



NORTH SEA BALLAST WATER



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BUNDESAMT FÜR
SEESCHIFFFAHRT
UND
HYDROGRAPHIE

Dr. Kai Trümpler
Bundesamt für Seeschifffahrt und Hydrographie

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Overview

1. Introduction in the project
 2. Aim
 3. Rationale
 4. Partners & sub-partners
 5. Briefly work packages
 6. Time frame
 7. Work Packages: 2, 3, 4, 5
 8. Summary / conclusion
 9. Dissemination
- what
why
who
how
when
how

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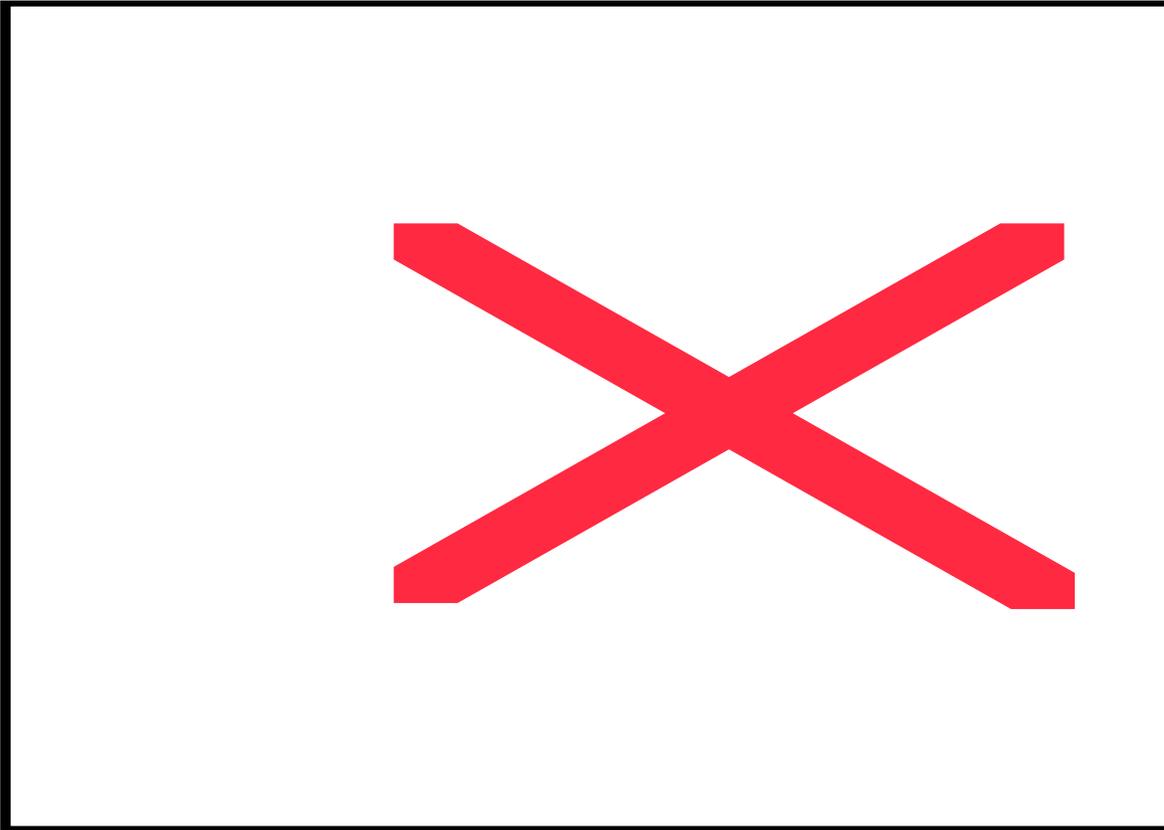
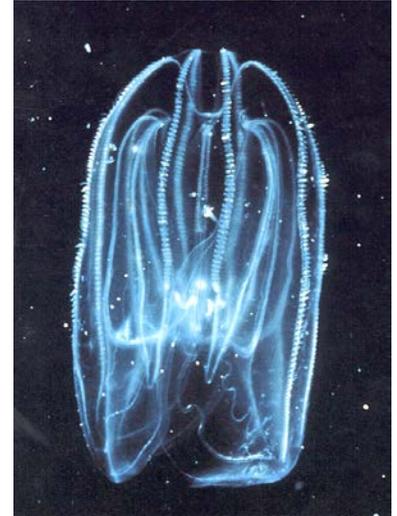
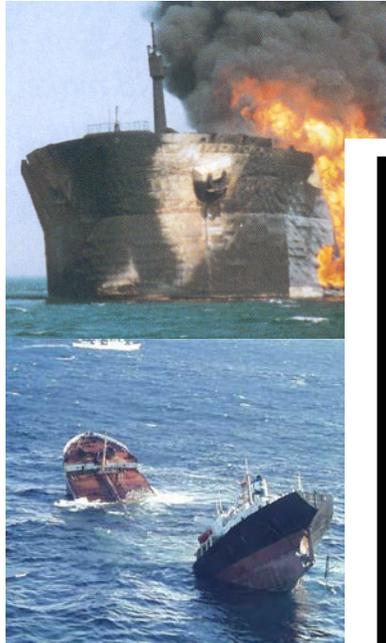
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Introduction



... we must seek an outcome as outstanding as last year's lowest ever recorded level of oil spilled into the marine environment ...

[IMO Secretary General – opening speech, MEPC/INF.32]

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Interreg boundaries

- Geographical limitations
- 7 Countries
- Regions bordering NSR
- Partners located within those geographical boundaries

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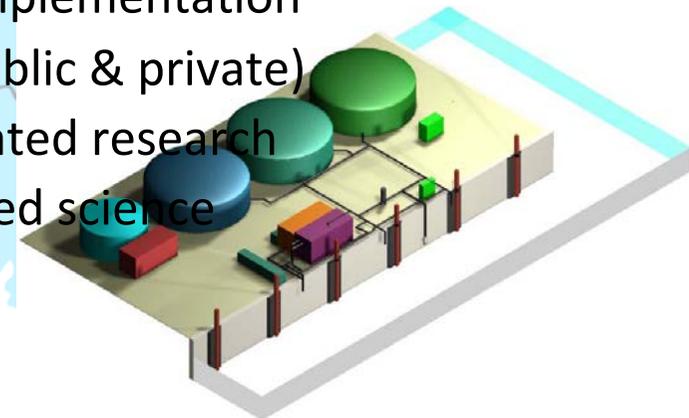
Aim of the project

➤ Facilitate ratification:

- Today: 18 States, 15,27% tonnage
- Required: 30 States, 35% tonnage

➤ Overcome barriers:

- Boost technological innovation
- Stimulate maritime industry
- Common standards / uniform implementation
- Involvement of stakeholders (public & private)
- Knowledge exchange and dedicated research
- Develop cutting edge – bio related science



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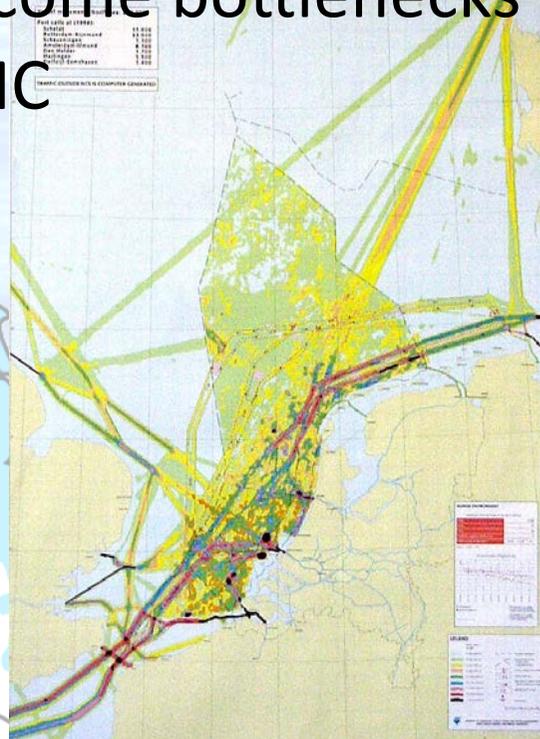
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Rationale

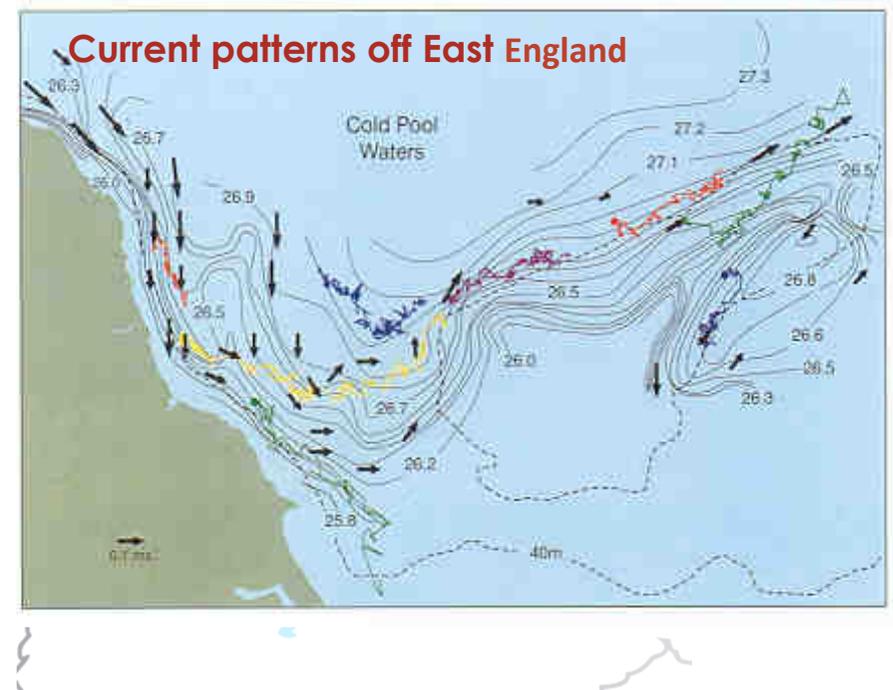
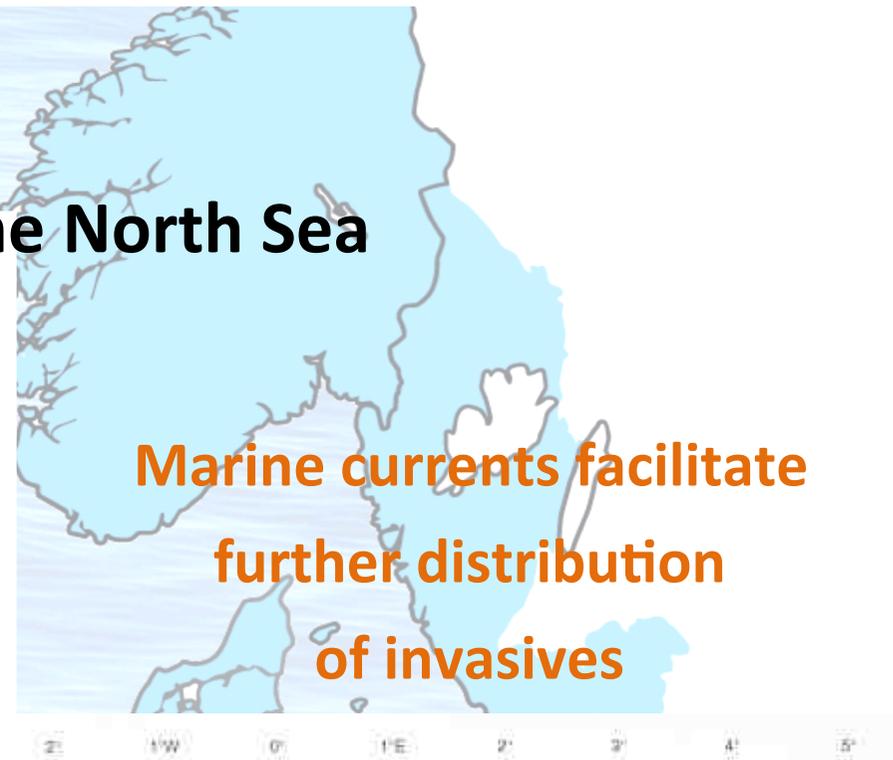
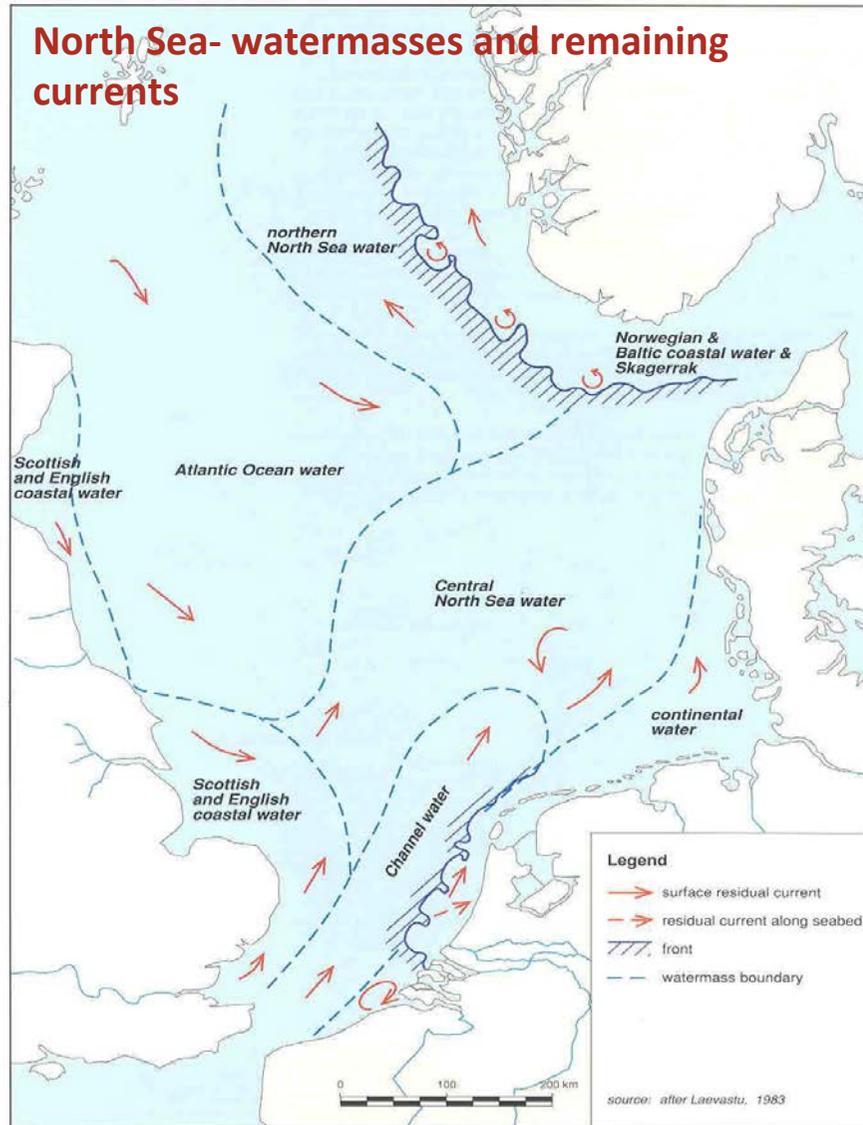
- One of most shipped areas
- One ecological zone*
- Overcome bottlenecks for ratification BWMC





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Impact in the North Sea





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Partners (13)



BUNDESAMT FÜR SEESCHIFFFAHRT UND HYDROGRAPHIE



HAMANN AG

MAHLE NFV Industrial Filtration



zebra BIO-SCIENCE



Institute of Marine Engineering, Science & Technology

IMAREST

DHI WATER & ENVIRONMENT

IMARES

Institute for Marine Resources and Ecosystem Studies

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Sub-partners (29)

Regional support through

- Scientific institutes
- Experts
- Governments
- IGO's NGO's
- Ports
- Shipping organisation

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Mutual benefits

- **Cohesion: Harmonisation of legislation and control - > better accessibility (Interreg)**
- **Competitive advantage for shipping industry through innovation (Lissabon)**
- **Environment: reduce impact of maritime activities (Gothenburg)**
- **Increase of research facilities (Lissabon)**
- **Improve the strategic impact of the NSR (Interreg)**

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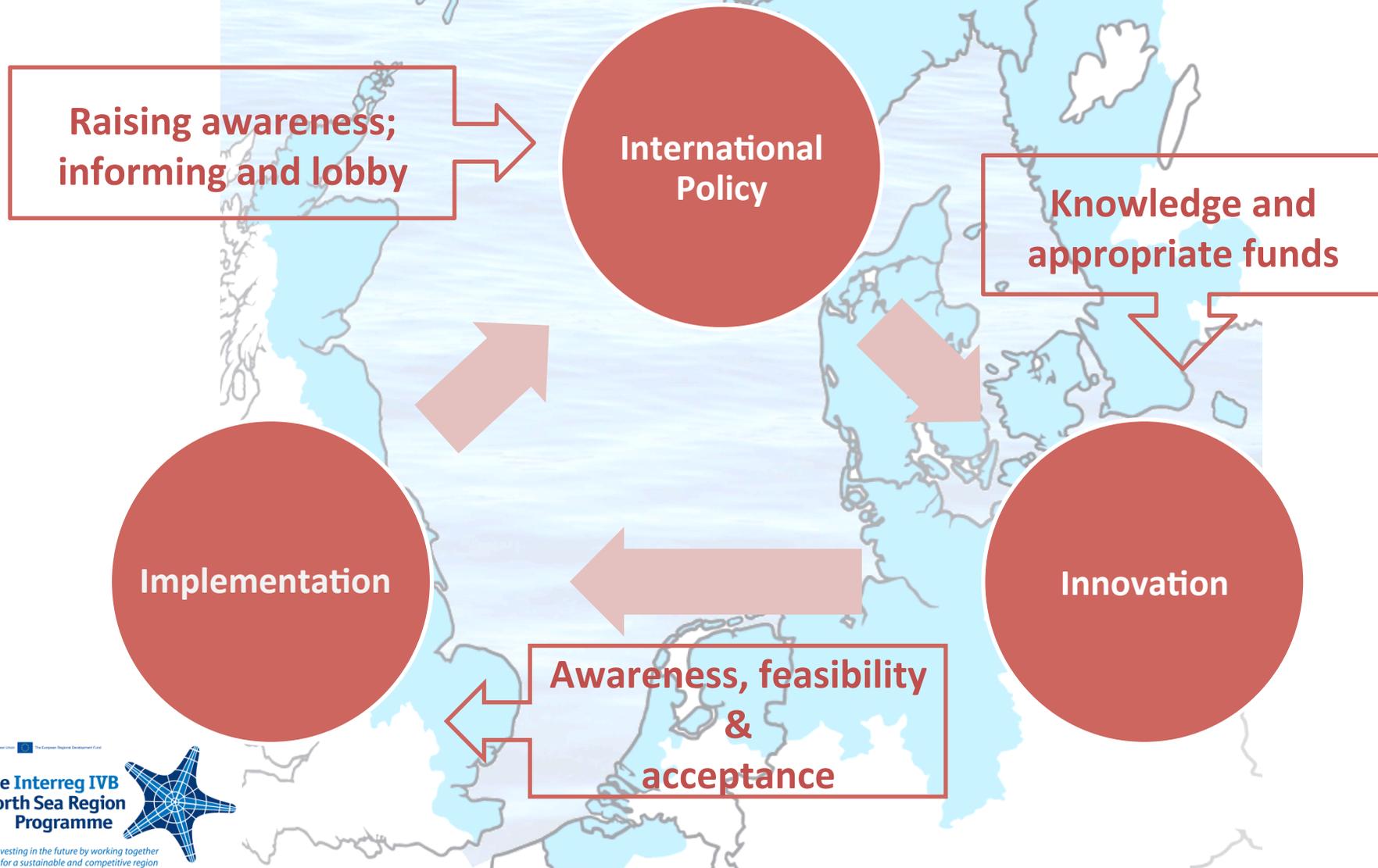


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How to stimulate Maritime & Marine Eco-innovation





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Work Packages

- WP 2 Regional cohesion BSH
- WP 3 BWT systems NIOZ
- WP 4 Detection for monitoring & compliance control GoConsult
- WP 5 Strategies WMU
- WP 1 Project management NIOZ
- WP 6 Dissemination CaTO


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Time frame

- Start 01-01-09
- Continue for 60 months
- SMART Deliverables (total 58)

e.g. Deliverable	month
D1-5 Business plan for continuation after Interreg	36-46
D2-1 Manual on certification for BWT equipment	12
D3-5 Workshop of study results	24
D4-7 Demo of size discrimination in flow-cyto. techn.	36
D5-9 BaWa vulnerability map of NSR	48
D6-6 Training developed for officers and officials	36-60

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WP 2 - Coherence, Harmonisation, and Transparency

Kai Trümpler - BSH

- Standardisation of Approval and Certification
- Sampling and Compliance Control
- Operation and Survey of Systems
- Monitoring
- Ballast Water Exchange

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WP 2: Highlights

- Common Standards for Approval of BWM-Systems
 - Test Protocols
 - Toxicity Testing
- Establish Manual for Certification
- Exemptions in the NSR
- Exiting: ESA Project Due Innovator

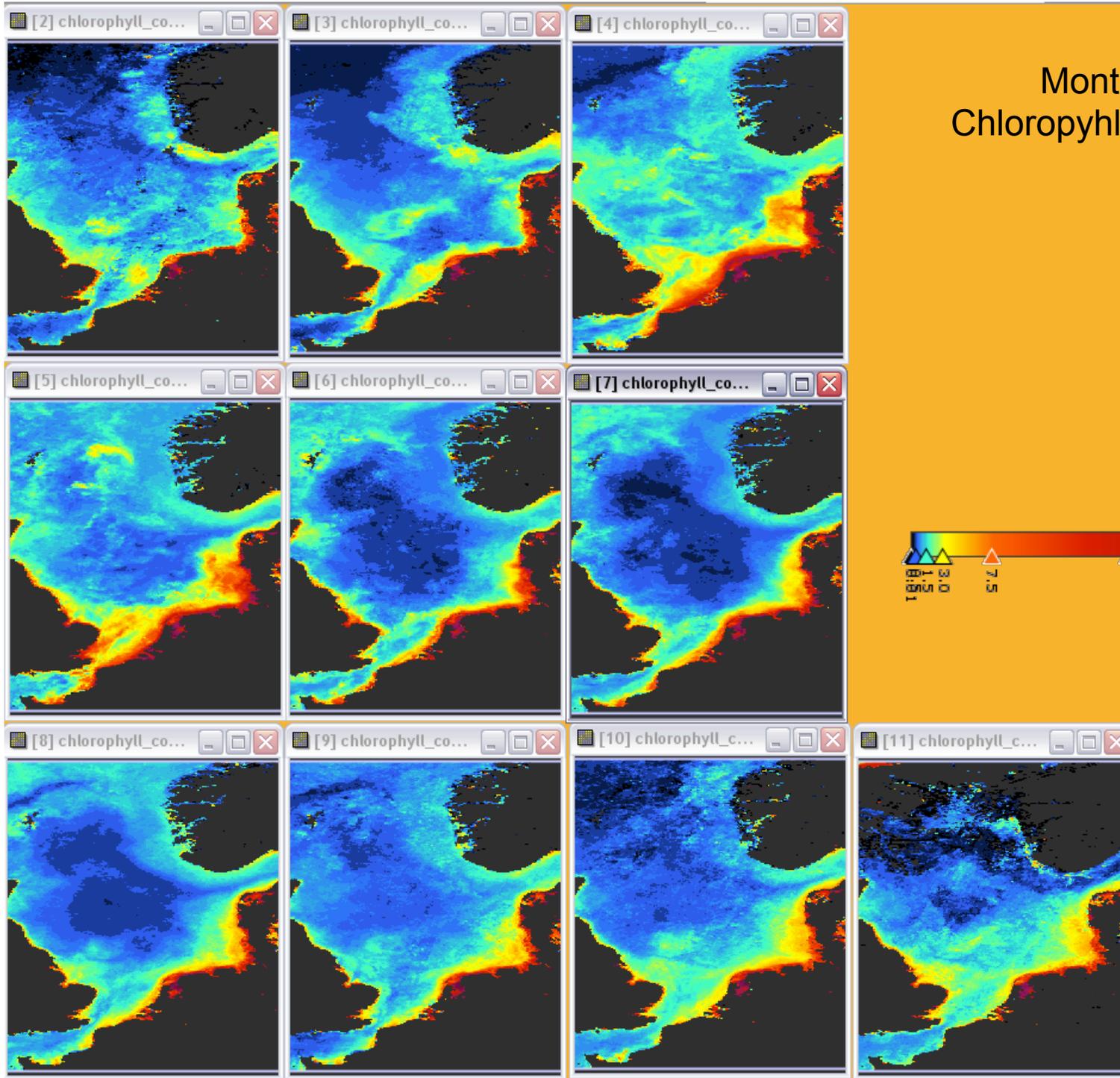
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Monthly averages of Chlorophyll Concentration (2006-2008)





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WP 3: Knowledge transfer, innovation, test bed, demonstration and certification for Ballast Water Treatment Systems (BWTS)

Marcel Veldhuis - NIOZ

- Provide a knowledge base on bioinvasive species for development and demonstration of BWTS
- Build up and validate a test centre for land based tests
- Improve and validate ship-board tests
- Pilot Test Bed for new and emerging technologies

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WP 3: Highlights

- Targeting bio-invasive organisms above and beyond IMO Standard
- Testing for other international Standards
- Dedicated test site for filters
- Mobile on site Laboratory

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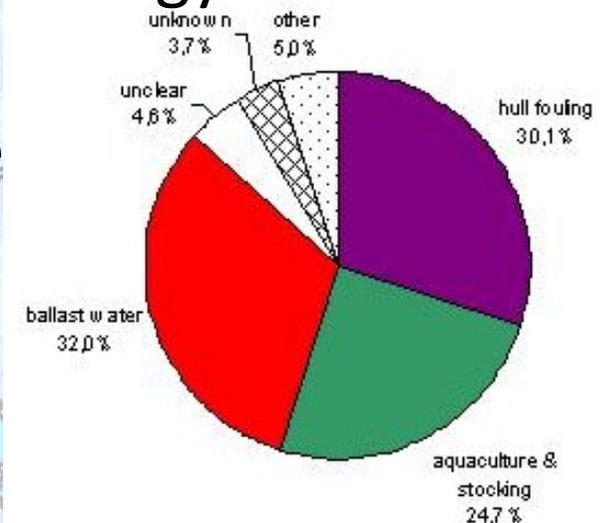


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WP 4: Knowledge transfer, innovation, test bed and certification for detection, monitoring, and compliance enforcement technology

Stephan Gollasch - GoConsult

- Knowledge base of bioinvasive species for detection technology
- Support the development of detection tools for compliance enforcement and monitoring





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WP 4: Highlights

- Tackle the question of size and viability
- Possible „new“ detection technologies:
 - Flow Cytometry
 - Immuno Magnetic Separation

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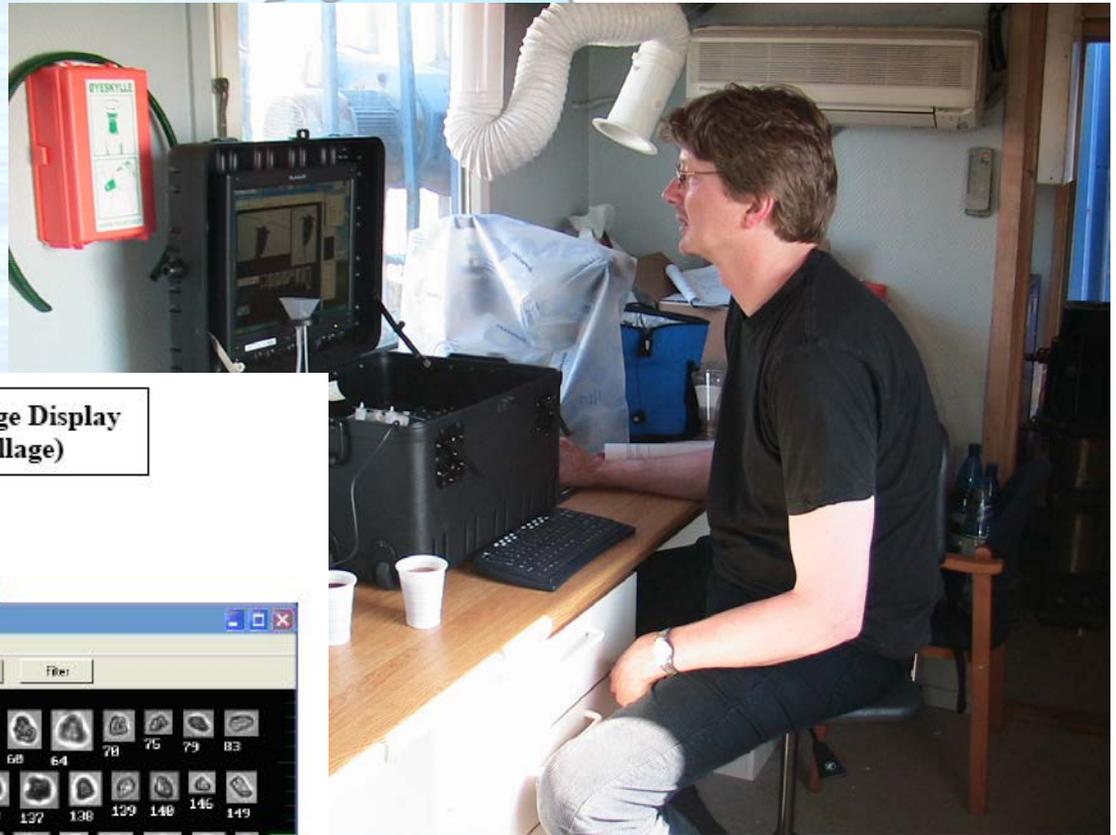
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Visual Spreadsheet
Main Window

Particle Image Display
Window (Collage)

Histograms

Count	1937	
Particles per ml	336567.11	
	Round (ppm)	1134.6
	Long (ppm)	0.00

	Mean	Median	StdDev	% CV	Min	Max
ABD Diam	19.19	19.97	4.38	22.70	9.25	29.15
ABD D[4,3]	21.89	19.97	5.13	23.42	8.35	29.15
ESD Diam	17.96	19.01	3.48	19.24	10.84	25.88
ESD D[4,3]	19.82	18.01	3.83	19.80	10.84	25.88
Length	19.89	19.83	3.74	19.01	13.05	27.49
Width	15.86	15.83	3.26	20.44	7.71	24.05
AspectRatio	0.81	0.83	0.07	8.32	0.57	0.90

Particle Statistics

Image Properties
Window



Figure 4-1. A typical screen view of the Visual Spreadsheet software in use. Annotations denote general sections contained in each part of the screen.



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WP 5: Strategies

Olof Linden - WMU

- Monitoring and Reporting of bioinvasive species
- Strategies for the prevention of bio-invasions
- Develop Risk Assessment and Mitigation Strategies

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WP 5: Highlights

- Model for bio-invasions in the North Sea
- Ballast Water Vulnerability Map
- Early warning System

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Summary

- 12 Partners and 29 Sub-Partners from the North Sea Region coming together to address challenges of BWMC
- Find a common approach
- Participate in International Efforts
- Help the ratification and implementation of the BWMC

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WP 6: Communications

Cato ten Hallers - CaTo Marine Ecosystems

Visit

www.NorthSeaBallast.eu

and register!

Everyone can join!

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