

Project progress report

WP4

University of Tartu

- a) Legislative issues are clear for EST and LAT;**
- b) Indicator list is compiled;**
- c) Data sources for indicators are identified, availability checked in EST, data analysis to derive indicators is ongoing;**
- d) Conceptual tool is under development: analysis method is clear (overlay and probability maps → suitability class), weights for legally non-binding factors is vague and remains so until questionnaires are completed**

Summary of legislative restrictions

Restriction zone	Feature	Extent of the restriction zone			Definition of the restriction zone	Legal basis
		Rural areas	Cities, settlement			
Water						
Land improvement system	land improvement system	Defined area	Defined area	Defined area		Land Improvement Act § 3, 46-48, 65
Limited management zone of the shore or bank	Sea islands, coast at Narva-Jõesuu	200m	200m	From the coast (from water line)		Nature Conservation Act § 34 - 37, 41
	Sea coast, Lake Peipsi, Võrtsjärv	200m	200m	From the coast (from water line)		Nature Conservation Act § 34 - 37, 41
	Inland waterbodies with area >10 ha and catchment >25km ²	100m	100m	From the coast (from water line)		Nature Conservation Act § 34 - 37, 41
	Inland waterbodies up to 10ha area and up to 25km ² catchment	50m	50m	From the coast (from water line)		Nature Conservation Act § 34 - 37, 41
	Spring	50m	50m	From the coast (from water line)		Nature Conservation Act § 34 - 37, 41
Building exclusion zone of the shore or bank	Sea islands, coast at Narva-Jõesuu	200m	200m	From the coast (from water line)		Nature Conservation Act § 34 - 36, 36,40
	Sea coast, Lake Peipsi, Võrtsjärv	100m	50m	From the coast (from water line)		Nature Conservation Act § 34 - 36, 36,40
	Inland waterbodies with area >10 ha and catchment >25km ²	60m	50m	From the coast (from water line)		Nature Conservation Act § 34 - 36, 36,40
	Inland waterbodies up to 10ha area and up to 25km ² catchment	25m	25m	From the coast (from water line)		Nature Conservation Act § 34 - 36, 36,40
	Spring	25m	25m	From the coast (from water line)		Nature Conservation Act § 34 - 36, 36,40
Water protection zone of the shore or bank	Sea islands, coast at Narva-Jõesuu	20m	20m	From the coast (from water line)		Water act § 29
	Sea coast, Lake Peipsi, Võrtsjärv	20m	20m	From the coast (from water line)		Water act § 29
	Inland waterbodies with area >10 ha and catchment >25km ²	10m	10m	From the coast (from water line)		Water act § 29
	Inland waterbodies up to 10ha area and up to 25km ² catchment	10m	10m	From the coast (from water line)		Water act § 29
	Spring	10m	10m	From the coast (from water line)		Water act § 29
Veehaarde sanitaarkaitseala	Drilled well	60m	60m	From the side		Water Act § 29, 20, Regulation on defining and engineering sanitary protection zone of the water scoop (Ministry)
	Water scoop	200m updraught, 50m downdraught	50m updraught, 50m downdraught	From the side		Water Act § 29, 20, Regulation on defining and engineering sanitary protection zone of the water scoop (Ministry)
	Cemetery sanitary zone	Defined area	Defined area	Defined area		Public Health Act § 8, Water Act § 20
Forest						
Vaarieselupaik	Key biotope	Defined area	Defined area	Defined area		Forest Act § 23, Classifier of key biotope and guideline for selection (Ministry of Environment 04.01.2007 regula
Infrastructure						
Road safety zone	National road	50m	50m	From the central line of the outmost element (axis)		Roads Act § 13, 36, 37
	Local road	20-50m	20-50m	From the central line of the outmost element (axis)		Roads Act § 13, 36, 37
	Street	up to 10m (up to 50m if enacted)	up to 10m (up to 50m if enacted)	From the side (axis of the road area)		Roads Act § 13, 36, 37
	Railway	50m	30m	From the side (axis of the outmost rail)		Railways Act § 9 § 3 ja 37
	Airfield	150-600m from the axis of the	150-500m from the	Defined area		Aviation Act § 34, 34*, 34*, 36, 36*, 46 (6)
Safety zone of high voltage powerlines	overhead electrical power lines < 1 kV	2m	2m	From the centre (axis of the line)		Electrical Safety Act § 12, Extent of the safety zone of electrical infrastructure and requirements for working in th
	overhead electrical power lines kuni 20 kV	10m	10m	From the centre (axis of the line)		Electrical Safety Act § 12, Extent of the safety zone of electrical infrastructure and requirements for working in th
	overhead electrical power lines 35–110 kV	25m	25m	From the centre (axis of the line)		Electrical Safety Act § 12, Extent of the safety zone of electrical infrastructure and requirements for working in th
	overhead electrical power lines 220–330 kV	40m	40m	From the centre (axis of the line)		Electrical Safety Act § 12, Extent of the safety zone of electrical infrastructure and requirements for working in th
	overhead electrical power lines above navigatable inland water	100m	100m	from the both sides of projected vertical plane		Electrical Safety Act § 12, Extent of the safety zone of electrical infrastructure and requirements for working in th
	underground electric cable	1m	1m	from the both sides of projected vertical plane		Electrical Safety Act § 12, Extent of the safety zone of electrical infrastructure and requirements for working in th
	overhead electrical cable 1-20kV	3m	3m	from the both sides of projected vertical plane		Electrical Safety Act § 12, Extent of the safety zone of electrical infrastructure and requirements for working in th
	Submarine electrical cable in sea or lake	100m	100m	from the both sides of projected vertical plane		Electrical Safety Act § 12, Extent of the safety zone of electrical infrastructure and requirements for working in th
	Submerged electrical cable in river	60m	50m	from the both sides of projected vertical plane		Electrical Safety Act § 12, Extent of the safety zone of electrical infrastructure and requirements for working in th
	Substations ja transformers	2m	2m	from the both sides of projected vertical plane		Electrical Safety Act § 12, Extent of the safety zone of electrical infrastructure and requirements for working in th
	Support structures of electric poles	1m	1m	from the projection on the land		Electrical Safety Act § 12, Extent of the safety zone of electrical infrastructure and requirements for working in th
Safety zone of gas infrastructures	A- ja B category gas pipe	1m	1m	From the centre to the both side of the axis of th		Gaseous Fuel Safety Act § 10, Extent of safety zone of gas infrastructure and maintenance zone of D category §
	C category gas pipe	2m	2m	From the centre to the both side of the axis of th		Gaseous Fuel Safety Act § 10, Extent of safety zone of gas infrastructure and maintenance zone of D category §
	D category gas pipe DN<= 200 mm	3m	3m	From the centre to the both side of the axis of th		Gaseous Fuel Safety Act § 10, Extent of safety zone of gas infrastructure and maintenance zone of D category §
	D category gas pipe 200 mm <DN<= 500 mm	6m	6m	From the centre to the both side of the axis of th		Gaseous Fuel Safety Act § 10, Extent of safety zone of gas infrastructure and maintenance zone of D category §
	D category gas pipe DN= 500 mm	10m	10m	From the centre to the both side of the axis of th		Gaseous Fuel Safety Act § 10, Extent of safety zone of gas infrastructure and maintenance zone of D category §
	C category parallel gas pipe	3m	3m	From the centre to the both side of the axis of th		Gaseous Fuel Safety Act § 10, Extent of safety zone of gas infrastructure and maintenance zone of D category §
	D category parallel gas pipe DN<= 200 mm	4,5m	4,5m	From the centre to the both side of the axis of th		Gaseous Fuel Safety Act § 10, Extent of safety zone of gas infrastructure and maintenance zone of D category §
	D category parallel gas pipe 200 mm <DN<= 500 mm	7,5m	7,5m	From the centre to the both side of the axis of th		Gaseous Fuel Safety Act § 10, Extent of safety zone of gas infrastructure and maintenance zone of D category §
	D category parallel gas pipe DN= 500 mm	15m	15m	From the centre to the both side of the axis of th		Gaseous Fuel Safety Act § 10, Extent of safety zone of gas infrastructure and maintenance zone of D category §
	A- ja B category undervater gas pipe	2m	2m	From the centre to the both side of the axis of th		Gaseous Fuel Safety Act § 10, Extent of safety zone of gas infrastructure and maintenance zone of D category §
	C category undervater gas pipe	4m	4m	From the centre to the both side of the axis of th		Gaseous Fuel Safety Act § 10, Extent of safety zone of gas infrastructure and maintenance zone of D category §
	D category undervater gas pipe DN<= 200 mm	6m	6m	From the centre to the both side of the axis of th		Gaseous Fuel Safety Act § 10, Extent of safety zone of gas infrastructure and maintenance zone of D category §
	D category undervater gas pipe 200 mm <DN<= 500 mm	10m	10m	From the centre to the both side of the axis of th		Gaseous Fuel Safety Act § 10, Extent of safety zone of gas infrastructure and maintenance zone of D category §
	D category undervater gas pipe DN= 500 mm	20m	20m	From the centre to the both side of the axis of th		Gaseous Fuel Safety Act § 10, Extent of safety zone of gas infrastructure and maintenance zone of D category §
	A- ja B category gas structure	1m	1m	From the side (of the structure or shield)		Gaseous Fuel Safety Act § 10, Extent of safety zone of gas infrastructure and maintenance zone of D category §
	C category gas structure	2m	2m	From the side (of the structure or shield)		Gaseous Fuel Safety Act § 10, Extent of safety zone of gas infrastructure and maintenance zone of D category §
	D category gas structure	10m	10m	From the side (of the structure or shield)		Gaseous Fuel Safety Act § 10, Extent of safety zone of gas infrastructure and maintenance zone of D category §
Safety zone of pressure infrastructure	Underground heat pipelines < 200 mm	2m	2m	From the centre of vertical and horizontal plane p		Pressure Equipment Safety Act § 98, Extent of safety zone of pressure equipment § 2
	Underground heat pipelines 200 mm and more	3m	3m	From the centre of vertical and horizontal plane p		Pressure Equipment Safety Act § 98, Extent of safety zone of pressure equipment § 2
	Above-ground heat- and steam pipelines >16 bar	10m	10m	From the centre of vertical and horizontal plane p		Pressure Equipment Safety Act § 98, Extent of safety zone of pressure equipment § 2
	Above-ground heat- and steam pipelines 16 bar or less	6m	6m	From the centre of vertical and horizontal plane p		Pressure Equipment Safety Act § 98, Extent of safety zone of pressure equipment § 2
	Above-ground hot water pipelines >6 bar	5m	5m	From the centre of vertical and horizontal plane p		Pressure Equipment Safety Act § 98, Extent of safety zone of pressure equipment § 2
	Above-ground hot water pipelines 6 bar and less	2m	2m	From the centre of vertical and horizontal plane p		Pressure Equipment Safety Act § 98, Extent of safety zone of pressure equipment § 2
	Pressure infrastructure	2m	2m	From the side		Pressure Equipment Safety Act § 98, Extent of safety zone of pressure equipment § 2
	Pressure pipes (liquid fuels)	5m	5m	From the centre		Pressure Equipment Safety Act § 98, Extent of safety zone of pressure equipment § 2
	Pressure pipes (hazardous materials)	Defined area	Defined area	From the centre		Pressure Equipment Safety Act § 98
Water and sewage protection zone	Underground water and sewage pipes	2-5m	2-5m	From the centre of the pipe to the both sides		Public Water Supply and Sewerage Act § 63*
	Above-ground water and sewage pipes	2m	2m	From the centre of the pipe to the both sides		Public Water Supply and Sewerage Act § 63*
	Underwater water and sewage pipes in rivers and lakes ja ke	60m	50m	From the centre of the pipe to the both sides		Public Water Supply and Sewerage Act § 63*
	Submarine water and sewage pipes in sea	200m	200m	From the centre of the pipe to the both sides		Public Water Supply and Sewerage Act § 63*
	Structure for water and sewage	2m	2m	From side or up to the fence		Public Water Supply and Sewerage Act § 63*
Protection zone for communication	Communication structure on land	2m	2m	From centre or side of the wall		Electronic Communications Act § 117-119
	Communication structure in inland waterbodies	100m	100m	From centre		Electronic Communications Act § 117-119
	Communication structure on sea	0,25 nautical miles	0,25 nautical miles	From centre		Electronic Communications Act § 117-119
	Radiocommunication mast	equivalent radius of 1/3 height	equivalent radius of	From centre		Electronic Communications Act § 117-119
Planning, construction and objects of national importance						
Planning area	Mandatory detailed planning area	Defined area	Defined area	Defined area		Planning Act § 8, 9
	Detailed planning area	Defined area	Defined area	Defined area		Planning Act § 8, 9
	Comprehensive planning area	Defined area	Defined area	Defined area		Planning Act § 8, 9
National defence area	National defence area	Defined area	Defined area	Defined area		Planning Act § 8, 9
Mineral reserve	Mineral reserve	Defined area	Defined area	Defined area		Earth's Crust Act § 2,52,53,62-66
Uuringu ala	Geological exploration area	Defined area	Defined area	Defined area		Earth's Crust Act § 2,16,52,53,62-66
Piiririba	National border	10m (from border to inland)	10m (from border to inland)	10m (from border to inland)		State Borders Act § 6
Geodetic line mark	Geodetic sign	Defined area	Defined area	Defined area		Regulation of Government 14.04.1994 nr 138
Environmental protection						
Strict nature reserve	Nature protection area	Defined area	Defined area	Defined area		Nature Conservation Act § 4,14-17, 20, 29
Nature reserve	Nature protection area	Defined area	Defined area	Defined area		Nature Conservation Act § 4,14-17, 20, 30
Conservation zone	Nature protection area	Defined area	Defined area	Defined area		Nature Conservation Act § 4,14-17, 20, 30
Limited management zone	Nature protection area	Defined area	Defined area	Defined area		Nature Conservation Act § 4,14-17, 20, 31
Limited-conservation area	Limited-conservation area	Defined area	Defined area	Defined area		Nature Conservation Act § 4,14-17, 20, 32, 33
Species protection site	Species protection site	up to 50m	up to 50m	From the edge (width of the zone is defined by p		Nature Conservation Act § 5,17, 20, 60
I category protected species	I category protected species, fossils and minerals	Defined area	Defined area	Exact width is defined separately for each species		Nature Conservation Act § 4,14-17, 20, 46-67
II category protected species	II category protected species, fossils and minerals	Defined area	Defined area	Exact width is defined separately for each species		Nature Conservation Act § 4,14-17, 20, 46-67
III category protected species	III category protected species, fossils and minerals	Defined area	Defined area	Exact width is defined separately for each species		Nature Conservation Act § 4,14-17, 20, 46-67, 54-67
Natural objects protected on local government level	Natural objects protected on local government level	Defined area	Defined area	Defined area		Nature Conservation Act § 4,14-17, 20, 46-67
Conservation zone of protected species	species protection site	Defined area	Defined area	Defined area		Nature Conservation Act § 4,14-17, 20,30,50
Limited conservation area of protected species	species protection site	Defined area	Defined area	Defined area		Nature Conservation Act § 4,14-17, 20,30,50
Unprotected groundwater area	Spring	Defined area	Defined area	Defined area		Water Act § 26*,26* ja 26*4
	Karst	Defined area	Defined area	Defined area		Water Act § 26*,26* ja 26*4
Heritage Conservation						
Heritage Conservation Area	Heritage Conservation Area	Defined area	Defined area	Defined area		Heritage Conservation Act § 4, 12, 24, 25
Protection zone of immovable monuments	Immovable monuments	50m (if not determined otherwise)	50m (if not determined otherwise)	50m (if not determined otherwise - determined by		Heritage Conservation Act § 4, 12, 24, 25

Indicators

Nearly 100 indicators needed for suitability analysis

Data availability check completed in EST

Deliverable 4.2









List of indicators relevant for wind energy planning issues for the Gulf of Riga marine and coastal (5-10 km) territories

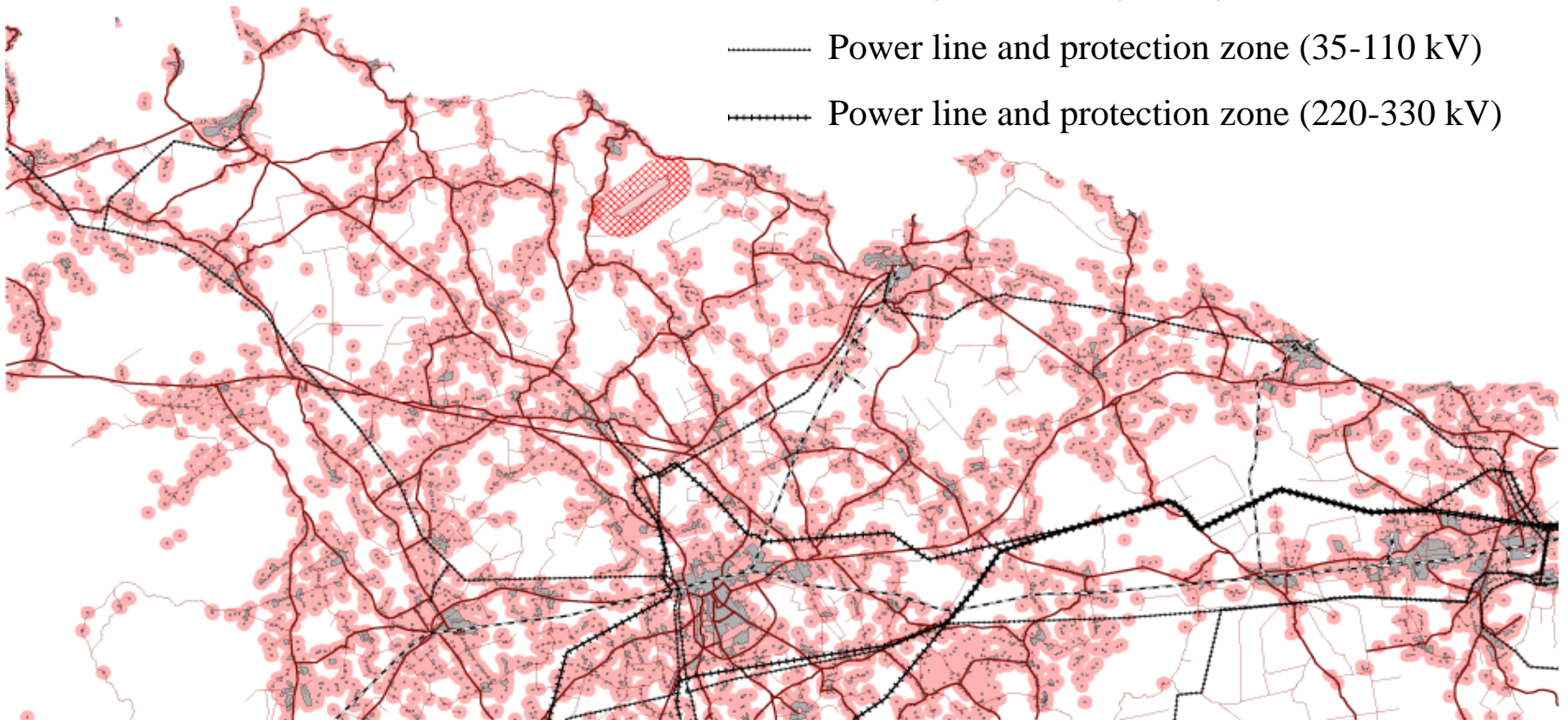
Category	Indicator	Resolution/parameter/type	Time period	Primary user and main field of use Work package	Purpose	Availability		To be clarified (Legal restriction extent (m))		Legal Act	
						Estonia	Latvia	Estonia	Latvia	Estonia	Latvia
Meteorological data	wind speed	0.1 / 1 m/s	1980-2010	WP2		Available		Available Meteorological stations of LHM Ainazi, Kolka, Mersrags, Pihelku, Skulte, Stende, Zilani, Ventspils			
	wind gust	0.1 / 1 m/s	1980-2010	WP2		Available		Available Meteorological stations of EMHI Ruhnu, Kihnu, Pärnu, Virtsu, Vilsandi, Sõrve, Laane-Nigula, Viikandi			
	wind direction	1° / 10°	1980-2010	WP2		Available		Available Meteorological stations of EMHI Ruhnu, Kihnu, Pärnu, Virtsu, Vilsandi, Sõrve, Laane-Nigula, Viikandi			
	air temperature (2 m)	0.1°	1980-2010	WP2		Available		Available Meteorological stations of EMHI Ruhnu, Kihnu, Pärnu, Virtsu, Vilsandi, Sõrve, Laane-Nigula, Viikandi			
	air pressure	mmHg/bar	1980-2010	WP2		Available		Available Meteorological stations of EMHI Ruhnu, Kihnu, Pärnu, Virtsu, Vilsandi, Sõrve, Laane-Nigula, Viikandi			
	precipitation	mm	1980-2010	WP2		Available		Available Meteorological stations of EMHI Ruhnu, Kihnu, Pärnu, Virtsu, Vilsandi, Sõrve, Laane-Nigula, Viikandi			
	Mean mast coordinates	TM Baltic (LKS 1992 Latvia TM, Bas	1980-2010	WP2		Available		Any changes in location in 1980-2010?			
High measurement masts	0.1 m/s, 1°, bar	>1995	WP2				To be agreed with the Locations available: Virtsu (Rõuste), Uulu EE, 7 LV				
SAR data	wave height	m		WP2							
	wave direction	1° / 10°		WP2							
	ice cover			WP2							
Orography	Isolines	(5m /10m) /1 to 10 000		WP2, WP4	WASP wind field, visualization	Available		TN or DEM?			
	3D terrain model	10m / 1 500 000		WP2	Climate modelling	Available		To be bought from Land Board if necessary (
Bathymetry	Isobaths	1: 50 000 or higher		WP4, WP3	subtability analysis of wind farms			Minimum requirement: accurate depth 0-35m, generalized info deeper than 35m			
	3D terrain model			?				If necessary			
Sediments	Sediment type	1:100 000		WP3, WP4	subtability analysis of offshore wind farms			if necessary			
	ecotope classification	1:100 000		WP3, WP5	subtability analysis of offshore wind farms			if necessary			
Navigation	Navigation routes			WP4	subtability analysis of offshore wind farms			Site specific		Maritime Safety Act	
	Navigation signs			WP4	subtability analysis of wind farms			Site specific		Maritime Safety Act	
Marine use	Fishing grounds			WP4	subtability analysis of offshore wind farms						
	Cables, pipelines etc.			WP4	subtability analysis of offshore wind farms			up to 460m		Gaseous Fuel Safety Act, Pressure Equipment Safety Act, Public Water Supply and Sewerage Act	
	Ordnance deposits			WP4	subtability analysis of offshore wind farms			Site specific			
	Military training areas			WP4	subtability analysis of offshore wind farms			Site specific		Planning Act	
	Marine mining areas			WP4	subtability analysis of offshore wind farms			Site specific		Earth's Crust Act	
	Marine Protected areas	Important bird areas		WP4	subtability analysis of offshore wind farms	Available online in raster format through WMS server via Land Board					
		Natura2000		WP4	subtability analysis of offshore wind farms	Available online in raster format through WMS server via Land Board					
	Other		WP4	subtability analysis of offshore wind farms	Available online in raster format through WMS server via Land Board						
Land use	Settlement	Public- and administrative buildings		WP4	subtability analysis of wind farms	Available, map denied	Needed in <40 dB(A)			Regulation No. 42 (04.03.2002) of the Minister of Social Affairs	
	Residential			WP4	subtability analysis of wind farms	Available, map denied	Needed in <40 dB(A)			Regulation No. 42 (04.03.2002) of the Minister of Social Affairs	
Infrastructure	National roads			WP4	subtability analysis of wind farms	Available, map denied	Needed in 50m			Road Act	
	Local roads			WP4	subtability analysis of wind farms	Available, map denied	Needed in 20-50m			Road Act	
	Ice road corridors			WP5	subtability analysis of offshore wind farms		Site specific			Road Act	
	Railways			WP4	subtability analysis of wind farms	Available, map denied	Needed in 50m			Railway Act	
	Airfields			WP4	subtability analysis of wind farms	Available, map denied	Needed in 500m (+site specific areas)			Aviation Act	
	(gas) pipelines			WP4	subtability analysis of wind farms	Available, map denied	Needed in up to 10m			Gaseous Fuel Safety Act, Pressure Equipment Safety Act, Public Water Supply and Sewerage Act	
	Submarine gas pipelines			WP5	subtability analysis of wind farms	Available, map denied	Needed in up to 20m			Gaseous Fuel Safety Act	
	High voltage powerlines 35-110 kV			WP4	subtability analysis of wind farms	Available, map denied	Needed in 25m			Electrical Safety Act	
	High voltage powerlines 220-330 kV			WP4	subtability analysis of wind farms	Available, map denied	Needed in 40m			Electrical Safety Act	
	High voltage powerline above navigatable inland water			WP4	subtability analysis of wind farms	Available, map denied	Needed in 100m			Electrical Safety Act	
	Submarine high voltage powerlines			WP4	subtability analysis of wind farms	Available, map denied	Needed in 100m			Electrical Safety Act	
	Communication lines on land			WP4	subtability analysis of wind farms		Needed in 2m			Electronic Communications Act	
	Communication line in navigatable inland waterbod			WP4	subtability analysis of wind farms		Needed in 100m			Electronic Communications Act	
	Submarine communication lines			WP4	subtability analysis of wind farms		Needed in 460m (0.25 miles)			Electronic Communications Act	
	Radio communication masts			WP4	subtability analysis of wind farms		Needed in 1/3 of height of the mast			Electronic Communications Act	
Planning areas with designation	National defence areas			WP4	subtability analysis of wind farms		Needed in Site specific			Planning Act	
	Excavation/mining area			WP4	subtability analysis of wind farms	Available, map denied	Needed in Site specific			Earth's Crust Act	
	Geological exploration area			WP4	subtability analysis of wind farms		Needed in Site specific			Earth's Crust Act	
	Mineral deposit area			WP4	subtability analysis of wind farms		Needed in Site specific			Earth's Crust Act	
	State border area			WP4	subtability analysis of wind farms	Available, map denied	Needed in 10m			State Borders Act	
	Water scoops			WP4	subtability analysis of wind farms	Available, map denied	Needed in 200m			Water Act	
	Burial ground (cemetery)			WP4	subtability analysis of wind farms	Available, map denied	Needed in Site specific			Public Health Act	
	Burial ground (animal cemetery)			WP4	subtability analysis of wind farms	Available, map denied	Needed in Site specific			Public Health Act	
	Land improvement systems (regulation network, etc.)			WP4	subtability analysis of wind farms		Needed in Site specific			Land Improvement Act	
	Building exclusion zones of shores and banks			WP4	subtability analysis of wind farms	Available, map denied	Needed in 200/100/50/25m			Nature Conservation Act	
	Enacted detailed, master or county plan with any spatially defined				designated land use category not conforming with wind farm development						
	Forests				subtability analysis of wind farms	Available, map denied					
	Wetlands				subtability analysis of wind farms	Available, map denied					
	Waterbodies				subtability analysis of wind farms	Available, map denied					
Nature protection	key biotopes			WP4	subtability analysis of wind farms		Needed in Site specific			Forest Act	
	protected area			WP4	subtability analysis of wind farms		Needed in Site specific			Nature Conservation Act	
	limited-conservation area			WP4	subtability analysis of wind farms		Needed in Site specific			Nature Conservation Act	
	natural objects protected on local government level			WP4	subtability analysis of wind farms		Needed in Site specific			Nature Conservation Act	
	protected natural monuments			WP4	subtability analysis of wind farms	1 km socially sensitive	Needed in 50m			Nature Conservation Act	
	species protection sites (I, II, III category)			WP4	subtability analysis of wind farms		Needed in Site specific			Nature Conservation Act	
	environmental monitoring station			WP4	subtability analysis of wind farms		Needed in Site specific			Environmental Monitoring Act	
	nitrile sensitive areas			WP4	subtability analysis of wind farms		Needed in Site specific			Water Act	
	unprotected groundwater (spring, karst)			WP4	subtability analysis of wind farms		Needed in Site specific			Water Act	
	heritage conservation areas			WP4	subtability analysis of wind farms		Needed in Site specific			Heritage Conservation Act	
	protected heritage object			WP4	subtability analysis of wind farms		Needed in 50m (if not defined otherwise)		Heritage Conservation Act		
Informal, socially or ec	Marine mammals (if not protected)	Feeding grounds		WP4	subtability analysis of wind farms					Regulation No. 42 (04.03.2002) of the Minister of Social Affairs	
		resting areas		WP4	subtability analysis of wind farms					Regulation No. 42 (04.03.2002) of the Minister of Social Affairs	
Birds (if not protected species)	Feeding grounds			WP4	subtability analysis of wind farms						
	resting areas			WP4	subtability analysis of wind farms						
	migration routes			WP4	subtability analysis of wind farms						
Landscape	Traditional (heritage) landscapes			WP4	subtability analysis of wind farms						
	Valuable view			WP4	subtability analysis of wind farms						
	Views from public places (multiple photographs for			WP4	subtability analysis of wind farms			Sites to be selected (sociological survey) and photos to be taken			
	Views from roads (safety at crossings, curves)										
Recreation	Parks, nature trails, hiking routes							40 dB(A), site specific		Regulation No. 42 (04.03.2002) of the Minister of Social Affairs	
	beach, swimming area							40 dB(A), site specific		Regulation No. 42 (04.03.2002) of the Minister of Social Affairs	
	watersport, surf, saunasurfing										
	Observation towers										
Map	Topographic	1:10 000	most recent	WP2, WP3, WP4		Available		Vector format, TM Baltic system			
	Topographic supplementary	(Corine Land Cover, Base map) 1:5	2006	if needed		Available		Vector format, TM Baltic system			
	Marine/Navigation		most recent	WP3, WP4				Vector format, TM Baltic system			
	Aerial orthophotographs	10 km ground meteorostations	most recent	WP2		Available	Delivered, available				

Suitability analysis tool

- **Conceptual tool is under development:
analysis method is clear:**
 - **physical prerequisites**
 - **Map overlay**
 - **restrictions**
 - **probability, acceptance etc. maps etc.**
- **Handling of marine and coastal areas
somewhat different (no marine plans)**

Exclusion areas

-  Settlement
-  Settlement noise prevention and safety zone
-  Airfield
-  Airfield safety zone
-  Road and road safety zone
-  Railway and railway safety zone
-  Power line and protection zone (35-110 kV)
-  Power line and protection zone (220-330 kV)



Exclusion and strictly restricted areas



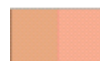
Nature reserve



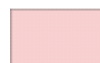
Important bird area



Settlement



Settlement noise prevention and safety zone



Airfield



Airfield safety zone



Road and road safety zone



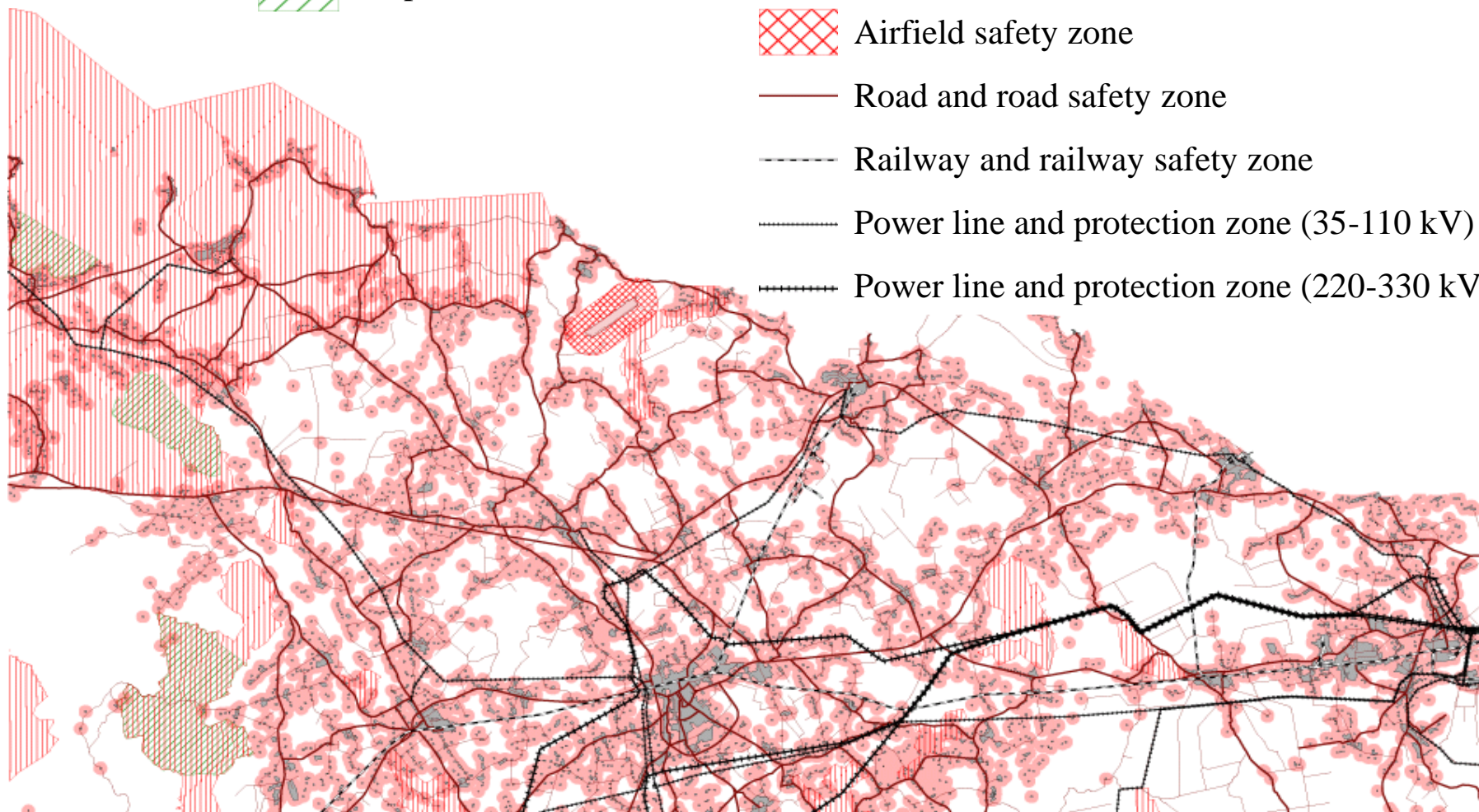
Railway and railway safety zone

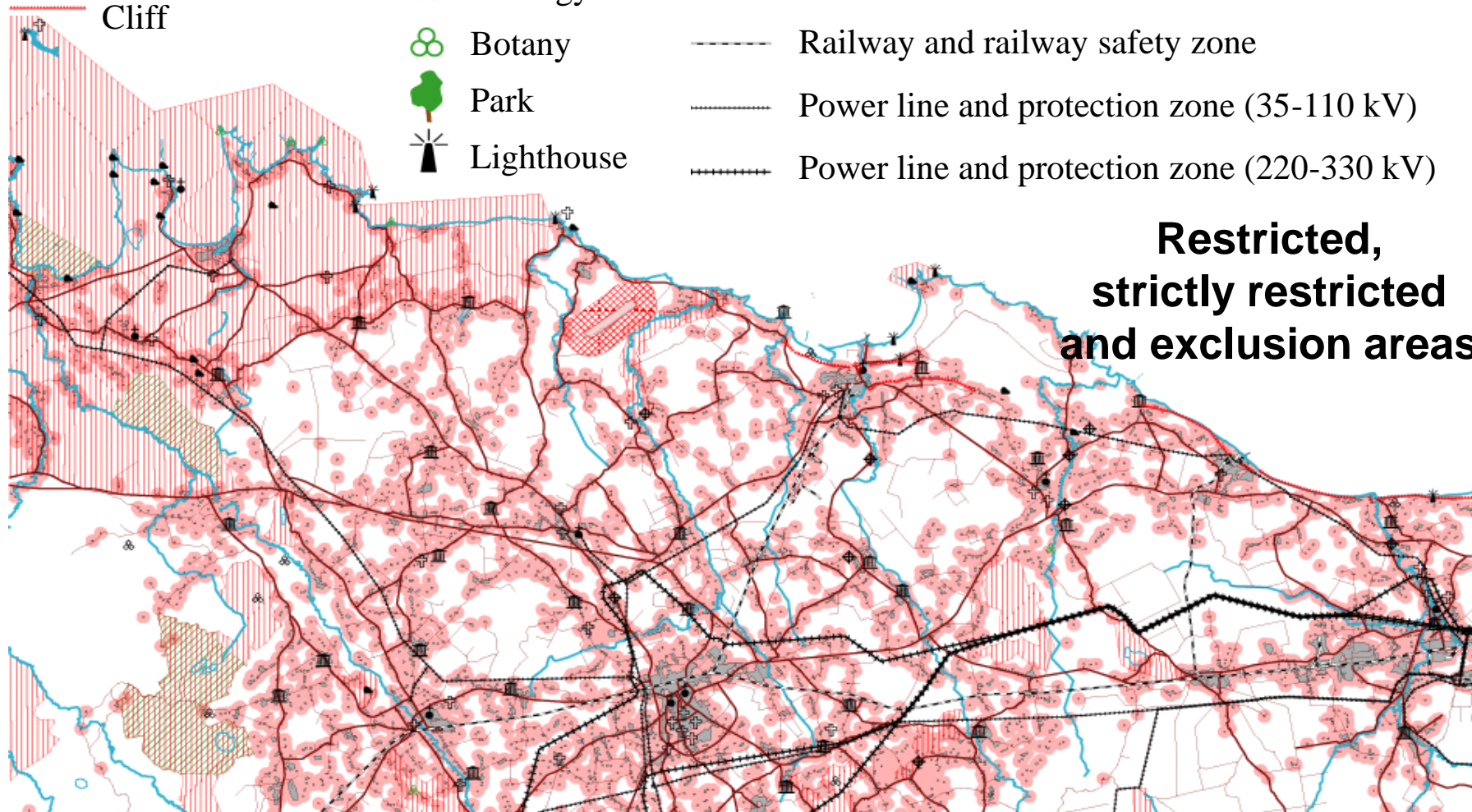
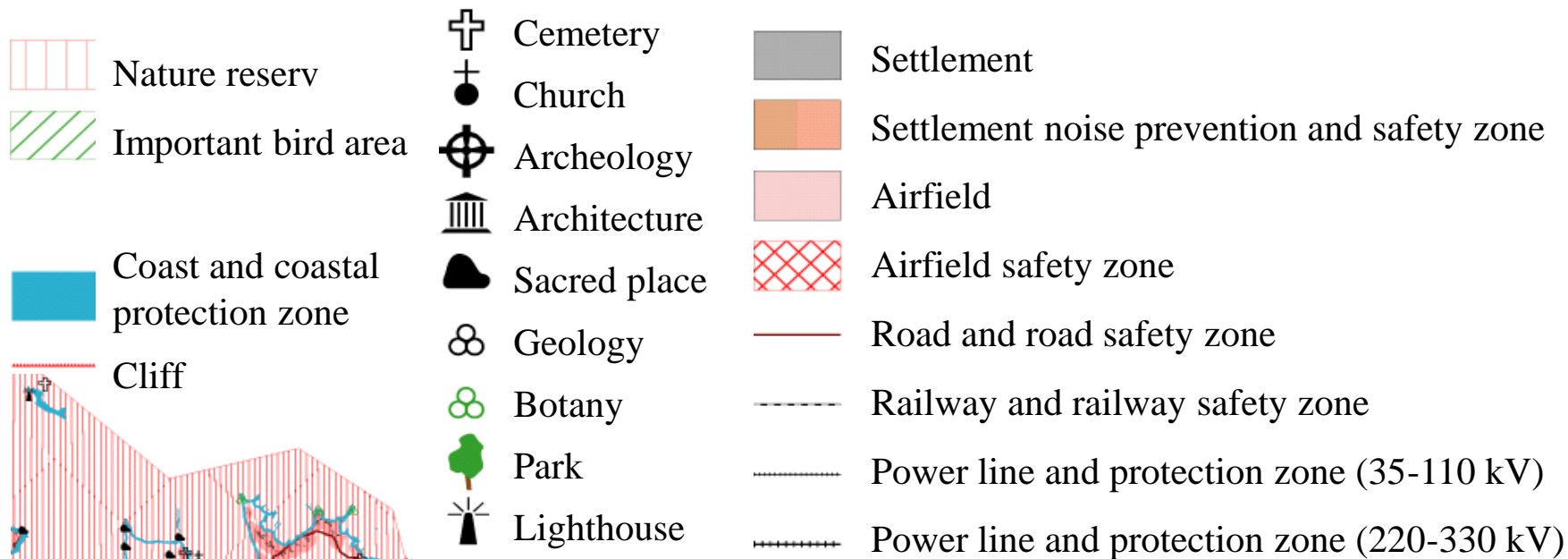


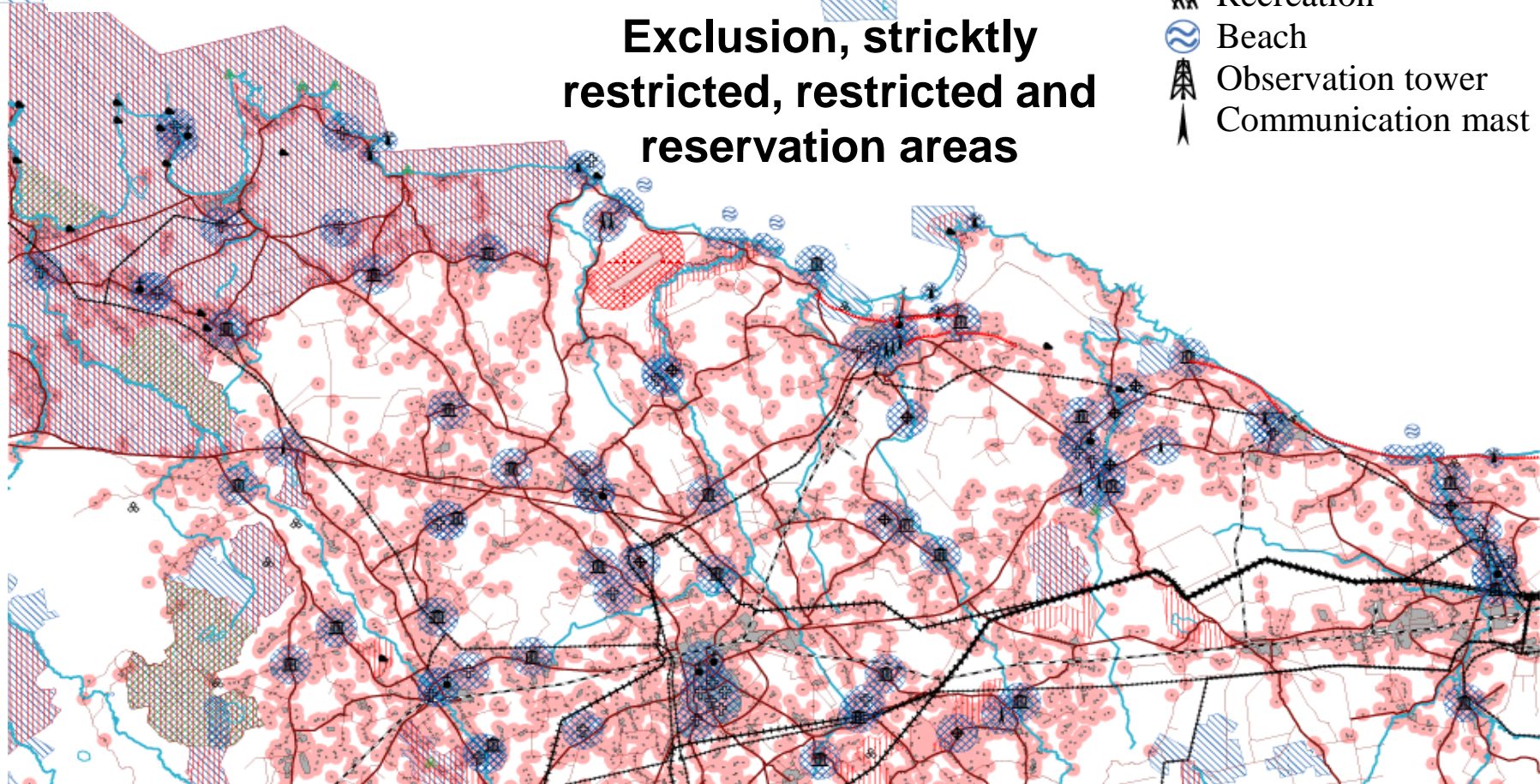
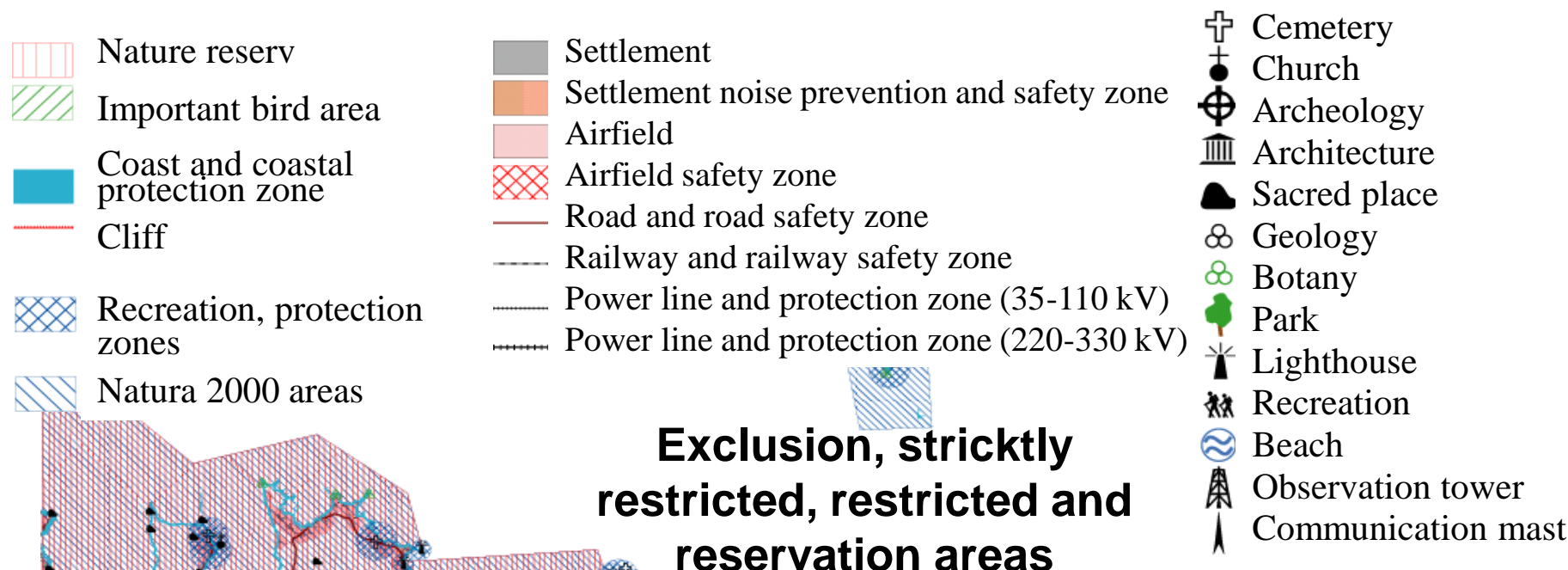
Power line and protection zone (35-110 kV)



Power line and protection zone (220-330 kV)



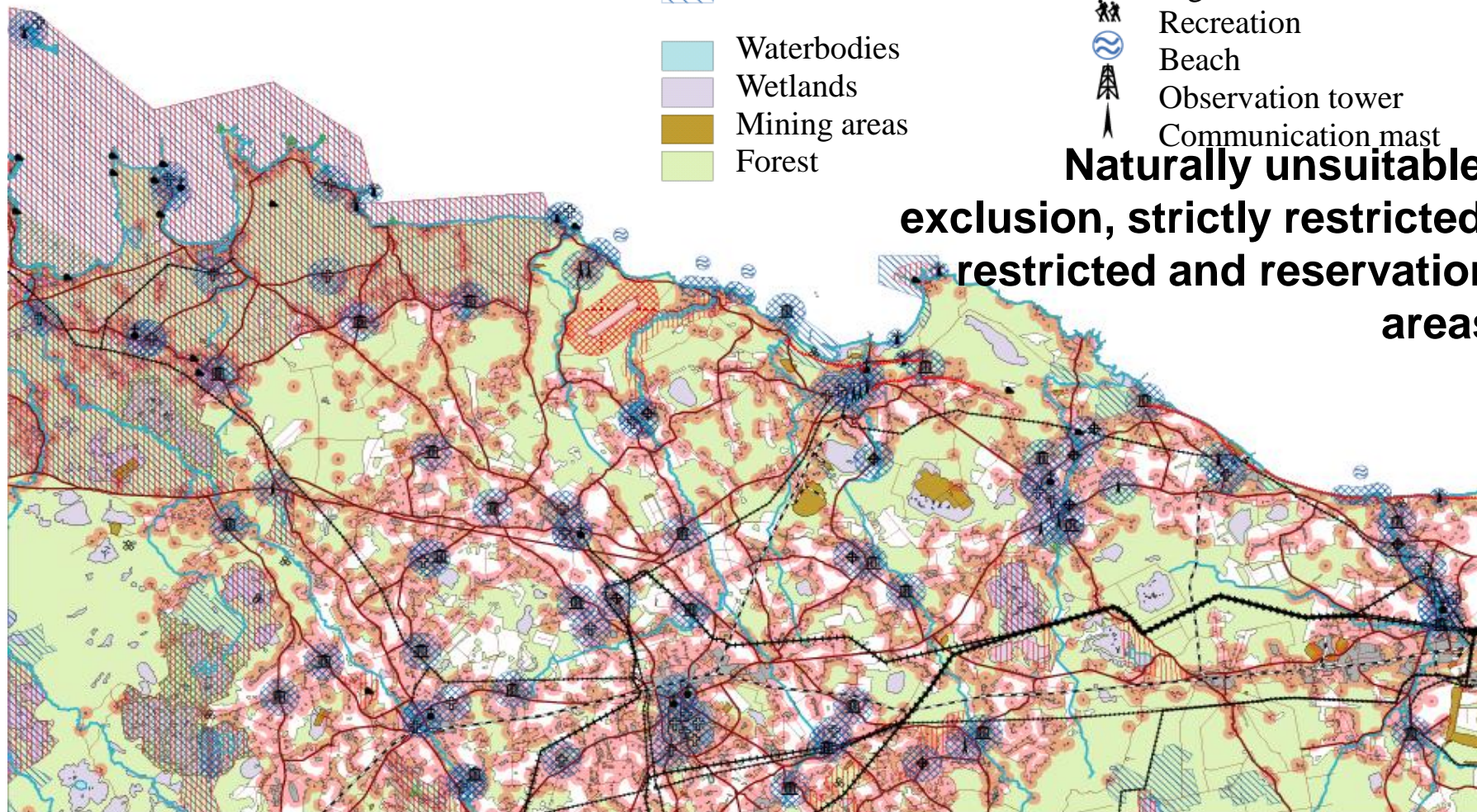




- Settlement
- Settlement noise prevention and safety zone
- Airfield
- ▨ Airfield safety zone
- Road and road safety zone
- Railway and railway safety zone
- Power line and protection zone (35-110 kV)
- Power line and protection zone (220-330 kV)

- ▨ Nature reserv
- ▨ Important bird area
- Coast and coastal protection zone
- Cliff
- ▨ Recreation, protection zones
- ▨ Natura 2000 areas
- Waterbodies
- Wetlands
- Mining areas
- Forest

- ✚ Cemetery
- ✚ Church
- ✚ Archeology
- ✚ Architecture
- ✚ Sacred place
- ✚ Geology
- ✚ Botany
- ✚ Park
- ✚ Lighthouse
- ✚ Recreation
- ✚ Beach
- ✚ Observation tower
- ✚ Communication mast

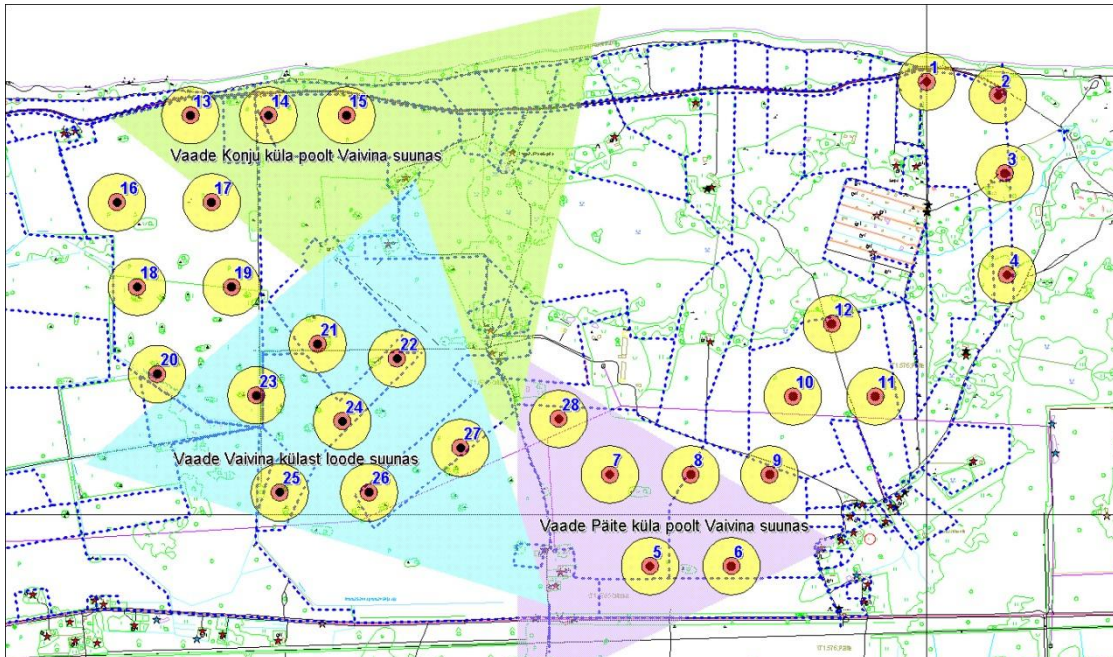


**Naturally unsuitable,
exclusion, strictly restricted,
restricted and reservation
areas**

Literature review

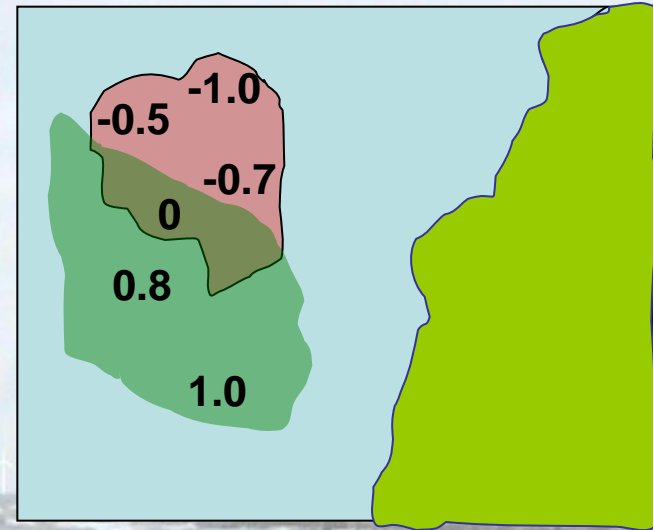
- Benefits/problems for:
 - local communities
 - local inhabitants
 - state
- Applied support / mitigation schemes
 - taxation
 - resource royalties
 - tolerance payment, physical improvement of (living) environment/space
- BAT, innovative technologies

Visualization



Visualization

- Questionnaire:
 - how far is acceptable?
 - how many is acceptable?
 - where is acceptable?
- Stakeholder:
 - administrative level (planners, authorities)
 - local inhabitants
 - land owners /vacation
 - tourism
 - marine associates (fishermen, navigation etc)



Sociological study

- WP 4 meeting in June (Tartu)
 - compilation of survey will be agreed
- Starting survey in summer
 - paper based
 - internet based
 - direct questionnaires for authority representatives
- Expected scientific output:
 - comparative study paper about attitude toward wind energy and offshore wind farms in EST and LAT