

Figure S1. Choropleth map of natural and anthropogenic soil types in the city of Toruń (according to: [79]): 1—podzols, 2—gleyic podzols, 3—mucky soils, 4—rusty soils, 5—hortisols, 6—industriosols, 7—alluvial soils, 8—necrosols, 9—replantosols, 10—urbisols, 11—surface water, 12—garbage dump.

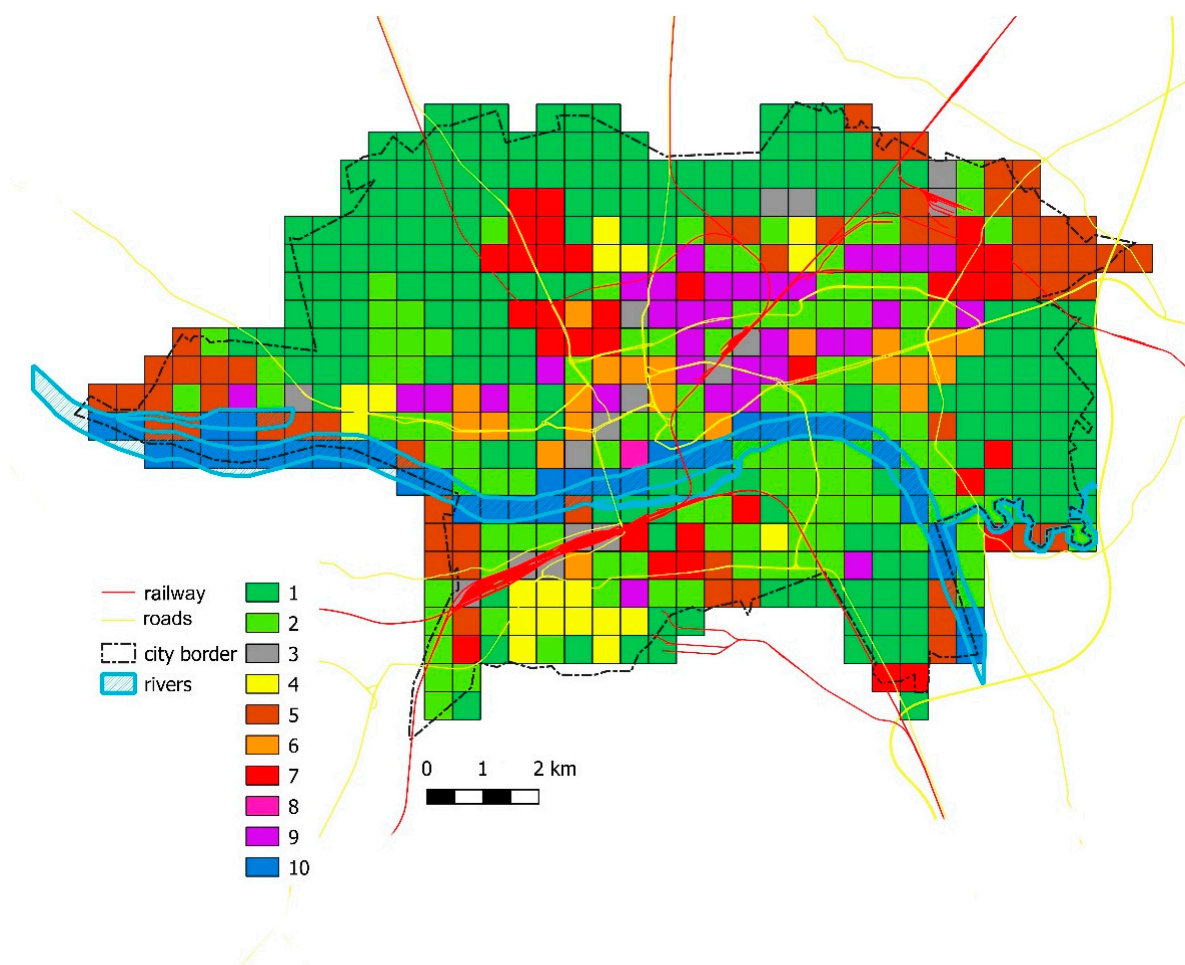
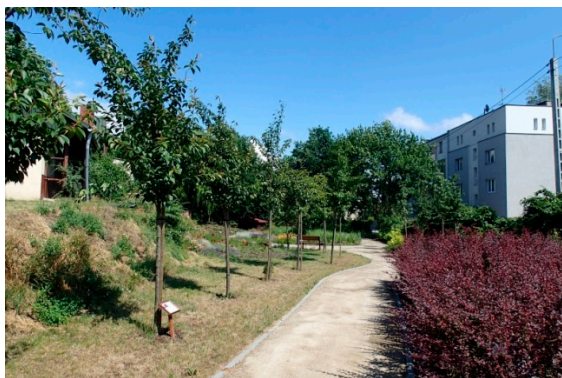


Figure S2. Choropleth map of habitat types in the city of Toruń: 1—forests, 2—shrubs, grasslands, allotment gardens, 3—ruderal areas, 4—sandy and gravel areas, 5—arable fields, 6—multifamily housing, 7—individual housing, 8—tenements, 9—industrial areas, 10 – surface water (according to: Mieczysław Kunz, Department of Geomatics and Cartography, Faculty of Earth Sciences and Spatial Management NCU in Toruń) [78].



Multi-family housing area (Mh)



Individual housing area (Ih)



Allotment garden (Ag)



Industrial areas –landfill with mixture of ash and slag in Power Plants (Ia)



Ruderal area (Ra)



Sandy area (SaGr)



Forest (Fo)



River bank area (Sw, As)

Figure S3. Selected habitat types within the borders of the city of Toruń.

Table S1. Invasive plant species recorded in the city of Toruń, Poland. Species identified as invasive according to: Tokarska-Guzik et al. [1]; species name given according to: World Flora Online [77].

Species Name	Abbreviation of Species Name	Origin	First Time Recorded	Frequency [%]
Species with full ATPOL location (included in statistical analyzes)				
<i>Acer negundo</i> L.	Ace.neg	North America	1808	97.3
<i>Ailanthus altissima</i> (Mill.) Swingle	Ail.alt	Asia E	1808	0.8
<i>Ambrosia artemisiifolia</i> L.	Amb.art	North America	1613	0.4
<i>Asclepias syriaca</i> L.	Asc.syr	North America	18th century	1.6
<i>Bidens frondosa</i> L.	Bid.fro	North America	1777	27.1
<i>Bunias orientalis</i> L.	Bun.ori	Europe SE, Asia W	1858	1.2
<i>Cannabis sativa</i> L. (<i>Cannabis sativa</i> var. <i>spontanea</i> Vavilov)	Can.sat	Asia	20th century	59.1
<i>Celtis occidentalis</i> L.	Cel.occ	North America	1805	0.6
<i>Clematis vitalba</i> L.	Cle.vit	Europe WS, Asia, Africa	1613	0.8
<i>Erigeron canadensis</i> L.	Eri.can	North America	1730	98.4
<i>Echinocystis lobata</i> (Michx.) Torr. & A. Gray	Ech.lob	North America	1937	27.3
<i>Elodea canadensis</i> Michx.	Elo.can	North America	1867	18.2
<i>Elodea nuttallii</i> (Planch.) H.St.John	Elo.nut	North America	1990	5.4
<i>Eragrostis multicaulis</i> Steud.	Era.mul	Europe SE, Asia W	20th century	14.1
<i>Erechtites hieracifolia</i> (L.) Raf.	Ere.hie	North America	1902	1.2
<i>Fraxinus pennsylvanica</i> Marshall	Fra.pen	North America	1805	2.5
<i>Galinsoga parviflora</i> Cav.	Gal.par	Central & South America	1807	82.6
<i>Helianthus tuberosus</i> L.	Hel.tub	North America	1730	38.4
<i>Impatiens glandulifera</i> Royle	Imp.gla	Central Asia	1890	2.9
<i>Impatiens parviflora</i> DC.	Imp.par	Central & Eastern Asia	1850	7.9
<i>Juglans regia</i> L.	Jug.reg	Asia SE, E	18th century	36.0
<i>Lycium barbarum</i> L.	Lyc.bar	Europe SE, Asia E	1847	50.0
<i>Prunus serotina</i> Ehrh.	Pru.ser	Central & North America	1813	72.7
<i>Parthenocissus inserta</i> (A.Kern.) Fritsch	Par.ins	North America	1806	49.2
<i>Quercus rubra</i> L.	Que.rub	North America	1806	39.7
<i>Reynoutria japonica</i> Houtt.	Rey.jap	Asia E	1882	2.3
<i>Reynoutria sachalinensis</i> (F. Schmidt) Nakai	Rey.sac	Asia E	1903	0.4
<i>Robinia pseudoacacia</i> L.	Rob.pse	North America	18th century	85.1
<i>Rumex confertus</i> Willd.	Rum.con	Europe SE, Asia W	1873	34.5
<i>Solidago gigantea</i> Aiton	Sol.gig	North America	1853	79.5
<i>Xanthium albinum</i> (Widd.) Scholz & Sukopp	Xan.alb	North America	1853	18.4
Species without full ATPOL location (excluded from statistical analyzes)				
Species name	Origin		First time recorded	
<i>Alopecurus myosuroides</i> Huds.	Mediterranean, Asia SW		no data	
<i>Amaranthus retroflexus</i> L.	Central & North America		1801	
<i>Amelanchier spicata</i> (Lam.) K.Koch	North America		1820	
<i>Avena fatua</i> L. s.l.	Asia SW		no data	
<i>Bromus carinatus</i> Hook. & Arn.	North America		1911	
<i>Buddleja davidii</i> Franch.	Asia		1911	
<i>Cornus sericea</i> L.	North America		1811	
<i>Cotoneaster lucidus</i> Schltdl.	Asia E		1889	
<i>Digitalis purpurea</i> L.	Europe W		1809	
<i>Diploaxis muralis</i> (L.) DC.	Europe SW		1850	
<i>Echinochloa crus-galli</i> (L.) P.Beauv.	Asia		no data	
<i>Epilobium ciliatum</i> Raf.	North America		1917	
<i>Erigeron annuus</i> (L.) Pers.	North America		1830	
<i>Galinsoga quadriradiata</i> Ruiz & Pav.	America Central & South		1876	

<i>Heliopsis helianthoides</i> subsp. <i>scabra</i> (Dunal) T.R.Fisher	North America	19th century
<i>Heracleum mantegazzianum</i> Sommier et Levier	Kaukaz	1973
<i>Heracleum sosnowskyi</i> Manden.	Kaukaz	1980
<i>Hordeum murinum</i> L.	Europe, Asia	no data
<i>Juncus tenuis</i> Willd.	North America	1862
<i>Lolium multiflorum</i> Lam.	Europe SE, Asia SW, Africa N	1837
<i>Lupinus polyphyllus</i> Lindl.	North America	1877
<i>Lysimachia punctata</i> L.	Europe SE	1870
<i>Berberis aquifolium</i> Pursh	North America	1839
<i>Oxalis corniculata</i> L.	Europe S, Asia SW, Africa, Australia	1863
<i>Oxalis stricta</i> L.	North America	1809
<i>Rhus typhina</i> L.	North America	1806
<i>Rosa rugosa</i> Thunb.	Asia E	19th century
<i>Rudbeckia laciniata</i> L.	North America	1787
<i>Setaria pumila</i> (Poir.) Roem et Schult.	Asia SE	no data
<i>Setaria viridis</i> (L.) P.Beauv.	Asia SE, Mediterranean	no data
<i>Solidago canadensis</i> L.	North America	1872
<i>Symphotrichum novi-belgii</i> (L.) G.L.Nesom	North America	18th century
<i>Symphotrichum</i> × <i>salignum</i> (Willd.) G.L.Nesom	North America	19th century
<i>Veronica persica</i> Poir.	Asia SW	1862
<i>Vicia grandiflora</i> Scop.	Europe S, Asia SW	1907

First time recorded—first time recorded in Poland; Frequency in permanent plots.