

Development of a Regional Programme on Marine & Coastal Invasive Species in the East Asian Seas Region

Concept by the COBSEA Secretariat



What are invasive alien species?

- **Alien Species** – a species that has been intentionally or unintentionally introduced to a location, area, or region where it does not occur naturally.
- **Invasive Species** – a species that has established and spread outside its natural distribution range causing harm to the environment, economy or human health.
- **Invasive alien species (IAS)** – an alien species that causes, or has the potential to cause, harm to the environment, economies, or human health. Because the majority of invasive species are alien, this term is widely used by practitioners in the field.
- **Marine and coastal invasive species (MIS)** – invasive species in marine and coastal environments.

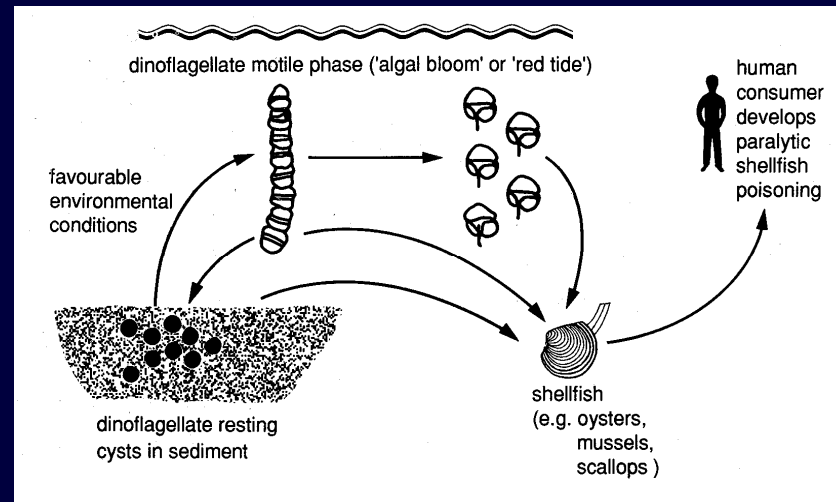
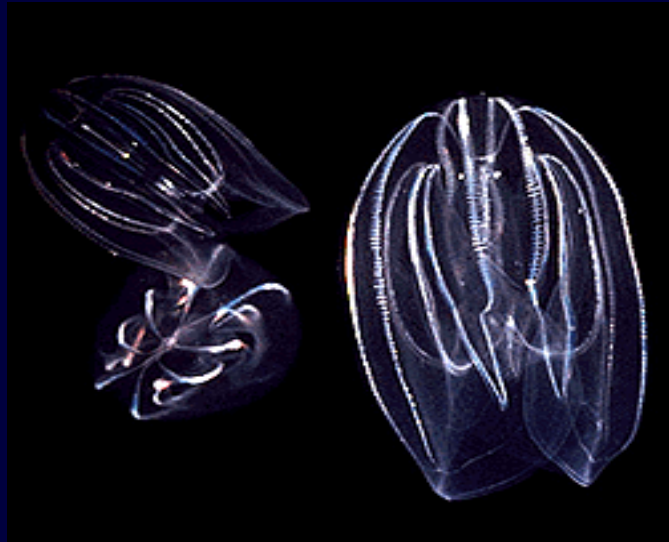
Invasive Alien Species



- One of the greatest threats to biodiversity globally
- Documented in 84% of marine ecoregions and 1 of 4 major threats to world's oceans
- Other 3 major threats are:
 - land-based sources of marine pollution,
 - overexploitation of living marine resources, and
 - physical alteration /destruction of habitat.

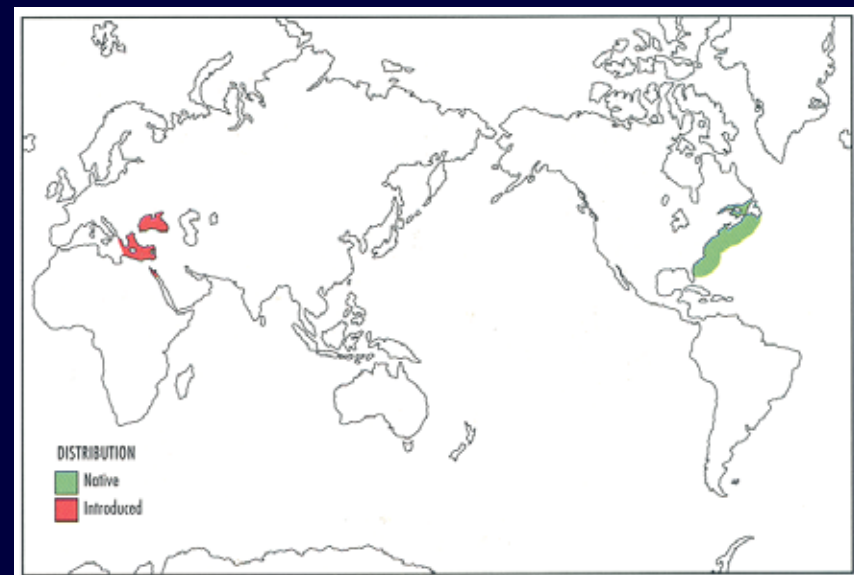
Impacts fall into 3 main categories:

- Economic
- Ecological
- Health



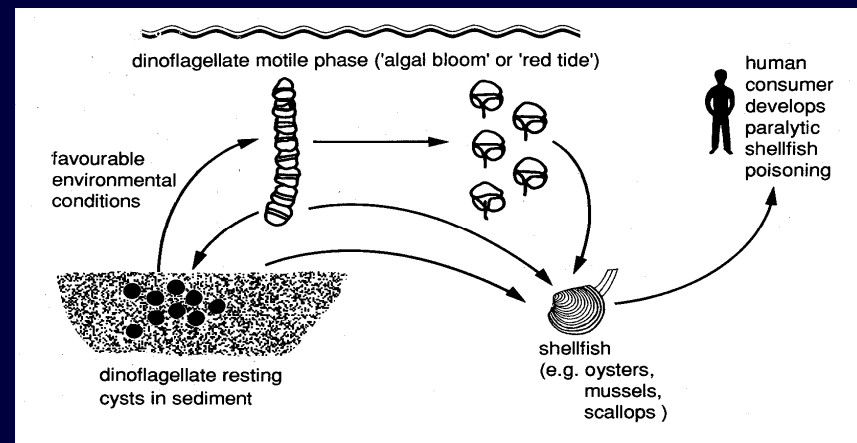
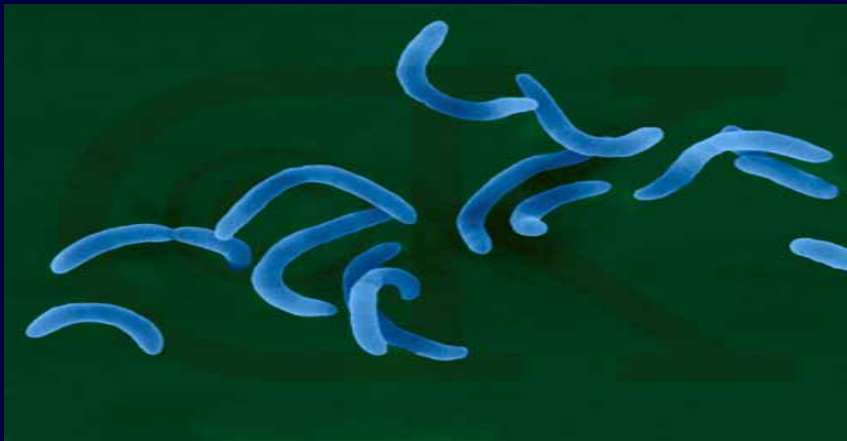
Comb jelly in the Black Sea

Originated on the US East Coast
Introduced via ballast water
Led to collapse of Black Sea
fisheries
Losses of ~ US\$ 500 mill/year



Human Health Impacts

- Species which are often found in ballast water include:
 - Viruses, bacteria and fungi (e.g. cholera)
 - Species such as toxic dinoflagellates which give rise to harmful algal blooms (HABs).



Pathways for introduction

- **Intentional introductions:**
 - fisheries/mariculture
- **Unintentional:**
 - canal developments
 - marine debris
 - escape or release from aquaria,
 - shipping (hullfouling & ballast water)



MIS in East Asian Seas

Limited information available

BUT:

- High concentrations of shipping in the region
- One of the biggest areas for mariculture globally
- Threat to ecosystems as well

i.e. the region is vulnerable to introductions

MIS identified as an emerging issue in the New Strategic Directions for COBSEA adopted in January 2008.



In response - **COBSEA Training & Review Workshop on MIS**

- Meeting of regional experts held in Bangkok : 31 Aug – 4 Sept 2009; **2 components**: short training + regional brainstorming
- Presented case studies from the region
- Support the development of a regional programme on MIS



Case studies on MIS

- > 70 alien species reported
- North Pacific seastar - ~ \$AUD 1 mill loss to scallop industry in Tasmania in 2000 alone
- False mussel – annual losses of RMB 5 mill to mussel & oyster industries in China
- Million \$ losses to Asian shrimp industry as a result of diseases (eg. Whitespot virus).
- HABs widespread & caused fish kills in Phillipine waters



Goal of the proposed Programme

- To facilitate the effective management of marine and coastal invasive species in the COBSEA Region with a view to reducing the impacts thereof on marine biodiversity, ecosystems, the economy and on the health and livelihoods of the peoples of the region.

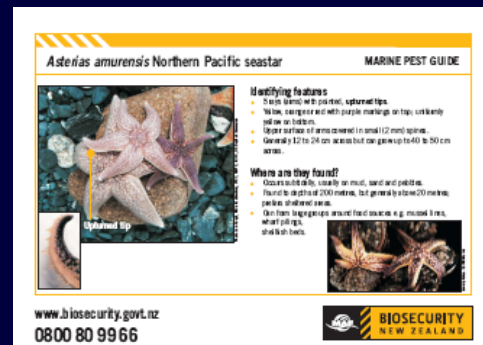


Objectives of the proposed Programme

- To establish a framework for co-operative action on the prevention and management of MIS in the COBSEA Region
- To assess the status of, and threats posed by, MIS in the region and identify priority species for management action
- To assess the relative importance of the potential pathways and vectors in the region
- To raise awareness of MIS and promote best practice management options
- To build capacity within the region for effective and efficient MIS management.

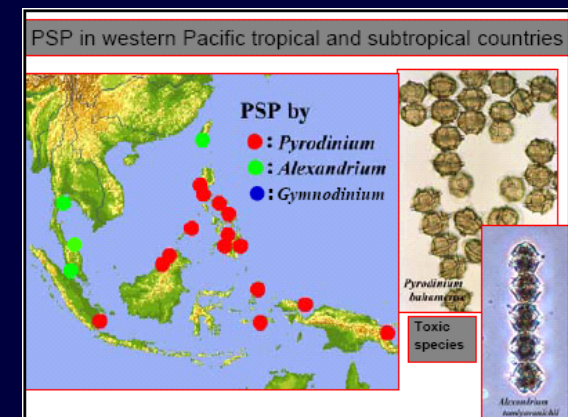
Programme Element 1

- **Creating an enabling environment for MIS management**
 - Promote regional co-operation
 - Strengthen national regulatory frameworks
 - Training and technical support
 - Communications and awareness-raising



Programme Element 2

- **Building the information base**
 - Status Assessments (species, pathways, economic impacts etc)
 - Risk Assessment (unintentional & intentional introductions)
 - Development and maintenance of a regional database
 - Monitoring programmes
 - Research



Programme Element 3

- **Enhancing implementation of Best Practice**
 - **National Action Plans based on CBD Guiding Principles**
 - **IMO Guidelines on Ballast Water Management**
 - **Guidelines on fisheries and aquaculture (FAO/ICES/APEC/NACA etc)**
 - **Development of regional guidelines**
 - **Demonstration activities.**

Potential partners

- IMO/GloBallast Partnerships Programme
- CBD
- FAO
- GISP
- IUCN
- IOC/WESTPAC
- PEMSEA;
- ASEAN
- Yellow Sea LME Project
- e-Network of Aquaculture Centres in Asia
- NOWPAP (?)

