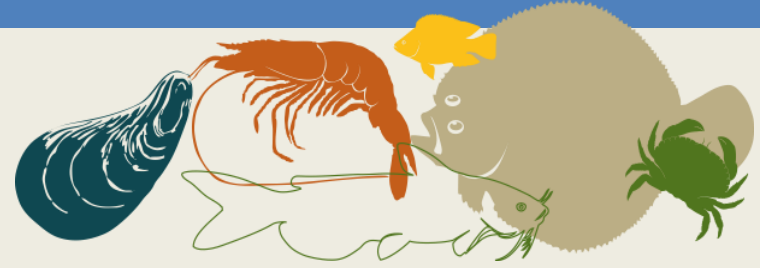




Food and Agriculture
Organization of the
United Nations

COMMISSION ON
GENETIC RESOURCES
FOR FOOD AND
AGRICULTURE



CHAPTER 3

DRIVERS AND TRENDS IN AQUACULTURE: CONSEQUENCES FOR AQUATIC GENETIC RESOURCES WITHIN NATIONAL JURISDICTION

AD HOC INTERGOVERNMENTAL TECHNICAL WORKING GROUP ON
AQUATIC GENETIC RESOURCES FOR FOOD AND AGRICULTURE

20-22 June 2016

FAO Rome, Italy



Food and Agriculture
Organization of the
United Nations

COMMISSION ON
GENETIC RESOURCES
FOR FOOD AND
AGRICULTURE



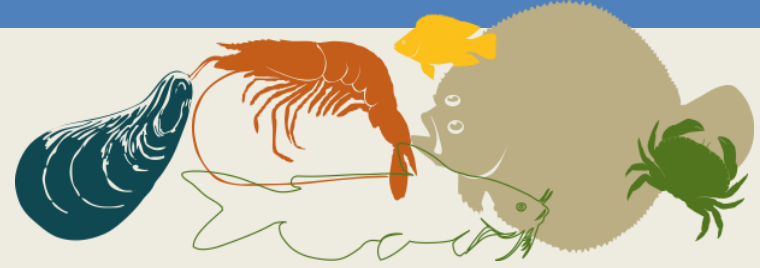
Main objective

Explore the effects of different drivers on
farmed and wild-relative aquatic genetic
resources



Food and Agriculture
Organization of the
United Nations

COMMISSION ON
GENETIC RESOURCES
FOR FOOD AND
AGRICULTURE



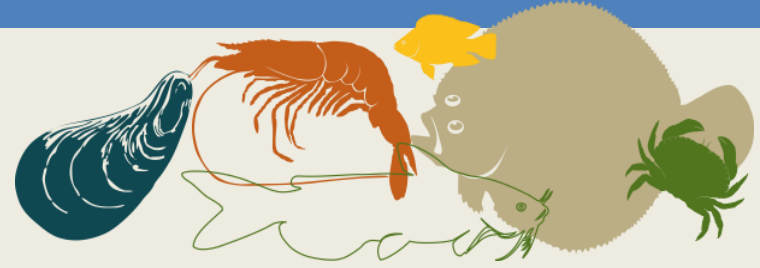
Specific objectives

- Explore effects of direct drivers
 - Human population increase
 - Competition for resources
 - Strong or weak governance
 - Increased wealth and development of economies
 - Changing human food preferences and ethical considerations
- Also explore effects of indirect effects of drivers impacting ecosystems
 - Effects of habitat loss and degradation
 - Pollution of waters
 - Establishment of invasive species
 - Direct and indirect effects of climate change



Food and Agriculture
Organization of the
United Nations

COMMISSION ON
GENETIC RESOURCES
FOR FOOD AND
AGRICULTURE



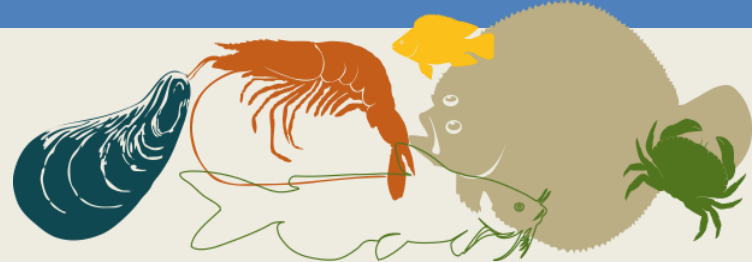
Key findings

- Human population increase - drives demand for seafood
 - Drives expansion and diversification of farmed AqGR
 - Places pressure on wild type stocks, as broodstock or as food
- Competition for resources - force aquaculture to become more efficient
 - Demands for freshwater Wild relatives threatened by changes in priorities on use of water
 - Pollution threatens quality of water for aquaculture and wild relatives
- Improving governance positive - beneficial effect on AqGR
 - Farmed types: Improved regulation/operation; sector professionalized
 - Wild relatives: Improved environment, controls on stocking and movements, conservation and protection



Food and Agriculture
Organization of the
United Nations

COMMISSION ON
GENETIC RESOURCES
FOR FOOD AND
AGRICULTURE



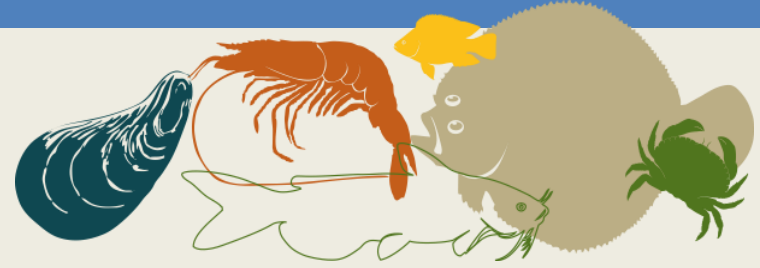
Key findings

- Increased wealth and development of economies
 - Increasing: trade & urbanization
 - Consolidation, industrialization major AqGR commodities
 - Emphasis on food safety and traceability, challenging small operators
 - Continuous exploration to satisfy the demand for new commodities
 - Demand for ornamental fish will increase
- Changing human food preferences and ethical considerations
 - Changing demographics, consumer attitudes: urbanization drives demand
 - Fish increasingly recognized for healthy and balanced diet
 - Concern over the use of GMO techniques, some market resistance



Food and Agriculture
Organization of the
United Nations

COMMISSION ON
GENETIC RESOURCES
FOR FOOD AND
AGRICULTURE



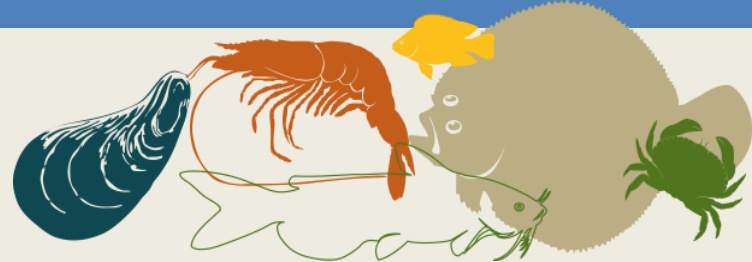
Key findings

- Effect of habitat loss and degradation on ecosystems
 - Changing use of land, water, coastal areas, wetlands and watersheds
 - Impacts on quantity and quality of water & habitat
 - Water management a principal factor affecting aquatic systems
 - Invasive species: direct competition/predation, food webs and ecosystems
- Direct and indirect effects of climate change
 - Direct: freshwater availability, ambient temperatures - direct impacts
 - Indirect: affects all AqGR through changing ecosystem functions
 - Disproportionate effect on equatorial/tropical regions
 - Farmed-types: positive effects selecting for climate tolerance
 - Impacts on wild relatives unknown, or likely to be negative



Food and Agriculture
Organization of the
United Nations

COMMISSION ON
GENETIC RESOURCES
FOR FOOD AND
AGRICULTURE



Guidance and comments sought

- Structure of the chapter
- Analytical approach used
- Interpretation of the information
- Identification of major gaps or errors