorised house construction),
- disputes with communities resulting from misunderstandings of work carried out in forests, mainly operations connected with clear cuttings,
- construction of modern transportation routes (motorways, expressways) is realised at the expense of forests since it is easier for the investor to carry out road construction taking with one administrator (State Forests) – decisions, in this regard, are taken at a higher level,
- disputes with tourists regarding such 'trifles' as: letting dogs loose in forests, burning fires in places where fires are forbidden, horse riding in forests, destruction of protected plants, devastation of touristic-recreational infrastructure,
- problems with timber thieves and poachers,
- high costs of construction and maintenance of touristic-recreational infrastructure resulting mainly from its frequent devastation by pseudo-tourists.

### Cooperation of foresters with communes

The cooperation of foresters with the communes in the region of the discussed agglomeration concerns the following areas:

- payment by individual forest districts taxes and local rates to commune budgets,
- mutual information about planned directions of activities, consultation of proposed legislation and establishment of common advisory teams and initiatives,
- signing agreements concerning lease of containers, collection, transport and disposal of wastes at dumping-grounds,
- establishment of bicycle, foot and horse routes,
- establishment of educational, sport and recreational paths,
- maintenance of touristic facilities in forests, marking of paths and routes,
- fire protection of forest areas,
- joint organisation of events for children and youth from local schools (orientation races, school-ends, forest education) as well as mass-events for local commune communities,
- joint participation in national, patriotic and local festivities.

### Touristic-recreational management

Foresters prepared a number of amenities for residents of the discussed agglomeration which allow good rest on forested areas. These facilities include primarily:

- walking and cycling paths, horse routes,
- natural-forest, educational and sport paths,
- forest parkings and rest places,
- camping and tent sites,
- touristic stations,
- touristic-recreational infrastructure (rain shelters, benches, litter baskets, places for bonfires, information tables, sports clearings and playgrouds).

One example of the discussed subject can be the original concept of revitalisation and making accessible to Luboń residents of degraded and destroyed forest areas (total area of 62,06 ha) which was prepared and developed in 2004 by students and workers of the Department of Forest Management of Poznań University of Life Sciences [10].

The elaborated recreational development project of degraded forest areas situated near Luboń Chemical Enterprise S.A. envisages the establishment of a 600 m<sup>2</sup> green gymnasium in which 12 different stands will be located

equipped in appropriate simple and aesthetic facilities characterised by good ergonomic parameters. In addition, a sledge slope was also proposed in a place of considerable elevation. In the case of the touristic management plan, the existing cycling route Poznań-Puszczykowo will be supplemented. The proposal envisages putting up a station roof to be used as a stopping and resting place and tidying up one of clearings (removal of unnecessary bushes, stumps and logs) and placing there some benches, litter baskets, area under roof and marking out a special place where bonfires can be burnt. The plan was to establish a resting clearing with a picturesque view onto the riverside landscape. The proposed educational management project took advantage of the fact that there are, on a relatively small area, numerous instances of damages caused by industrial contamination of atmospheric air and it was proposed to establish a didactic path "*Luboń Forest*" connected with environmental science. The 8-shape path is to run through forest areas and its length is to be approximately 3,5 km. The shape of the path allows establishment of two route variants – shorter and longer intended for younger and older children, respectively. Eight stops with appropriate information notice boards are placed along the path. The path designed in this way may serve children from local schools to illustrate program subjects from such fields as: biology, environmental protection and ecology.

#### **Information about forests on Internet**

The 21<sup>st</sup> century societies frequently use Internet and in order to meet this growing demand not only cities and towns but also communes and forest institutions prepared their own Internet pages. Information found there includes, among others, data about forests. In the case of communes, these data include information about woodiness, forest economy, natural protection, programs of environmental protection as well as about the role of forestry in strategic plans of towns and communes. In the case of forestry institutions, such Internet pages contain information mainly regarding the general description, natural protection, tourism, forest education and science.

However, both the level and quality of information found in Internet vary greatly. In the case of communes, information concerning commune woodiness was corrected in 20 out of

21 units, whereas information regarding forest economy was correct only in the case of 3 communes and this was the worst described element on the examined Internet pages. Activities undertaken with the aim to protect nature were described interestingly by 14 out of 21 communes. Environmental protection programs were evaluated positively for 13 units and negatively for 8 units. Only 4 communes write on their websites about forestry strategies and plans.

In the case of forest units, Internet pages were evaluated very positively because all units (with the exception of one forest district which obtained negative assessment connected with information about its general description) were given positive notes for each piece of information (about general description, nature protection, tourism, forest education and science). This confirms that forest districts are well prepared to inform society at large about their activities.

#### **Educational activities of the RDSF in Poznań**

The Regional Direction of State Forests (RDSF) in Poznań supervises all forest districts operating in Poznań agglomeration. Apart from its attractive, colourful and interesting Internet pages, RDSF undertakes a number of other activities aiming at popularising forestry among general public. One example refers to articles published in a daily newspaper of country-wide circulation dealing, using very clear language, with forest education, significance of forests and their importance. Another interesting instance of RDSF activities is publication of folders presenting 'in a nutshell' the most important information about forests and forestry within the range of operation of this institution. Colourful photos and diagrams as well as simple language make it possible for ordinary citizens to get acquainted with forest problems in their region.

Poznań RDSF also set up its own website. It is simple to operate, clear and colourful and, what is most important, it is regularly updated. The discussed issues deal not only with forests and foresters' work but it is also possible to find information about activities of other institutions associated with forestry (e.g. Forestry Faculty of Poznań University of Life Sciences, Forest Training Centre in Puszczykowo). Even children can find information and competitions intended for them.

### Recapitulations

Forests of Poznań agglomeration fulfil, primarily, protective functions important from the point of view of man and the environment and, therefore, the main task is to protect and maintain the existing compact forest complexes as well as to improve tree stand resistance and health conditions. In order to achieve these ambitious goals, cooperation of towns, communes, foresters and residents of the entire agglomeration is simply indispensable. Forest economy must be managed in ways different from commercial forests taking into consideration the requirements resulting from the domination of non-productive functions (recreation, rest, educational, health, climatic, filtration, landscape, natural, protective). Timber production (production function) should play a secondary role. There is a conviction in Polish social awareness that the main objective of municipal (communal) forests is to provide recreation for local communities and not maximisation of timber production bringing profits to municipal coffers. Even forests administered by State Forests growing close of town borders are perceived by these communities, primarily, as places of rest and recreation.

Several forms of forest and ecological education of local communities are carried out in forest areas of the discussed agglomeration. All forest units situated in the agglomeration are involved, to a greater or lesser extent, in organisation of meetings with children and youth, carrying out mass events and competitions associated with forests. Communes exploit forests in their leaflets and folders emphasising their value and importance. However, their Internet pages require certain corrections and supplementation because information found there is often incomplete or absent.

A separate problem is appropriate preparation of the these forests for the requirements of tourism and recreation which consists, primarily, in finding and marking appropriate sites for places of rest and recreation, parking, camping, paths and providing adequate elements of technical equipment (information boards, signs, fences, litter baskets, toilets, bonfire grates, benches, tables, roofed areas, landscape points etc.). All these elements require individual treatment and approach which will meet basic requirements of aesthetic and forest fire protection as well as execution possibilities of units responsible for forests within town boundaries. This,

naturally, is connected with expenditure which can be shared between foresters and respective communes, especially, in situations when such areas were organised on neighbouring forest and non-forest land, for example a parking lot situated on a non-forest area and recreational clearing in a forest.

Another important issue is the encroachment into forests of motorisation, especially quads and motorbikes. It seems advisable to organise special areas intended for onerous and troublesome forms of recreation away from forest, for example, in areas of unused or worked out pits or waste land. This, however, requires good will and cooperation of towns, communes and local residents.

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**List of Internet pages of forest units.**

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5. [www.lasypanstwowe.poznan.pl/oborniki](http://www.lasypanstwowe.poznan.pl/oborniki)
6. [www.lasypanstwowe.poznan.pl/piaski](http://www.lasypanstwowe.poznan.pl/piaski)
7. [www.lasypanstwowe.poznan.pl/pniewy](http://www.lasypanstwowe.poznan.pl/pniewy)
8. [www.lzdmg.com.pl](http://www.lzdmg.com.pl)
9. [www.zzmpoznan.p](http://www.zzmpoznan.p)
10. [www.poznan.lasy.gov.pl](http://www.poznan.lasy.gov.pl)
11. [www.buligl.poznan.pl](http://www.buligl.poznan.pl)
12. [www.up.poznan.pl/wles/](http://www.up.poznan.pl/wles/)

**List of Internet pages of communes and towns of Poznań agglomeration.**

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4. [www.kleszczewo.pl](http://www.kleszczewo.pl)
5. [www.komorniki.pl](http://www.komorniki.pl)
6. [www.kostrzyn.wlkp.pl](http://www.kostrzyn.wlkp.pl)
7. [www.kornik.pl](http://www.kornik.pl)
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9. [www.mosina.pl](http://www.mosina.pl)
10. [www.murowana-goslina.pl](http://www.murowana-goslina.pl)
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17. [www.portal.suchylas.pl](http://www.portal.suchylas.pl)
18. [www.swarzedz.pl](http://www.swarzedz.pl)
19. [www.szamotuly.pl](http://www.szamotuly.pl)
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