



BALTIJAS KRĀSTI

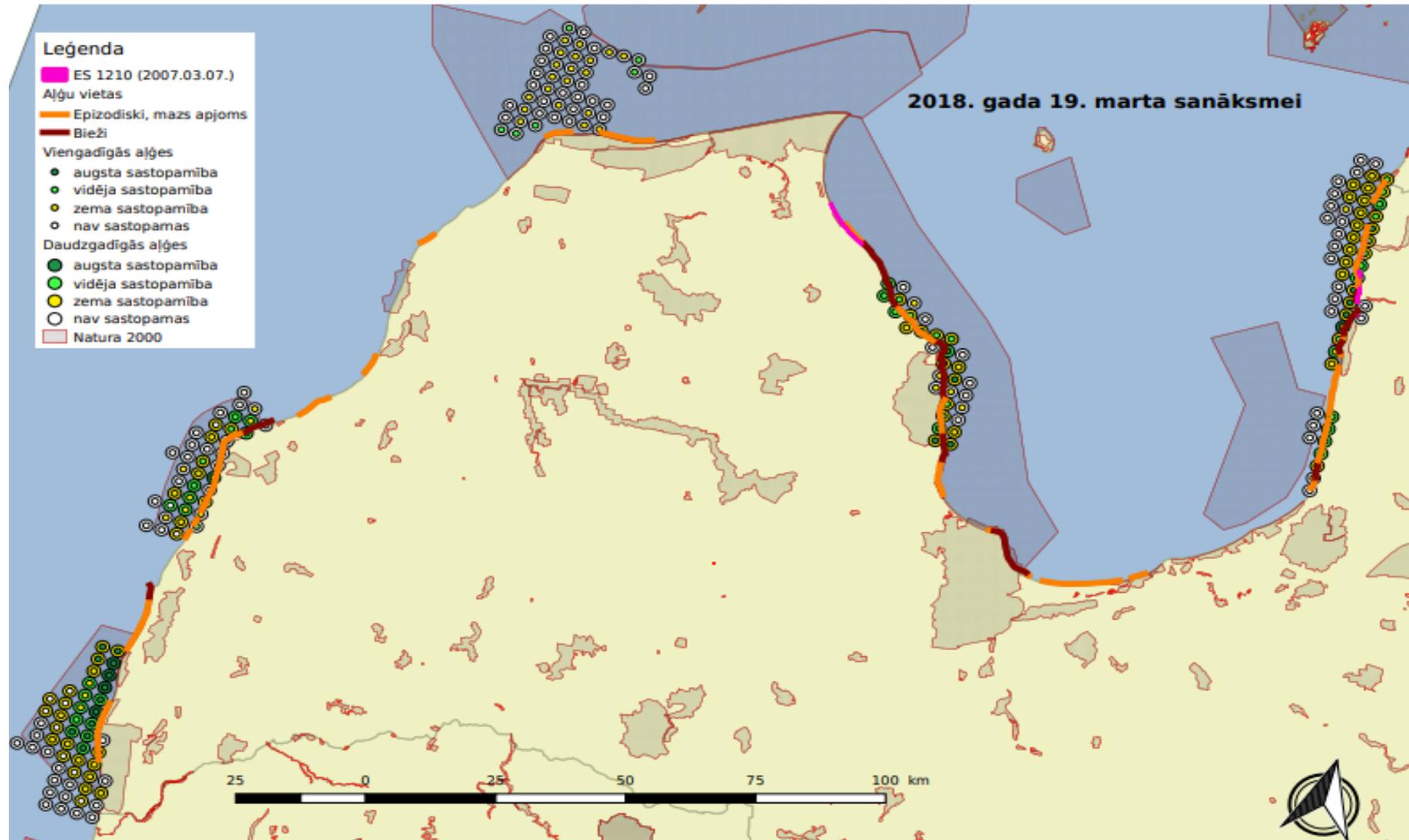
Analysis of washed out algae in Latvia cost and management plan development

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Washed out algae on the Latvia coast



Drift lines of algae at the coast

PROBLEMS

VS

NECESSITY

- Ecological problems;
 - The impact of tourism sector:
 - Unpleasant smell;
 - An unattractive landscape;
 - Discomfort for visitors of area.
- Washed out algae provides:
 - habitat of specially protected species;
 - bird feeding areas;
 - shelter and habitat for water inhabitants;
 - Socio-economic benefits

Potential of Algae

If algae are harvested correctly and / or purposefully cultivated.

- Renewable energy production (bioethanol, biogas or biofuels);
- Medicine;
- Food production (for ex. agara);
- Cosmetics;
- Fertilizer;
- Etc.

Project objective and expected results

Objective of the Project:

Identify:

- accumulation areas of the algae at the coast;
- Potential management of washed out algae

Expected results:

Developed recommendation:

- to determine management methods of washed out algae;
- to determine economic and / or environmental protection activities.

Latvian coastal municipalities “battle” with the algae

Coastal cleaning from the algae has been provided

Liepājas district;
Ventspils city;
Ventspils district;
Jūrmala;
Rīga city;

(individuals are collecting for private use)

Coastal cleaning from the algae has not been provided

Mērsraga district;
Dundagas district;
Grobiņas district;
Limbažu district;
Nīcas district;
Rojas district;
Saulkrastu district;
Engures district

Information hasn't been provided

Pāvilostas district;
Rucavas district



Algae management methods

Used by coastal municipalities

- Algae with other garbage are collected in bags;
- Algae are harvested in heaps (using rakes), which are taken away with the machinery;
- Algae with other garbage, are placed near by willow plantations (using machinery) and then groomed with sand;
- In small amount of washed out algae are left to decomposition;
- In large amount of washed out algae are carried out mechanized (as much as possible separating algae of the sand);
- Individuals collect algae for their own needs.



BALTIJAS KRAUSTI

Tasks to achieve the goal

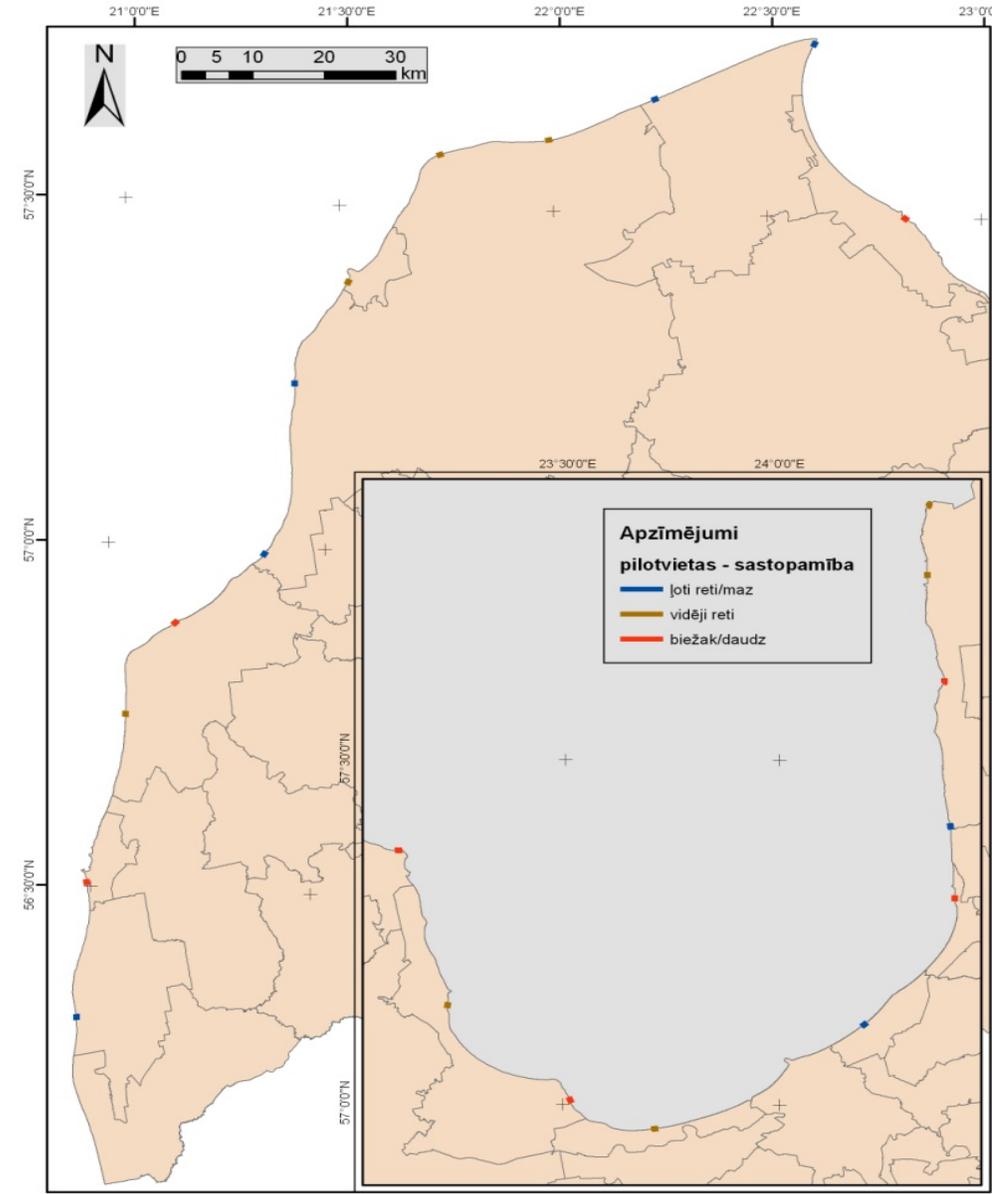
Tasks

1. To identify areas of drift lines of algae at the coast
2. To identify species of washed out algae and their quantity;
3. To evaluate morphology of Latvia coast;
4. To identify areas of washed out algae that are important for biodiversity:
 - 4.1. biotope 1210 *Annual vegetation of drift lines*;
 - 4.2. protected plant species;
 - 4.3. important areas for bird nesting or feeding.

Methodology

- 22 pilot sites surveyed;
- Surveys are carried out 2 times a year (July and end of September);
- In each of the pilot sites, evaluation of washed out algae is carried out in 1km length, divided into 100m sections and identified quantity of washed out algae (m³)

Detailed information will be provided in following presentation



1. To identify areas of drift lines of algae at the coast

2. To identify species of washed out algae and their quantity

Task N° 3

Evaluation of Latvia coast morphology

Aim of the Task 3

- To identify the role of coastal geological processes in the formation of washed out macroalgae at Latvia costs;
- To identify the role of macroalgae to ensure coastal stability.

Methodology

- 22 pilot sites surveying;
- Coast cross-profile measuring;
- Historical data analysis;

Task N° 3

Evaluation of Latvia coast morphology



Results



- The existence of macroalgae on the beach can affect the long-term stability of the coastline;
- In beaches with high concentration of pebbles and boulders, the affect of algae drift lines can be considered as extremely insignificant;
- In most of the 22 pilot areas the removal of algae can not lead to the risk of erosion or intensify existing erosion.
 - But the situation is unclear in certain parts of the Latvian coastal zone and removal of algae can lead to the risk of erosion:
 - Impact of washed out algae on coastal stability are in:
 - Ainaži;
 - Zvejniekciems;
 - Lapmežciems;
 - Kolka D

Task N° 4

To identify areas of washed out algae that are important for biodiversity

- 4.1. biotope 1210 Annual vegetation of drift lines;
- 4.2. protected plant species;

Methodology

- From mid-July till the end of August, (when annual plant can be identified) a number of potentially significant coastal areas has been surveyed.
- Analysis of literature and research about coastal vegetation;
- Characterization of biotope.



Task N° 4

To identify areas of washed out algae that are important for biodiversity

- 4.1. biotope 1210 Annual vegetation of drift lines;
- 4.2. protected plant species;

Results

- Identified 12 significant sights for biotope 1210 *Annual vegetation of drift lines* protection:
 - Mērsraga rags;
 - Bērzciems;
 - Ģipka-Roja;
 - Vitrupe-Šķīsterrags;
 - Kuiviži-Ainaži.
- Biotope is developing on the previous year drift lines
- More suitable habitat for 1210 biotope are drift lines that are covered with sand, small pebbles, etc.



Task N° 4

To identify areas of washed out algae that are important for biodiversity

- 4.3. important areas for bird nesting or feeding

- Identified variety and quantity of invertebrate species as a food for birds;
- A bird inventory has been carried out in coastal areas with the highest incidence of algae;
- Identified necessary bird protection actions that are seasonal and mostly during the nesting and migration period.



Results and usefulness

- Recommendations for the use of algae will be developed taking into account environmental, social and economic interests;
- Opportunities will be identified for the collection and management of algae in the Gulf of Riga and the Baltic sea shore:
 - Recommended technique;
 - storage conditions;
 - Conditions of harvesting
 - Etc.



Thank you

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