

# **Two Decades of Research on Introduced Species: Experience from ICES and BMB**

Stephan Gollasch  
&  
Sergej Olenin

# Fact File

- Biological invasions are considered as one of the top four anthropogenic threats of the world's oceans (same status as “global warming”) – Convention on Biological Diversity (Rio 1992)
- Considerably impact local economies (loss in harvest, coastal zone damage, impact tourism, extinction/impairment of native species)
- Key introducing vectors are shipping and aquaculture
- Pacific hosts several of the world's major shipping routes. Increase in traffic expected due to growth of oil and gas exports
- Discharge of “unmanaged” ballast water will negatively impact on e.g. aquaculture

# History of ICES WGITMO

- First meeting in early 1970
- Consecutive meetings since 1978
- Chairmen  
Carl Sinderman (1978-1990),  
Jim Carlton (1991-2000),  
Stephan Gollasch (since 2001)
- Key item update ICES on  
species movements
- Key instrument  
“National Reports”



25th  
Anniversary  
Meeting in  
Vancouver,  
Canada 2003



# ToRs of WGITMO

- Current Terms of Reference include
  - update on previously introduced species
  - review proposals for planned introductions
  - report accidental releases and their ecological and economical consequences
  - develop report on rapid response and control options
  - plan Aliens Species Alert Reports
  - develop risk assessment guidelines
- WGITMO reports to the ICES Marine Habitat Committee and Advisory Committee of the Marine Environment

# History of WGBOSV

- First meeting in 1997 as SGBWS, renamed to SGBOSV to better address non-ballast vectors in shipping. Since 2003 WGBOSV
- Chairmen Jim Carlton (1997-2000), Stephan Gollasch (since 2001)
- Meets back to back with WGITMO
- “Mini-symposium” format until 2004
- Workshop format from 2005



# ToRs of WGBOSV

- Current Terms of Reference include
  - review and report on the status of ballast water research
  - review Codes of Best Practice for Ballast Water Management (OSPAR, HELCOM, GloBallast)
  - risk assessment of ship mediated invaders
  - techniques for the rapid detection of non-indigenous species
- WGITMO reports to the ICES Marine Habitat Committee and Advisory Committee of the Marine Environment

# History of BMB NEMO

- Working Group on Non-indigenous Estuarine and Marine Organisms (NEMO) within the Baltic Marine Biologists (BMB)
- Established in 1994 (initiative of E. Leppakoski & S. Olenin) - with its first meeting in Klaipeda, Lithuania in 1995
- Advanced PhD and MSc courses on biological invasions
- Joint publications and projects
- Baltic Sea Alien Species Database (Klaipeda Database), online since 1997 <[www.ku.lt/nemo/](http://www.ku.lt/nemo/)>

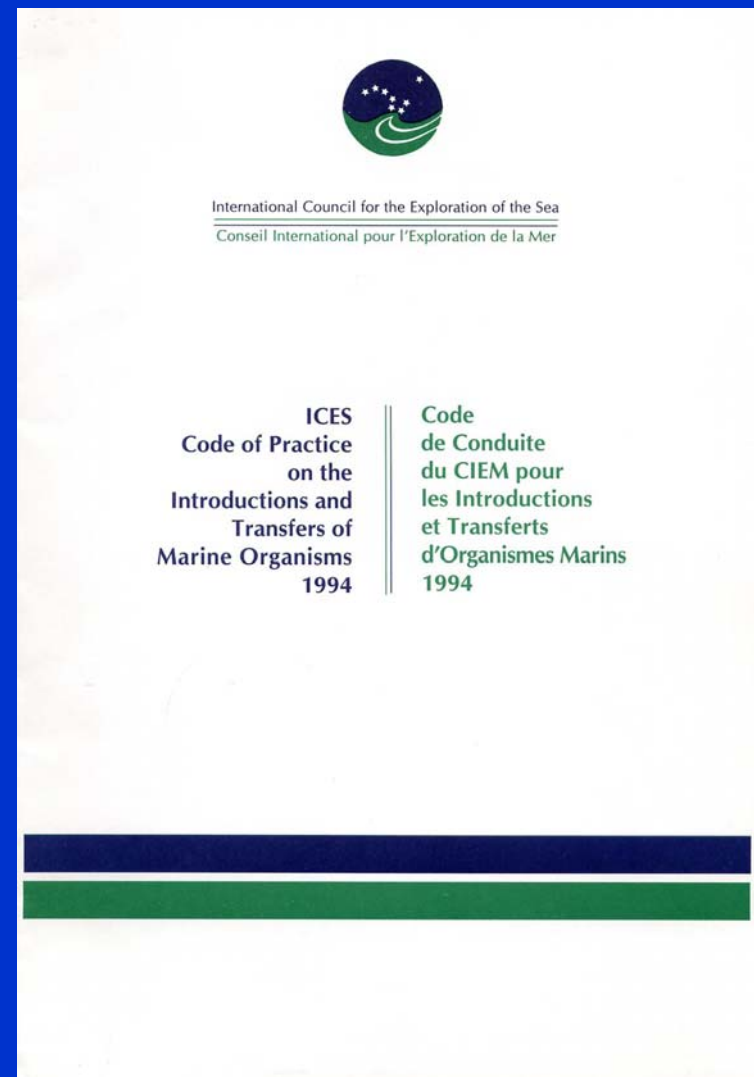
# Current BMB NEMO ToRs

- to support activity of a Baltic research network on biological invasions which was established in 1994-1997;
- to promote cooperation between biologists dealing with NEMOs in the Baltic Sea and other aquatic areas;
- to further develop the information system on alien species in the Baltic Sea (Baltic Sea Alien Species Database);
- to support educational activities in invasion ecology (e.g. advanced courses for MSc and PhD students);
- to elaborate recommendations on alien species studies for the revised HELCOM Guidelines for the Baltic Sea Monitoring;
- to transfer applicable know-how of international and regional organizations elaborated in order to minimize risk of introductions (in cooperation with HELCOM).



# ICES Code of Practice

- This task triggered the “birth” of WGITMO
- The code covers Introductions and Transfers of Marine Organisms
- Several updates (1994, 2002)
- Updated version including GMOs - to be published soon
- Avoid un-intentional introductions and accidental releases (non-target species)
- Other codes in preparation (EU, IUCN)



# Publications I

- ICES CRR (Cooperational Research Reports)
- Status of Introductions of Non-indigenous Marine Species to North Atlantic Waters  
1981 - 1991
  - covers plants (with an emphasis on *Caulerpa taxifolia*), invertebrates and fish
  - information provided is based upon “National Reports” prepared for WGITMO Meetings
- A status report covering 1992-2002 is in preparation by WGITMO and should be ready soon

# Publications II

- Alien Species Alert Reports
  - “Alien Species Alert: *Rapana venosa* (veined whelk)”, prepared by WGITMO, published in 2004
  - “The intentional introduction of the marine Red King Crab *Paralithodes camtschaticus* into the Southern Barents Sea”, prepared by WGITMO, final version submitted in 2004
- Invasion vectors report
  - “Vector pathways and the spread of exotic species in the sea“, prepared by WGITMO and reviewed by WGBOSV, final version submitted in 2004

# The ICES-PICES linkage on Biological Invaders

- Close cooperation on biological invaders is seen as mutually beneficial
- Information pathways are well established as:
  - PICES representatives are on the mailing list of WGITMO and WGBOSV
  - PICES representatives attend WGITMO and WGBOSV meetings since 2003
  - ICES representatives attend PICES Annual Meetings
  - ICES representatives are on the mailing list of relevant PICES bodies

# Thoughts for consideration of PICES

- A strong and efficient regional network is a key issue when dealing with biological invasions
- A global network is also needed as invaders may originate in non-PICES member countries
- Consider to join ICES/IOC/IMO WGBOSV and/or ICES WGITMO meetings. The geographic coverage of the group is not limited to ICES-Member countries
- Consider to establishment of a working group dealing with biological invasions (not focus HABs only)
- Consider to follow the ICES Code when planning species introductions

# PICES Group on Biological Invasions

- Inventory of aquatic alien species in ALL PICES Member Countries
- Not to focus on marine organisms only – include brackish and freshwater species
- Development of an online database on alien species for PICES
- Raise awareness within the PICES scientific arena
- Consult with PICES HAB group for mutual benefit
- Be open for south Pacific countries and other regions to contribute
- Discuss preventive measures (ICES Code, IMO Convention etc.)