



# Waste and littering in marine environment

North Calotte seminar on marine littering and microplastics,  
24-25 August, 2015 Bodø



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Elinkeino-, liikenne- ja ympäristökeskus  
Närings-, trafik- och miljöcentralen  
Centre for Economic Development, Transport and the Environment

# Centre for Economic Development, Transport and the Environment for Lapland





# Steering of ELY Centres

## General administrative steering

- Ministry of Employment and the Economy

## Steering the Centres in their own administrative field

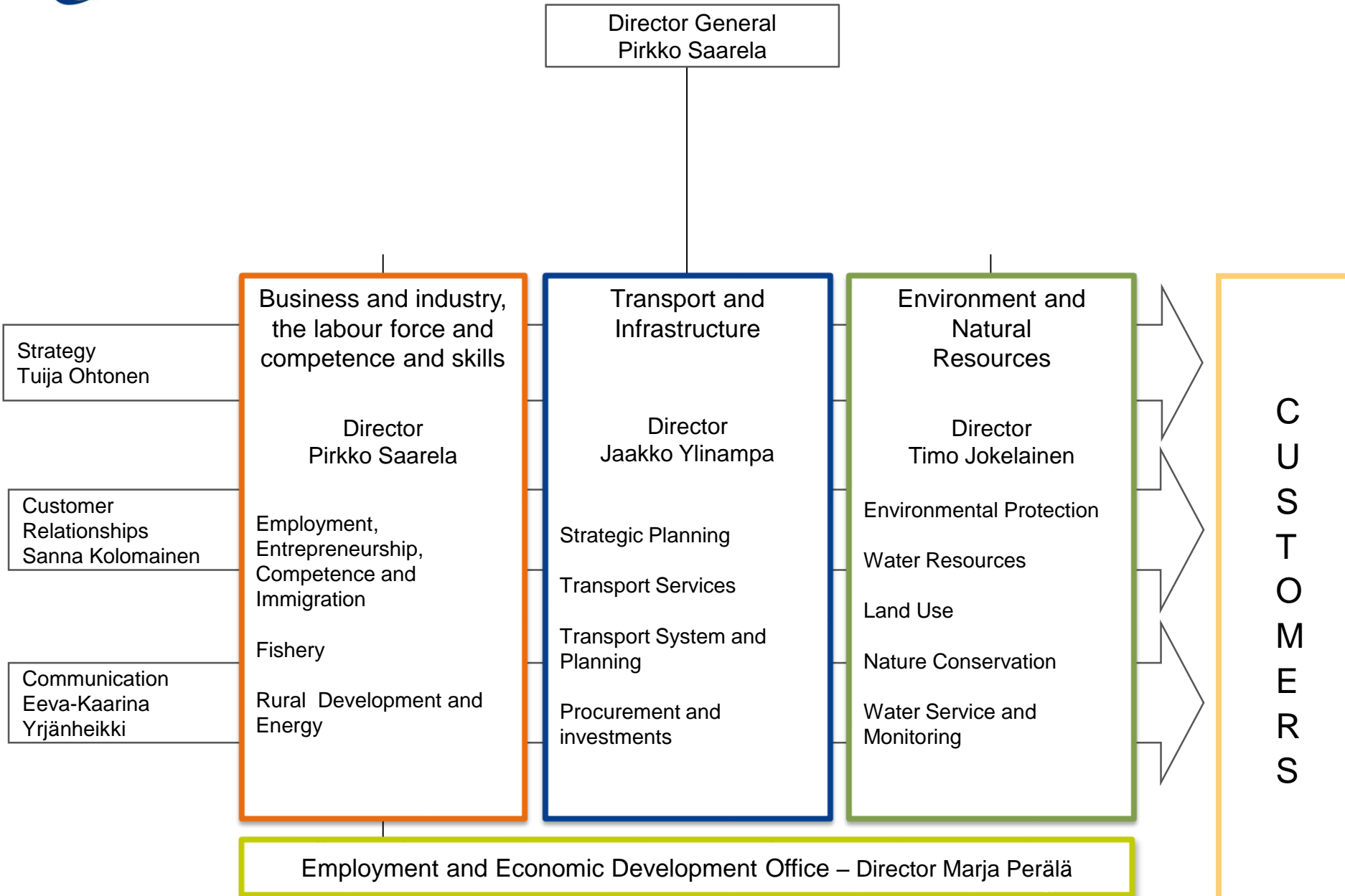
- Ministry of Employment and the Economy
- Ministry of Transport and Communications/Finnish Transport Agency
- Ministry of the Environment
- Ministry of Education and Culture
- Ministry of the Interior
- Ministry of Agriculture and Forestry
- Finnish Food Safety Authority Evira
- Agency for Rural Affairs
- Tekes – the Finnish Funding Agency for Technology and Innovation
- Foundation for Finnish Inventions



# Three ELY Centre responsibility areas

- Business and industry, the labour force, competence and skills, and cultural activities
- Transport and infrastructure
- Environment and natural resources







Elinkeino-, liikenne- ja ympäristökeskus  
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# Waste issues





# Major legislation

- Waste Act 646/2011
- Environmental Protection Act 527/2014
- Act on Environmental Protection in Maritime Transport 1682/2009
- Chemicals Act 599/2013... etc
- + relevant degrees
- Supervising: municipalities, ELY, TUKES, SYKE







# Major procedures

- Environmental permits:
  - Regional State Administrative Agencies
    - supervising: ELY
  - Municipalities
- Other permits and decisions
  - Chemicals Act: TUKES
  - International waste transport: SYKE
  - Antarcitis: Lapland ELY
- Registrations
  - Waste transporters etc: ELY
  - Waste collection stations: municipalities



# Marine environment

- Coastal waters – WFD / Marine areas – MSFD
  - Littering under MSFD
- Competitive authorities:
  - WFD - ELY Centres,
  - MSFD – Ministry of the Environment
- in both ELY Centres take care of the hearing processes
- Research – SYKE (+ other research centres, universities etc)
- HELCOM
  - Baltic Strategy for Port Reception Facilities for Ship Generated Wastes and Associated Issues
  - [http://www.ym.fi/fi-FI/Luonto/Itameri\\_ja\\_merensuojelu/Kansainvainen\\_yhteisty\\_o\\_ja\\_EUasiat/Itameren\\_roskaantumisen\\_pinnalla\\_HELCOMi\(329\\_60\)](http://www.ym.fi/fi-FI/Luonto/Itameri_ja_merensuojelu/Kansainvainen_yhteisty_o_ja_EUasiat/Itameren_roskaantumisen_pinnalla_HELCOMi(329_60))



# MSFD and littering



## Monitoring and research on Finnish area

### Current

- National monitoring of litters on beaches
- Ministry of the Environment, SYKE, PSSRY & voluntaries
- Currently 9 areas

### Pilot

- Microlitter (>300  $\mu\text{m}$ ) on the surface (SYKE *Aranda*)

### Research on

- Accumulation of microlitter in biota/foodweb (YM, SYKE)
- Sedimentation of microlitter, bioturbation (Pro gradu work, HY)
- Waste water treatment plans and their role in microlitter polluter  
(AALTO university/SYKE, Julia Talvitie)



# MSFD and littering

## ■ Current status

- *In Baltic Sea not considered as drastic as in the ocean areas – however, not sufficiently known*
- WWF: Naturewatch Baltic net: differences between countries are big

## ■ Good status in the sea environment

- *The amount of litter or its deteriorates is on such level that it doesn't cause remarkable chemical or physical harm to the biota, recreational use of the marine environment nor economical disturbance to the livelihoods of the coastal and marine areas. .*

## ■ Midway target

- Information on quantity and quality of the littering as well as the effects + lowering the amount of litter.
- developing the waste/litter management of the habitation, refreshment areas and small harbours of the archipelago, and improving the implementation of the "no special fee"-system.

## ■ Indicators:

### **To be developed by 2014**

- Quantity and quality of the visible litter on beaches
- Amount of the collected litter.

### **To be developed by 2018**

- Quantity and quality of the visible litter in the sea bottom;
- Amount of the microparticles in the water



## Pidä saaristo siistinä ry

- NGO

- Financing also from the Ministry of the Environment

■ ROOPE-system : > 200 locations

■ MARLIN-project

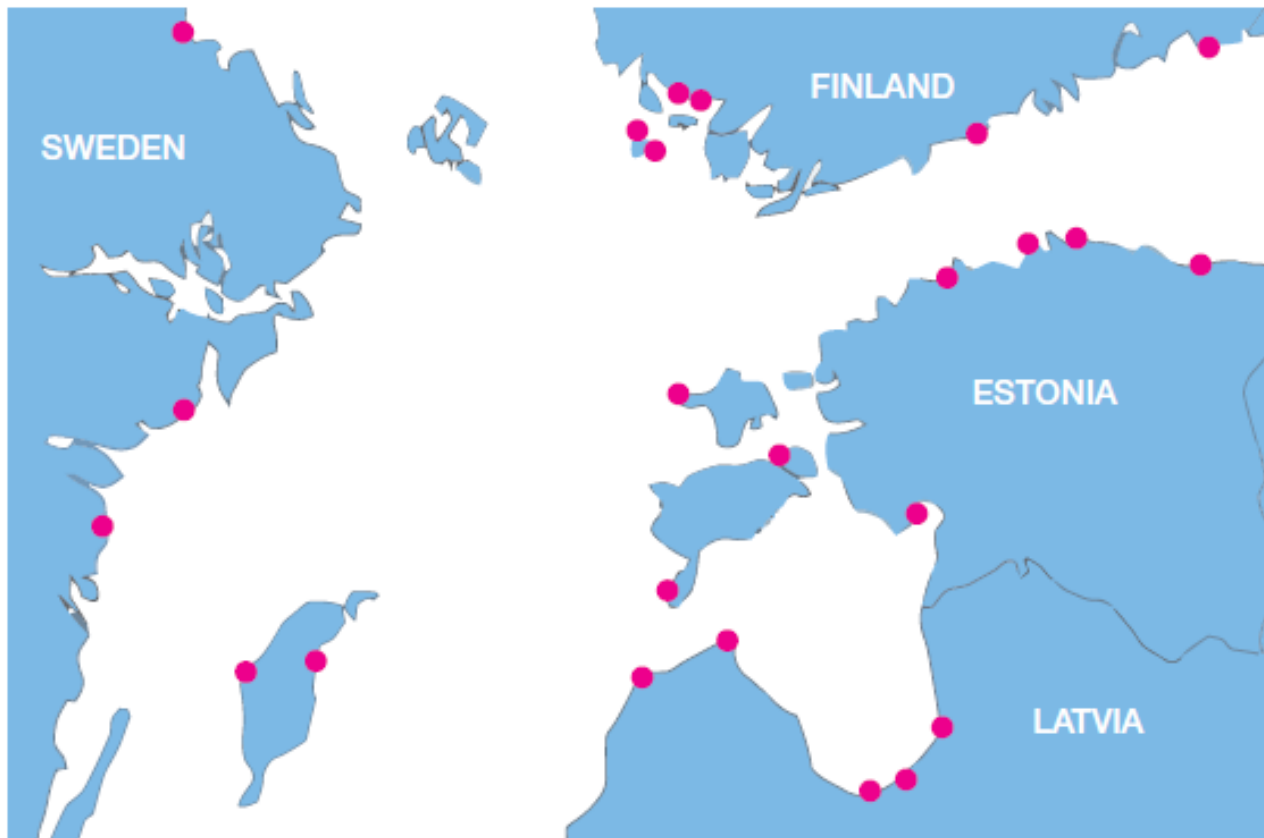
<http://projects.centralbaltic.eu/project/447-marlin>

■ Siisti Biitsi –campaign (Snygg Beach)

■ In Lapland 'Pidä Lappi siistinä ry' (Keep Lapland Tidy)



# MARLIN - Studied areas





## Finland, Sweden, Estonia, Latvia litter > 2.5 cm (MARLIN)

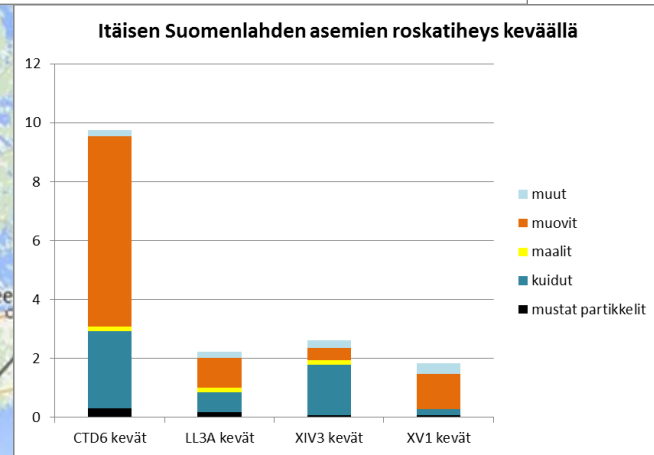
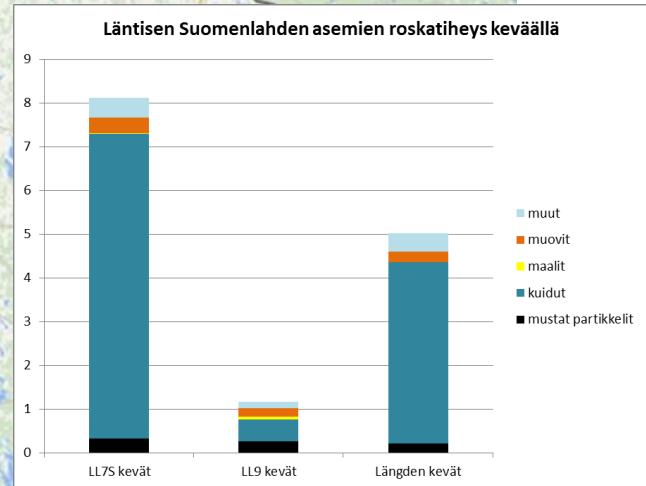
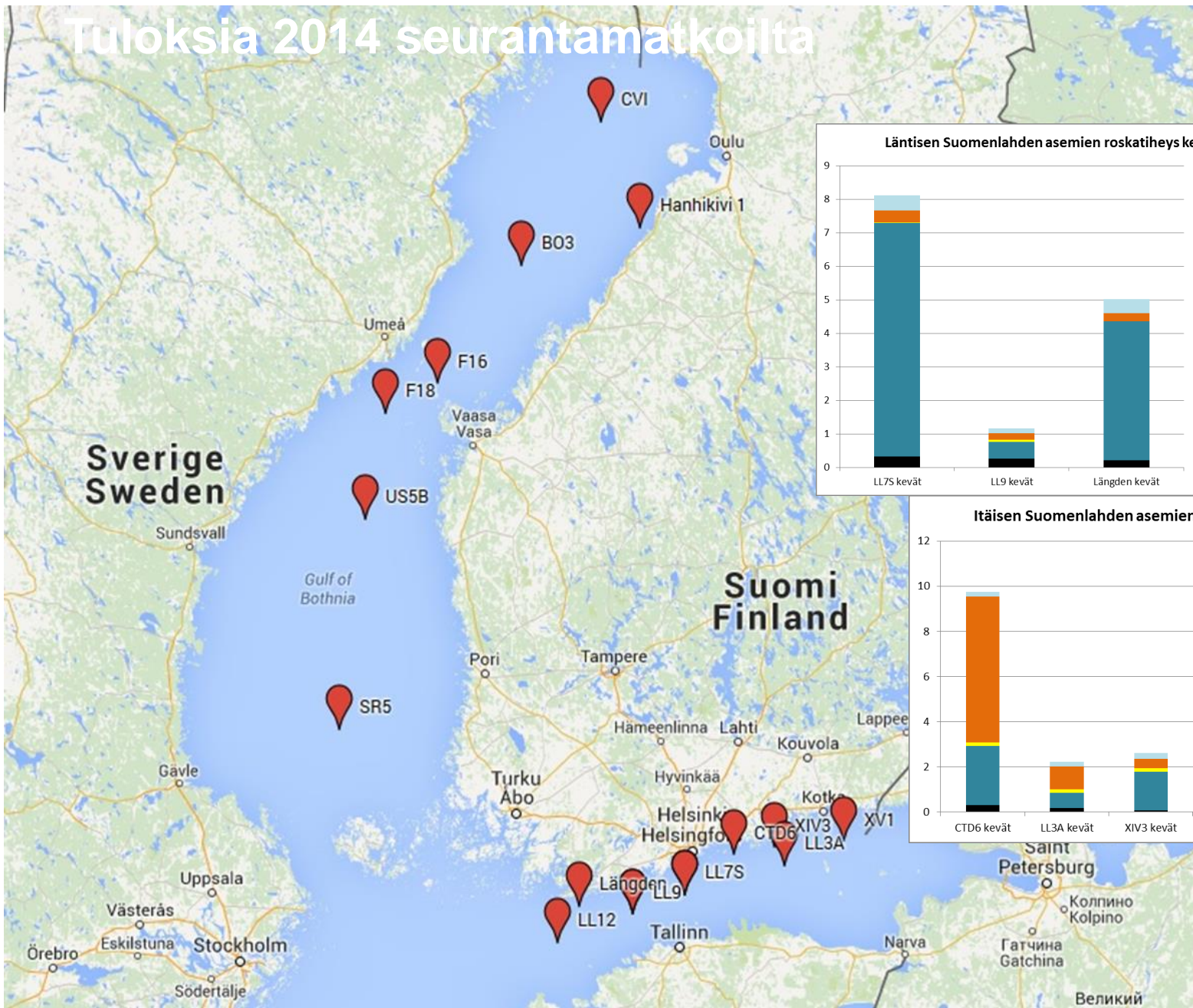
Type	Average litter amount (pieces) per 100 m
All beach types	129,8
Urban	236,6
Peri-urban	87,5
Rural	75,7

## Cigaretts –separate counting (MARLIN)

Beach type	Average amount of cigarette butts/100 m
All beach types	153,3
Urban	301,9
Peri-urban	111,5
Rural	49,4



# Tuloksia 2014 seurantamatkoilta





# Microparticles

- SYKE
- Plastic found to account for the majority of maine microlitter to accumulátíng in the food chain

Outi Setälä

Senior researcher, Adjunct Professor

SYKE Marine Research Centre

