

# **Lobster fisheries and its coastal communities in Atlantic Canada in the face of climate and environmental changes**

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ALSF, Moncton, July 24, 2012

# Questions

- What do we have to expect for the lobster fisheries?
- How does it relate to coastal community resilience and how can analyzing this complex system may help understand resilience and sustainability of the communities and their fishing activities?

# Key messages

- Complexity of the model but still important to link the various aspects of the ecology of the species to the social system of the coastal communities
- Some pointers on how this could be accomplished and who may be involved

# Climate change: what to expect

- Longer, hotter and drier summers
- Increased thunderstorm & lightning activity
- Increased storm activity
- More winter & spring precipitation, especially rain
- Stronger winds
- Variable, generally reduced snow cover
- More 'anomalous' events
- Decreased fog

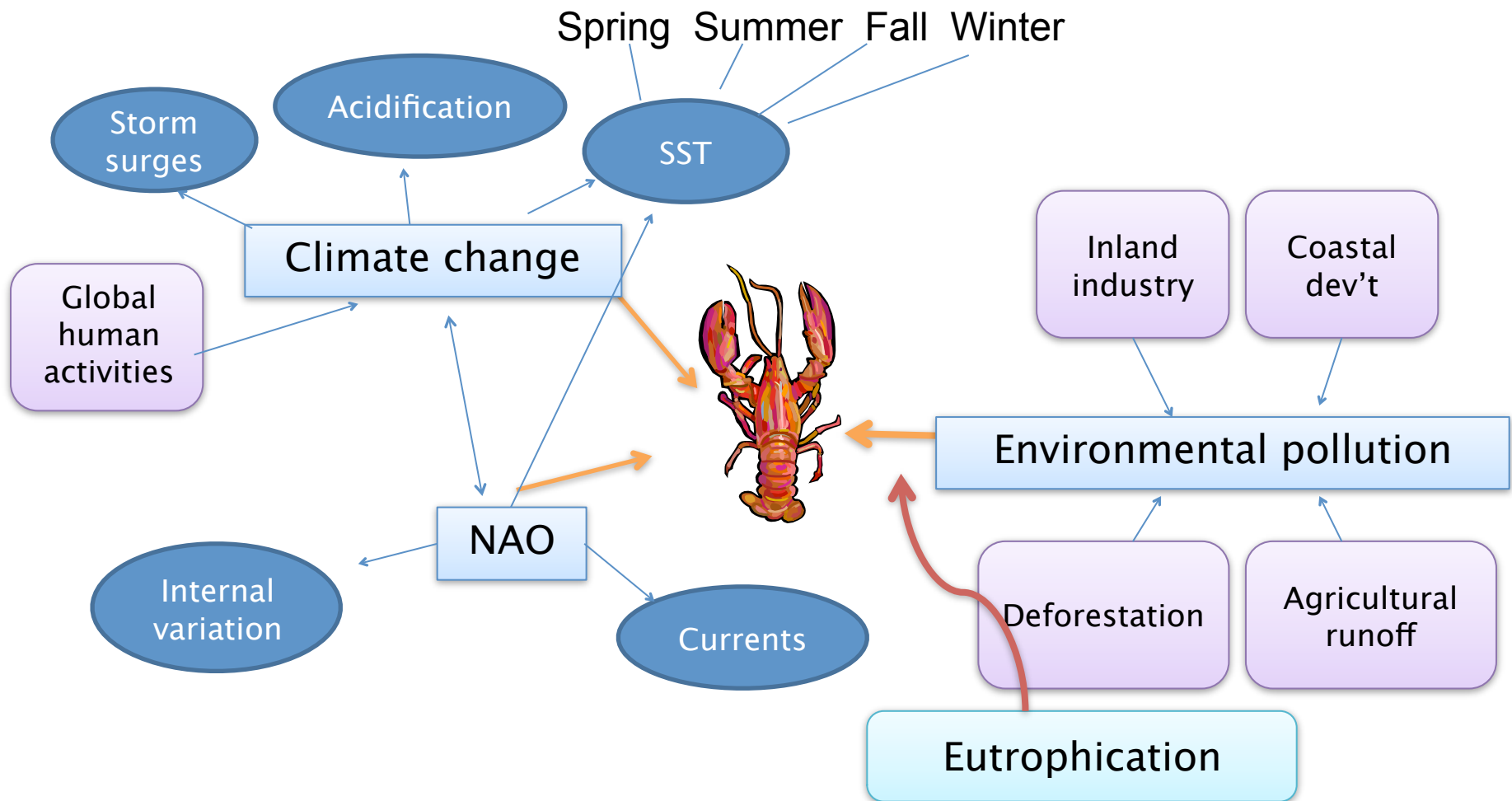
# Ocean

- Changes in sea–surface temperature (SST), sea level, ice cover, ocean circulation, and wave climate
- Storm surges
- Ocean acidification

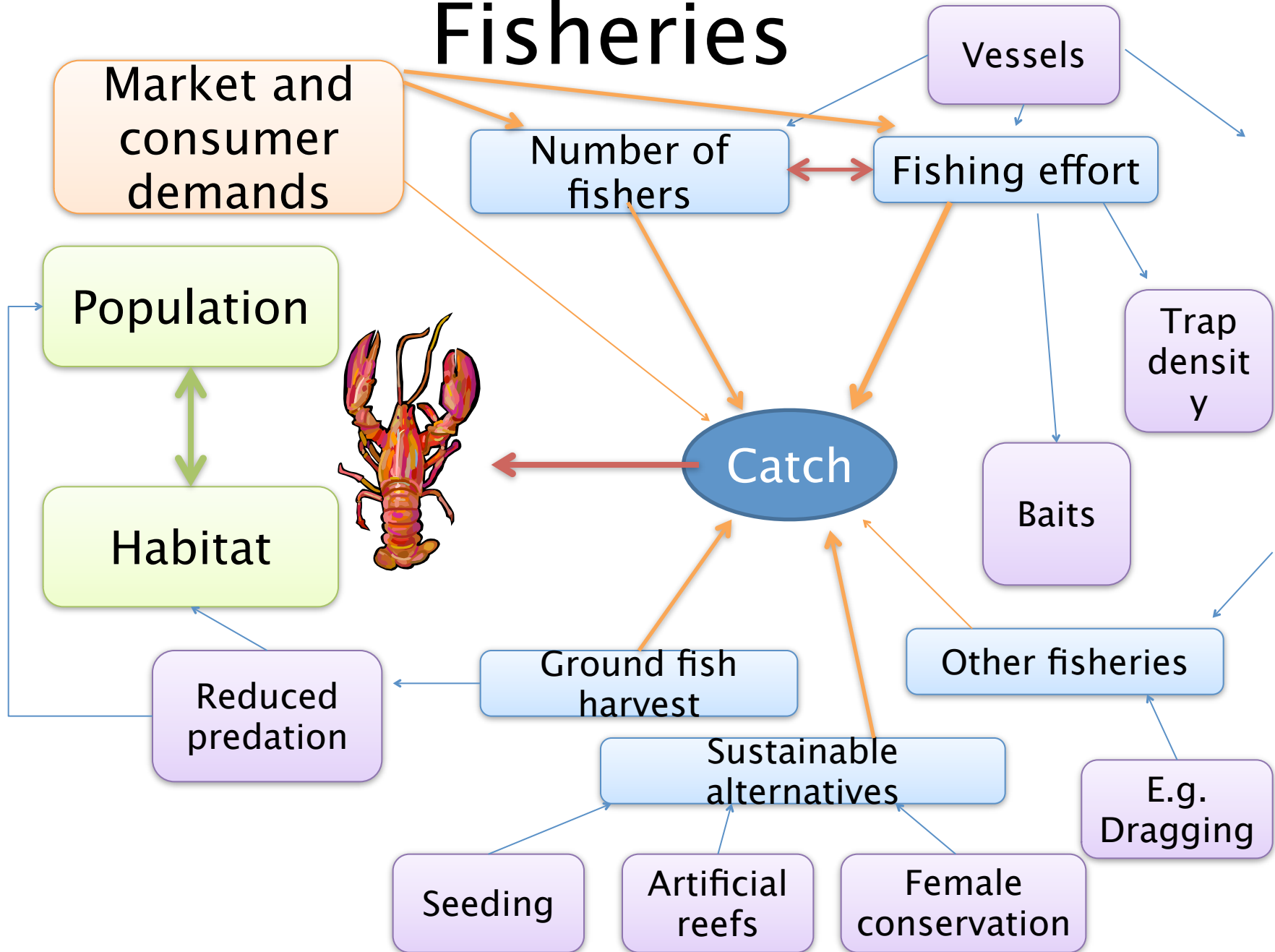


Ice build up on coast, NB

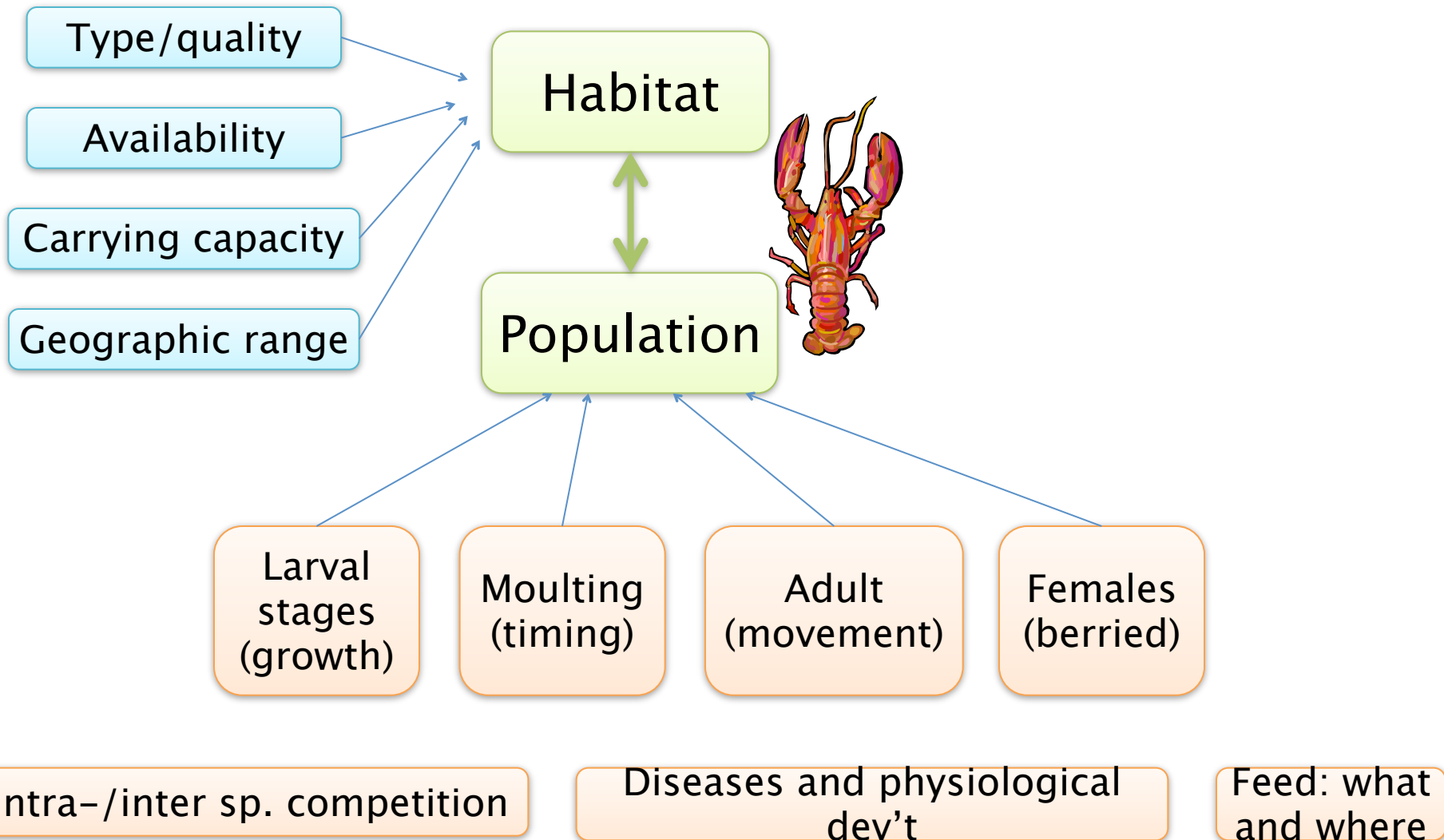
# Linking climate change to...



# Fisheries

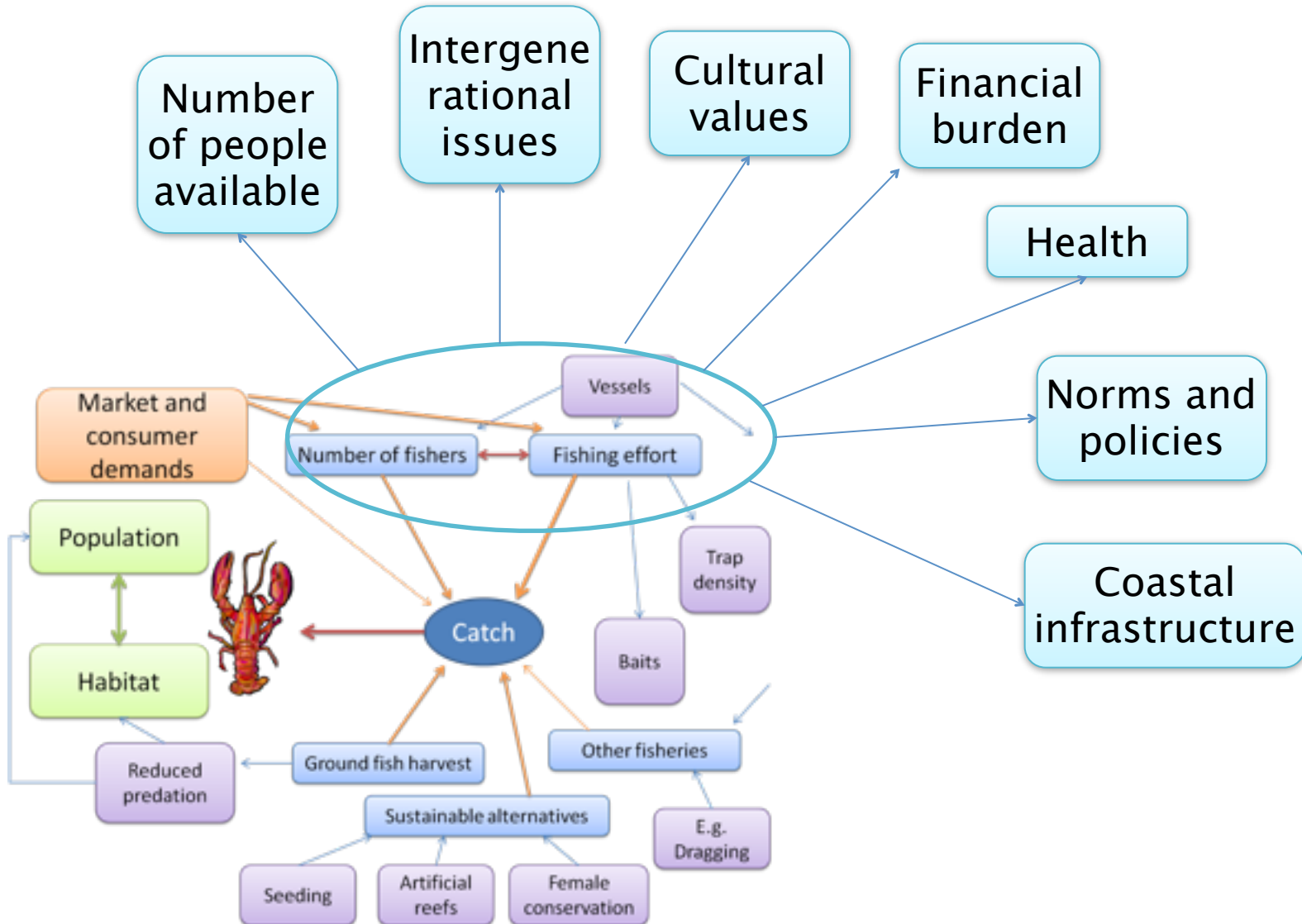


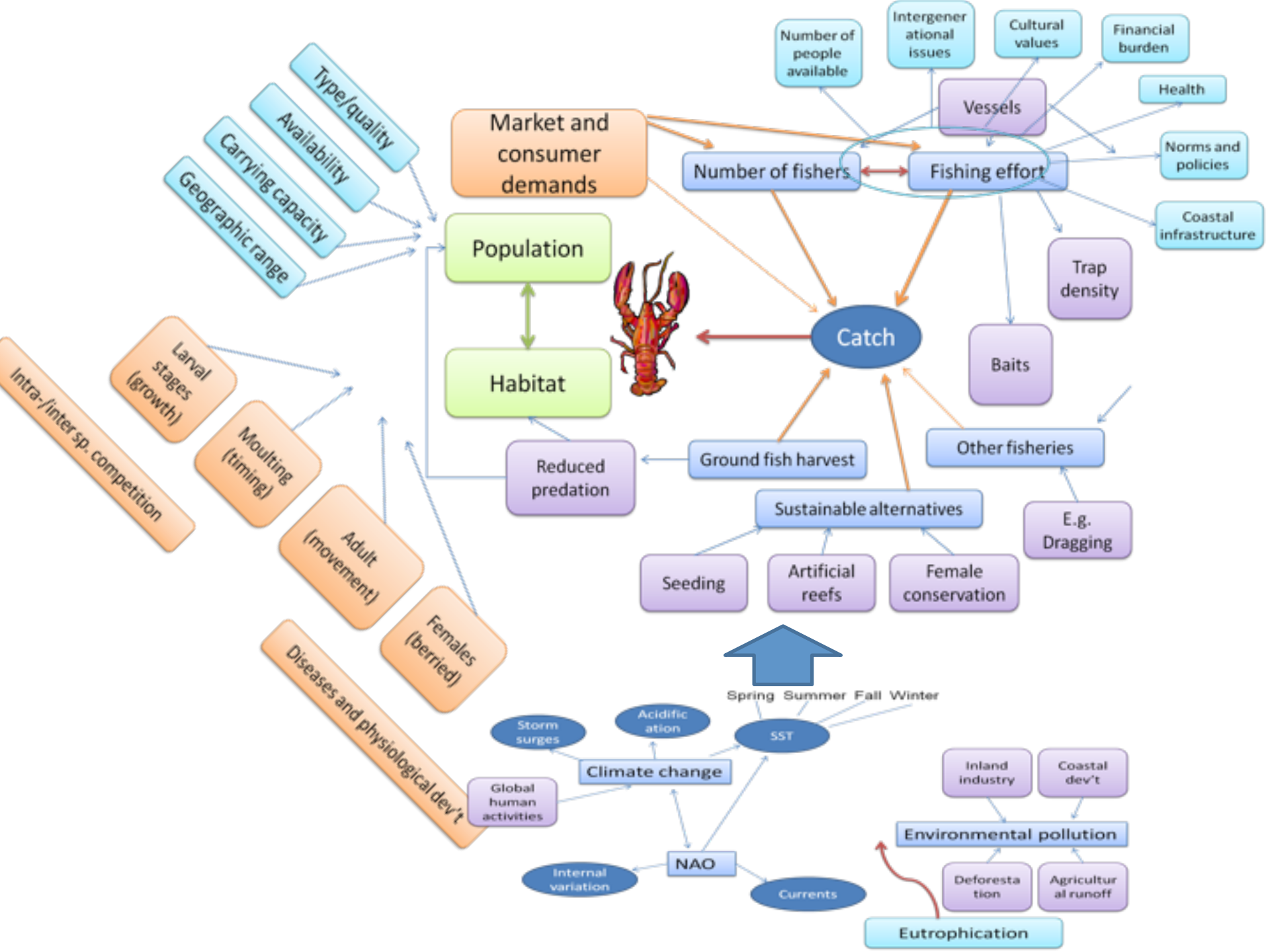
# ... on the lobster





# ... the fishing community





# Vulnerabilities

- Not concentrated in one place
- Challenge of time scale
- Unknown due to changes on market, demands, ecosystem: proactivity

# Resilience? To climate change? Really?

- **Lobster fishery: relatively more complex since needs to integrate various aspects**
- **Lead to dimensions of resilience to consider:**
  - Capacity of absorption
  - Capacity of recovery
  - Capacity of adaptation of behaviours
  - Capacity of innovation
  - Capacity of self-organization
  - Learning process
  - Acceptance and management of risk uncertainty
  - Capacity to anticipate

# Next research steps

- Vulnerability to Resilience
- Ecosystem approach (social-ecological system) to understand linkages between socioeconomic, market and demands and the current and future conditions of the lobster population, ecosystem, and habitat.
- Finalize the model and gradually analyse within CURA-CCC communities.



# Acknowledgements

- SSHRC (Social Sciences and Humanities Research Council)



Social Sciences and Humanities  
Research Council of Canada

Conseil de recherches en  
sciences humaines du Canada

Canada

- ALSF

**Thank you!**

Questions?