

Habitats

91F0, 91I0

Conservation status, objectives and measures

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91F0



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Visegrad Group - Nature conservation workshop
Budapest, 27.05.2014

**Conservation status – national level
(monitoring 2009 – 2011)*:**

- Range: **FV**
- Area: **U2 declining**
- Specific structures and functions: **U2 declining**
- Future prospects: **U2 declining**
- Overall assessment of the Conservation Status: **U2 declining**

*Państwowy Monitoring Środowiska, Monitoring gatunków i siedlisk przyrodniczych – National Monitoring of the Environment, Monitoring of species and habitats.



- J02.02.01 dredging/ removal of limnic sediments - **high importance**
- J02.03.02 canalization - **high importance**
- J02.04.02 lack of flooding - **high importance**
- J02.12.02 dykes and flooding defense in inland water systems - **high importance**

- B02.02 forest cutting - **locally high importance**
- B02.05 non- intensive timber production (leaving dead wood/ old trees untouched) - **medium importance**

- I01 invasive non-native species - **medium importance** (*Acer negundo*, *Fraxinus pennsylvanica*, *Reynoutria japonica*, *Echinocystis lobata*, *Clematis vitalba*, *Parthenocissus inserta*, *Impatiens parviflora*)

- K04.03 - introduction of disease (microbial pathogens) - **medium importance**



- Flood risk management (National Water Management Authority)
The water law act (Prawo wodne) of 18 July 2001 r. - (Dz. U. 2001 Nr 115 poz. 1229 ze zm.)
 - Prevention of the human health risk.
 - Prevention of the property damage.
- Lack of the protection management plans (nature reserve).
- Complexity of the habitat.
- Costly conservation measures.



Based on 4 exemplary management plans for Łęgi Odrzańskie PLH020018, Grądy w Dolinie Odry PLH020017, Ostoja nad Baryczą PLH020041, Rogalińska Dolina Warty PLH300012).

Conservation objective in general: maintenance or improvement of the present conservation status.

- Improvement and stabilization of the habitat moisture conditions.
- Elimination of the invasive non-native species.
- Strict protection of certain parts of the habitat.
- Modification of the silviculture system including reconstruction of the stand species composition.
- Increase of the deadwood volume: 3 – 10% (U1), 10 – 20% (FV) of the gross total volume, including 3-5 (U1) or >5 standing or lying dead trees, with length min. 3 m and diameter 30-50 cm.



Based on 4 exemplary management plans for Łęgi Odrzańskie PLH020018, Grądy w Dolinie Odry PLH020017, Ostoja nad Baryczą PLH020041, Rogalińska Dolina Warty PLH300012).

- Closure of the outflow ditches.
- Exclusion from harvesting certain parts of the habitat:
 - Part of stands with favorable conservation status,
 - 5 % of the harvested mature stands (until termination stage),
 - Strips of stands in distance of 30 m from watercourses wider than 1 m.
- If needed gradual improvement of the species composition by elimination of the spruce, Scotch pine, larch, red oak.
- Promotion of the natural regeneration (supplemented with artificial regeneration if needed) – optimal species share 30% oak, 30% ash, 30% elm, 10 % poplar, sycamore maple, Norway maple, alder and other.



- Modification of the silviculture method – differentiation of the species composition, stands age and vertical structure, longer cutting and regeneration cycles.
- Reduction of the negative impact of the logging by using existing road network and performing harvesting outside growing season (IV-X).
- Increase of the deadwood stock by leaving in stands windthrows, standing dead trees, hollow trees, post-harvest woody debris.
- Leaving veteran trees.



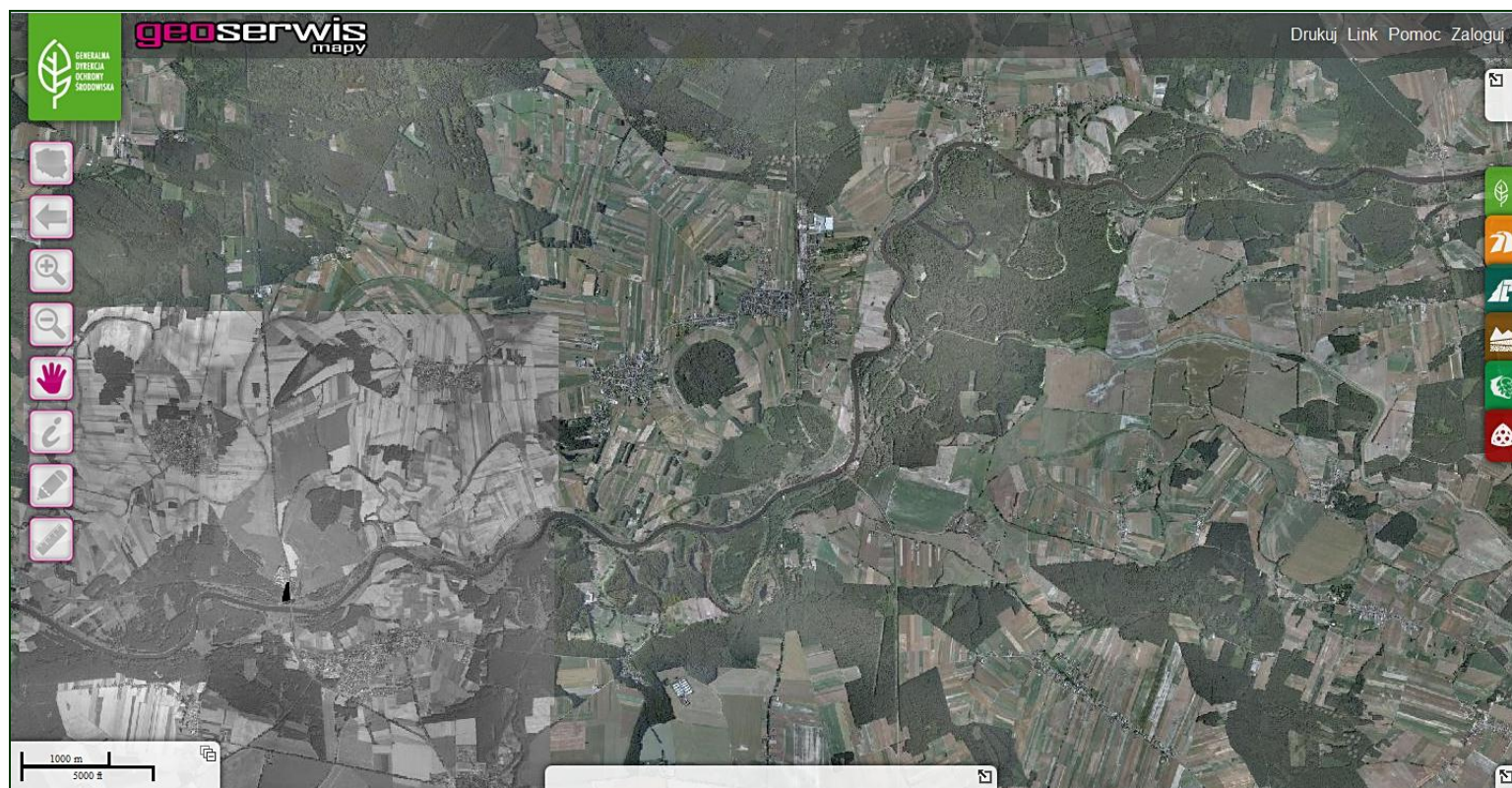
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PROTECTION OF RIPARIAN FORESTS AND OLD-RIVIER BEDS IN JAROCIN FOREST INSPECTORATE, conducted in 2002 -2009.

SPA Dolina Środkowej Warty PLB300002
SCI Lasy Żerkowsko-Czeszewskie” PLH300053

Area: Left-side terrace of Warta river, between towns Czeszewo and Nowe Miasto.



PROTECTION OF RIPARIAN FORESTS AND OLD-RIVIER BEDS IN JAROCIN FOREST INSPECTORATE

The most drastic changes:

- o 1870's – intensive regulation. Changes of the riverbed and its embankment caused shorter and more rapid flooding along with longer periods of water deficiency.
- o 1988 – commissioning of the Jeziorsko reservoir.

Results: Changes of the hydrographic conditions, succession of the riparian forests to oak-hornbeam forests, insects outbreaks, increased occurrence of fungal root pathogens.

Area description:

- o Approx. 500 [ha] Ficariorum-ulmetum minoris, 50 % of stands is more than 100 years old (the best preserved habitats).
- o Stands with distorted species composition (predominantly 91F0 Riparian mixed forest) – high share of Scotch pine.
- o 10 well preserved oxbow lakes.



PROTECTION OF RIPARIAN FORESTS AND OLD-RIVIER BEDS IN JAROCIN FOREST INSPECTORATE, conducted in 2002 -2009.

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Subjects of conservation measures:

- 3150 Natural eutrophic lakes with *Magnopotamion* or *Hydrocharition*-type vegetation.
- 91E0 Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*).
- 91F0 Riparian mixed forests of *Quercus robur*, *Ulmus laevis* and *Ulmus minor*, *Fraxinus excelsior* or *Fraxinus angustifolia*, along the great rivers (*Ulmenion minoris*).

Biological diversity:

In total 686 plant species. The biggest population of middle spotted woodpecker in Greater Poland province. Rare species of insect.



PROTECTION OF RIPARIAN FORESTS AND OLD-RIVIER BEDS IN JAROCIN FOREST INSPECTORATE



PROTECTION OF RIPARIAN FORESTS AND OLD-RIVIER BEDS IN JAROCIN FOREST INSPECTORATE

Conservation objectives:

- Increase water retention in oxbows.
- Improvement of hydrographic conditions (thus habitats conditions).

Conservation measures: (preceded by environmental elaboration – 2002-2003)

2004-2005

- Closure of the outflow ditches from oxbows with oneway sluices.
- Raising of the part of Lutynia river floor with gabion sill.
- Creating ditches connecting Łojewo and Szaniec oxbows with Lutynia river.
- Establishing a nature reserve.
- Closure of the forest road and bridge in Lutynia nature reserve (establishing replacements outside nature reserve).
- Remanagement of the tourist infrastructure and establishing an information and

educational center.

PROTECTION OF RIPARIAN FORESTS AND OLD-RIVIER BEDS IN JAROCIN FOREST INSPECTORATE

Conservation measures:

2004-2005

- Gradual reconstruction of a stand species composition with attention to species of the „special needs” - white and black poplar, elm and field maple.
- Modification of the silviculture system – usage of the selection system.
- Increasing of the dead wood volume by leaving all dying trees.

2007-2009 (proceeded by environmental elaboration - 2006)

- Increasing of the upper overflows on existing sluices.
- Rising of the existing gabion sill and construction of two new gabion sills below the first one.
- Closure of the outflow from 4 oxbows with oneway sluices.
- Gradual reconstruction of the species composition of artificially planted pine

stands.

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PROTECTION OF RIPARIAN FORESTS AND OLD-RIVER BEDS IN JAROCIN FOREST INSPECTORATE

Results:

- System of hydrotechnical instalations – 14 sluices (two types) and 3 gabion sills.
- Retention ability of the established system – approx. 1 million m³.
- Change of the water retention system – form surface to soil.
- Establishing of the monitoring system of the hydrological and habitats conditions.
- Revitalization of the habitats.
- More than 1 500 [ha] of habitats benefited.



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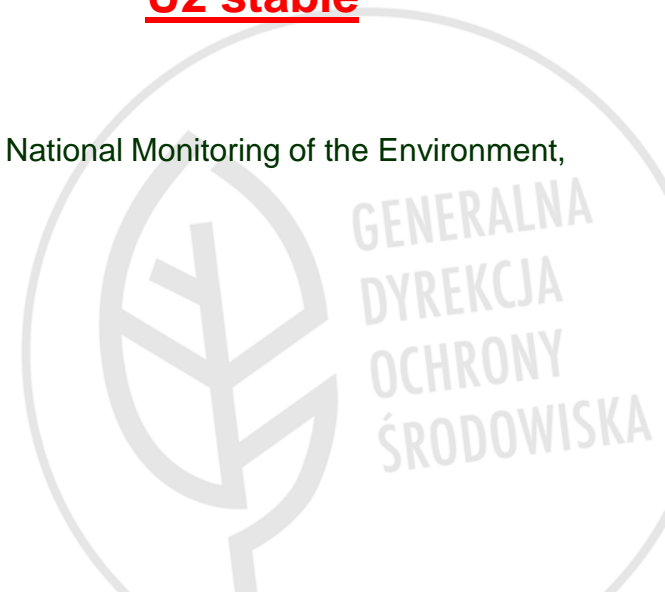
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Visegrad Group - Nature conservation workshop
Budapest, 27.05.2014

Conservation status – national level (monitoring 2006 – 2008)*:

- Range: **FV**
- Area: **U1 declining**
- Specific structures and functions: **U1 declining**
- Future prospects: **U2 stable**
- Overall assessment of the Conservation Status: **U2 stable**

*Państwowy Monitoring Środowiska, Monitoring gatunków i siedlisk przyrodniczych – National Monitoring of the Environment, Monitoring of species and habitats.



- A04.03 - abandonment of pastoral systems, lack of grazing - **high importance**.
- K02.01 - species composition change (succession) - **medium importance**.
- K02.02 - accumulation of organic material - **low importance**.
- I01 - invasive non-native species - **locally of the medium importance**
(*Padus serotina*, *Robinia pseudoacacia*, *Amelanchier lamarckii*).



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- Legal – The forests Act of 28 september 2001 (Dz.U. 1991 nr 101 poz. 444) – forbids pasturing in forest.
- Unified silviculture system.



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Based on 4 exemplary management plans for Dolina Noteci PLH300004, Jezioro Gopło PLH040007, Wzgórza Chęcińsko-Kieleckie PLH260041, Pojezierze Gnieźnieńskie PLH300026).

Conservation objective in general: maintenance or improvement of the present conservation status.

- Stand species composition reconstruction - mostly concerns habitat with pine stands (artificial planting).
- Establishing reference areas.
- Counteraction to natural succession.



Based on 4 exemplary management plans for Dolina Noteci PLH300004, Jezioro Gopło PLH040007, Wzgórza Chęcińsko-Kieleckie PLH260041, Pojezierze Gnieźnieńskie PLH300026).

- Exclusion from harvesting certain parts of the habitat with favorable conservation status with allowance of necessary sanitary or release cuttings.
- Gradual improvement of the species composition by promoting oak and reduction of the share of unwanted native species like beech, pine, larch, spruce, with leaving the old and hollow trees.
- Stand thinning - Improvement of light conditions.
- Selective thinning of undergrowth composed of beech, lime, maple, hornbeam, black cherry and hazel.



Nature reserve „Kwiatówka” (SCI Kwiatówka PLH120056)

EU project "Maintaining biodiversity of grasslands habitat in Lesser Poland province"
POIS.05.01.00-00-032/08, conducted in 2012 -2013.

Area:

- Nature reserve – 11,25 [ha] (Natura 2000 – 46,96 [ha])

Subjects of conservation:

- 9110 Euro-Siberian steppic woods with *Quercus* spp. (*Potentillo albae-Quercetum*)
- 9170 *Galio-Carpinetum* oak-hornbeam forests. (*Tilio-Carpinetum typicum*)
- 4068 ladybells (*Adenophora liliifolia*)

Other important species:

Aconitum variegatum, *Asarum europaeum*, *Cimicifuga europaea*, *Convallaria majalis*, *Daphne mezereum*, *Galium odoratum*, *Lilium martagon*, *Primula elatior*,
Trollius europaeus, *Viburnum opulus*.



Nature reserve „Kwiatówka” (SCI Kwiatówka PLH120056)

Habitat description: Before

- Predominant tree species - common and sessile oak (age 140), natural origin (probably mostly vegetative).
- Lower storey – hornbeam and lime (age approx. 40).
- Stocking index – 0,9; canopy closure 75 %.
- Shrub and undergrowth layer – closure 35 %.
- Increased share of broadleaved species – some parts of 9110 habitat resembled early stage of *Tilio-Carpinetum* community.

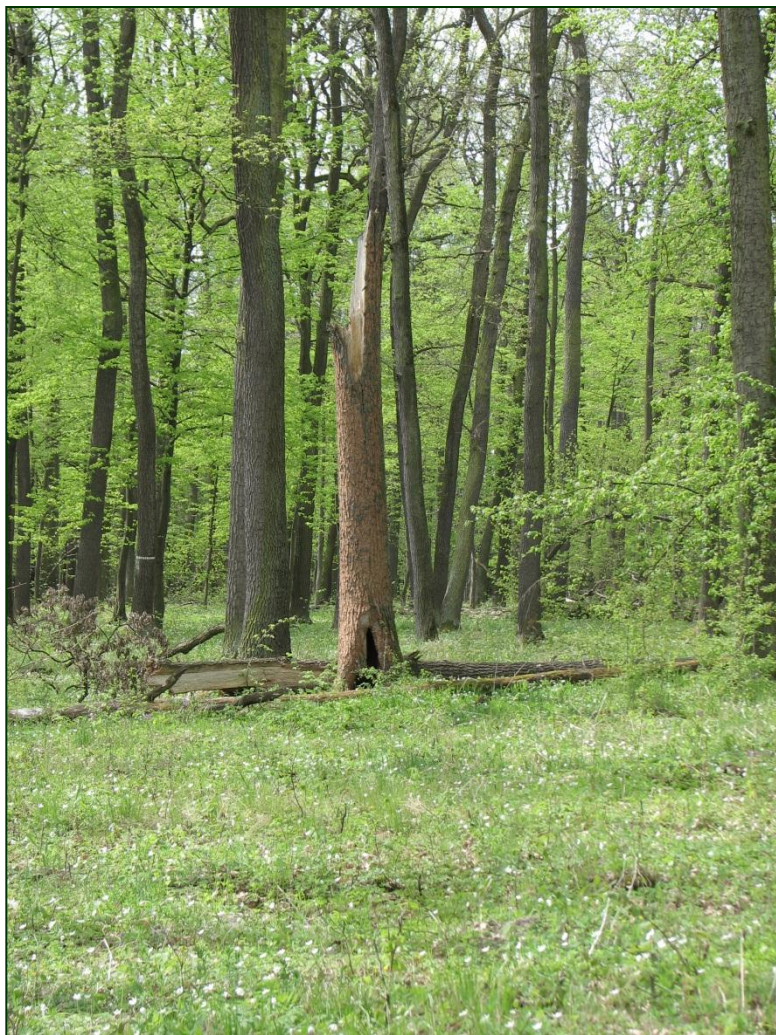
Diverse herbaceous plant species composition, with numerous xerothermic species (*Campanula persicifolia*, *Chrysanthemum corymbosum*, *Melittis melissophyllum*, *Vincetoxicum officinale*, *Lathyrus niger*, *Laserpitium latifolium*, *Fragaria vesca*, *Hypericum maculatum*, *Brachypodium pinnatum*, *Prunus spinosa*, *Euphorbia*

angulata)

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Nature reserve „Kwiatówka” (SCI Kwiatówka PLH120056)



Pic. M. Szymańska



Nature reserve „Kwiatówka” (SCI Kwiatówka PLH120056)

Conservation measures

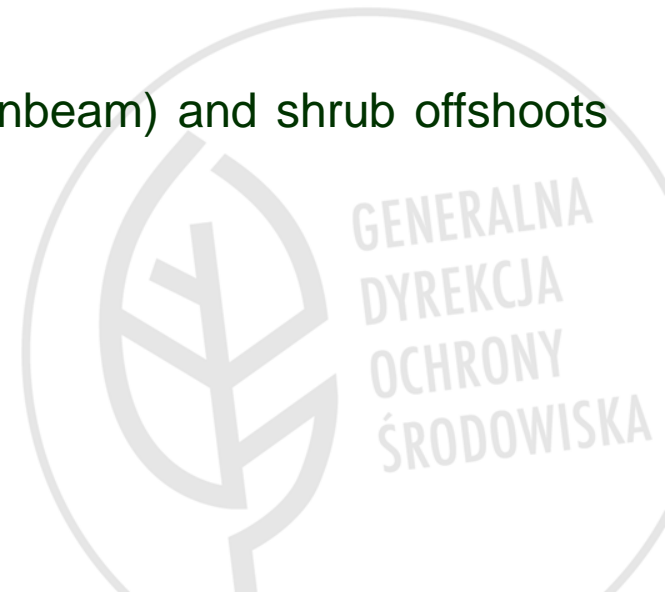
Area 5,74 [ha]

2012

- Stand thinning - removal of the lime, hornbeam and oak with DBH <35 cm.
- Removal of the unwanted shrub species and undergrowth (except promising oak and elm individuals).

2013

- Mowing of the soil cover – removal of seedlings (hornbeam) and shrub offshoots (hazel, blackthorn).



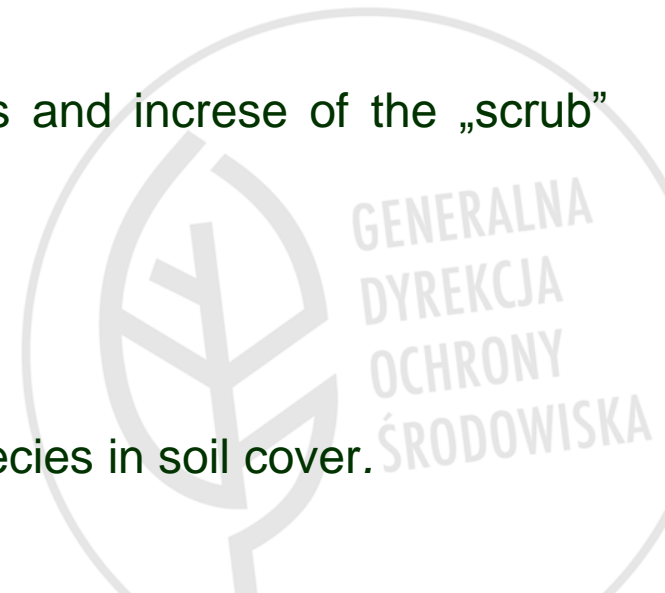
Nature reserve „Kwiatówka” (SCI Kwiatówka PLH120056)

Habitat description: After

- Canopy closure reduction to 70 %
- Shrub and undergrowth closure reduction to 10 %.

Additional remarks

- Reduction of the share of *Rubus caesius*, *Fragaria vesca*, *Calamagrostis arundinacea* and *Adenophora liliifolia* . Increase of the share of *Clinopodium vulgare* and *Vincetoxicum hirundinaria*.
- In soil cover reduction of the share of forest species and increase of the „scrub” species.
- On the control plot:
 - Tree and shrub cover without change,
 - Increase of the share of oak-hornbeam forest species in soil cover.



STRZAŁOWO FOREST INSPECTORATE

Project: Attempt to recreate xerothermic oak forest

Started in 2011

Area: ultimately 30,56 [ha]

Subjects of conservation:

- 4068 ladybells (*Adenophora liliifolia*),
- 9110 habitat (ultimately).

Other important species:

Lilium martagon, *Hepatica nobilis*, *Gladiolus imbricatus*, *Digitalis grandiflora*,
Agrimonia pilosa, *Daphne mezereum*.



STRZAŁOWO FOREST INSPECTORATE

Project: Attempt to recreate xerothermic oak forest

Habitat description: Before

- Forest site type – fresh mixed forest (degraded *Tilio-Carpinetum* oak-hornbeam forests);
- Predominant tree species – Scotch pine, common and sessile oak (age 180-200);
- Canopy closure – Low (30-49 %)
- Shrub and undergrowth layer closure – 70 % (predominantly hazel and 10-20 % birch and hornbeam).

Diverse herbaceous plant species composition (35-60 species/100m²) - *Clinopodium vulgare*, *Astragalus glycyphyllos*, *Campanula persicifolia*, *Campanula rapunculoides*, *Lathyrus niger*, *Vincetoxicum officinale*, *Galium boreale*, *Hordelymus europaeus*, *Betonica officinalis*).



STRZAŁOWO FOREST INSPECTORATE

Project: Attempt to recreate xerothermic oak forest

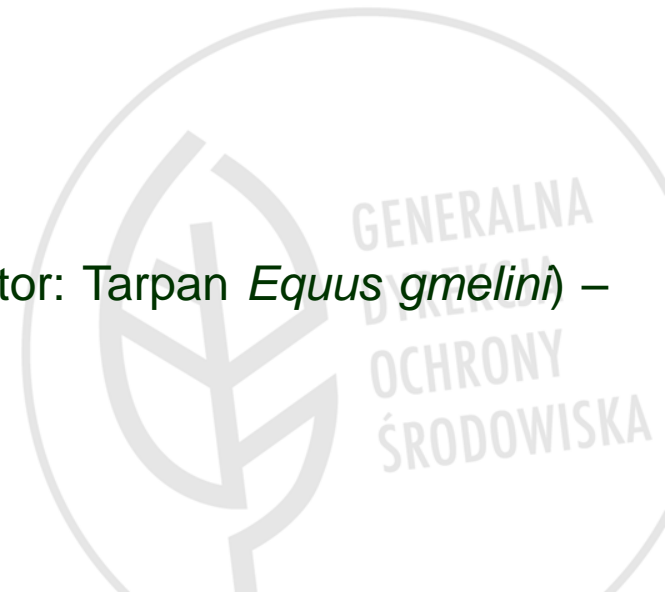
Threats:

- Intensive expansion of hazel and hornbeam.
- Browsing of oak undergrowth by game.

Conservation objective: restoration of xerothermic oak forest.

Conservation measures:

- 2011: Hazel removal – 1,35 [ha]
- 2012: Mowing with biomass removal - 1,35 [ha]
- 2013:
 - Grazing by race of Polish primitive horse (ancestor: Tarpan *Equus gmelini*) – 1 [ha].
 - Mowing with biomass removal - 0,35 [ha].



STRZAŁOWO FOREST INSPECTORATE

Project: Attempt to recreate xerothermic oak forest



STRZAŁOWO FOREST INSPECTORATE

Project: Attempt to recreate xerothermic oak forest

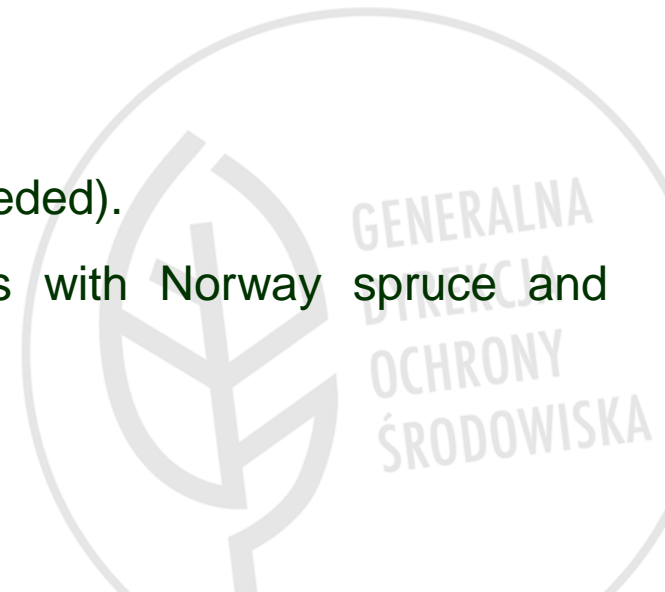


STRZAŁOWO FOREST INSPECTORATE

Project: Attempt to recreate xerothermic oak forest

Conservation measures: 2014

- Protection of the oak natural regeneration against game browsing – 1,44 [ha].
- Protection of the ladybell individuals against game browsing – 0,02 [ha].
- Shrub and undergrowth removal - 3,89 [ha].
- Mowing of the forest floor vegetation with biomass removal at localisations with ladybell individuals – 0,15 [ha].
- Quarter grazing of forest floor vegetation – 4,43 [ha].
- Early and late cleanings, artificial planting of oak (if needed).
- Stand species composition reconstruction – stands with Norway spruce and Scotch pine.



Thank you



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