Green belt of Warsaw Metropolitan Area
Introduction

Land use
- farmland
- forests
- meadows
- settlements
- surface water

Warsaw Metropolitan Area
- Population over 3.2 million
- Area 9925 sq km
- Population density 323 p/sq km
- Population density in urban fringe 165 p / sq km

Source: The Union of Polish Metropolises

Poland
- 46% farmlands
- 28% forests
- 13% meadows
- Population 38 million
- Population density 122 p/sq km

Source: The Union of Polish Metropolises
Introduction

Warsaw Metropolitan Area
within Masovia Voievodship (Region)

Warsaw Metropolitan Area
- 24% of Masovia Voievodship
- 992,000 ha
- 23 mi x 28 mi (37 km x 46 km)
- 76 communities
- Landscape:
  - plains + river valleys
- Land use
  - 53% farmlands
  - 21% forests (60% state forest)
  - 11% meadows
  - 12% built up areas
Introduction

Warsaw Metropolitan Area within Nature Conservation of Masovia Voievodship (Region)

Warsaw Metropolitan Area
• 40% Protected areas
• 10% Compulsory protection plan

- National Park (4.5%)
- Regional Parks (5.1%)
- Natura 2000 Sites (EU Reserves)
- Landscape Protection Areas
- Nature reserves
- Warsaw
- Other main cities
- Rivers
- Mazovia voievodship border
- Warsaw Metropolitan Area
Warsaw Metropolitan Area – history - planning tradition

Protection of Warsaw Surroundings
1 Environmental function:
   - Air flow wedges
   - Polders in floodplain of Vistula river
2 Recreational
   - Forest planting

1934 Functional Warsaw Plan – environmental function – protection of airflow wedges, river valleys as polders for high water level in floodplains

1949 Forest Belt around Warsaw – environmental function + recreational – protection and planting of forest belt in Warsaw’s suburbs

1971 Agricultural and Forest Land Protection Act – forests around big cities in the radius of 10km are dedicated for recreation (later precise to cities over 50 000 inhabitants)
Warsaw Green Belt – history- planning tradition

1989 Post – communist Transition of Political System in Poland

New problems
1. Significant decrease of regional planning – more crucial local planning because of decentralisation process
2. Intensive development of suburbs – according to global trends with suburbs expanding as well as relation to liberalisation of planning rules

Global trends in Environmental Planning
1. Expanding of environmental benefits of green belt to eco benefits (ecological network)
2. Environment within the city - Urban Natural System, green infrastructure urban ecosystem…
Warsaw Green Belt Proposal

Practical needs: Warsaw Metropolitan Area Regional Plan

Cooperation of

- Masovia Regional Planning Office
- Warsaw University of Life Sciences, Department of Landscape Architecture
  - Prof. Barbara Szulczewska
  - Dr. Agata Cieszewska

Environmental study for Regional Plan of Warsaw Metropolitan Area

Warsaw Green Belt proposal
Warsaw Green Belt Proposal - Idea

green belts

ecological network

concepts integration
Warsaw Green Belt Proposal - Assumption

1. Green belt assumption

Supporting of ‘Traditional’ Greenbelt Functions:
1. Structural to stop the development of built up areas
2. Recreational
3. Feeding

1. Structural function of the Green Belt has to be connected to other function, that not collide with the main one (agriculture, forestry, recreation)
2. Open spaces support environmental, recreational and feeding function
Warsaw Green Belt Proposal - Assumption

2. Ecological network assumption

Built up areas

Ecological Network – natural function

Border belt - structural function

Green belt - structural, recreational, feeding

Connectivity between Urban Natural System and regional ecological network
Warsaw Green Belt Proposal - Assumption

- **Green Belt**
  - proportion of open spaces

- **Ecological Network**
  - ecological values, potential for connectivity

Each of elements is identified separately by different criterion (different function)
Warsaw Green Belt Proposal - Goals

1) sustain and protect the natural connectivity – **ecological network** between Urban Natural System of Warsaw and regional ecological network sustain also environmental function (hydrological, climatic and biological)

2) limitation of built up areas development

3) to assure proper proportion between open space and built up areas
Warsaw Green Belt Proposal – step by step

1) Landscape character type

Criteria:
- Land use
- Relief and types of grounds
- Water condition

Built up areas
Forests
Fields/Forest Mosaic
Fields
Meadows
Hydrogenise Units
Warsaw Green Belt Proposal – step by step

2) Potential for future function – ecological network

Criterion:
Ecological connectivity

Verification – relation to nature conservation

High potential to join the ecological network

Medium potential to join the ecological network

Low potential to join the ecological network

Lack of nature conservation
Warsaw Green Belt Proposal – step by step

2) Potential for future green belt function

2a) Evaluation for recreation
Criteria:
- Forest & water bodies share
- Cultural heritage

2b) Evaluation for agriculture
Criterion:
- Soil classes

[Maps showing areas with high and low potential for green belt function]
Warsaw Green Belt Proposal – step by step

3) Functions Summary

- Recreation
- Agriculture
- Ecological Network – connectivity potential

Development pressure

Where are conflicts?
Warsaw Green Belt Proposal – step by step

3a) Where are conflicts between green belt function and future development?

Evaluation for recreation  Development pressure

High potential for recreation
+
Area under high development pressure
Warsaw Green Belt Proposal – step by step

3c) Where are conflicts between green belt function and future development?

Evaluation for agriculture

Development pressure

High potential for agriculture
+
Area under high development pressure
Warsaw Green Belt Proposal – step by step

3c) Where are conflicts between green belt function and future development?

Ecological Network – connectivity potential

Development pressure

High potential for ecological connectivity

+ Area under high development pressure
Warsaw Green Belt Proposal – step by step

4) Where is green belt?

- Evaluation for recreation
- Evaluation for agriculture
- Ecological Network – connectivity potential

Development pressure

High or Medium potential of Green Belt Function

+ Low development pressure
Warsaw Green Belt Proposal – step by step

4) Where is green belt?

Areas with high or medium potential for Green Belt and low development pressure

Green belt gaps (areas with the needs of connectivity)
Warsaw Green Belt Proposal – step by step

5) What next?

1. Green belt (belts) or wedges? [shape]
2. Isn’t green belt too big? [area]
3. Ecological corridors as core areas and surrounding for buffer zone? [function]
4. How to fulfill spatial development demands? [implementation]
Warsaw Green Belt Proposal – step by step

5) What next?

Implementation of the idea depends besides ecological of other factors:

- social
- economic
- political
Thank you

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