



# THE ROLE OF LOCAL COMMUNITIES IN RISING PUBLIC PARTICIPATION IN PREVENTION OF PLASTIC LITTER

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The background of the slide is a historical map of the Baltic Sea region, showing coastlines, islands, and various place names in Latin and German. A semi-transparent rectangular box is overlaid on the map, containing the title and main text.

# Introduction

This presentation will attempt to weigh the plastic litter on the background of exogenic processes and hystorical polution from other sources. The ability of local community to cope with this threads will be discussed.





# Threads

1. For man kind:

Exogenic processes like accelerating sea level rise, increased storminess and magnitude of storms;

2. For Nature:

Pollution from different sources.



# Tade-off

It is obvious, that on the short run pollution of any kind is a lot more dangerous than the exogenic processes, which besides the fact very natural are also very slow.



# Natural Processes

## Impacts expected to increase

- Frequency, magnitude, and duration of extreme storms
- Rising mean sea level
- Increasing wind set-up

## Consequences

- Shorter lifetime of existing structures
- More costly construction in the coming years
- Irreversible erosion
  - Benefits of a storm:
  - Aeration of sea water
  - Washing the beaches
  - Reducing the impact of pollution (to some extent)



# Storms a just combating the humen intervention





# Impacts expected to increase

-World Meteorological Organization (WMO), March 2016

- Climate change-alarming rate:
- “superstorms stronger than any seen in modern times”
- sea level rise that would be non-linear and “would accelerate to annual rates not anticipated until now”





# About pollution

- Is pollution less harmful than the storm events?
- Do we really track pollution at sea?
- Where the pollution comes from?
- Society demands measures with positive effect on the short run



# The Black Sea- sea of plastic?

- There are already reports of the first islands of plastic waste being discovered in the Black Sea. This was stated by Assoc. Prof. Dr. Trayan Trayanov, a member of the Union of Scientists in Varna and a retired expert from the Institute of Oceanology in Varna. Trayanov commented that nearly six months after his publication in the Union of Scientists, with the hypothesis that there are "floating islands of plastic garbage" in the Black Sea, it was reported that Russian scientists have discovered the first islands of plastic garbage in the Black Sea. the sea.





What you see in the picture is just the tip of the iceberg. What is in depth is not clear. Underwater, the torn pieces of plastic are from the surface to a depth of several meters. Due to their low relative weight, these pieces of plastic cannot sink below the boundary of the temperature jump layer or below the density jump layer and "float" and "drift" with the currents for decades. During our research in the Varna Bay in August 1998, torn pieces of plastic with bizarre shapes floated from the surface or a few centimetres below it to a few meters, depending on the depth and the thermohaline profile. The pieces of plastic "rotated" in an underwater cyclonic, counter-clockwise current with a width of 2-3 m and a depth of 4 m (to the bottom), "explained Assoc. Prof. Trayanov.



# The origin of the trash



Here we see the trash on the beach. It is obvious that most of the matter is from terrestrial origin.

It is not difficult to track the different hard waste to the source.



# Deadly for the environment



- Entrapped species in plastic bottles. This is what is more difficult to see, as it is under water



# Missing systems for clean-up

- Coastal waters- how to keep them clean?
- We do have a habit to pollute. The best way to not pollute is to change our attitude.
- However, in the mean-time we must pay for the harm we have done and clean what we have dumped.



# Changing Coastal Policy

Continuing traditional negligence of pollution as a problem will be becoming more and more dangerous. On the long run uncontrolled pollution will cause abandoning coastal areas, drastic degradation of marine life. A quick change of the coastal policy is required in order to ensure the sustainability of existing habitats, natural features, and attractiveness of coastal strip.



# Communities based Action

Teach people to live in harmony with Nature by:

1. Reporting observed pollution to authorities in charge;
2. Personal dedication to warn people who pollute, the society has to support this attitude;
3. Clean-up actions: individuals caught when polluting shall be charged to do clean-up. They shall be instructed and controlled by local rangers.

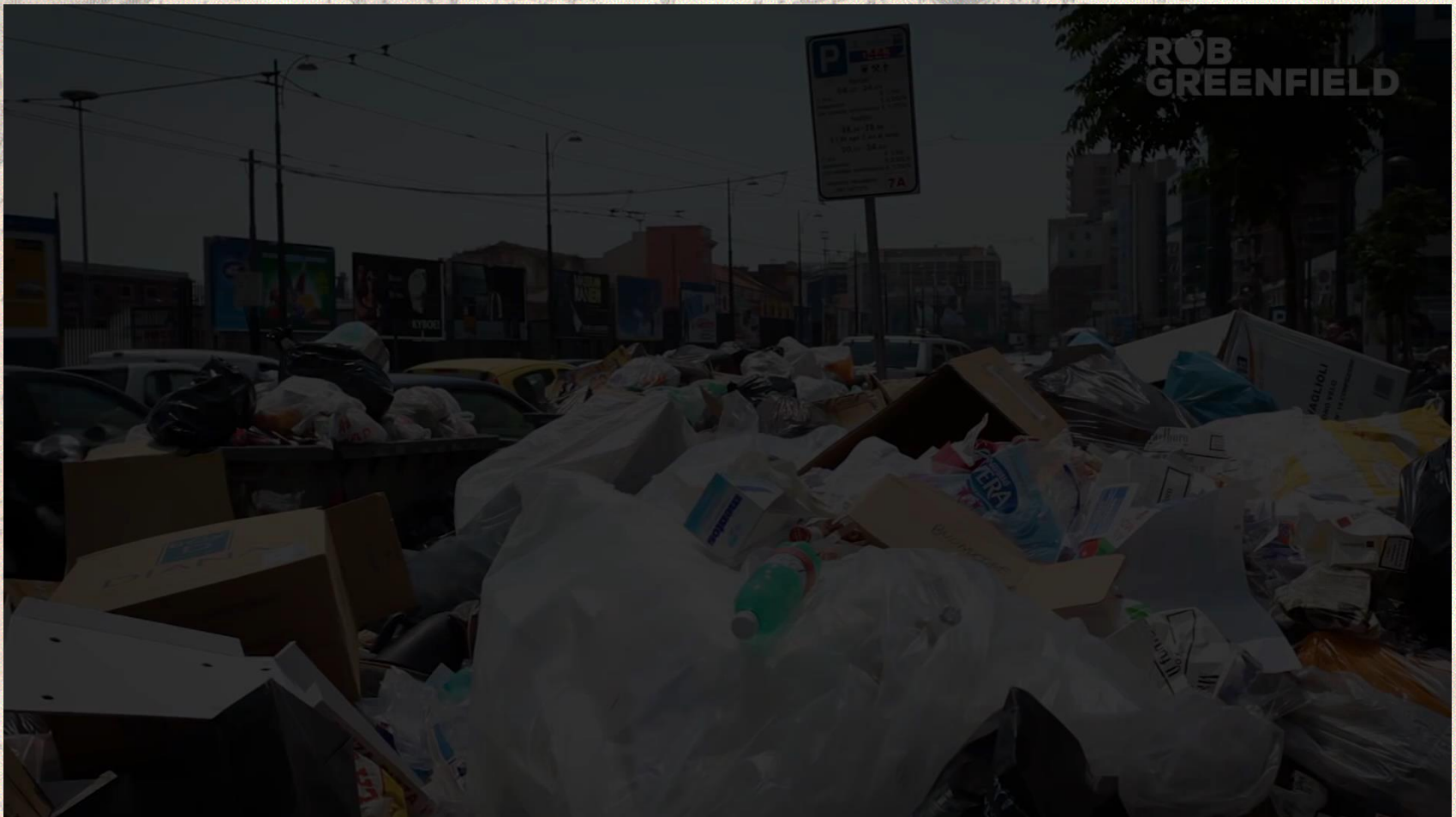


# Artistic impression of hopeless effort to clean the pollution





# Trash Skimmers











Thank You!