



WILGA RIVERSIDE PARK



LANDSCAPE DESIGN OF A RIVERSIDE AREA BETWEEN ŁAGIEWNIKI AND THE VISTULA BOULEVARDS



Country / City POLAND, CRACOW
University / School CRACOW UNIWERSYTET TECHNOLOGICZNY
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Title of the project WILGA RIVERSIDE PARK - A LANDSCAPE DESIGN OF THE STRETCH BETWEEN ŁAGIEWNIKI AND THE VISTULA BOULEVARDS
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The subject of the project is the creation of a linear river park along the Wilga river in Cracow.

The discussed area is a narrow green belt between dense buildings in the south-western part of Cracow. It is a valuable natural area that acts as an ecological corridor. The banks of Wilga are covered, among others riverside willow-poplar forest with the highest natural value.

The planning documents emphasize the role of the Wilga valley as part of the urban greenery system of Cracow and its areas are designated for greenery with an ecological and landscape character.

The project assumes merging and providing access to green areas, while maintaining the natural character of the place with NBS. The park has the following functions: natural, recreational, sports and educational.

The project used mainly natural materials: wood and living willow and a water-permeable surfaces. For recreation purposes only small enclaves and communication routes were planned, the rest area leaving undeveloped. Such space management is caused by the need to protect the ecosystem. It also favors the settlement of fauna, acts as a retention of water and enables users to commune with nature.

The area along the Wilga river area will enrich the city's recreational and tourist offer. It will contribute to the improvement of the quality of the natural environment, increasing the retention capacity of the landscape, reduction urban heat island effect and CO2 level in the air thus improving the quality of life of the inhabitants.

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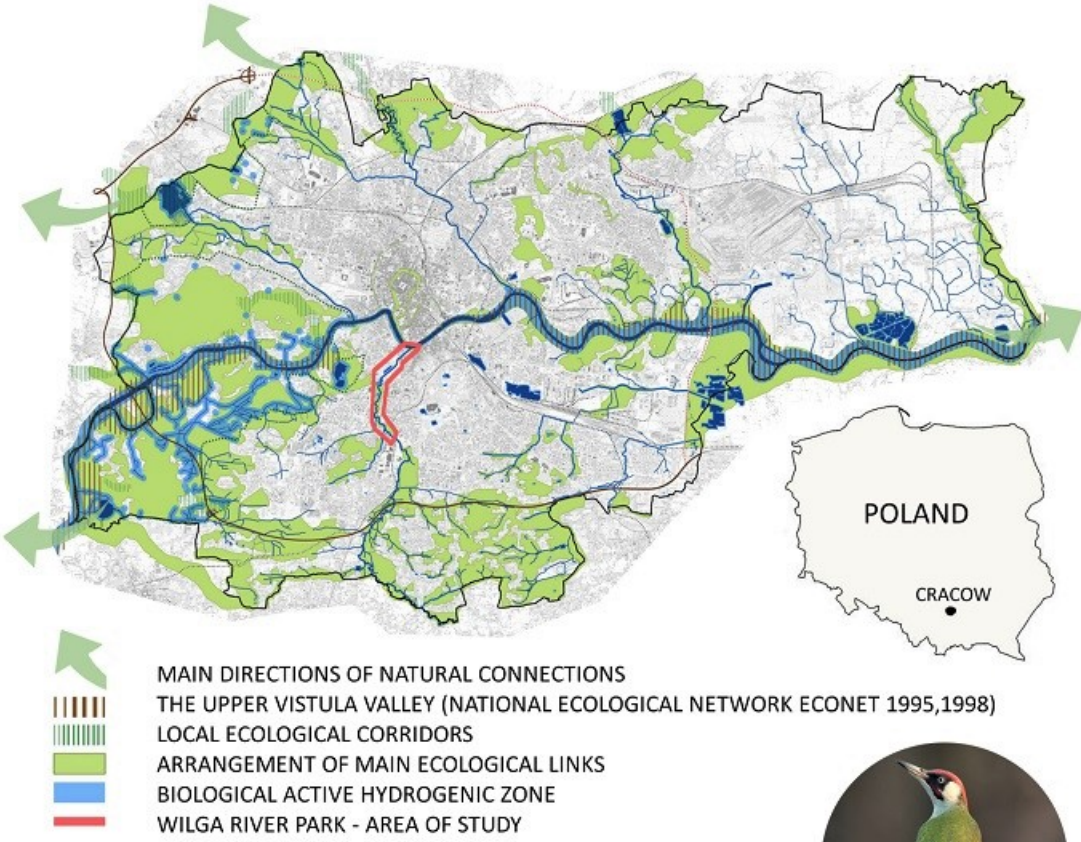
CLIMATE CHANGE AGAIN

11th International Biennial Landscape Barcelona

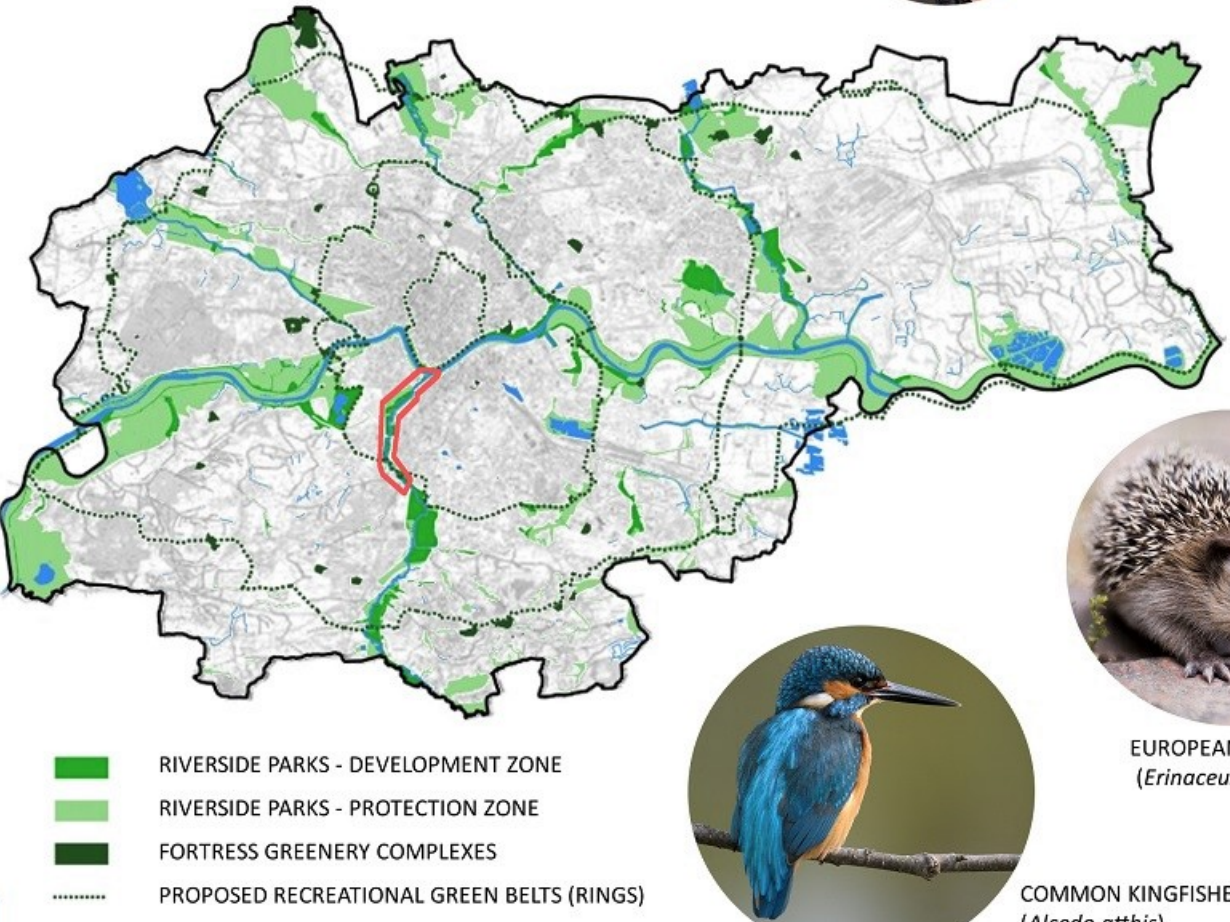
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NATURAL ENVIRONMENT - ANALYSIS

CRACOW - LOCATION OF THE PARK ON THE MAP OF ECOLOGICAL CORRIDORS



CONCEPT DIAGRAM OF THE RIVERSIDE PARKS SYSTEM



MUTE SWAN
(*Cygnus olor*)



MALLARD
(*Anas platyrhynchos*)



EURASIAN BEAVER
(*Castor fiber*)



EUROPEAN GREEN WOODPECKER
(*Picus viridis*)



EUROPEAN HEDGEHOG
(*Erinaceus europaeus*)



COMMON KINGFISHER
(*Alcedo atthis*)



DOMINANT PLANT SPECIES:

- Ulmus laevis*
- Acer negundo*
- Populus sp.*
- Juglans regia*
- Quercus robur*
- Salix alba*
- Salix fragilis*
- Sambucus nigra*
- Prunus padus*
- Betula pendula*
- Prunus cerasifera*
- Ligustrum vulgare*
- Corylus avellana*
- Robinia pseudoacacia*

REAL PLANT MAP:

- RIVERSIDE WICKERS (*Salicetum triandro-viminalis*)
- WILLOW AND POPLAR RIPARIAN FOREST (*Salici-Populetum*)
- WOODLAND ON RIPARIAN FOREST HABITATS
- WATER PLANTS COMMUNITIES
- REEDBEDS (*Phragmition*)
- RIVERSIDE HERBS COMMUNITIES (*Convolvuletalia sepium*)
- GRASSLAND (*Arrhenatherum elatiorus typicum*)
- SCRUBLAND
- FALLOW FIELDS
- HISTORICAL PARKS AND GARDENS
- SQUARES AND STREET GREENERY
- SPORTS AREAS
- ALLOTMENT GARDENS AND ORCHARDS
- DOMESTIC GARDENS
- DEVELOPED AREAS
- INFRASTRUCTURE AND BUILDINGS
- THE VISTULA RIVER

WILGA RIVERSIDE PARK- LANDSCAPE DESIGN



THE AREA AROUND BAGRY LUDWINOWSKIE RESERVOIR

- PURCHASE OF PLOTS FROM PRIVATE OWNERS FOR ACCESS TO THE AREA AROUND THE POND FOR RECREATION.
- PRESERVATION OF THE NATURAL CHARACTER OF THE PLACE, PROTECTION OF PLANT COMMUNITIES.
- IMPLEMENTATION OF ACTIVITIES IN THE FIELD OF NATURAL SMALL WATER RETENTION
- SEPARATION OF ECO-ZONES OCCUPYING JOINTLY AT LEAST HALF OF THE SECTOR'S AREA.
- FELLING OF INVASIVE SPECIES AND THEIR REPLACEMENT WITH NATIVE PLANTS SUCH AS: COMMON OAK, MAPLE, SYCOMORE MAPLE, WILLOW, COMMON ASH, BIRD CHERRY.
- PIERS FOR ANGLERS AND A POSITIONS FOR NATURE OBSERVERS.
- OBSERVATION PAVILION / READING ROOM
- PEDESTRIAN AND BICYCLE PATHS (MOST WITH UNPAVED AND PERMEABLE SURFACE)



KOPTA'S FOREST

- VALUABLE FRAGMENT OF ALLUVIAL FOREST WITH WILLOW DOMINATION, THERE ARE MAINLY OLD AND MIDDLE-AGED TREES. NUMEROUS BROKEN TREES AND BRANCHES, DECAYED TRUNKS, HOLLOWES.
- RECOMMENDED CARE OF TREES AND SHRUBS, IN PARTICULAR, SANITARY CUTS.
- CONSIDER LEAVING SOME OF THE DEAD TREE FRAGMENTS FOR NATURAL DECOMPOSITION (ESPECIALLY HOLLOW TRUNKS).
- MAINTENANCE OF NATURAL GREENERY.
- CREATING AN EDUCATIONAL PATH ABOUT ORGANISMS LIVING IN DEAD TREE.
- AREA LIGHTED AT NIGHT



THE AREA IN FRONT OF THE APARTMENT BLOCKS AT BORSUCZA STREET

- THE GLADE - FLOWER MEADOW; RECOMMENDED PROTECTION AGAINST OVERGROWING, MOWING TWICE A YEAR.
- A PLACE SUITABLE FOR OUTDOOR PICNICS.
- CREATION OF A SOCIAL GARDEN NEAR APARTMENT BLOCKS.
- KEEPING EXISTING PLAYGROUNDS
- DEMARCATION OF ECO-ZONES
- EQUIPPED WITH ELEMENTS OF STREET FURNITURE
- SPECIES RECOMMENDED FOR PLANTING: ELDERBERRY, BIRD CHERRY, DOGWOOD, HAWTHORN, WILD ROSE, HOPS.



Sambucus nigra



Geranium phaeum



PARK DESIGN - LEGEND:

- BORDER OF THE PARK
- ▲ ENTRANCE TO THE PARK
- WALKING AND CYCLING PATH
- EDUCATIONAL PATH (H- HISTORICAL PATH, N- NATURE PATH)
- EDUCATIONAL PAVILION/OBSERVATION PAVILION/ CULTURAL OBJECT
- CAFETERIA/RESTAURANT
- TOILETS
- PLAYGROUND
- SPORTS FIELD
- RESIDENTIAL BUILDINGS
- NON-RESIDENTIAL BUILDINGS
- ARRANGED GREENERY AREAS
- GREEN AREAS OF PLAYGROUNDS
- ALLOTMENT GARDENS
- SEMI-NATURAL GREEN AREAS AND AREAS OF NATURAL SMALL WATER RETENTION
- ROAD AREAS
- WATER AREAS
- AREA OF WATER TRANSPORT
- DEVELOPED AREAS
- RAILWAY TRACK

DETAILED PARK FRAGMENT DESIGN



ELEMENTS OF THE PROJECT:

- 1 SQUARE WITH WOODEN PERGOLA
- 2 SOCIAL GARDEN - VEGETABLE GARDEN AND ORCHARD
- 3 SPORTS FIELD AND PLAYGROUND
- 4 BRIDGE - CONNECTION OF TWO RIVERSIDES
- 5 EDUCATIONAL PAVILION, READING ROOM AND CAFETERIA
- 6 BLUE RIBBON BRANCHES WITH NATURALISTIC PERENNIALS BEDS
- 7 HAMMOCKS - RELAXATION AREA
- 8 EDUCATIONAL PATH WITH OBSERVATION PLATFORMS
- 9 WOODEN RAISED PLATFORMS



IMPACT OF DESIGN SOLUTIONS ON THE NATURAL ENVIRONMENT:

PROTECTION

OF AN IMPORTANT ECOLOGICAL CORRIDOR AGAINST URBAN PRESSURE

INTEGRATION

OF THE DISPERSED GREENERY STRUCTURE INTO A CONTINUOUS SYSTEM

IMPROVING

THE LIVING CONDITIONS OF RESIDENTS - MORE RECREATIONAL AREAS, BETTER VENTILATION OF THE CITY

REDUCING

URBAN HEAT ISLAND EFFECT AND CO₂ LEVEL IN THE AIR - ENLARGEMENT OF GREEN AREAS

WATER STORAGE

RESTORATION AN URBAN RIVER BED TO ITS NATURAL ECOSYSTEM, USING OF PERMEABLE SURFACES FOR PATH; NATURAL (SMALL) WATER RETENTION

DEVELOPMENT

OF ECOLOGICAL KNOWLEDGE - EDUCATIONAL PATHS AND PAVILIONS, NATURE OBSERVATION POINTS

MAINTAINING BIODIVERSITY

DESIGNED ONLY SMALL PARTS OF THE PARK, THE REST LEFT AS ECO-ZONES

ECO-ZONES:

INTENTIONALLY LEFT OR INTRODUCED ENCLAVES TO INCREASE OR MAINTAIN BIODIVERSITY AND ECOLOGICAL AND HYDROLOGICAL FUNCTIONS, KEPT IN A SEMI-NATURAL OR NEAR-NATURAL STATE. IT IS PREFERABLE TO LEAVE DEAD PLANT FRAGMENTS ON THEM (TREE LOGS, PILES OF BRANCHES, FALLEN LEAVES IN AUTUMN), WHICH CREATES APPROPRIATE HABITAT CONDITIONS FOR THE FAUNA. VALUABLE FLORA SPECIES MAY BE PROTECTED WITHIN THESE AREAS.



PARK FRAGMENT DESIGN - LEGEND:

- BORDER OF THE PARK FRAGMENT
- ENTRANCE TO THE PARK
- SINGLE-FAMILY HOUSING BUILDINGS
- MULTI-FAMILY RESIDENTIAL BUILDINGS
- COMMERCIAL AND SERVICE BUILDINGS
- EDUCATION AND CULTURE BUILDINGS
- OTHER NON-RESIDENTIAL BUILDINGS
- DESIGNED GREEN AREAS
- ECO-ZONES
- GREEN AREAS OF PLAYGROUNDS
- DEVELOPED AREAS
- ROADS AND PAVEMENTS
- WATER AREAS
- FOOT AND BIKE PATH (MINERAL SURFACE)
- WOODEN PLATFORM
- STEEL FENCE
- LIVING WILLOW FENCE (*Salix viminalis*)
- PARKING AREA
- EXISTING LEAF TREE/SHRUB
- PLANNED LEAF TREE/SHRUB
- PLANNED GROUP OF SHRUBS
- PLANNED GROUP OF PERENNIALS
- PLANNED CLIMBERS
- PLANNED PERGOLA
- PLANNED BENCHES
- PLANNED HAMMOCKS BETWEEN TREES
- SANDPIT



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