

**THE ERGONOMIC ANALYSIS AND ESTIMATION OF
FORESTS ADAPTATION FOR PEOPLE ON
WHEELCHAIRS**

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The disabled have the full right to

„participate in the public, social, cultural, artist, sport life and recreation with the harmony with their needs and interests”

Card of Substantially Handicapped §1 p 10

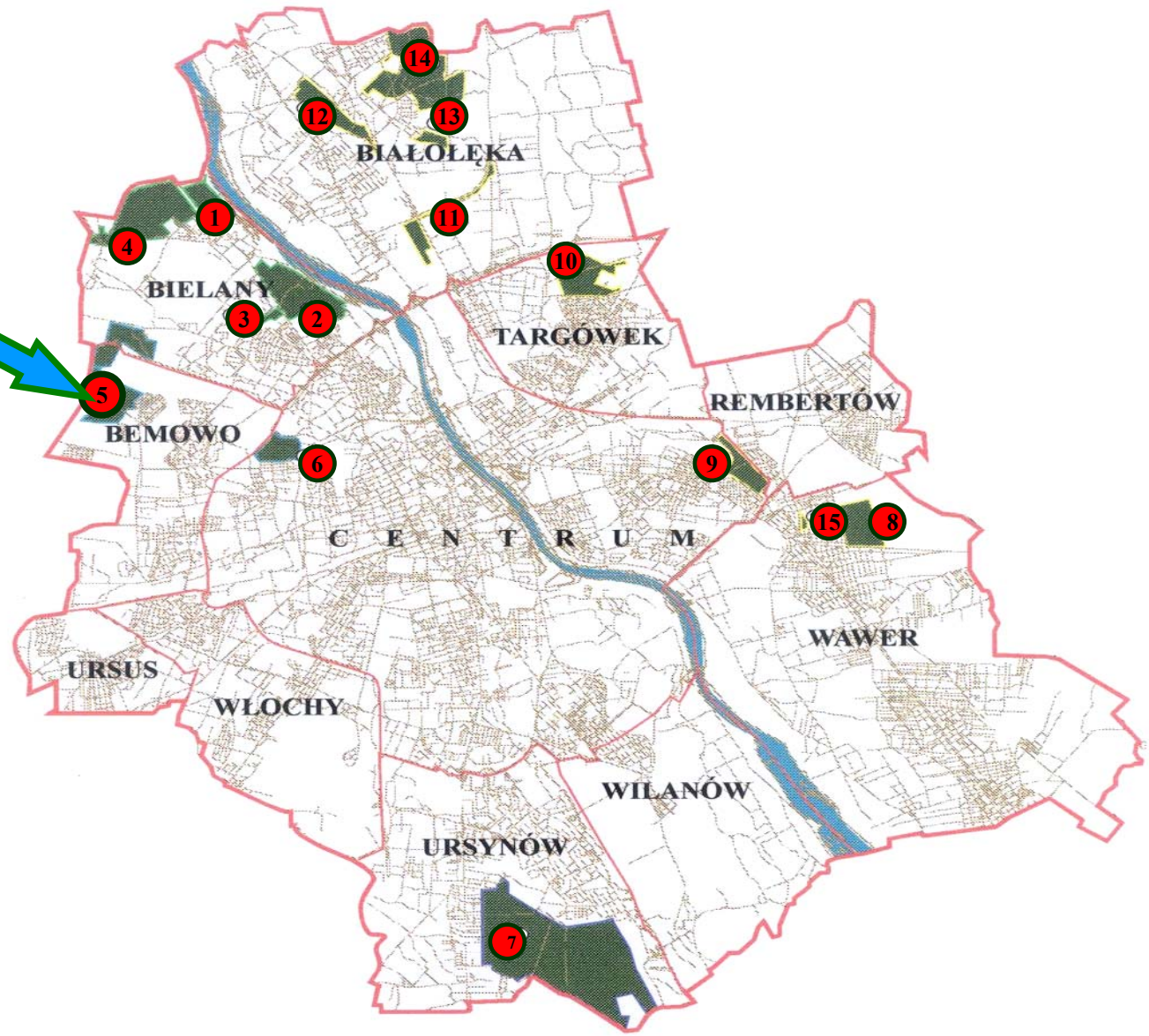
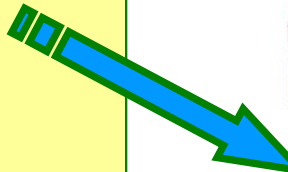
„in a physical development, the requirements of the environmental protection, the health and security of people and possessions and requirements of the disabled are taken into account”

The Planning and Physical Development Act of 27 th March 2003, art.1§2, 5

The characteristic of the research area

Location of Forests in Warsaw

- 1. Młociny Forest
- 2. Bielany Forest
- 3. Lindego Forest
- 4. Nowa Warszawa Forest
- 5. Bemowo Forest
- 6. Koło Forest
- 7. Kabaty Forest
- 8. Sobieskiego Forest
- 9. Olszynka Grochowska
- 10. Bródno Forest
- 11. Wydma Żerańska
- 12. Henryków Forest
- 13. Dąbrówka Forest
- 14. Białoleka Forest
- 15. Matki Mojej Forest



The characteristic of the research area

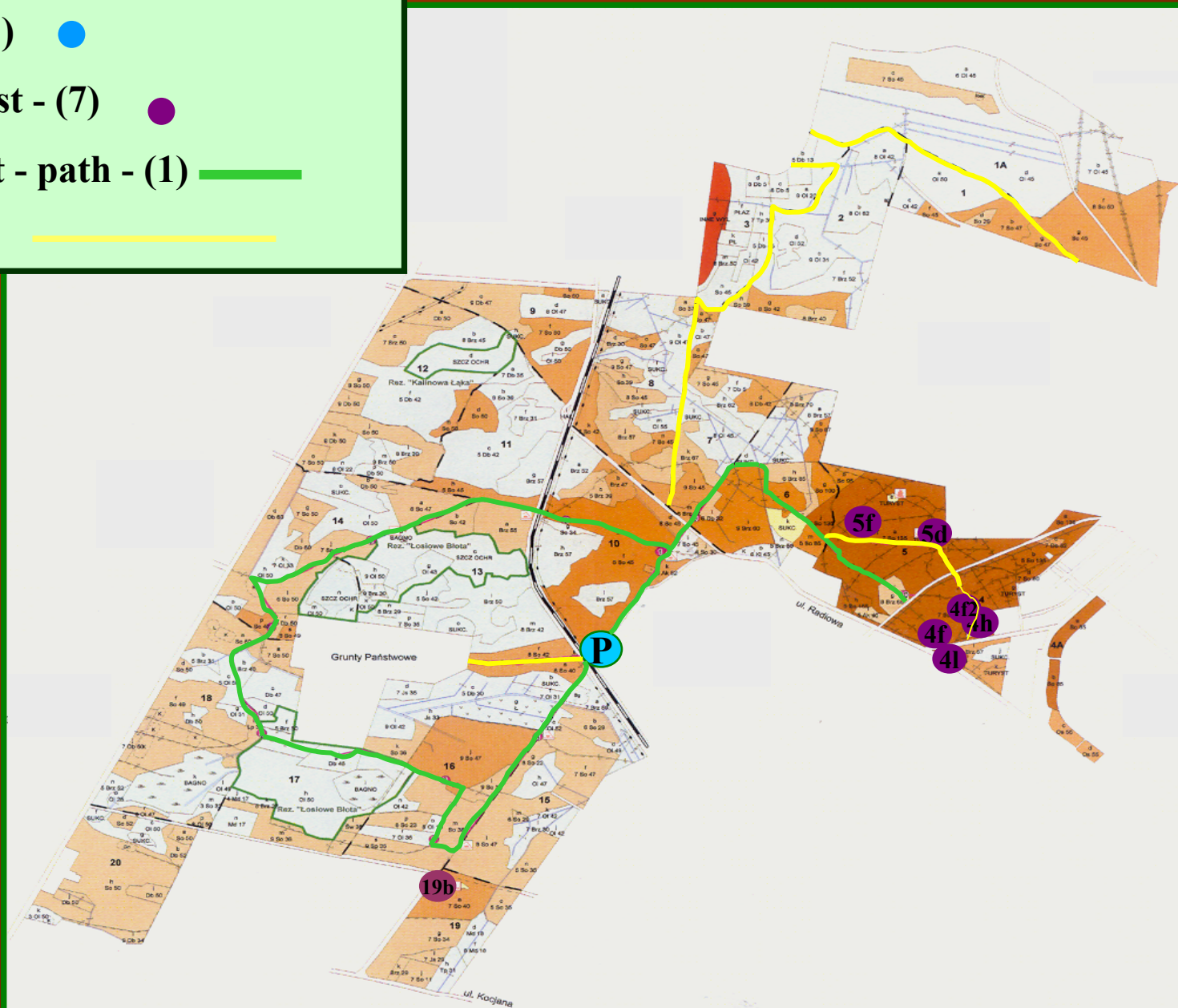
Tourist management Bemowo Forest Map

Car park -(1) ●

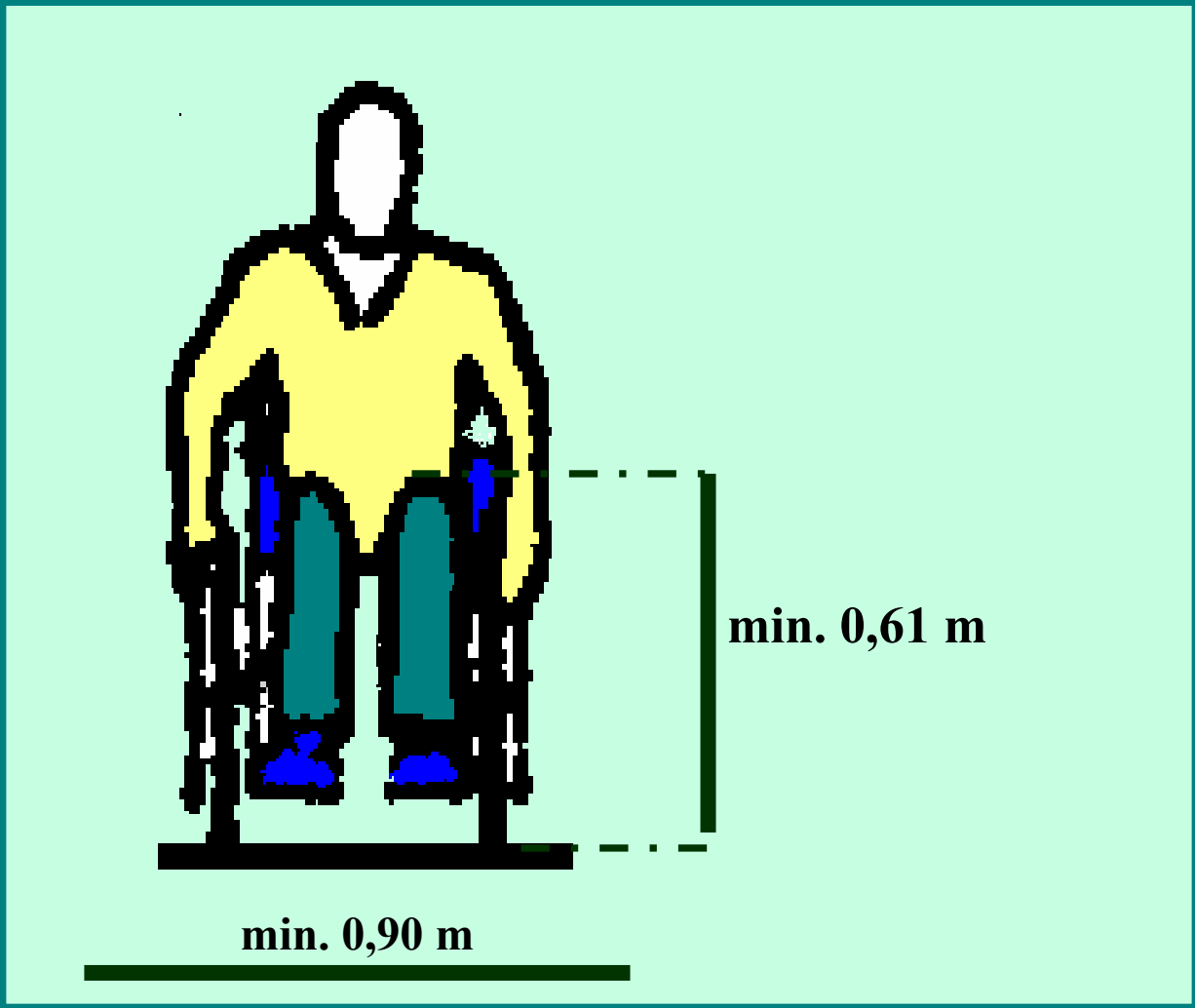
Glade for rest - (7) ●

Didactic foot - path - (1) —

Foot - paths —



Anthropometrics data of people on wheelchairs



The three levels of the ergonomic analyses

- I. Accessibility of Bemowo Forest**
- II. Adaptation of forest's roads** (foot – paths showed on information maps at the entrance to the forest)
- III. Adaptation of tourist equipment**

The four classes of adaptation

- 1st – class, very good adaptation**
- 2nd – class, good adaptation**
- 3rd – class, low adaptation**
- 4th – class, the lack of adaptation**

I. Accessibility of Bemowo Forest

Take into account

- ⇒ the possibility to commute to the forest by low floor public transport**
- ⇒ condition and technical parameters of communication on the way from the bus stop to the forest**
- ⇒ the existence of the car park near the forest**

II. Adaptation of forest's roads

Take into account

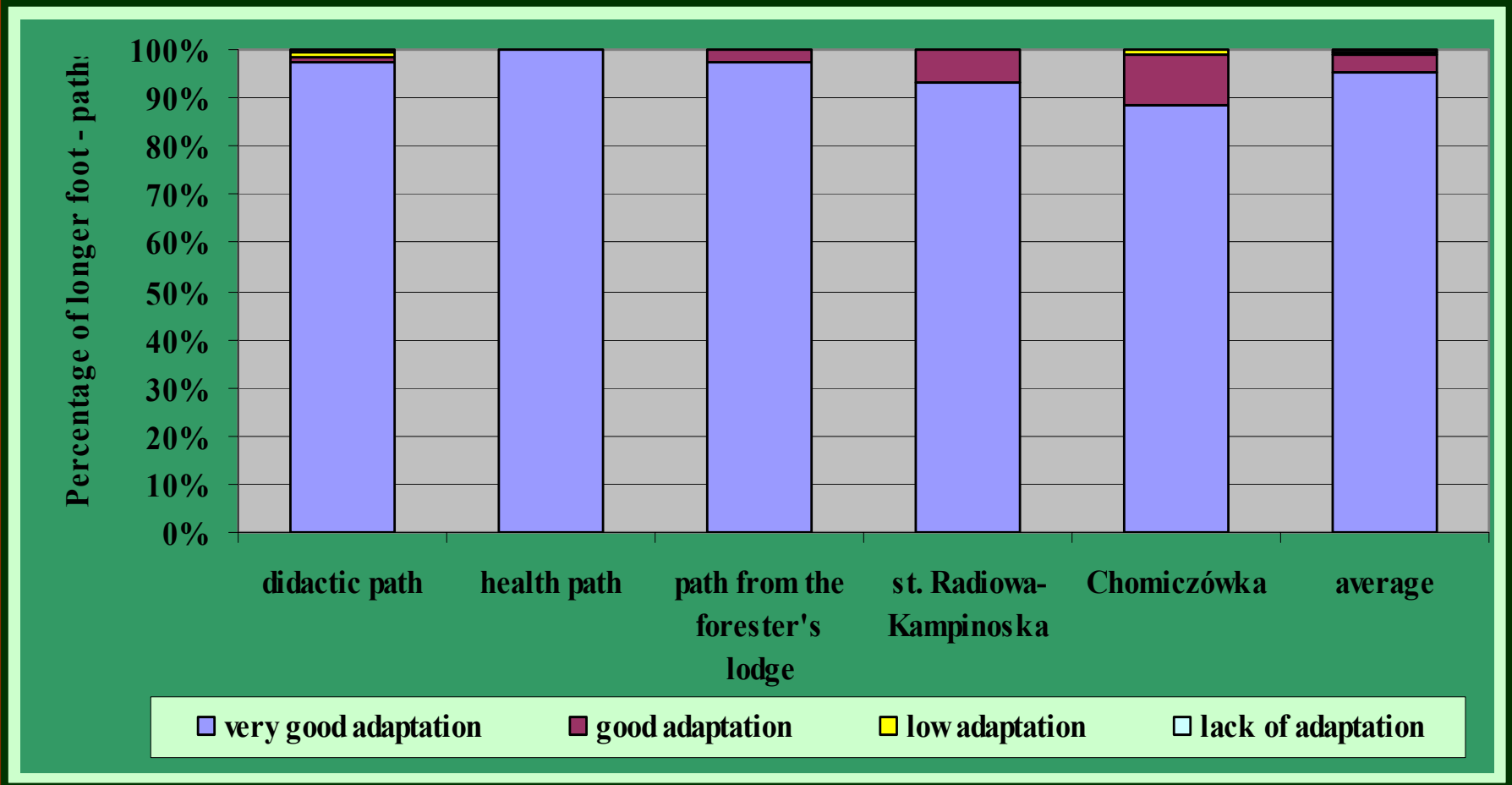
⇒ **condition and technical parameters of particular foot – paths shown on information maps at the entrance to the forest**

Take into consideration that the accessibility of particular parts of foot – path rises together with the width of the road and lower vertical drop and the lack of natural barriers

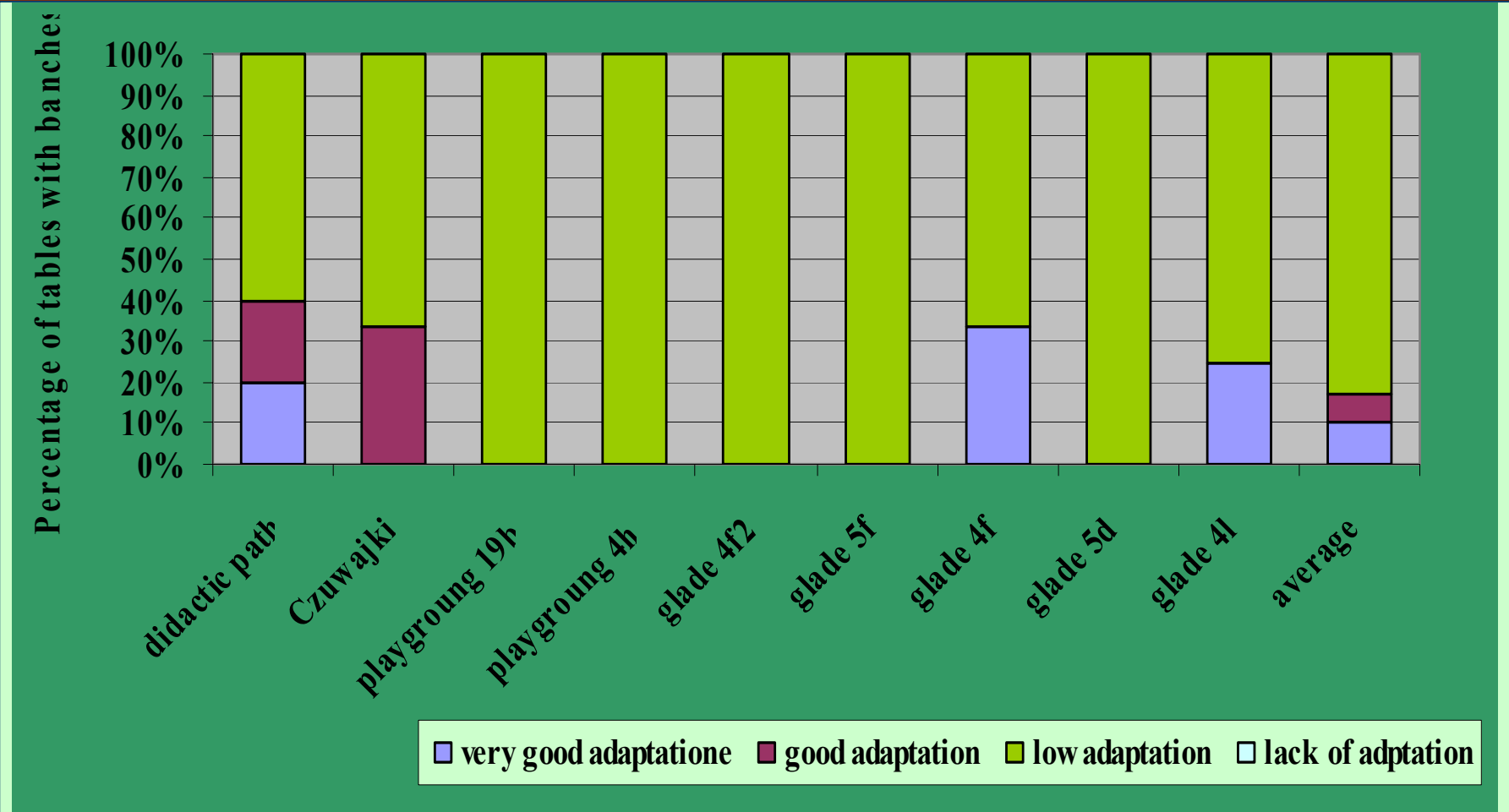
III. Adaptation of tourist equipment such as tables with benches, foot – bridges

In order to manage the forest the adaptation of this equipment to anthropometric data of disabled has to be taken into account

Evaluation of forest's roads adaptation to the needs of disabled moving on wheelchairs



The evaluation of tables and benches adaptation to the needs of disabled moving on wheelchairs



- 1. The analysed method gives us the objective opinion of adaptation the forest to the needs of disabled on wheelchairs, but it should be expanded to the preferences of the disabled**
- 2. The area of research was characterized to have a good communicative accessibility which was the result of the car park existence that made it possible to disabled to get the didactic path instead of rest places. It was necessary to find a place for the car park**
- 3. Bemowo forest is characteristic of its very good adaptation of the foot – paths but at the same time of the low adaptation of the recreation equipment. This means that while planning and realizing the tourist management the needs of disabled on wheelchairs are neglected**

Thank you for your attention