

# Future of waterfront settlements of Pärnu county

*International Conference “New breath of waterfront cities”*

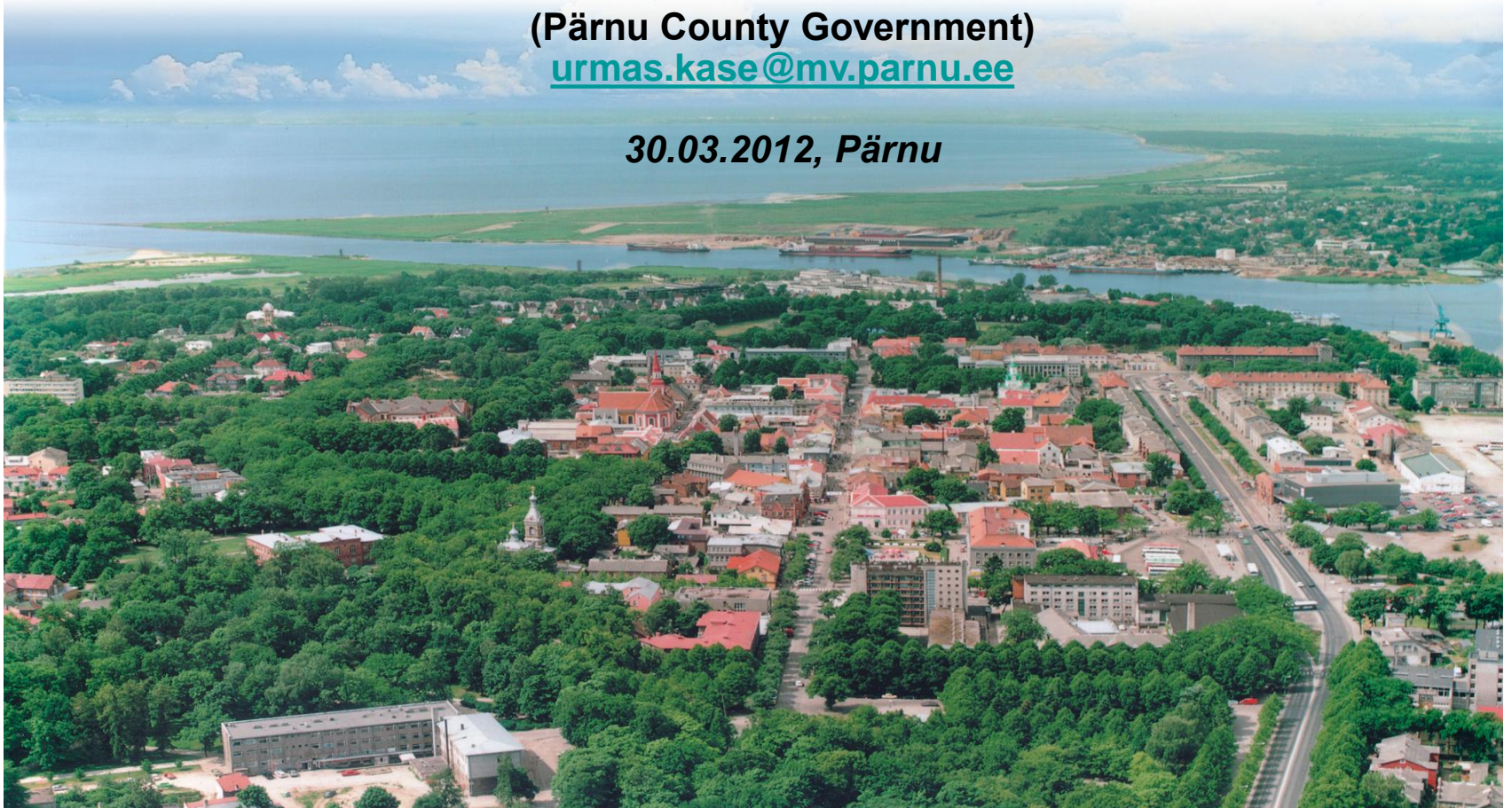
**Urmas Kase**

**Pärnu Maavalitsus**

**(Pärnu County Government)**

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**30.03.2012, Pärnu**



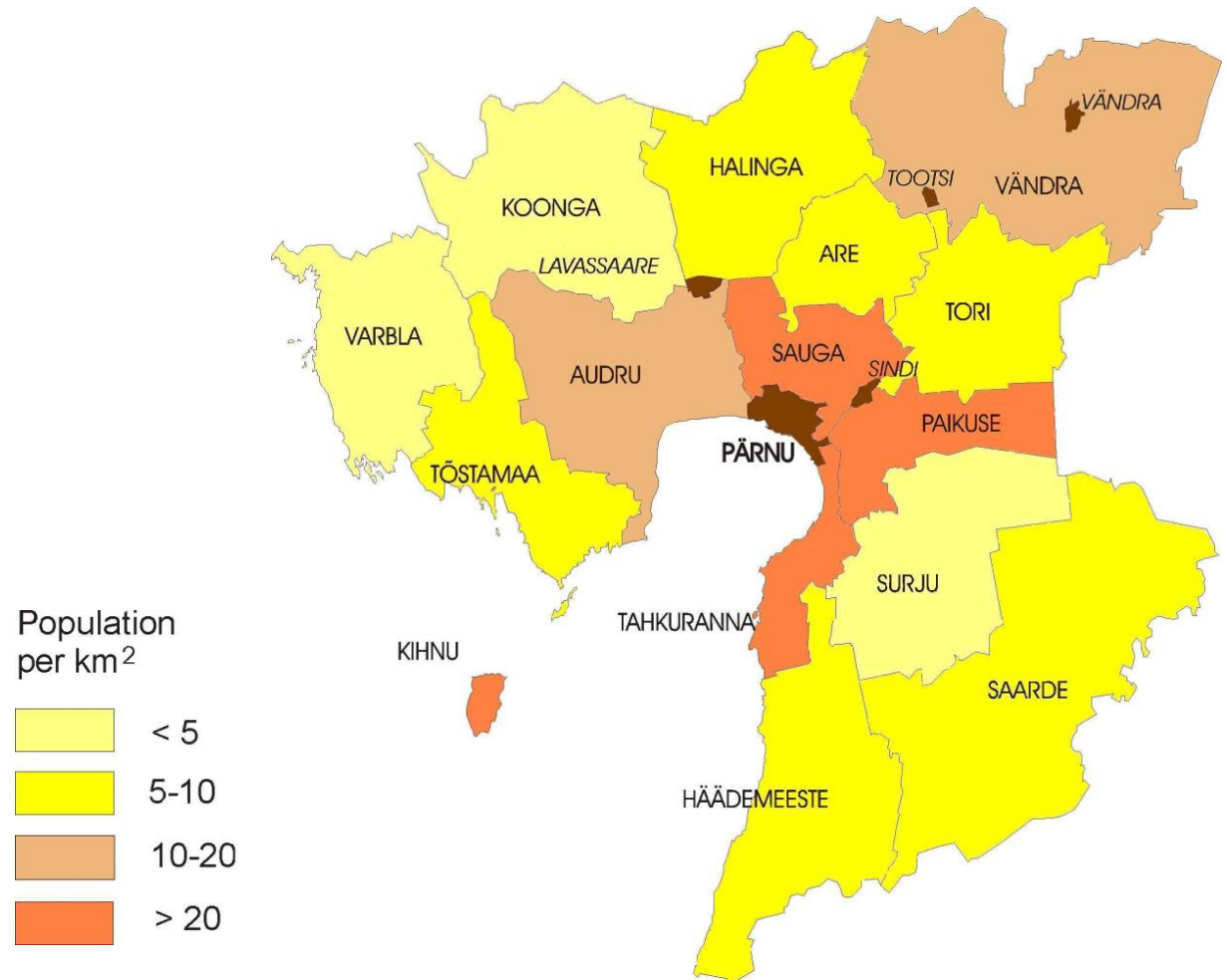
# Prologue

- Background
- Spatial thinking: geographers vs. architects?

# Waterfront settlements

- How to define?
- 55 settlements by the sea (amongst 340 in whole Pärnu county) - 1 town, 3 boroughs, 51 villages
- Pärnu county coastline - 242 km (3793 km in whole Estonia)
- 177 islands and islets (1521 in whole Estonia)
- Pärnu River Basin and the other rivers
- Wetlands

# Density of population by local authorities in Pärnu county

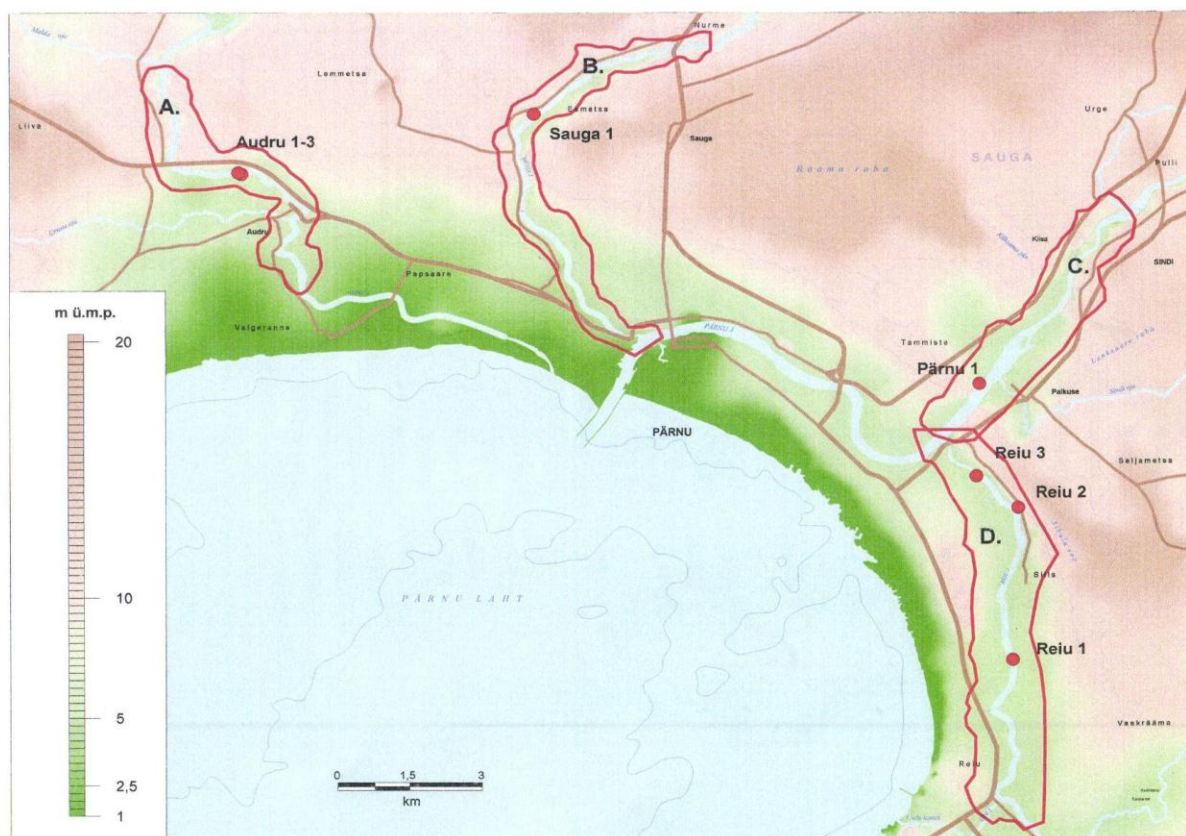




# Living near rivers 1



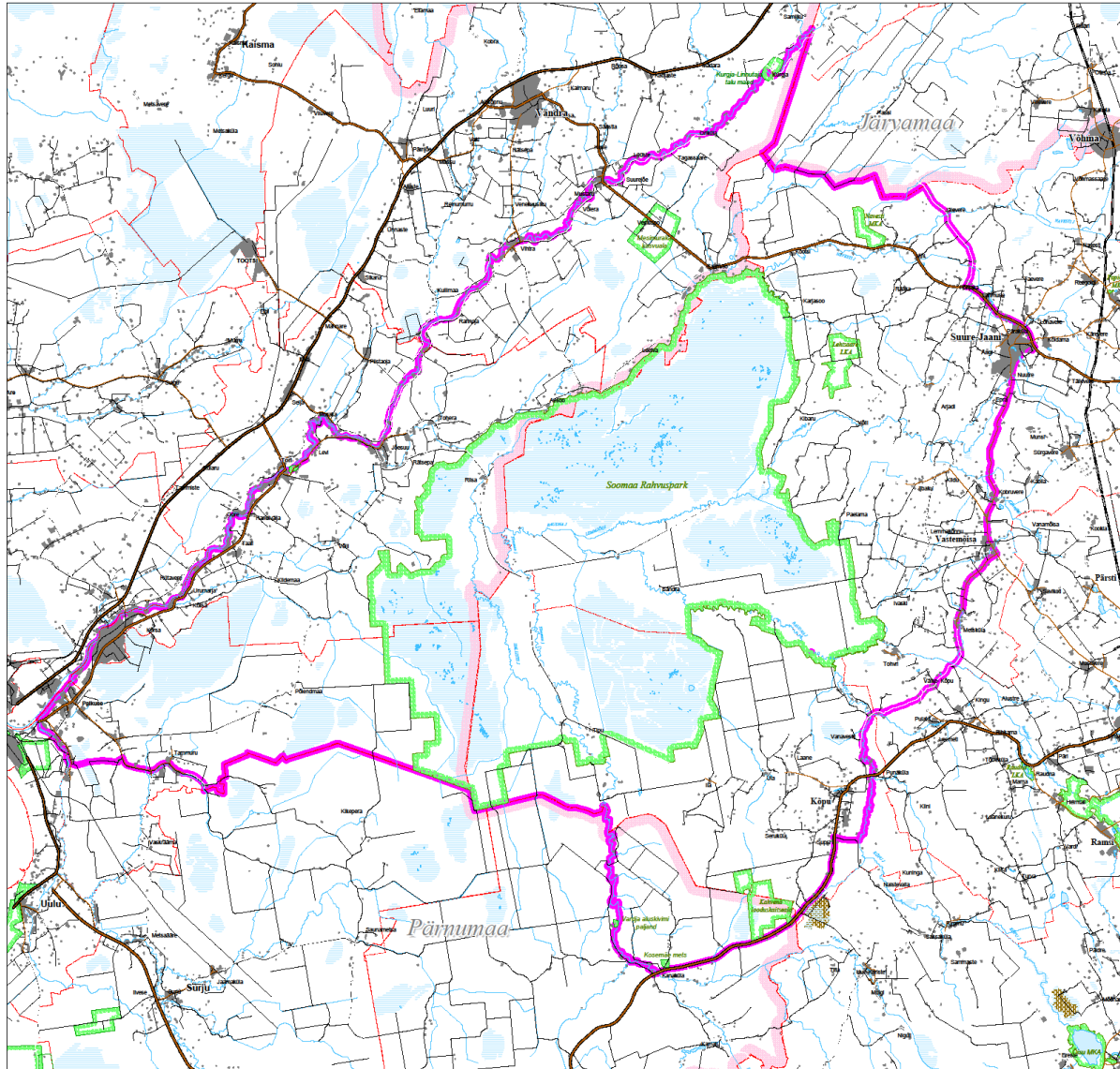
# Living near rivers 2



Joonis 1. Uuritud jõelõikude (punane joon; A - Audru jõgi; B - Sauga jõgi; C - Pärnu jõgi; D - Reiu jõgi) ja mõõdistatud maalihete (punane punkt) paiknemine. Kaardil on esitatud kõrgusjooned iga 5m tagant ning 2m ja 5m mere sügavusjooned.



# Wetlands 2 - Soomaa theme planning area



# Wetlands 1 - Soomaa NP





# Overall trends in Pärnu county - environmental sphere

- Climate changes - cases of Maldives, Tuvalu, Kiribati
- Our coast as the most vulnerable area in the Baltic Sea region
- Ice conditions
- Fish resources

# Overall trends in Pärnu county - social and economical sphere

- Decreasing population
- Urbanisation stages
- Decreasing fishery
- Future of traditional fishing villages – Swedish example
- Aquacultures?
- Increasing tourism

# Living near sea 1 - Matsi village





# Living near sea 2 - Värati village



# Fishery 1

**Fleet of fishing vessels: Pärnu county 382 (25% of whole-Estonian fleet - 1558)**

- 1) Kihnu 63
- 2) Lindi 58
- 3) Liu 47
- 4) Pärnu 43
- 5) Vana-Sauga (Pärnu) 42
- 6) Võiste 32
- 7) Jaagupi 27
- 8) Manija 17
- 9) Raeküla 12
- 10) Treimani 11
- 11) Rannametsa 8
- 12) Matsi 5
- 13) Audru 4
- 14) Japs 3
- 15) Marksa, Kavaru 2
- 16) Kabli, Kastna, Metsapoole, Pärnu River, Tori, Uulu 1



*Source: Kalalaevade register, 29.03.2012*

# Fishery 1



Renovation of fishing harbours:

1) Kastna, Saulepa

2) Lao, Kihnu, Liu, Lindi, Vana-Sauga, Võiste, Jaagupi





# Tourism



Accommodation sector of whole Pärnu County  
in 2011:

|                                 |         |
|---------------------------------|---------|
| • Accommodation establishments  | 138     |
| • Beds                          | 6875    |
| • Tourists                      | 257,930 |
| on holiday 64%, on business 10% |         |
| • Nights spent                  | 702,901 |
| residents of Estonia            | 221,059 |

**Pressiteated**

**Pärnu Maavalitsus**

**Valimised 2011**

**Välkisaarte programm**

**Infoteenused**

**Kriisireguleerimine**  
Pressiteated

**Rahandus**

**Maatoimingud**

**Planeeringud ja arengutegevus**

**Haridus**

**Kultuur**

**Sport**

**Sotsiaal- ja tervisholuteenused**

**Perekonnaselsusotoimingud**

**Dokumendiregister**


**Kontaktandmed**

**Pärnu maakond**


Avaloht > Kriisireguleerimine

**Jaanuaritorm pildis**


**Munatalu sadam**




**Rannameetsa küla**



**Rannapiirkond**




**Võlpe**




**Meie ühisvõrgu teemasid**

**Uudisoid pole...**



**Liiklusi**




**SEKUREERITUD SAIT**  
Kaitse- ja Julgeolekuministeerium




**Südamenäädal 2011**

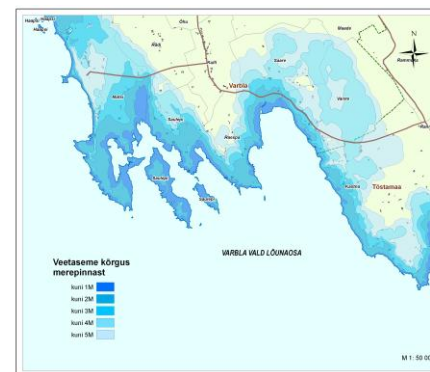
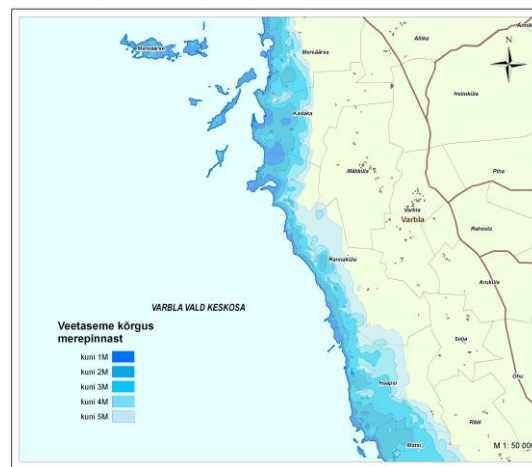
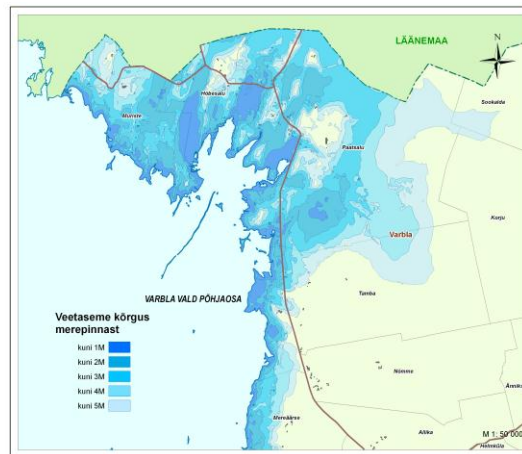
**Eesti tuleviku heaks**



**Europa Liit**  
Euroopa Sotsiaalfond

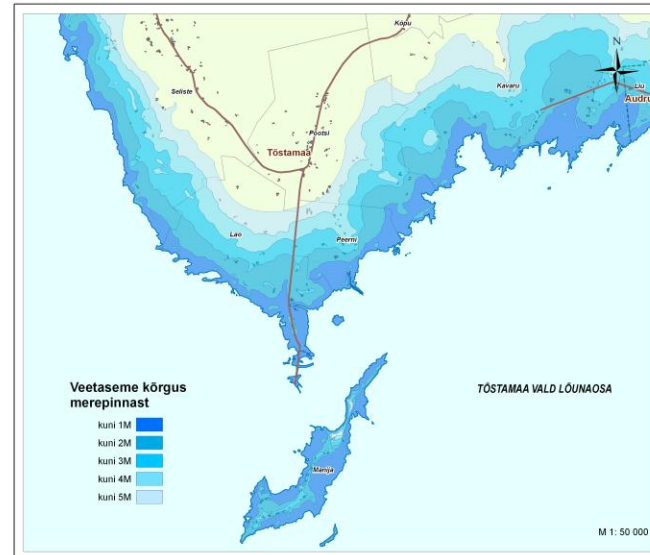
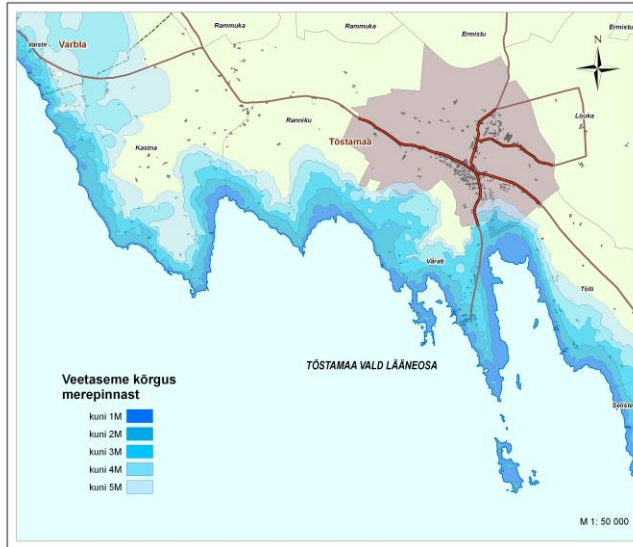


# Varbla

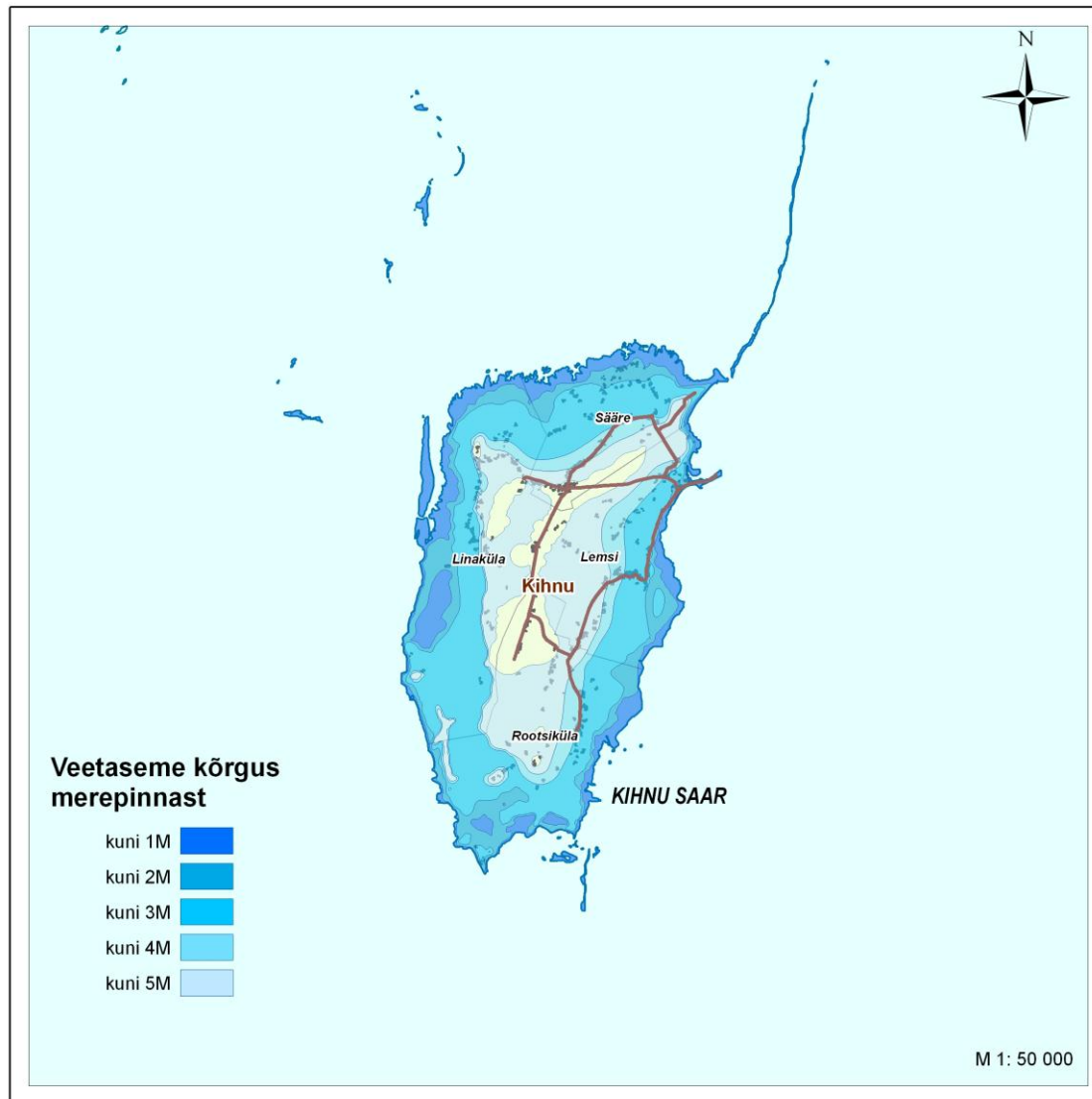




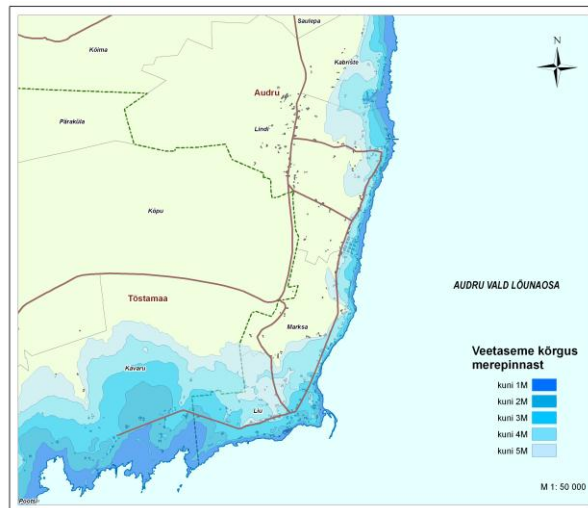
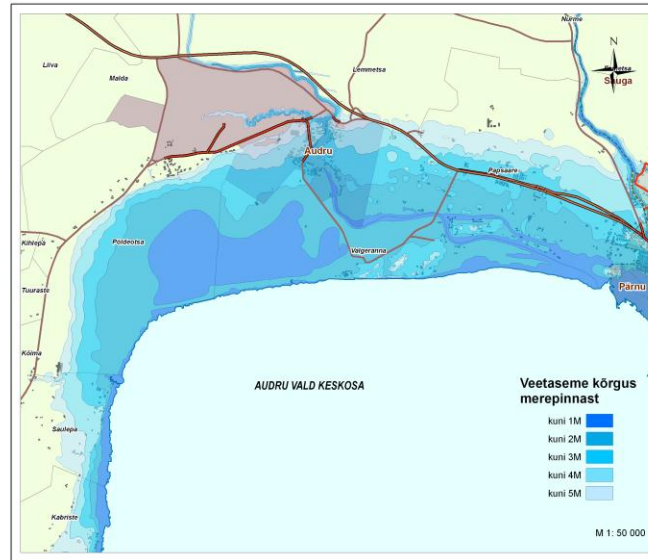
# Tõstamaa



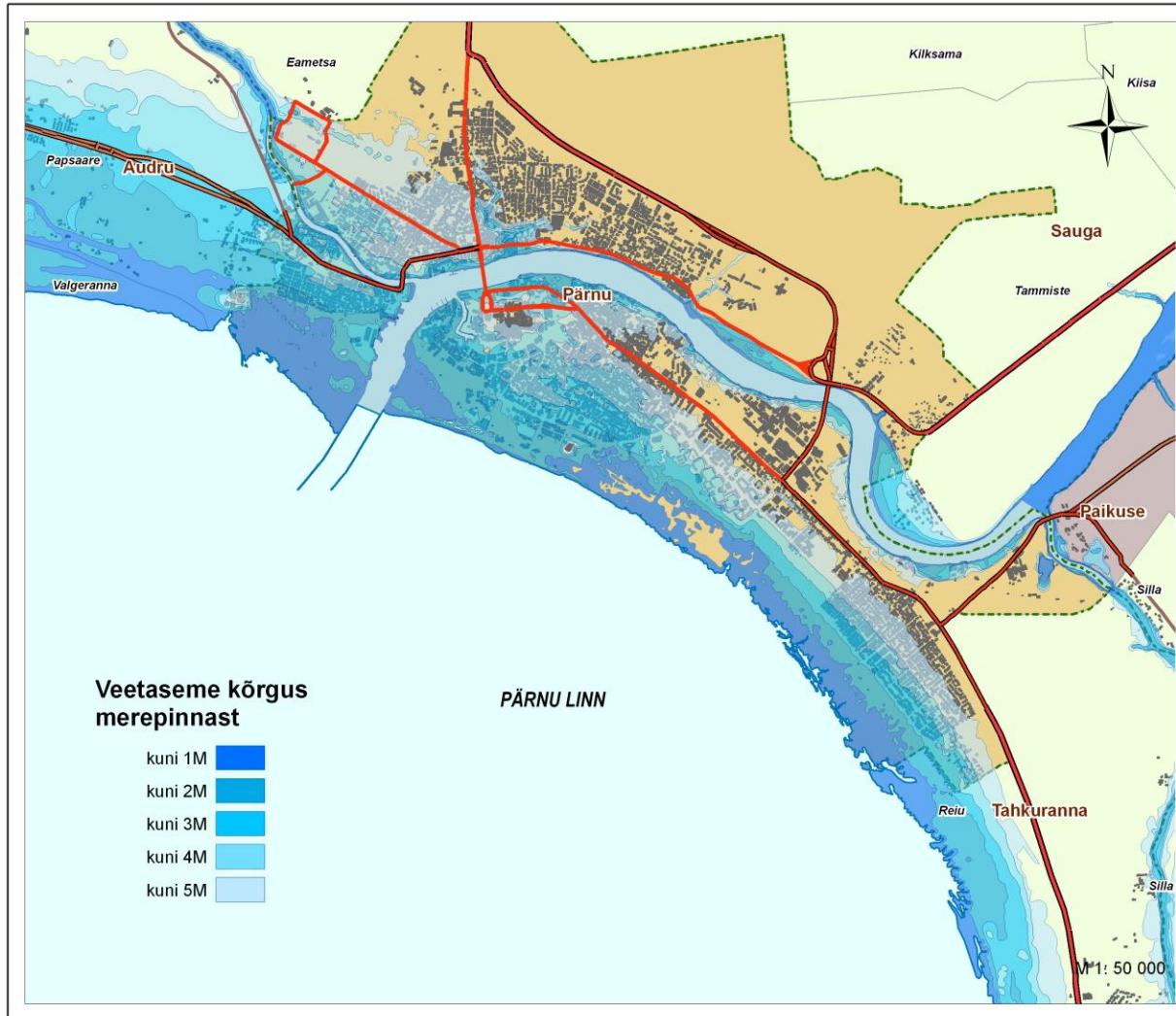
# Kihnu



# Audru

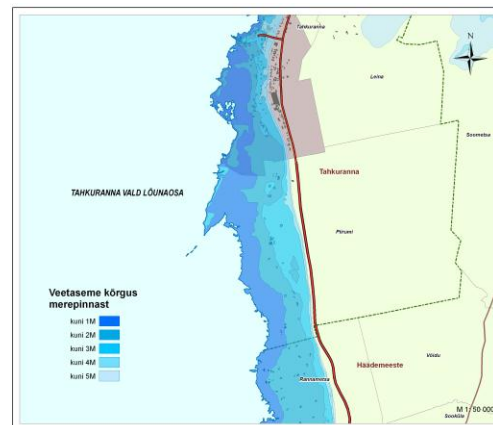
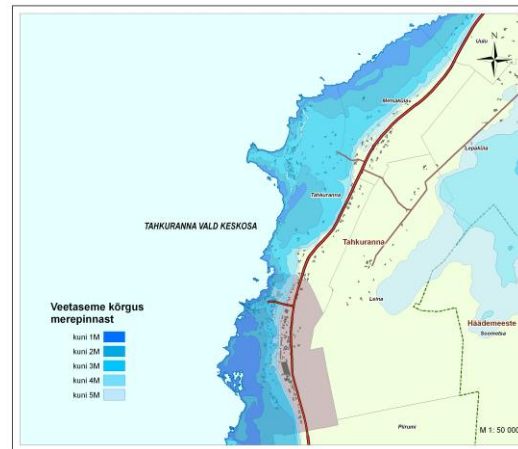


# Pärnu

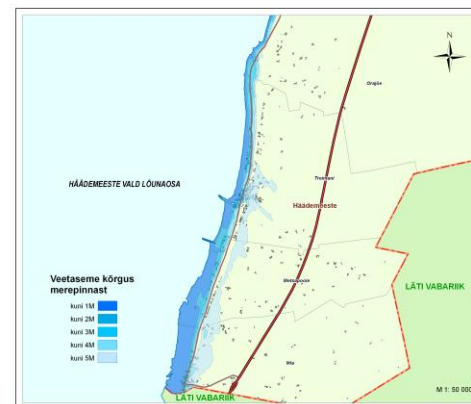
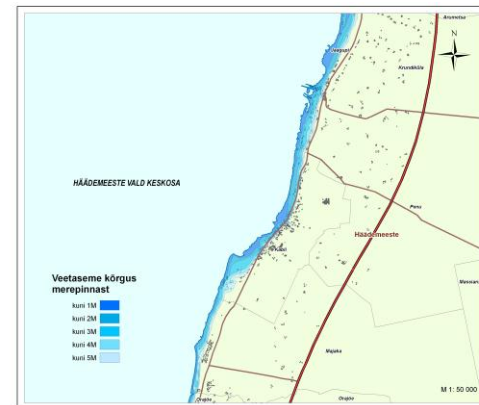
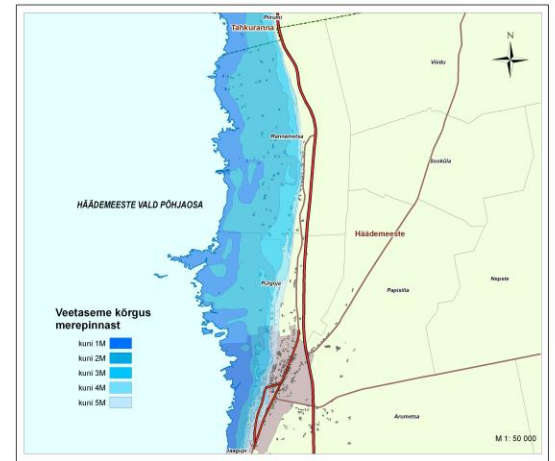




# Tahkuranna



# Häädemeeste



# Pärnu town - floods limits





# German experiences - Cuxhaven 1





## German experiences - Cuxhaven 2



# People and sea! World population trends

There are already 7 billion on Earth!

Professor Rando Värnik's (EULS) data:

1991 - 1 hectare gave food to 2.4 inhabitants;

2005 - 4.5 inhabitants,

2050 - 6.4 inhabitants.

Demand for seafood still grows...aquacultures?

# Population of the most biggest countries in 2010 ja 2050 (forecast)

Source: Lecture of Mihkel Pärjamäe (Invicta)

| <b>Nr</b> | <b>Country</b> | <b>Population<br/>2010</b> | <b>Nr</b> | <b>Country</b> | <b>Population<br/>2050<br/>(forecast)</b> |
|-----------|----------------|----------------------------|-----------|----------------|---|
| 1         | China          | 1 338 612 968              | 1         | India          | 1 656 553 632                             |
| 2         | India          | 1 156 897 766              | 2         | China          | 1 424 161 948                             |
| 3         | USA            | 307 212 123                | 3         | USA            | 439 010 253                               |
| 4         | Indonesia      | 240 271 522                | 4         | Indonesia      | 313 020 847                               |
| 5         | Brazil         | 198 739 269                | 5         | Ethiopia       | 278 283 137                               |
| 6         | Pakistan       | 174 578 558                | 6         | Pakistan       | 276 428 758                               |
| 7         | Bangladesh     | 156 050 883                | 7         | Nigeria        | 264 262 405                               |
| 8         | Nigeria        | 149 229 090                | 8         | Brazil         | 260 692 493                               |
| 9         | Russia         | 140 041 247                | 9         | Bangladesh     | 233 587 279                               |
| 10        | Japan          | 127 078 679                | 10        | Congo D.R.     | 189 310 849                               |

# Population of selected EU countries 1960-2060 (incl. forecast\*) by Eurostat, mln inhabitants

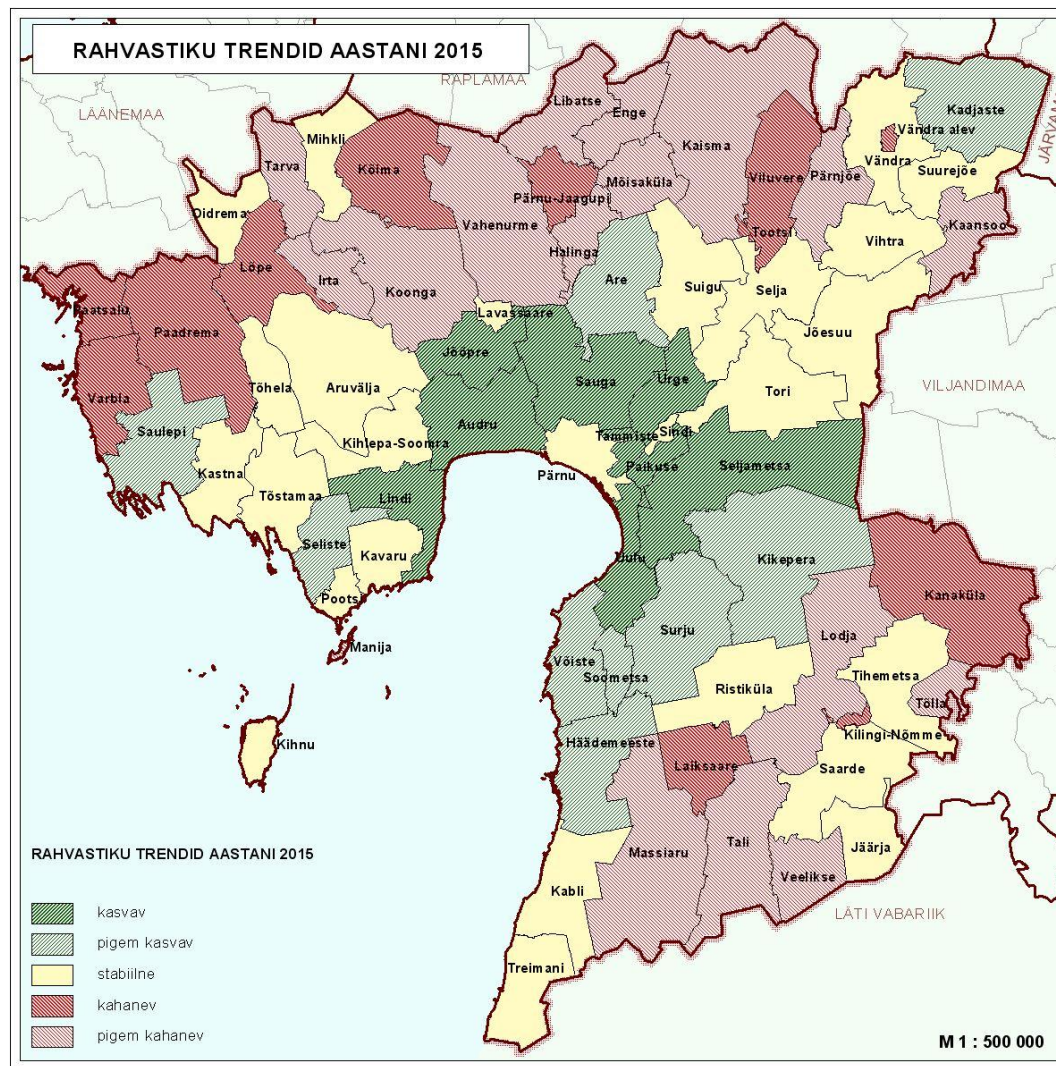
| State                    | 1960         | 1970         | 1980         | 1990         | 2000         | 2008         | 2010*        | 2020*        | 2030*        | 2040*        | 2050*        | 2060*        |
|--------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <b>Estonia</b>           | <b>1,2</b>   | <b>1,4</b>   | <b>1,5</b>   | <b>1,6</b>   | <b>1,4</b>   | <b>1,3</b>   | <b>1,3</b>   | <b>1,3</b>   | <b>1,3</b>   | <b>1,2</b>   | <b>1,2</b>   | <b>1,1</b>   |
| Latvia                   | 2,1          | 2,4          | 2,5          | 2,7          | 2,4          | 2,3          | 2,2          | 2,2          | 2,0          | 1,9          | 1,8          | 1,7          |
| Lith.                    | 2,8          | 3,1          | 3,4          | 3,7          | 3,5          | 3,4          | 3,3          | 3,2          | 3,1          | 2,9          | 2,7          | 2,5          |
| Finland                  | 4,4          | 4,6          | 4,8          | 5,0          | 5,2          | 5,3          | 5,3          | 5,5          | 5,6          | 5,5          | 5,4          | 5,4          |
| Swed.                    | 7,5          | 8,0          | 8,3          | 8,5          | 8,9          | 9,2          | 9,3          | 9,9          | 10,3         | 10,5         | 10,7         | 10,9         |
| Denm.                    | 4,6          | 4,9          | 5,1          | 5,1          | 5,3          | 5,5          | 5,5          | 5,7          | 5,8          | 5,9          | 5,9          | 5,9          |
| Germ.                    | 72,5         | 78,3         | 78,2         | 79,1         | 82,2         | 82,2         | 82,1         | 81,5         | 80,2         | 77,8         | 74,5         | 70,8         |
| Poland                   | 29,5         | 32,7         | 35,4         | 38,0         | 38,7         | 38,1         | 38,1         | 38,0         | 37,0         | 35,2         | 33,3         | 31,1         |
| <b>EU-27<br/>totally</b> | <b>402,6</b> | <b>435,5</b> | <b>457,1</b> | <b>470,4</b> | <b>482,8</b> | <b>497,4</b> | <b>499,4</b> | <b>513,8</b> | <b>519,9</b> | <b>520,1</b> | <b>515,3</b> | <b>505,7</b> |



# Population changes of Pärnu county waterfront settlements, 2004 vs. 2012

| Nr | Municipality / Coastal settlement | Total population |       |        |       | 0-6 y |       | 7-18 y |       | 19-64 y |       | 65+ y |      |
|----|-----------------------------------|------------------|-------|--------|-------|-------|-------|--------|-------|---------|-------|-------|------|
|    |                                   | 2004             | 2012  | Abs. % | %     | Abs.  | %     | Abs.   | %     | Abs.    | %     | Abs.  | %    |
| 1  | Varbla                            | 1117             | 942   | -175   | -15.7 | -12   | -19.1 | -72    | -41.6 | -98     | -14.5 | 7     | 3.4  |
|    | Coast                             | 240              | 226   | -14    | -5.8  | 4     | 44.4  | 1      | 6.3   | -13     | -8.4  | -3    | -5.5 |
| 2  | Tõstamaa                          | 1608             | 1450  | -158   | -9.8  | -37   | -35.2 | -91    | -34.2 | -56     | -5.7  | 26    | 10.0 |
|    | Coast                             | 617              | 549   | -68    | -11.0 | -20   | -46.5 | -33    | -34.4 | -27     | -7.1  | 19    | 19.4 |
| 3  | Kihnu                             | 629              | 717   | 88     | 14.0  | 5     | 13.5  | -22    | -22.4 | 88      | 22.5  | 17    | 16.7 |
| 4  | Audru                             | 5052             | 5467  | 415    | 8.2   | 55    | 14.9  | -180   | -18.9 | 393     | 12.9  | 147   | 21.2 |
|    | Coast                             | 2826             | 3300  | 474    | 16.8  | 97    | 50.0  | -32    | -6.5  | 18      | 0.1   | 6     | 1.5  |
| 5  | Pärnu                             | 42727            | 42386 | -341   | -0.8  | 708   | 26.7  | -1656  | -26.0 | -225    | -0.9  | 832   | 10.5 |
| 6  | Tahkuranna                        | 2026             | 2337  | 311    | 15.4  | 21    | 13.9  | -40    | -10.7 | 269     | 22.1  | 61    | 21.3 |
|    | Coast                             | 1682             | 1800  | 118    | 7.0   | 1     | 0.0   | -75    | -23.7 | 150     | 14.8  | 8     | 3.4  |
| 7  | Häädemeeste                       | 3220             | 2857  | -363   | -11.3 | -43   | -22.1 | -248   | -39.2 | -139    | -7.4  | 67    | 13.4 |
|    | Coast                             | 2460             | 2176  | -284   | -11.5 | 3     | 2.1   | -203   | -40.9 | -103    | -7.1  | 54    | 14.8 |
|    | Total county                      | 91654            | 86236 | -5418  | -5.9  | 715   | 12.4  | -5147  | -33.6 | -1824   | -3.3  | 838   | 5.4  |
|    | Rural coast                       | 8454             | 8768  | 314    | 3.7   | 90    | 16.7  | -364   | -24.1 | 113     | 2.2   | 101   | 8.0  |
|    | Whole coast                       | 51181            | 51154 | -27    | -0.1  | 798   | 25.0  | -2020  | -25.6 | -112    | -0.4  | 932   | 10.2 |

# Theme planning “Social infrastructure of Pärnu County 2008-2015”



# **New angle! Preparations for Marine Spatial Planning (MSP)**

1. BaltSeaPlan
2. GORWIND
3. Researches about fishery
4. Lessons from last summer (2011)
5. Learning from foreign experiences

# GORWIND 1

E-mail: \_\_\_\_\_ Password: \_\_\_\_\_ Register as partner


## Intranet

Home
Press releases
News
Results
Galleries

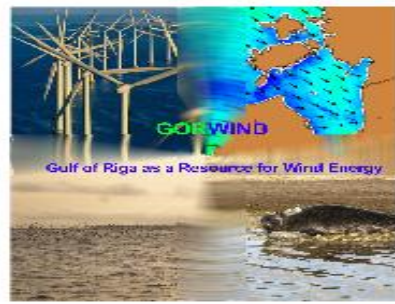
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- Info
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**Info**



**Gulf of Riga as a Resource for Wind Energy**

**The Aim of the Project**

- The project aims to produce policy-relevant and scientifically based information on wind energy fields, the most affected low natural species populations and social reactions of and economic benefits for the entire Gulf of Riga region.

**Objectives**

To provide decision makers and potential wind park developers in the Gulf of Riga with

- Reliable marine wind information from coastal wind measurements, high resolution remote sensing data, operational atmosphere model and ensemble of Regional Climate models.
- Accurate high resolution information about ice conditions for different winter scenarios from satellite imagery.
- Information on habitat areas for seals and wintering, migrating and breeding birds.
- Mapping the attitude of local people and considering the requirements of the areas for renewable energy.

**Expected Results and Outputs**

- A decision making tool based on the spatial planning methods of the Geographical Information Systems (GIS) environment will be developed to facilitate common planning for the exploitation of wind energy in the Gulf of Riga region.
- Dynamic maps of wind energy, ice conditions, migrating and wintering bird populations, and seals dating back to 2001 and having the projection to future climate will be produced.
- The indicators for spatial planning with regard to public attitude towards the development of wind parks and for the quantification of local plans concerning renewable energy consumption will be developed and integrated into the decision making tool.
- The outputs of the project contribute to the elaboration of policy-relevant, environmental and socio-economic issues related to the exploitation of renewable energy.

**Main Activities**

**Work Package 2 - Wind and Ice Conditions**

Marine wind and sea ice are two main physical parameters that are most important for wind farming.

The objective of WP2 is to provide wind maps and ice charts of the Gulf of Riga area considering the aspects of wind farming.

The activities:

- The collection of existing data and selection of appropriate parameters for wind farming.
- The implementation and improvement of data processing algorithms, and the validation.
- The production of composite wind and ice maps.

The spatial distribution of wind and ice characteristics, wind anomaly areas and areas with extreme ice conditions will be retrieved from a combined analysis of

**Project**

The Gulf of Riga as a Resource for Wind Energy (GORWIND)  
 Total budget – 1 444 012 EUR  
 ERDF contribution – 1 207 800 EUR

**Acknowledgements**

This project is financed by Estonia-Latvia Programme and Environmental Investment (EIK), Estonia-Latvia Programme is implemented according to the principle European Territorial Cooperation and it supports cross-border cooperation between EU and Latvia. It is funded by the European Regional Development Fund (ERDF), the ERDF of Estonia and the Republic of Latvia.


**Project Life-time**

01.11.2010 - 31.10.2012


**Background**

- Due to the opening of the energy market in EU the energy business will be internationalized by nature.
- The use of renewable energy sources are encouraged by EU authorities.
- Wind energy has a high potential in the Gulf of Riga region and development wind parks is planned in the Gulf of Riga.
- Accurate information of marine wind fields with high spatial and temporal resolution is needed.
- Rough ice conditions in the Gulf of Riga could impose a threat to construction operation of offshore wind parks.
- The Gulf of Riga is an important habitat area for marine mammals and birds, could suffer the most from operational activity of wind parks.
- People are afraid that their living standards may decrease due to the development of the wind parks.
- Latvia and Estonia could benefit from the wind parks in the Gulf of Riga. The decisions about exploitation of the wind energy on the both sides of the Gulf should be harmonized.

**Project Area**



**Wind park on the Estonian west coast**



**Satellite image of ice conditions**



# BaltSeaPlan 1



2009 Planning the future  
2012 of the Baltic Sea

## Final Conference

**Advancing Maritime Spatial Planning:  
Results from the BaltSeaPlan project and beyond**

**Date:** 12th January 2012 **Time:** 9:00 – 18:00

**Location:** Berlin, Federal Ministry of Transport, Building and Urban Development

**Conference Organiser:** German Federal Maritime and Hydrographic Agency – BSH (Lead Partner BaltSeaPlan)

Maritime Spatial Planning (MSP) has become a widely acknowledged and necessary tool for co-ordinating spatial use and balancing of interests in the sea. In view of increasing needs to protect the marine environment and at the same time expanding activities such as offshore wind energy parks and growing shipping traffic such systematic, integrative and forward-looking planning is required in order to safeguard the sustainable development of the oceans.

Among the numerous developments on MSP at European level as well as its regions, states and maritime areas, the Baltic Sea Region (BSR) can certainly claim to be the pioneer among European sea regions in the field of MSP. But also here MSP is far from being established practice and many more steps need to be undertaken.

**The conference aimed to show and trigger discussions on latest MSP developments at policy as well as implementation level within the European Commission and the Baltic Sea Region. It was attended by about 170 participants including maritime spatial planning experts and decision makers around all European countries.**

[For more information click here...](#)

### Calendar of events

[= March 2012 =](#)

| Mo | Tu | We | Th | Fr | Sa | Su |
|----|----|----|----|----|----|----|
| 27 | 28 | 29 | 01 | 02 | 03 | 04 |
| 05 | 06 | 07 | 08 | 09 | 10 | 11 |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| 26 | 27 | 28 | 29 | 30 | 31 | 01 |

### Project Coordination

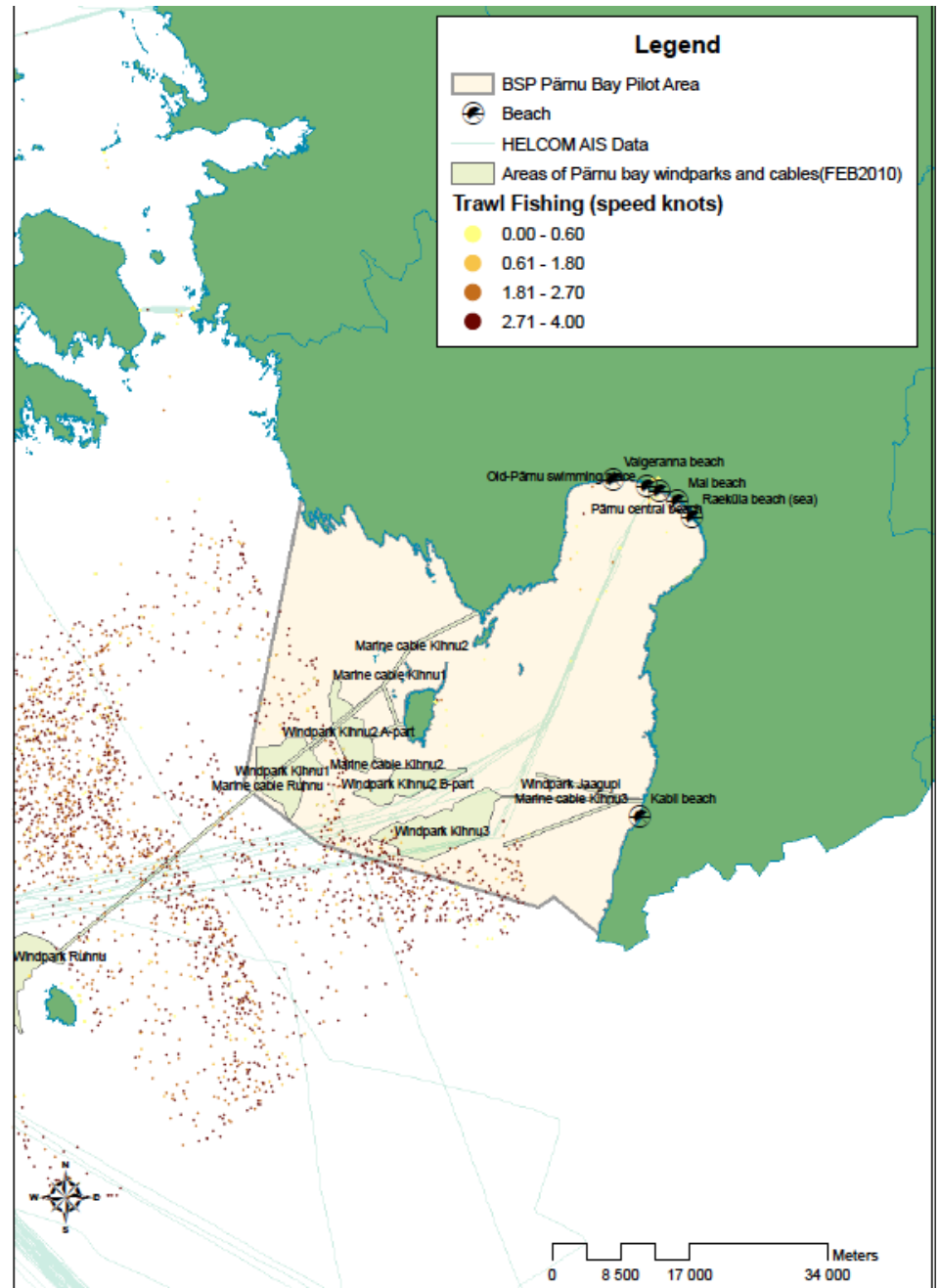
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[= eMail](#)



Part-financed by the EU  
(European Regional  
Development Fund)

# BaltSeaPlan 2



# **The starting position of MSP**

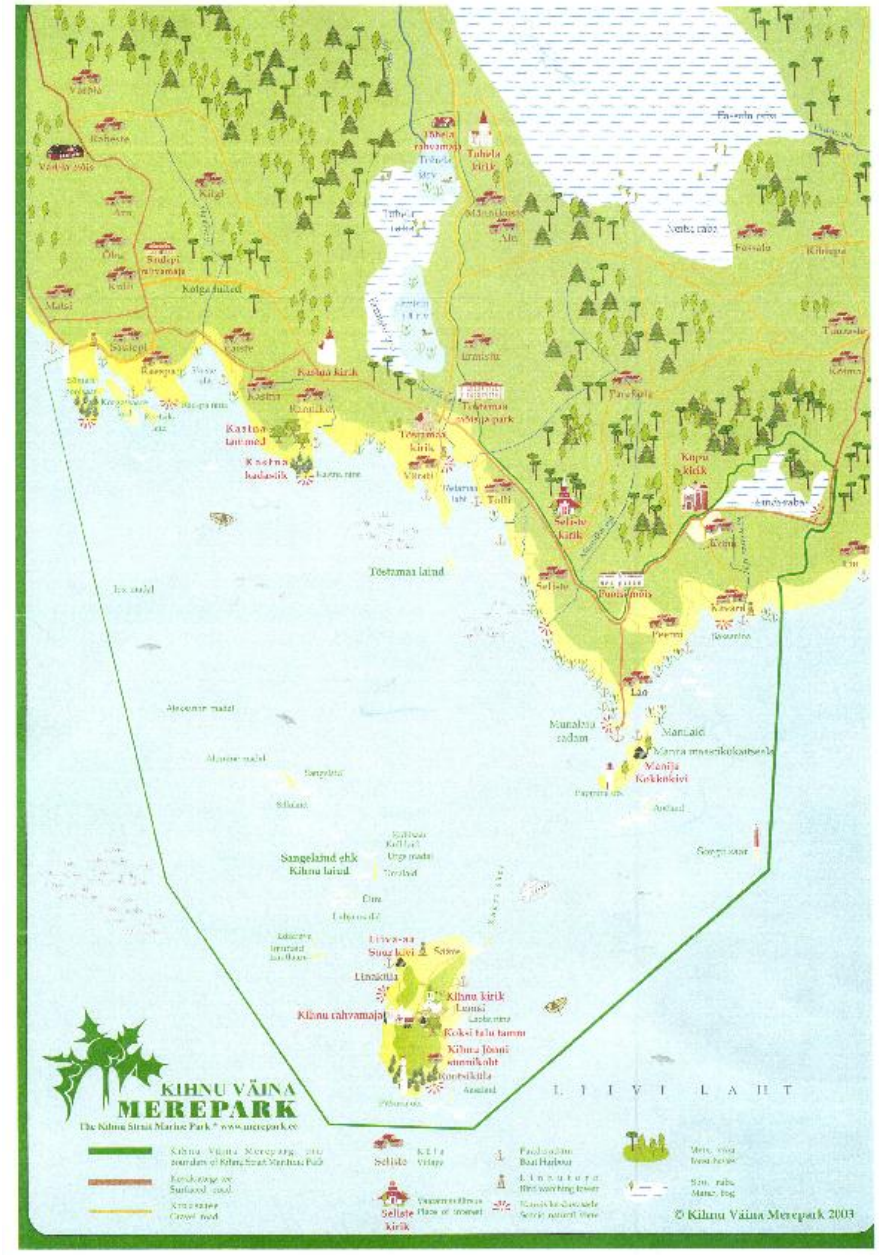
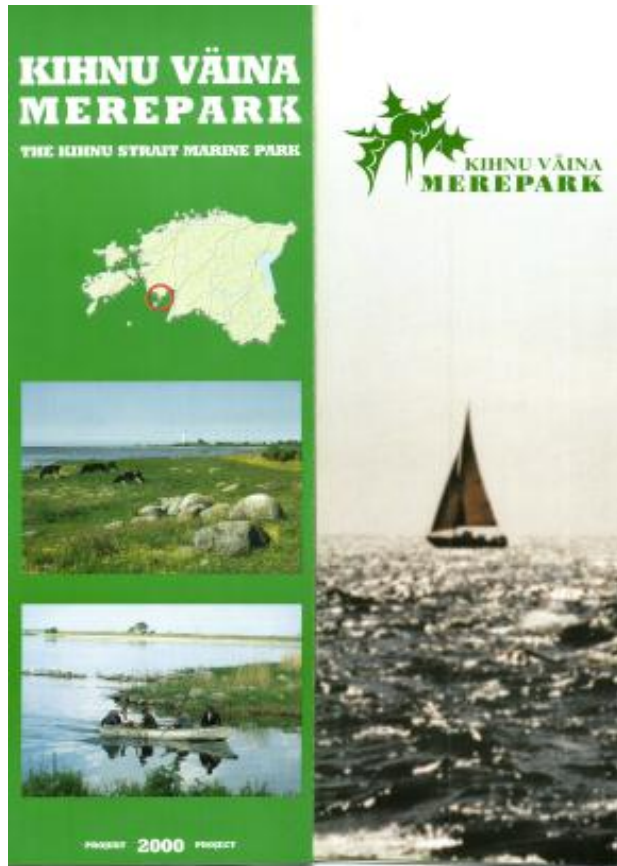
**Time horizon: 2018, max. 2030+**

**Planning area: BaltSeaPlan project territory (for the first stage)**

**Main objectives and themes:**

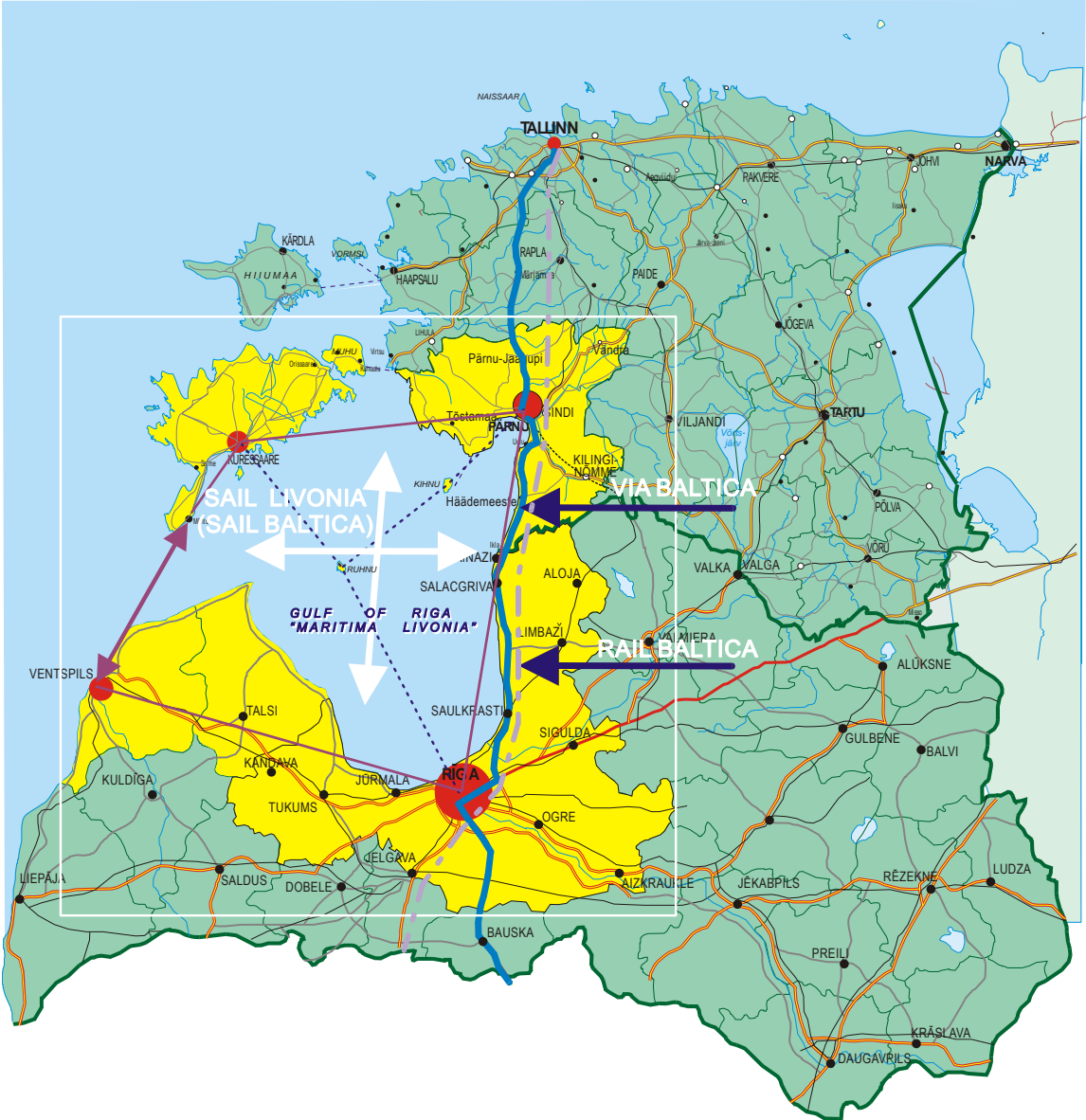
- 1) Development of modern multimodal seartransport**
- 2) Sustainable management of fishery resources**
- 3) Valuing traditional coastal fishing, supporting permanent waterfront settlements, diversification of working places**
- 4) Tourism and recreation possibilities - diversity, availability and possibilities**
- 5) Sustainable development of the marine environment. Kihnu Strait Marine Park as the potential national park**
- 6) Renewable energy (wind energy) development and establishing international energy networks**
- 7) Ensuring sea safety, sea-rescue system**
- 8) Ensuring national defence**
- 9) Sustainable usage and management of mineral resources**

# Old new idea! The Kihnu Strait Marine Park





# Think Big! Livonia Maritima



# Next steps for us now?

- Preparations for MSP
- New EU financing period 2014-2020: challenges for waterfront settlements
- Better co-operation over sea
- Monitoring climate changes

# Instead of epilogue

Commoner's "laws" - USA ecologist B. Commoner's ecological principles as aphorisms:

- 1) everything is connected to everything else;
- 2) everything must go somewhere;
- 3) there is no such thing as a free lunch (you can not win without loosing);
- 4) nature knows best (best solutions are from nature).

*Source: Ökologialeksikon, 1992*

Examples: birth rate vs living standard; sparsely populated vs expences of communications; densely populated vs safety etc



**Thank you for attention!**

