

# Management tools and standards in support of Sustainable Development Goal 14 "Life below water"

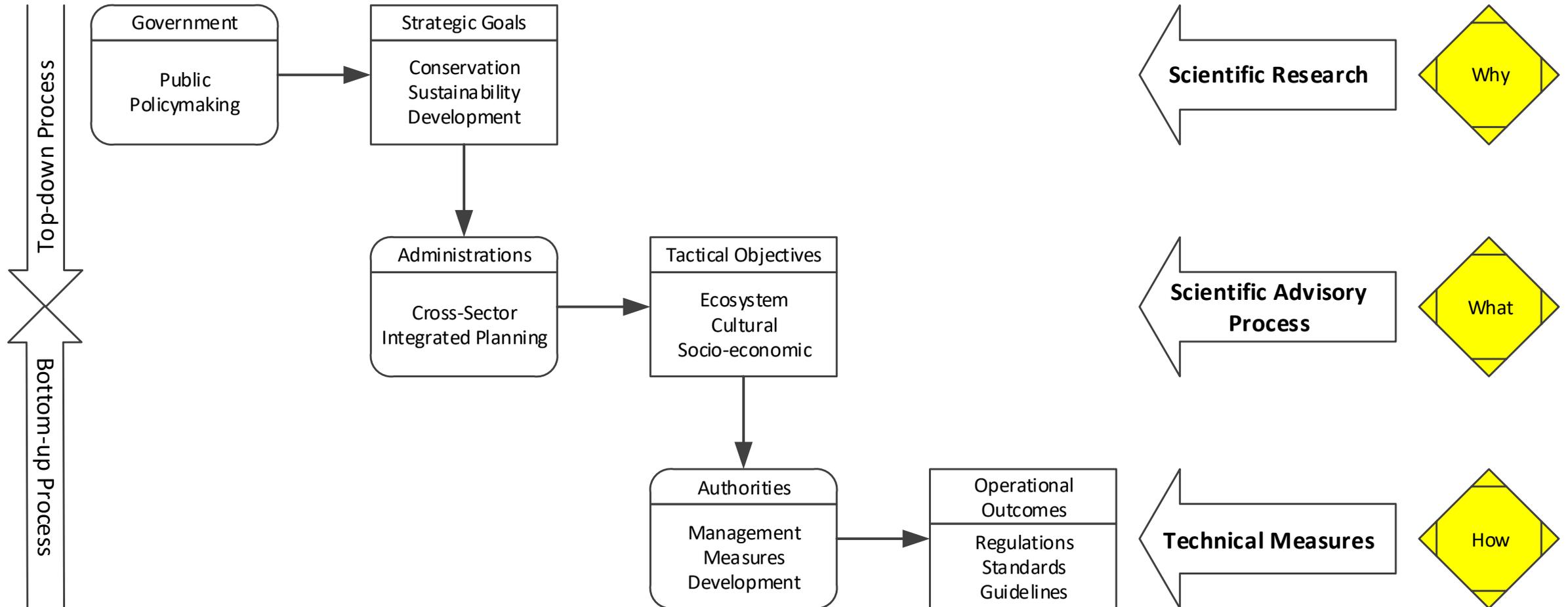
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OCTOBER 9TH TO 11TH 2018

MARINE AND FRESHWATER RESEARCH INSTITUTE

SKÚLAGATA 4, IS-101 REYKJAVÍK, ICELAND

# Goals – Objectives - Outcomes



# Management tools and standards

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## ➤ Why

- SDG 14 Life below water: Conserve and sustainably use the oceans, seas and marine resources

## ➤ What

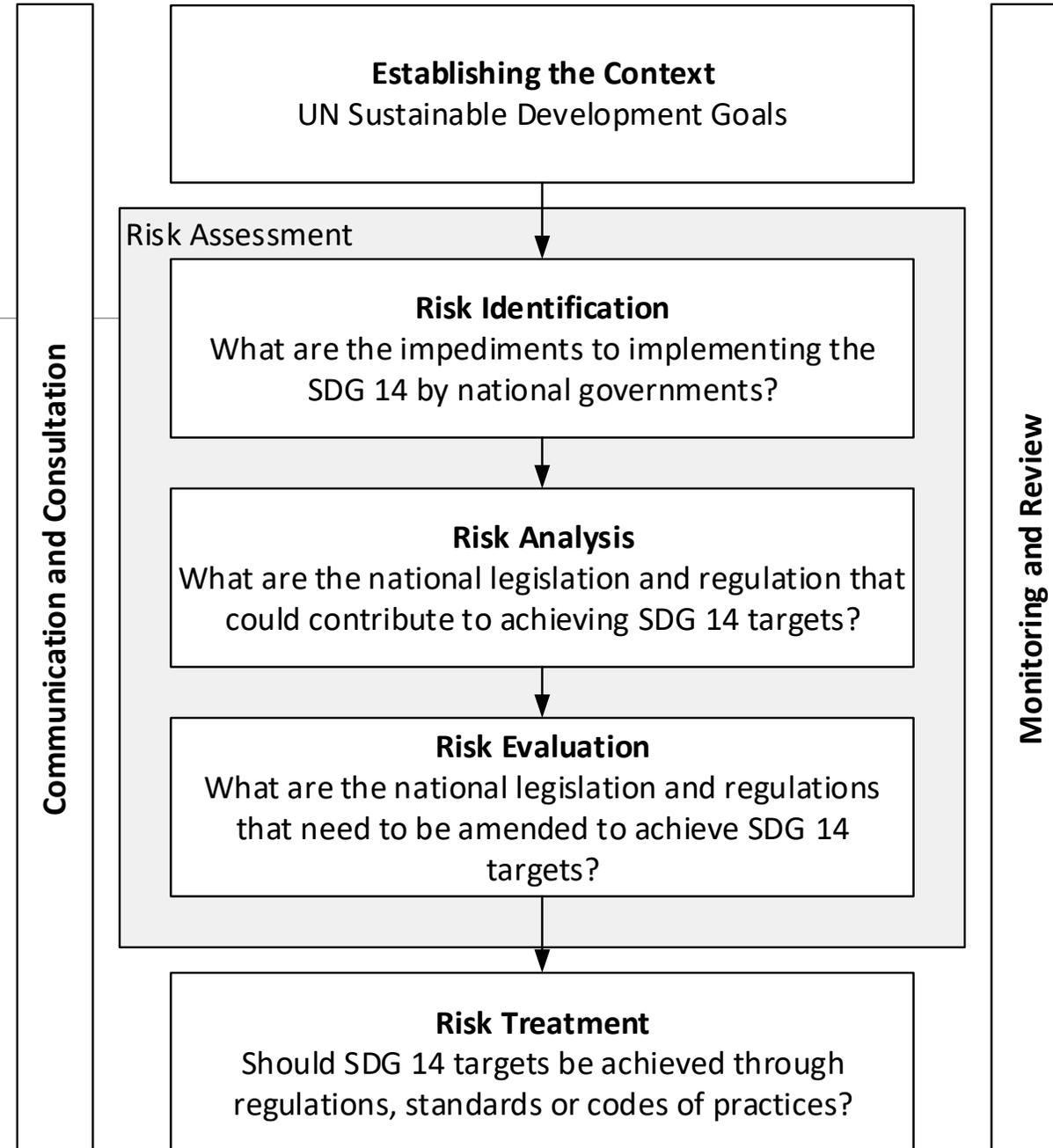
- By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution
- By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans
- Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels
- By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics
- By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information
- By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation
- By 2030, increase the economic benefits to Small Island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism
- Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries
- Provide access for small-scale artisanal fishers to marine resources and markets
- Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in UNCLOS, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of The Future We Want.

## ➤ How

- Standards, conventions, harmonization, risk management, technical measures, regulatory framework?

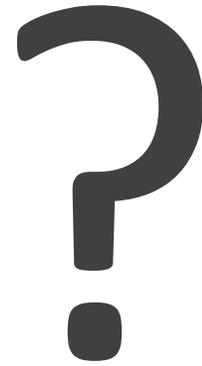
# Risk Management

- ISO 31000 Risk management process
  - Risk assessment is scoped by the policy context
  - The output of the process is to make a decision regarding the course of action and implement the controls to reduce the uncertainties of achieving the objectives
- Risk Management in regulatory frameworks
  - The coherent application of risk management to regulatory work is intended to develop a well-balanced system, as opposed to one that veers between two extremes:
    - (a) **Excessive or over-regulation**, i.e., regulations that are too stringent with respect to the risk they set out to address, and
    - (b) **Insufficient regulations**, which fail to address risk and unnecessarily or inordinately expose citizens and economic operators

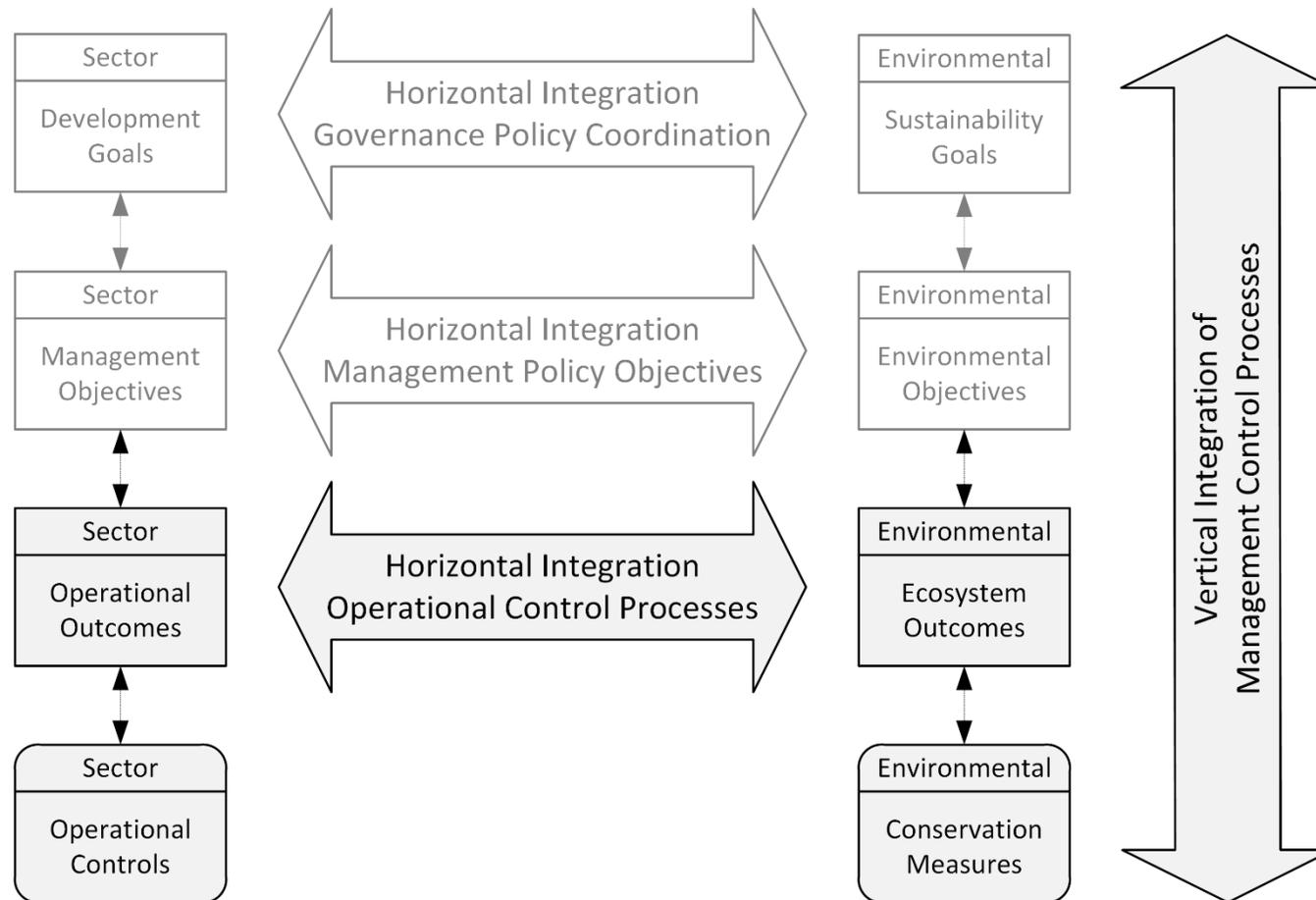


What is risks?

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# Operational and ecosystem outcomes



# Assessing and managing risks of achieving SDG 14 targets

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- Identify the risks to delivering some of the 10 targets of SDG14
- Assess worst case impact and probability of each risk (gross risk)

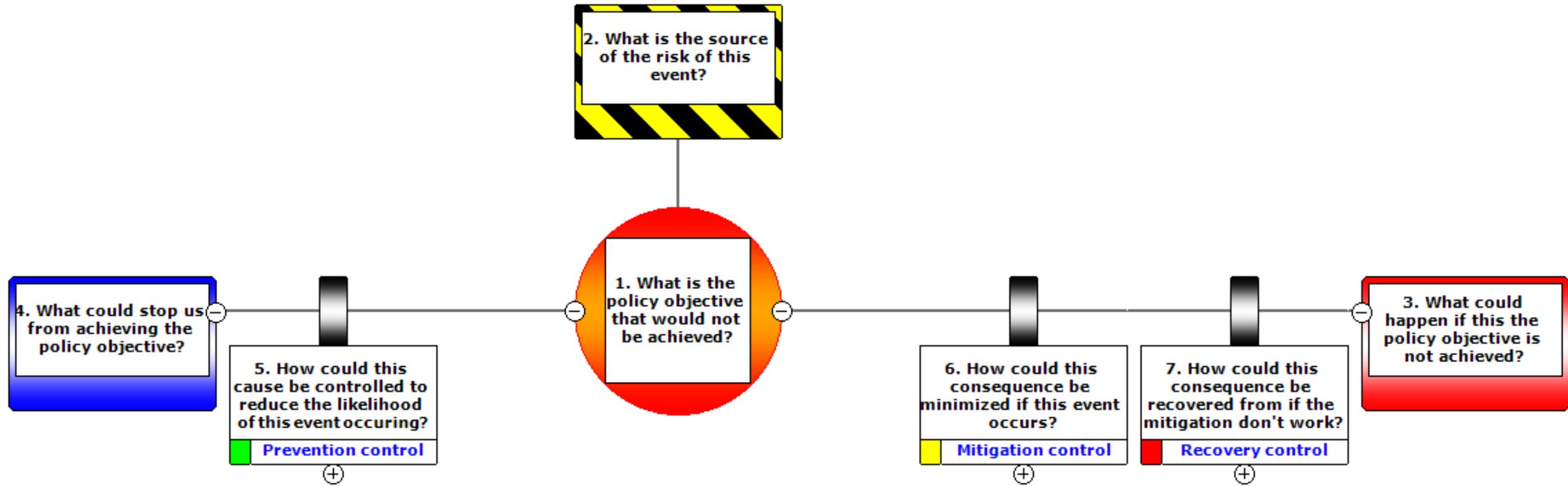
# Risk management process

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- What is the source of the risk?
- What are the causes of risk?
- What is the undesired event that would happen if risk occurs?
- What are the consequences of the risk if it happens?

# ISO 31000 Risk Management Process

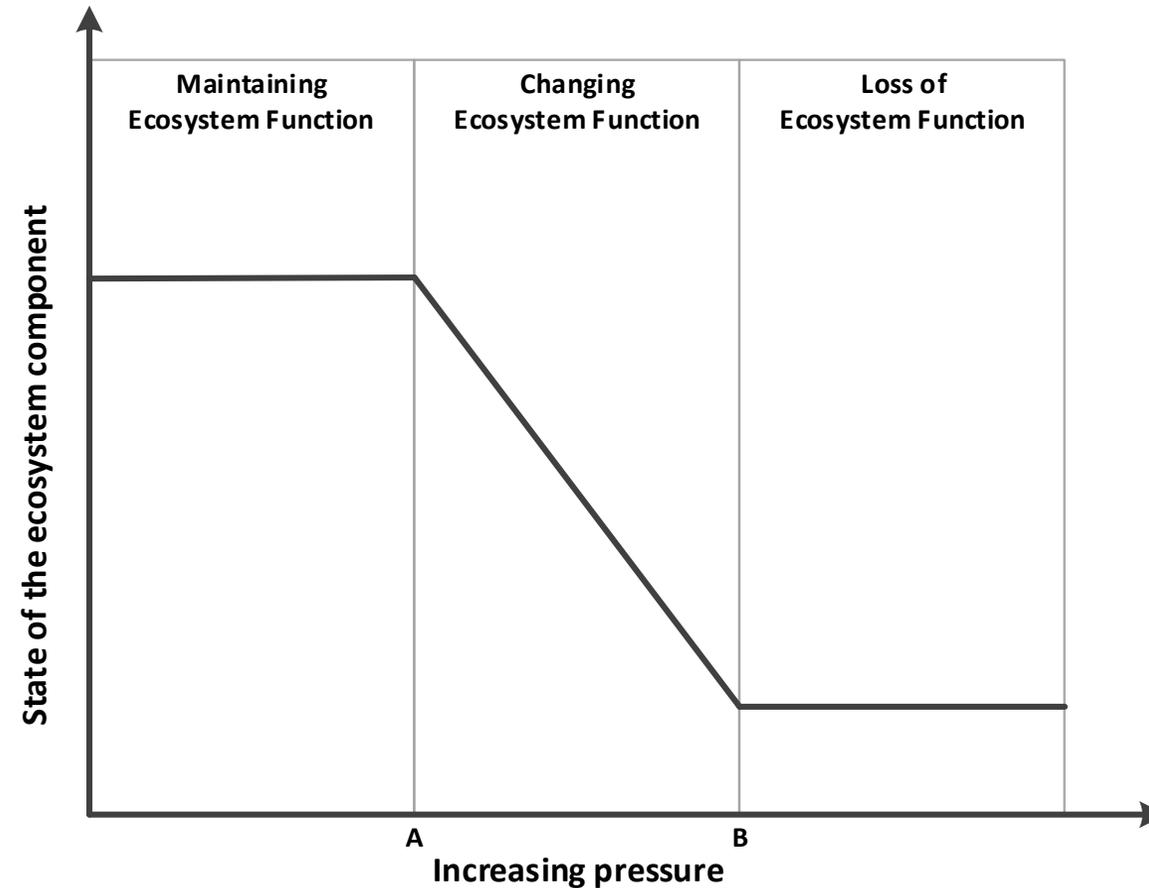
## IEC/ISO 31010 Bow-tie Analysis



# Impact of human activities

## Pressures – Component - Function

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# Worse case scenario

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- What is the worst thing that could happen?
- What would be the situation you would worry most about?

# Risk Criteria: Worse case scenario

Maintaining Function	Changing Function	Loss of Function
Ecosystem function is maintained although there may be changes in the status of the ecosystem component	Ecosystem function systematically changes as the ecosystem component changes in the face of perturbation	Ecosystem function can no longer be supported by the ecosystem component
The ecosystem component resists or rapidly compensates in the face of perturbation so that it can be inferred that the <b>ecosystem function it supports is maintained</b>	The ecosystem component changes with perturbation, and is in states where decreases in function are generally likely to occur. <b>Recovery of the ecosystem component is expected</b> to be secure, but a period of altered status of the component is expected	The ecosystem component has reached a status where evidence indicates that the function can no longer be provided; OR The ecosystem component has been degraded to a status where <b>recovery is no longer secure</b> ; even if the pressure is removed the loss of function will continue to accumulate

# Assessing and managing risks of achieving SDG 14 targets

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- Identify current controls (including legislation and regulation)
- Assess the reduction in impact and probability of each risk with the current controls (net risk)

# Reducing risks

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- How would you reduce the risks?
- What do you think you have to do to reduce the risks?
- Who should do something to reduce the risks?

# EU Legislation & policies

## ➤ Operational controls

- More than 450 regulations as input controls, spatial and temporal distribution controls and output controls

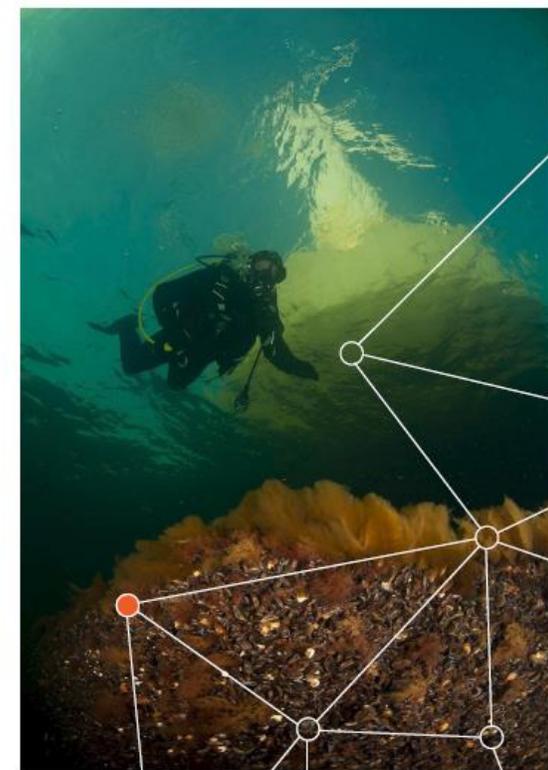
## ➤ Management controls

- More than 7000 treaties, agreements, directives as management coordination measures, measures to improve traceability, economic incentives, as well as communication, stakeholder involvement and public awareness

IEC/ISO Bowtie analysis of marine legislation: A case study of the Marine Strategy Framework Directive

ICES COOPERATIVE RESEARCH REPORT

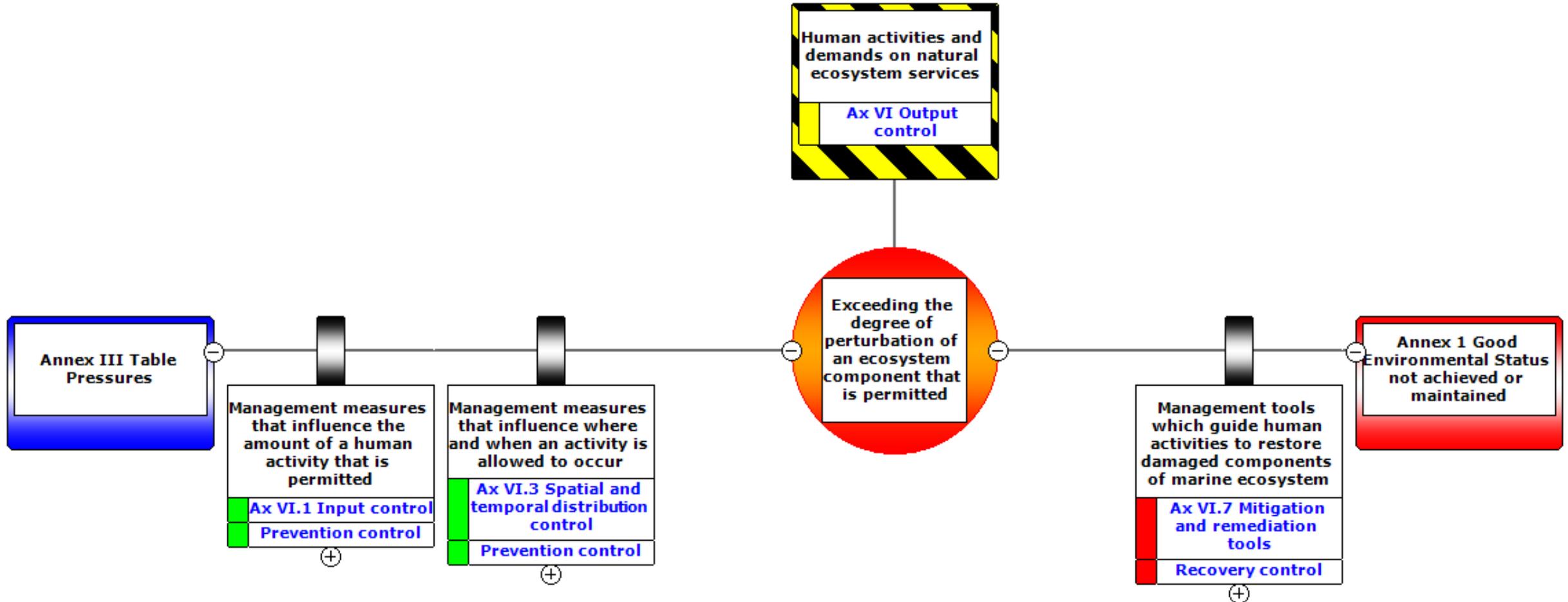
RAPPORT DES RECHERCHES COLLECTIVES



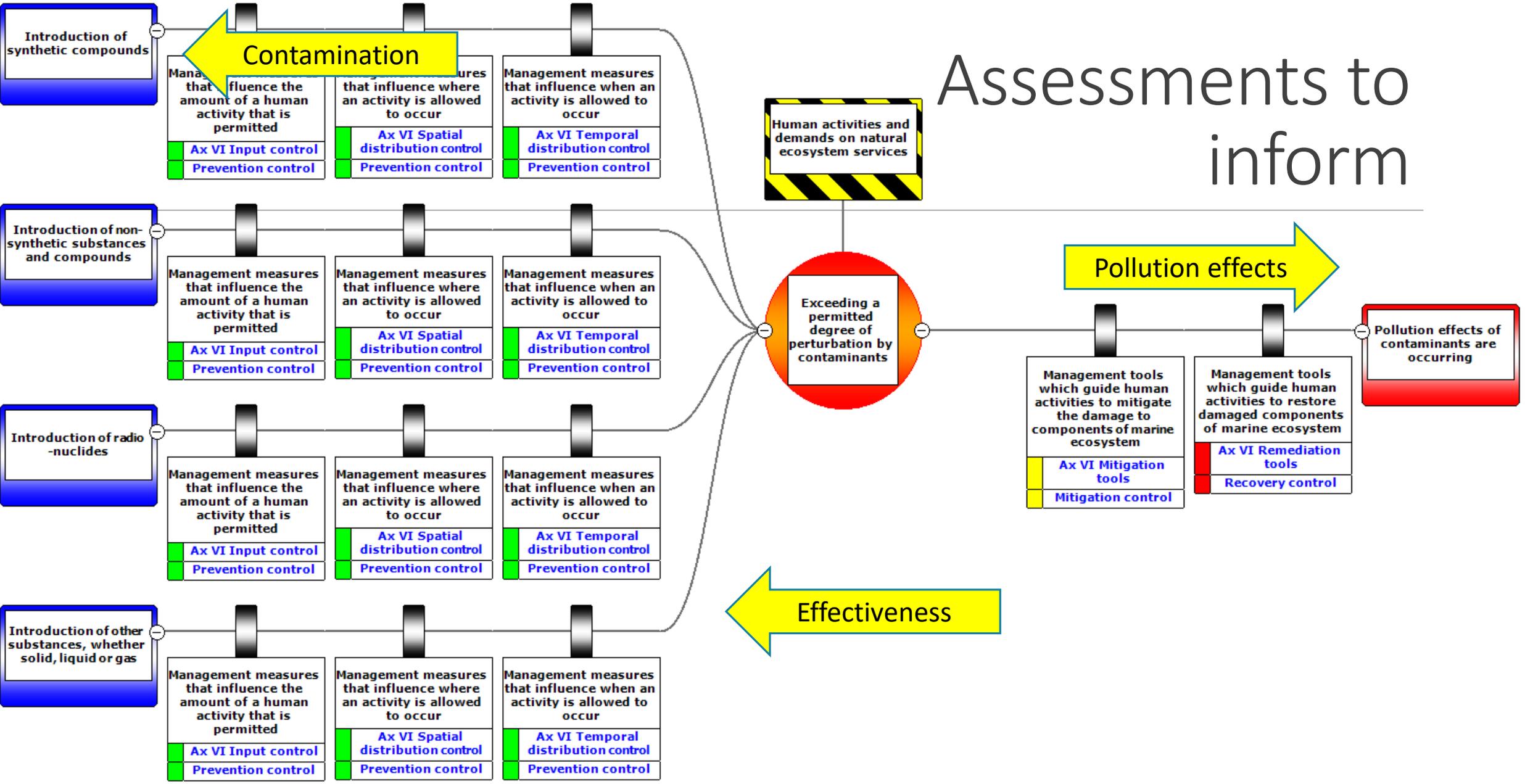
ICES INTERNATIONAL COUNCIL FOR THE EXPLORATION OF THE SEA  
CIEM CONSEIL INTERNATIONAL POUR L'EXPLORATION DE LA MER

# EU Marine Strategy Framework Directive

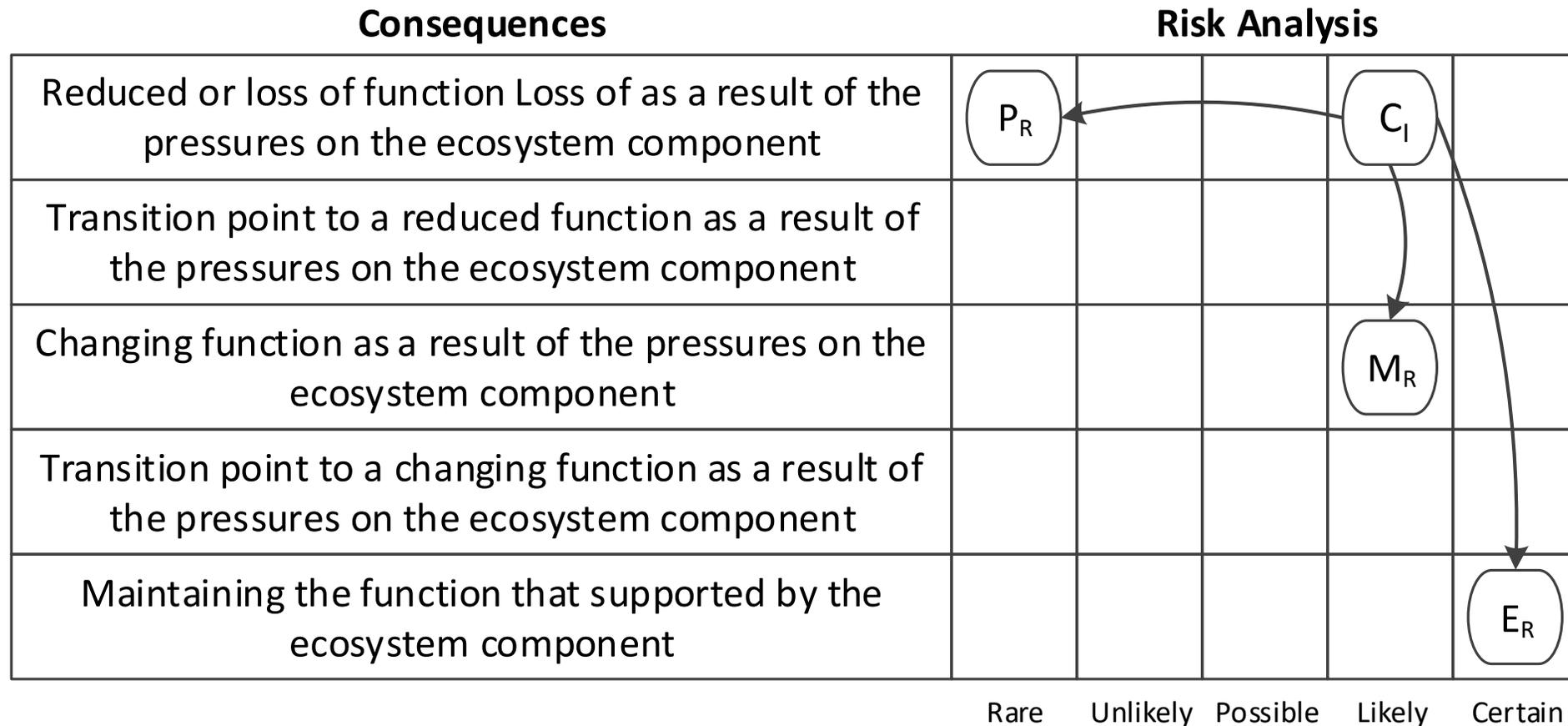
## Operational integration



# Assessments to inform



# The likelihood of the consequences



# Assessing and managing risks of achieving SDG 14 targets

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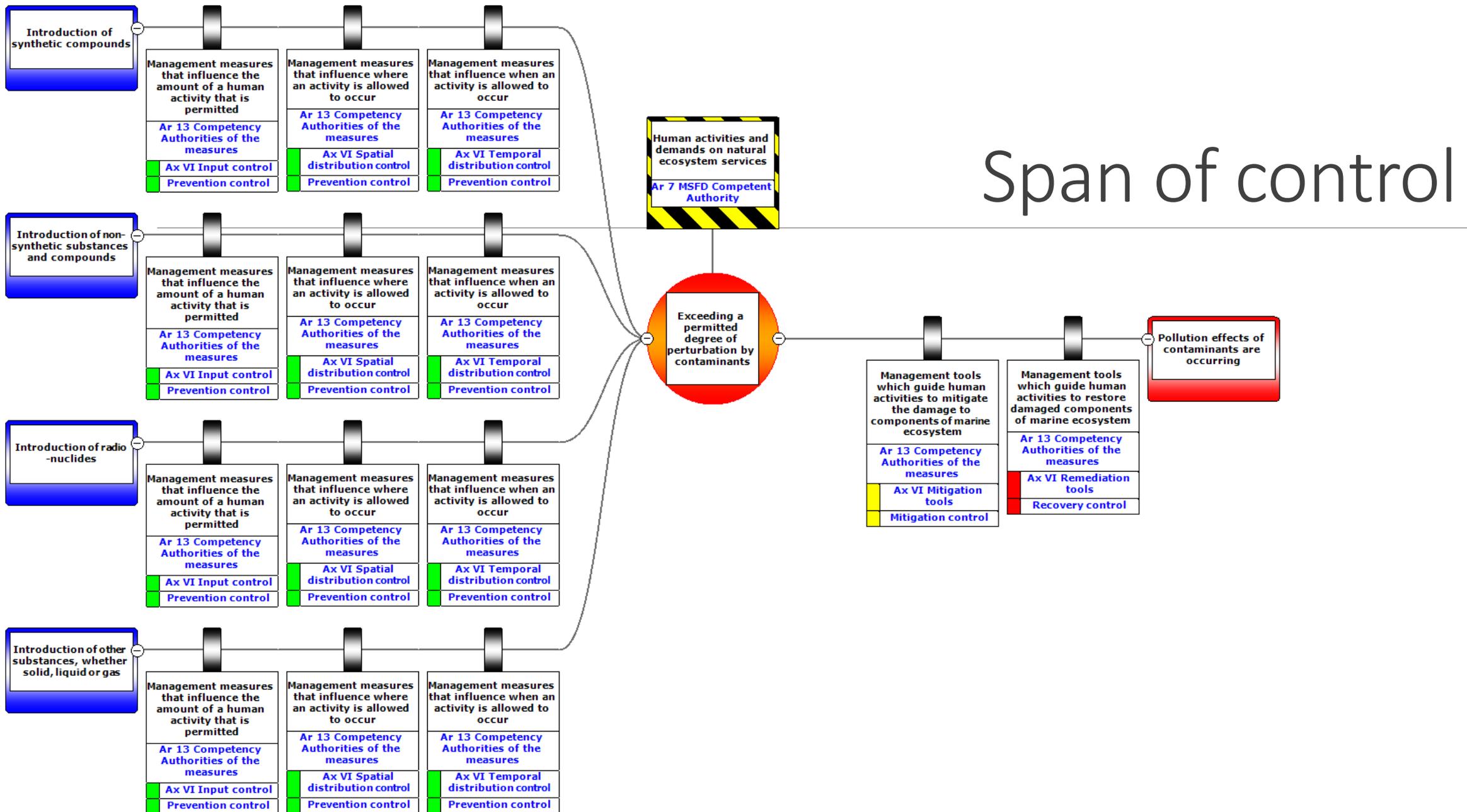
- Assess the acceptability of the net risks (Tolerable/Not Tolerable) realizing that zero risk cannot be achieved
- Recommend additional controls, regulation, legislation, protocols to reduce unacceptable risks to acceptable

# Evaluate what to do

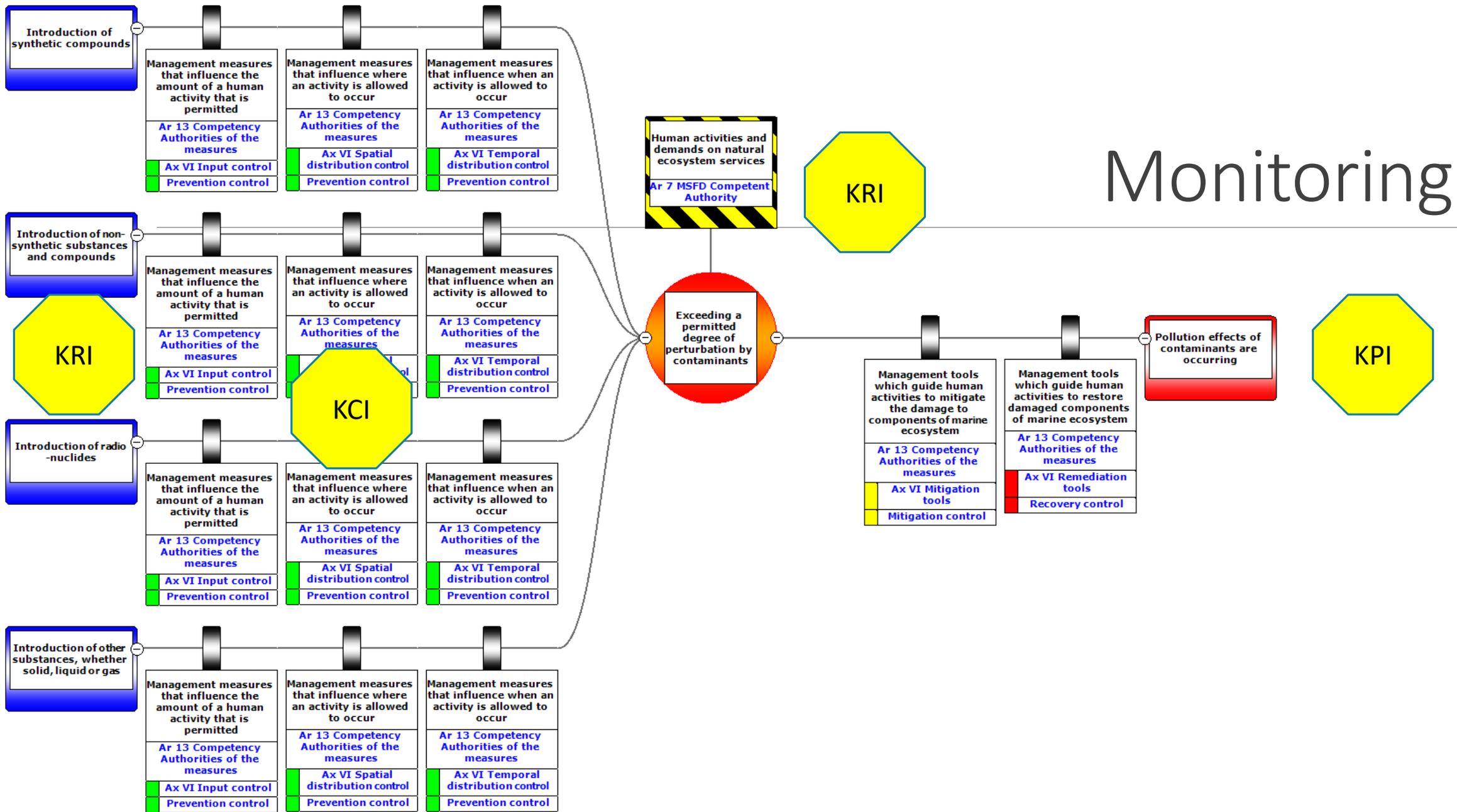
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- How much risk would you tolerate?
- What would you implement to reduce the risks?
- What would you consider as severe?
- What would you consider as likely?

# Span of control



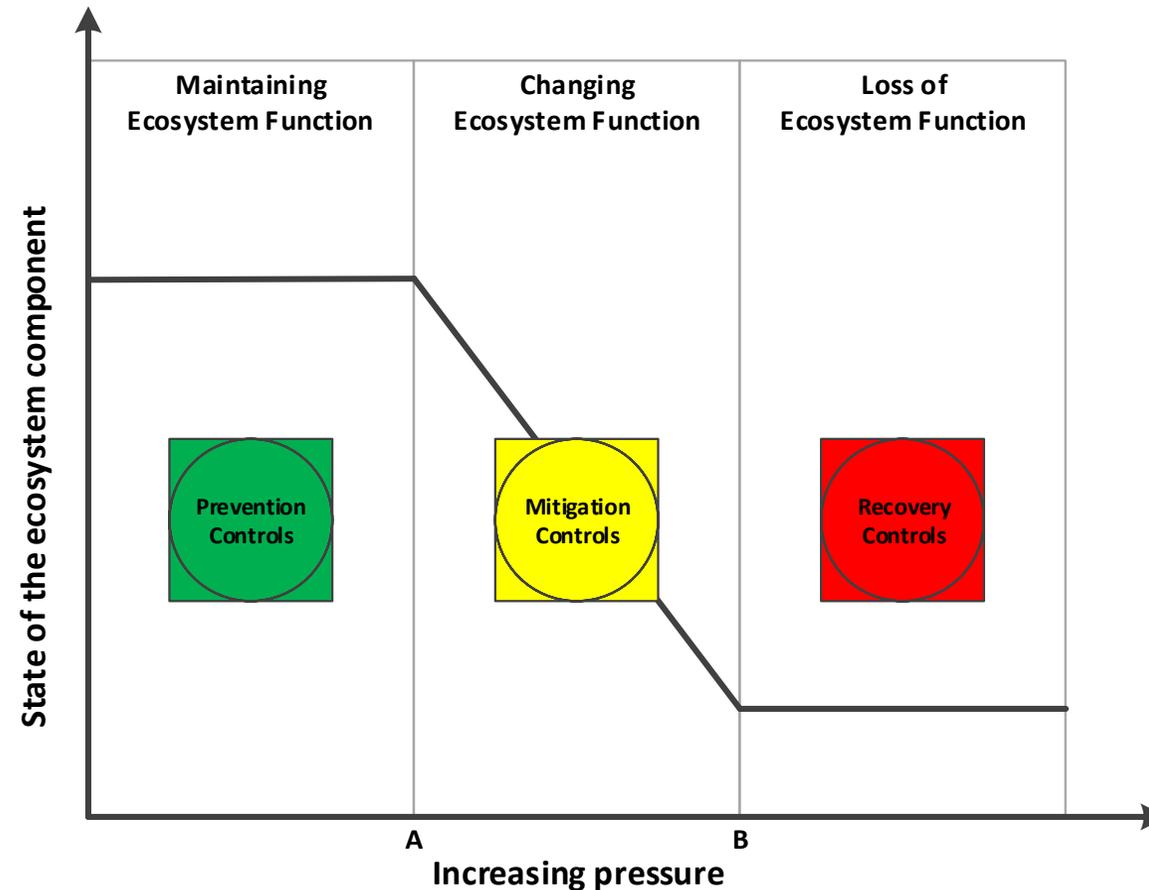
# Monitoring



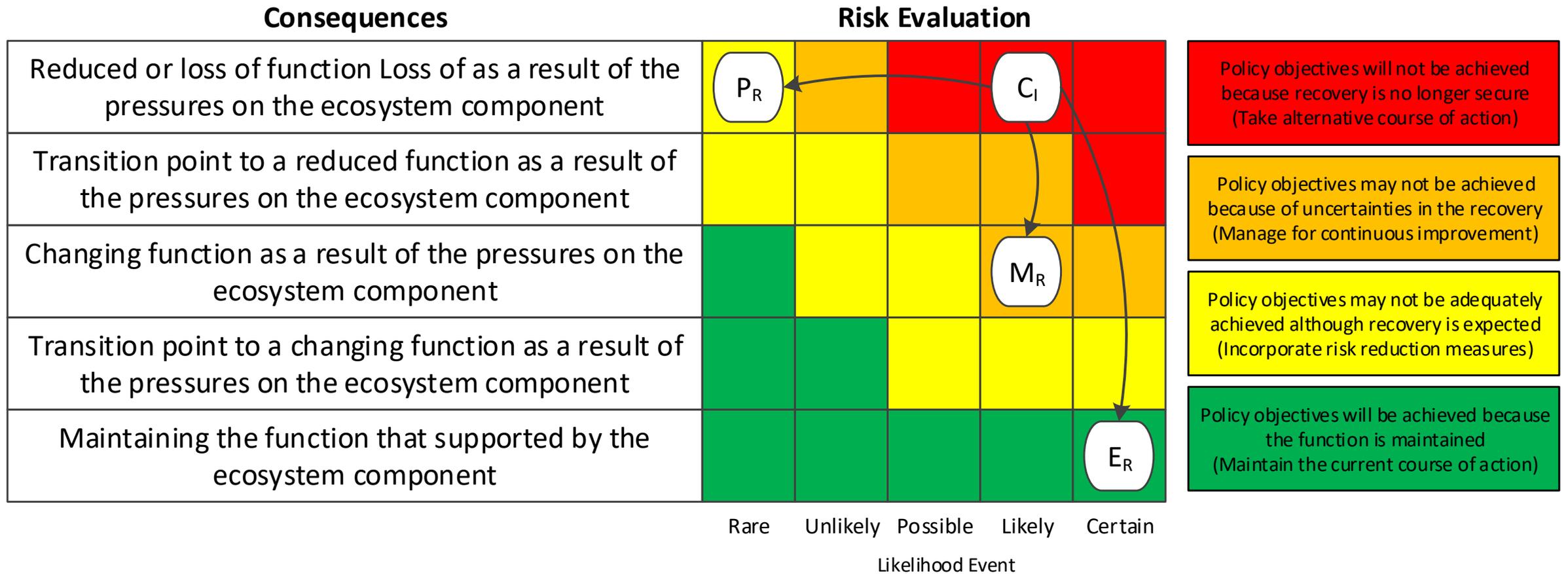
# Impact of human activities

## Pressures – Component - Function

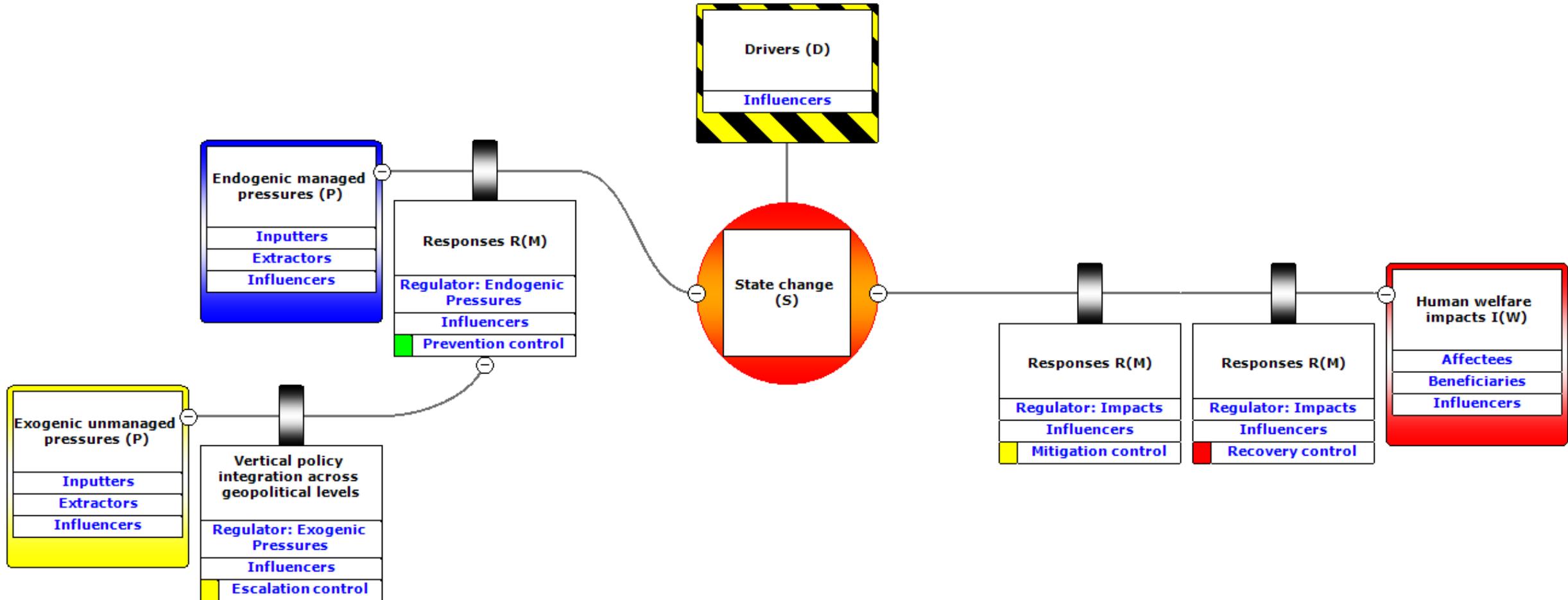
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# Risk of not achieving policy objectives



# Policy: A societal choice



# The 10-tenets for successful and sustainable environmental management

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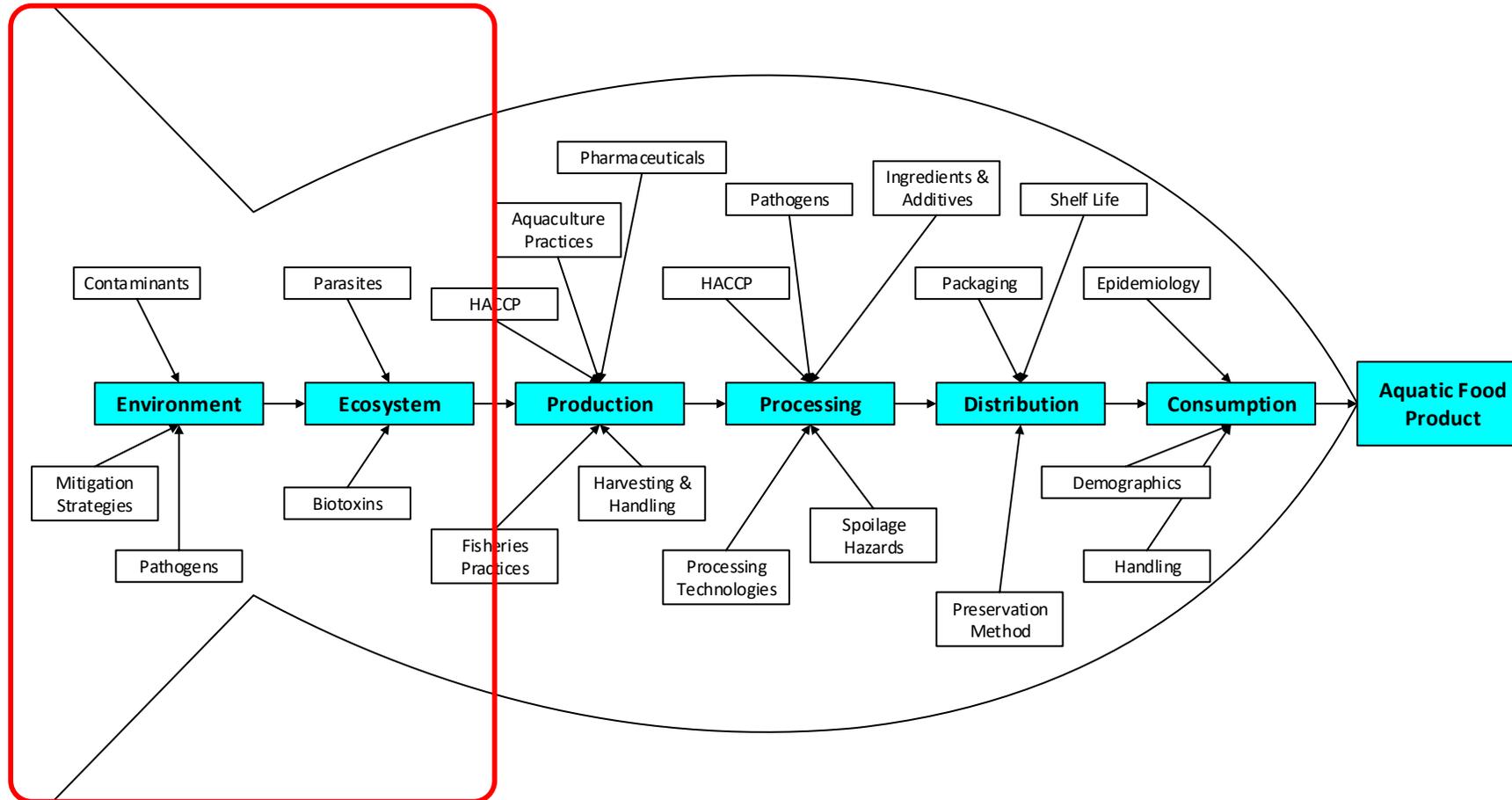
1. Socially desirable/tolerable
2. Ecologically sustainable
3. Economically viable
4. Technologically feasible
5. Legally permissible
6. Administratively achievable
7. Politically expedient
8. Culturally inclusive
9. Ethically defensible (morally correct)
10. Effectively communicable

# Lessons learned and recommendations

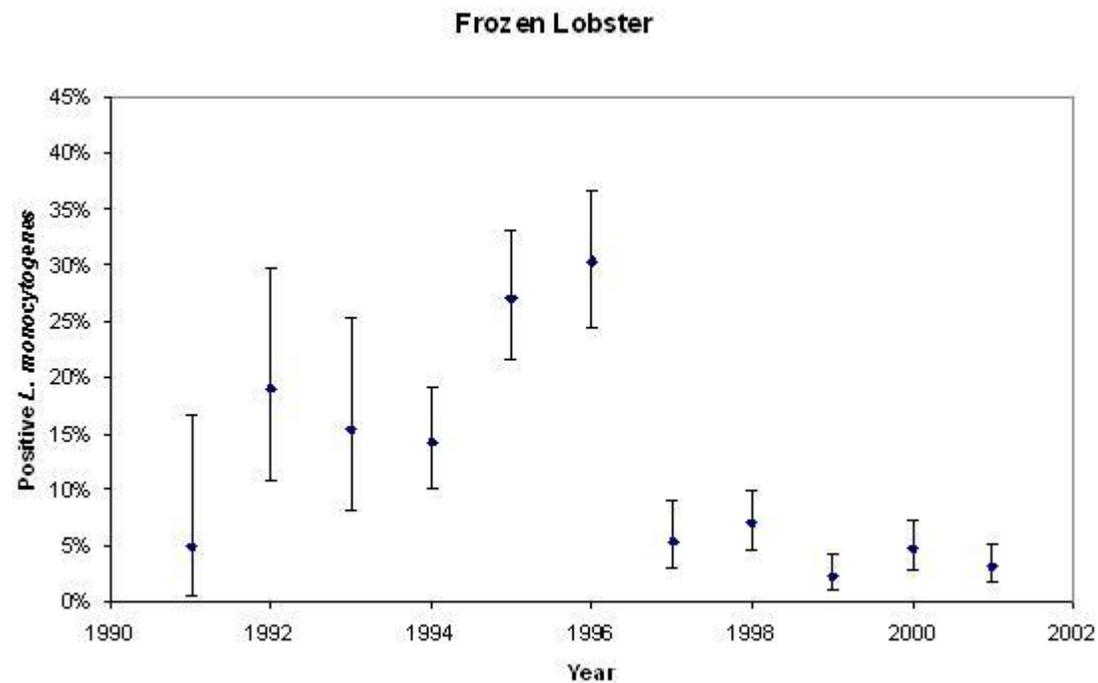
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- **Science and management needs to move forward**
  - Roland Cormier Wojciech Wawrzynski, Kevin Knight, Sigurður Guðjónsson and Andreas Kannen
- **Conclusions and wrap up of the meeting**
  - Grímur Valdimarsson

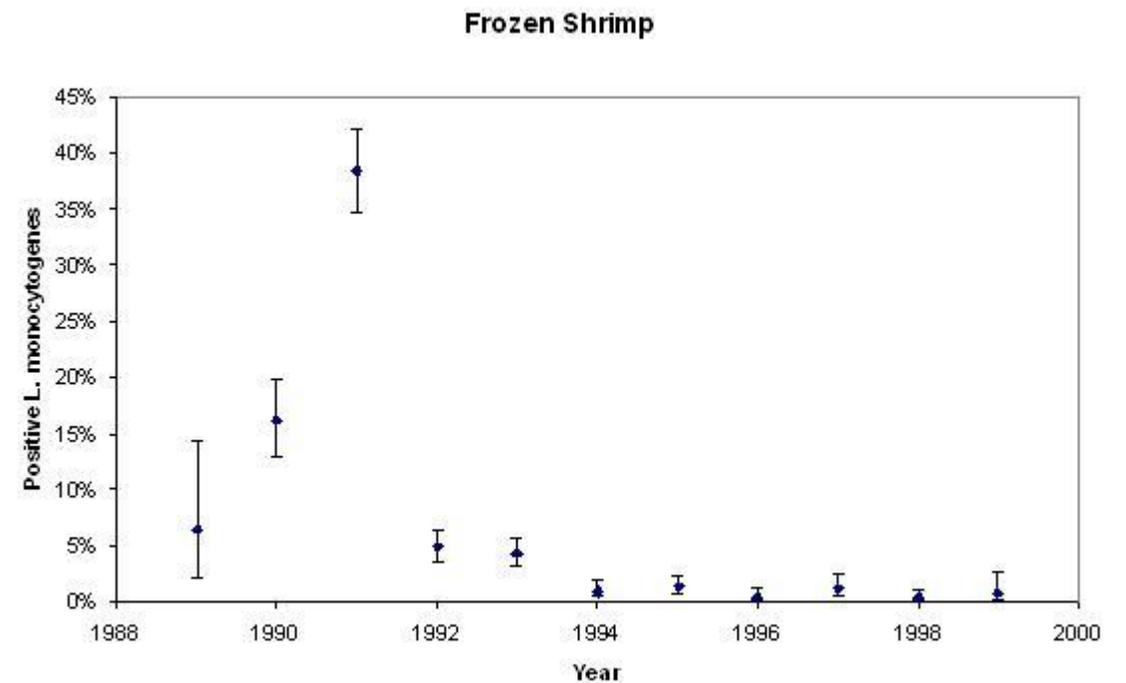
# Food chain pathways of effects



# HACCP and Quality Management



Canada



Iceland

# World Trade Organization Sanitary and Phytosanitary Agreement

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- **Problem:** How do you ensure that your country's consumers are being supplied with food that is safe to eat — "safe" by the standards you consider appropriate? And at the same time, how can you ensure that strict health and safety regulations are not being used as an excuse for protecting domestic producers?
- Assessment of Risk and Determination of the Appropriate Level of Sanitary or Phytosanitary Protection
- **Human health and food safety**
  - WHO The World Health Organization of the United Nations
  - FAO The Food and Agriculture Organization of the United Nations
  - Codex The FAO/WHO Joint Codex Alimentarius Commission
- **Animal Health**
  - OIE The Office International des Epizooties, also known as the World Animal Health Organization
- **Plant health**
  - IPPC The Secretariat of the International Plant Protection Convention, based in the FAO
- **Ecosystem health?**



**Institutional approach for technical measures?**

# Compliance Continuum

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- Cost and benefit analysis
- Regulatory impact assessments

