

Trilateral Research Projects

Folkert de Jong

Common Wadden Sea Secretariat



Trilateral “Research Projects”

- Research specifically addressing the whole Wadden Sea ecosystem and/or region
- Including review and (re)analysis of existing data and information
- Including developing common methodology
- Ecology, Socio-Economy, Culture, Policy



Trilateral “Research Projects”

Not included:

- Monitoring
- CWSS Publications
- Trilateral conferences (scientific; management)
- Wadden Sea as part of larger-scale projects (for example Harbasins, Comrisk)
- National projects with CWSS input (for example OFEW remote sensing project)



	ECOLOGY		SOCIO-ECONOMY	CULTURAL HISTORY	GOVERNANCE	
1975 . . . 1983	Ecology of the Wadden Sea				Ecology of the Wadden Sea	
. . .						
1988	<i>Mussel survey (RWS)</i>					
1989	<i>Joint Seal Project (EU)</i>	Habitat map				
1990						
1991		Status /Development report	Status and Development report		Status and Development report	
		WWF Common Future	WWF Common Future	WWF Common Future	WWF Common Future	
1992						
1993		QSR	QSR		QSR	
1994					Management Project (EU)	Integrated System (Zwierp/Backes)
1995						

	ECOLOGY				SOCIO-ECONOMY		CULTURAL HISTORY	GOVERNANCE	
1995									
1996	<i>Breeding success</i>		<i>Contaminants bird eggs</i>						
1997					Netforum (EU) -sustainable tourism		Lancewad (EU) -mapping		
1998						Eutrophication criteria			
1999	QSR							QSR	
2000									
2001									
2002					WSF (EU) -Socio-econ analysis -Scenarios -Sust indicators -Shipping safety		WSF (EU) -stakeholder involvement -Analysis legal instruments		
2003									
2004	QSR					QSR		Lancewadplan (EU) -cultural entities	
2005									
2006									
2007									
2008									
2009	Bird trends	World Heritage	<i>Breeding success</i>	QSR	WSF energy study	QSR			
2010	Alert system		Tidal basins					Gelijk speelveld (Raad vd Wadden)	

Trilateral “Research Projects”

Conclusions:

- Compilation and evaluation of existing knowledge
- Development common methodology for monitoring
- Quality control and conversion
- Trilateral Governance
- Desk studies
- Ecology: Mainly policy-related research on species (flagship species) and contaminants
- “Ecology of the Wadden Sea” only project initiated and executed by scientific community
- All others initiated and coordinated in framework trilateral cooperation and Wadden Sea Forum
- EU support (mainly Interreg) important



Trilateral “Research Projects”

Analysis and outlook:

- Trilateral „Research“ reflecting political agenda 1980s, 1990s, i.e.
 - species protection
 - pollution
 - development trilateral cooperation
- Emerging issues on political agenda 2000s
 - Climate change
 - Invasive alien species
 - World Heritage
 - N2000
 - Sustainable development



Trilateral Research

Trilateral research required on

- Species
- Ecosystem fundamentals
 - Geomorphology
 - Key biological processes
 - Natural values
- Optimising monitoring
- Protection and management
 - Policy objectives
 - Valuation
 - Sustainable use



Trilateral Research

Promising developments/initiatives:

- Wadden Sea Forum
- Wadden Academy
 - Trilateral research agenda
 - Bi/trilateral research programme
 - Follow-up „Ecology“
 - Studies Valuation and Sustainability
- Programme Rich Wadden Sea
 - Tidal Basins pre-study
 - Invasive alien species
 - Sediment
 - Flyway
- Delta programme Wadden Sea
- WaLTER project



Tidal Basin Inventory

Question: What is the impact of bottom-impacting activities (i.e. fisheries) on the ecosystem?

Idea: Compare all tidal basins in the Wadden Sea for their basic characteristics (abiotic, biotic, human use)

Product: Digital atlas of tidal basins

Tidal Basin Inventory

Comparison of, *inter alia*

- Impacts of human activities
- Impacts of sea level rise
- Impacts of temperature change on biotic and abiotic features
- Impacts of large scale physical interventions
- Natural values
- Different developments

Product: Digital Atlas + data base

Tidal Basin Inventory

Pre-study

- November 2010 – January 2011
- **Interviews with key scientists**
- NL: Eelke Folmer
- D/DK: Dietmar Kraft, Jürgen Meyerdirks,
Thorsten Stiehl (WIMO project)

Supervision:

Justus van Beusekom (AWI Sylt)

Norbert Dankers (Imares)

Morten Pejrup (Univ Copenhagen)

backing by Bruno Ens, Katja Philippart, Albert Oost

Tidal Basin Inventory

Pre-study

- Is the idea relevant and feasible?
- Are there additional policy/scientific questions?
- What parameters are needed?
- Which data are available?
- What are the methodological problems?

tidal basins

1 Graadyb

2 Knude Dyb

3 Jyvre Dyb

4 Lister Tief

5 Hörnum Tief

6 Norderaue

7 Süderaue

8 Hoogeloch

9 Rummeloch West

10 Norderhever-Heverstrom

11 Tümlauer Bucht

12 Eidermündung

13 Wesselburener Loch

14 Piep/Meldorfer Bucht

15 Flackstrom

16 Neufahrwasser

tidal basins

- 1 Graadyb
- 2 Knude Dyb
- 3 Jyvre Dyb
- 4 Lister Tief
- 5 Hörnum Tief
- 6 Norderaue
- 7 Süderaue
- 8 Hoogeloch
- 9 Rummeloch West
- 10 Norderhever-Heverstrom
- 11 Tümlauer Bucht
- 12 Eidermündung
- 13 Wesselburener Loch
- 14 Piep/Meldorfer Bucht
- 15 Flackstrom
- 16 Neufahrwasser
- 17 Schatzkammer

tidal basins

- 1 Graadyb
- 2 Knude Dyb
- 3 Jyvre Dyb
- 4 Lister Tief
- 5 Hörnum Tief
- 6 Norderaue
- 7 Süderaue
- 8 Hoogeloch
- 9 Rummeloch West
- 10 Norderhever-Heverstrom
- 11 Tümlauer Bucht
- 12 Eidermündung
- 13 Wesselburener Loch
- 14 Piep/Meldorfer Bucht
- 15 Flackstrom
- 16 Neufahrwasser
- 17 Schatzkammer

Conclusions

- A lot of data (of very different quality) available
- Much knowledge existing
- But also many gaps!
- We need:
 - intelligent combination of:
 - data
 - models
 - remote sensing

Classification of the Trilateral Wadden Sea

Legend

Surface Types

-  Sand
-  Sand-Mix
-  Mix
-  Mud
-  Beach / high Sands
-  Vegetation
-  Mussels

