

Managing additional nitrogen loading for sustainable marina development in Cork Harbour – SSA 8

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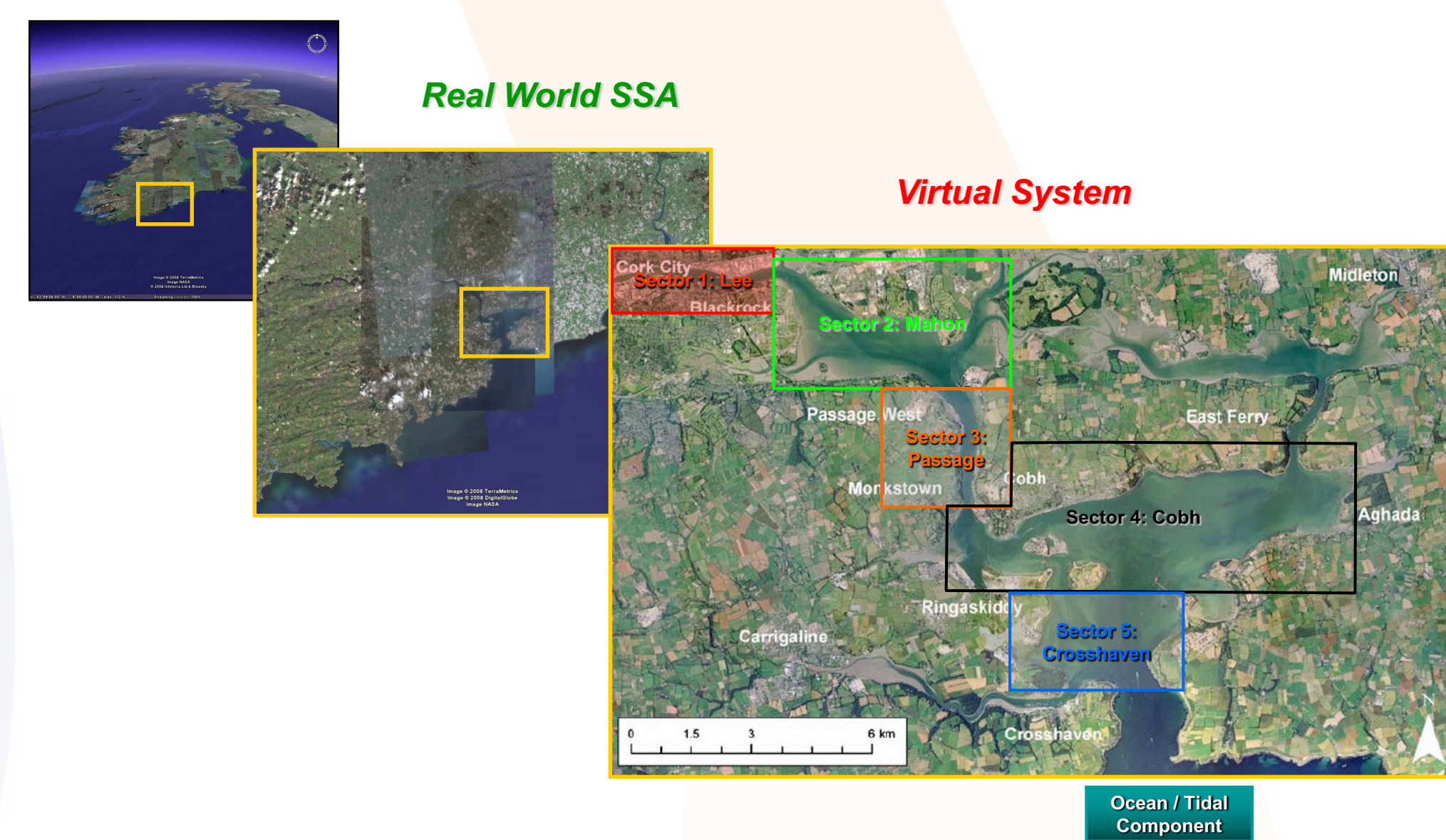
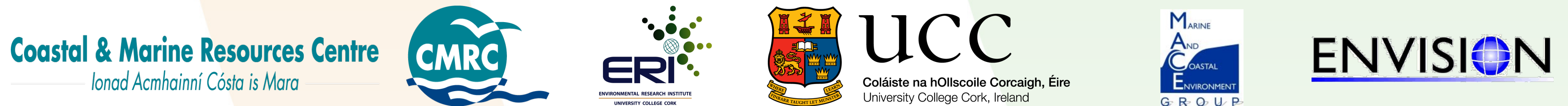
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Policy Issue

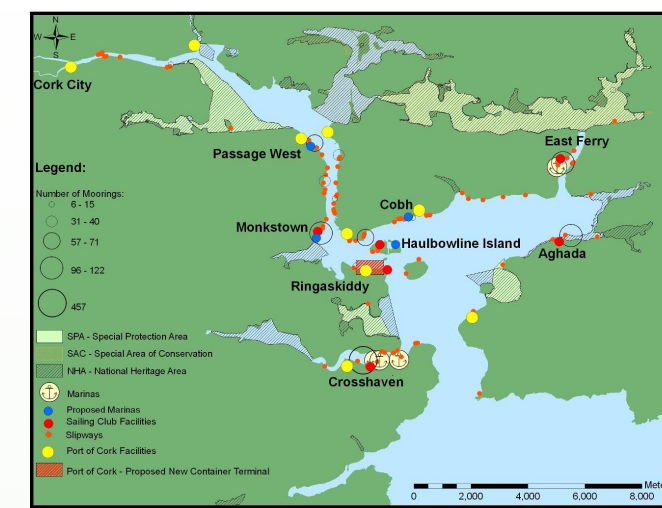
Cork Harbour is a multi-resource, multi-use environment. Leisure boating is an expanding sectoral activity within the harbour area. Pressure for marina development must be balanced against environmental protection and different social-economic uses.

Marina developments (actual – yellow, proposed – orange):



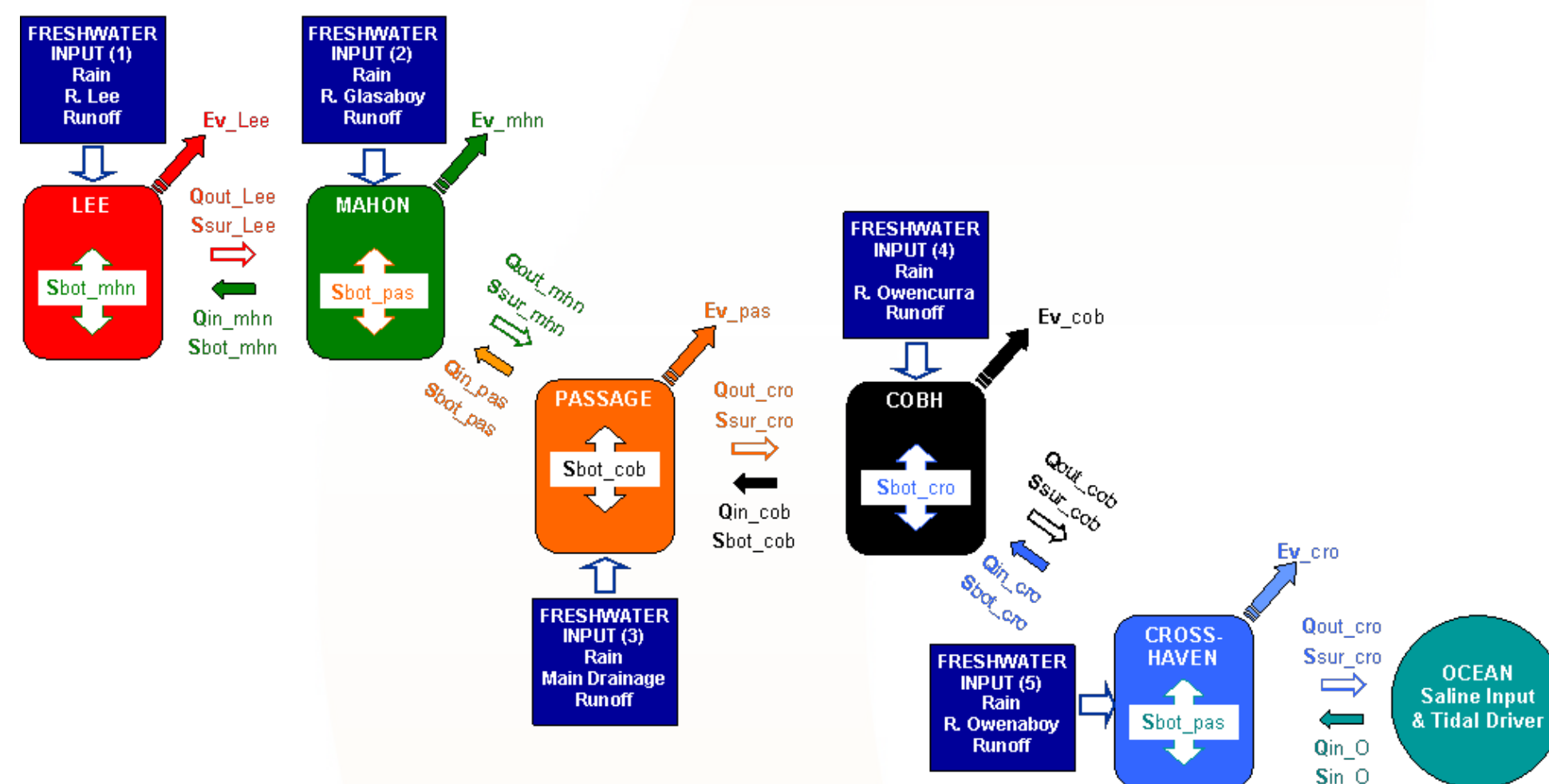
Policy issue is the *thresholds of sustainability for expanding the marina sector*, specifically thresholds for nitrogen loading in the marine ecosystem and sustainable development of new marina capacity, facilities and related service infrastructure in the coastal social-economic subsystem.

Participant Group's concerns: (a) negative impacts on water quality (links to ecological modelling) and (b) spatial issues and conflicts (links to social-economic modelling) both arising from marina development.

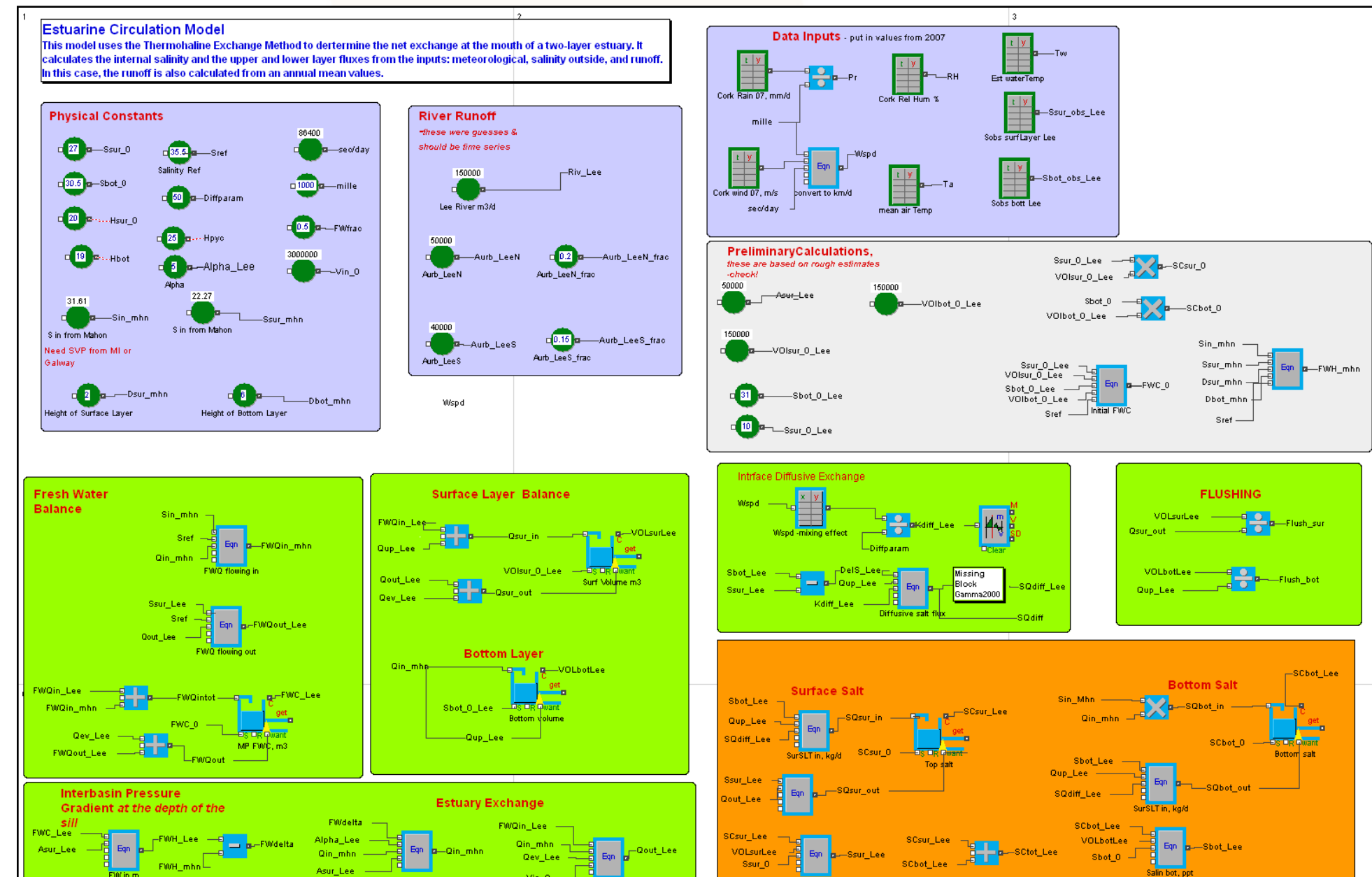


Ecological Model (using Extend)

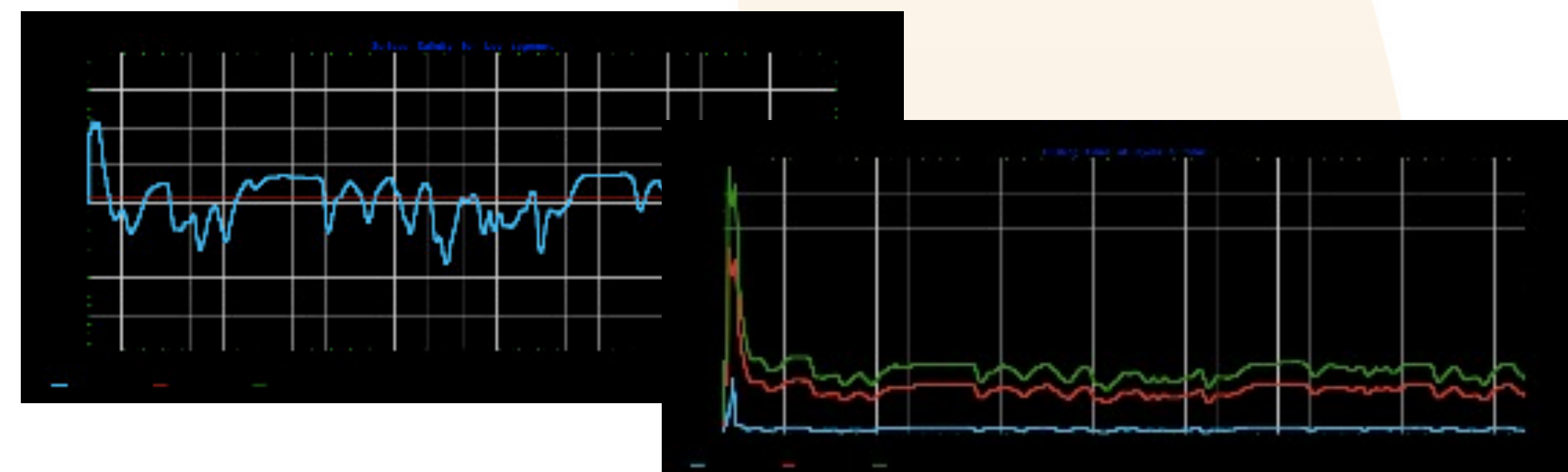
Flushing model using ecological model blocks for five sectors of virtual system:



EXTEND - Estuarine circulation model:



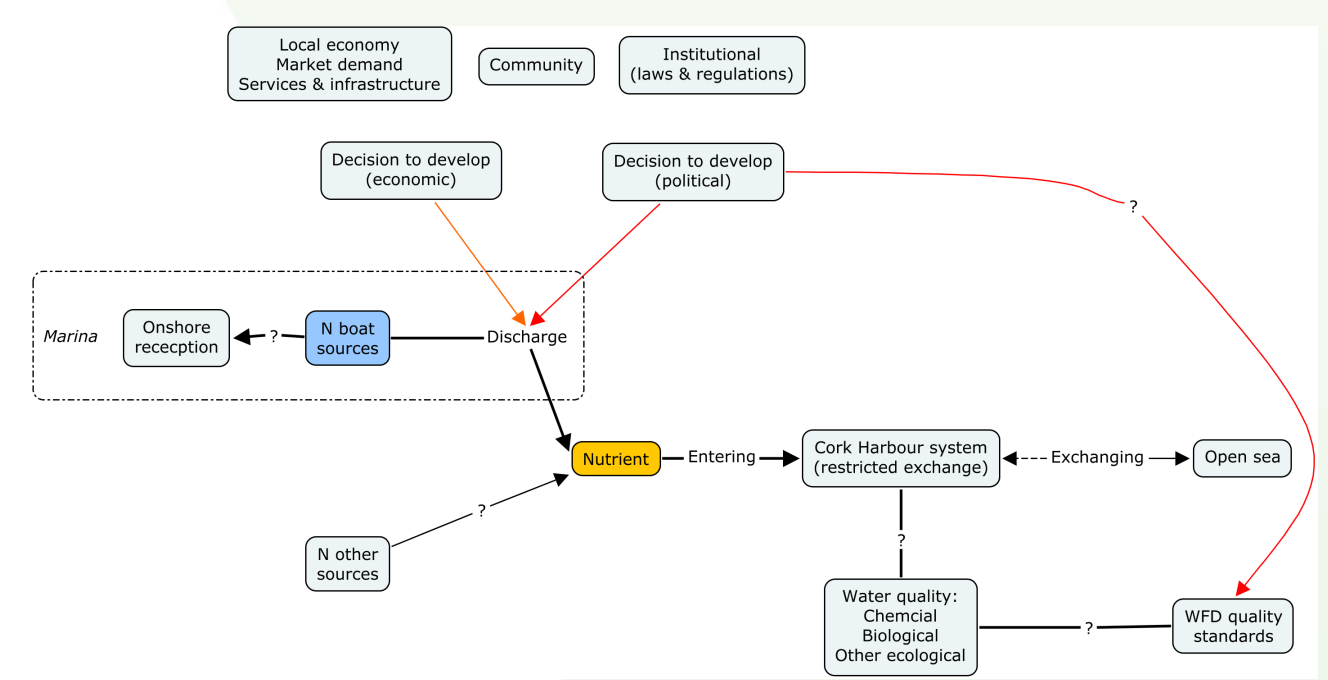
Ongoing model development:



Critical physical data, such as major river flows and accurate run-off figures, have not been determined and this has severely limited modelling in Extend to date. This is not unusual in real world situations and it is hoped to remedy this in the near future by making appropriate assumptions in place of actual data.

Social & Economic Model

Simplified conceptual framework for marina development. The key feedback, shown by red line, is a political 'trade-off' decision based on balancing local socioeconomic development considerations with EU level regulatory thresholds concerning nitrogen inputs to the environment, and the financial consequences at national level of breaching limits:



Social Components

- Yachting fraternity: Willingness to install nitrogenous waste holding tanks and comply with regulations?
- Policy makers: Willingness to introduce new holding tank regulations (in consultation with national policy makers)?
- County/City planners: What are the acceptable spatial footprints for marina developments (incl. shoreline development factors)?

Surveys

Public perception of marinas... *Do you think there is a need for marina development in the Cork Harbour area?*

Perception of marina users (boat owners, crew) regarding water quality and sewage reception 'pump-out' facilities in Crosshaven marina... *Would you be willing to pay a fee for pump out?*

Comments

Participant Group:

Unforeseen outcomes:

Evaluation of results relative to ICZM needs:

Uniqueness of solution:



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