The FAIRSEA Pilot Actions in the Adriatic Sea
Preliminary results of Pilot Actions case studies

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SECOND INTERNATIONAL STAKEHOLDER MEETING
Virtua| 23-24 February 2021

European Regional Development Fund

Pilot Actions – First results from scenarios

Inputs from MPS and IOF

MINISTARSTVO POLJOPRIVREDE

INSTITUTE OF OCEANOGRAPHY AND FISHERIES SPLIT

Inputs from Assam and CNR-Irbim

Assam – Agenzia Servizi Settore Agroalimentare delle Marche

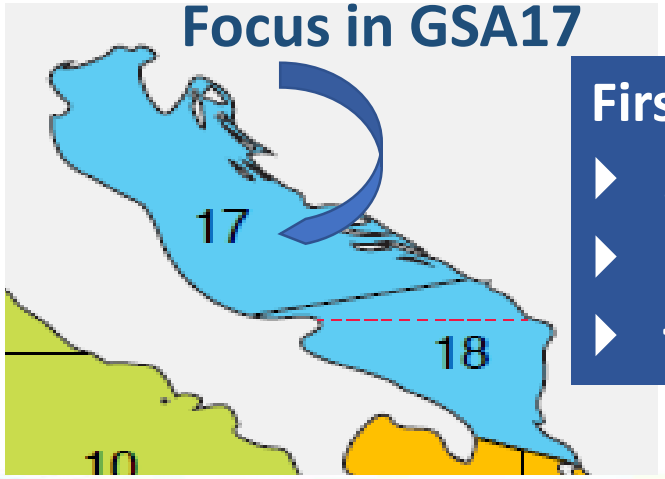
IRBIM – Istituto per le Risorse Biologiche e le Biotecnologie Marine

Fisheries

target species: common sole, *Solea solea*

- **trammel netters in Istria county**
- **beam trawlers in Marche region**

Focus in GSA17



First results:

- some scenarios tested;
- new ones at the 2° stage;
- **the need of inputs for the further steps**

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BIOECO – Simulations and Prediction of management scenarios

BIOECO Tools

BEMTOOL bioeconomic model

GUI

Stocks dynamic

- Stock1
  - growth, maturity, natural mortality, recruitment
- Stock2
  - ...

Management

- Effort control rules (fishing days, vessels);
- change in gear characteristics and exploitation pattern;
- TAC (external or set according the annual SSB in respect to the reference points);
- Landing obligation

Fleet dynamic

- Fleet1
  - **harvest**: selectivity, fishing mortality, landing, discard;
  - **economic**: revenues, costs, profit, etc...
- Fleet2
  - ....

Simulations using bioeconomic modelling – BIOECO

Improving the exploitation pattern

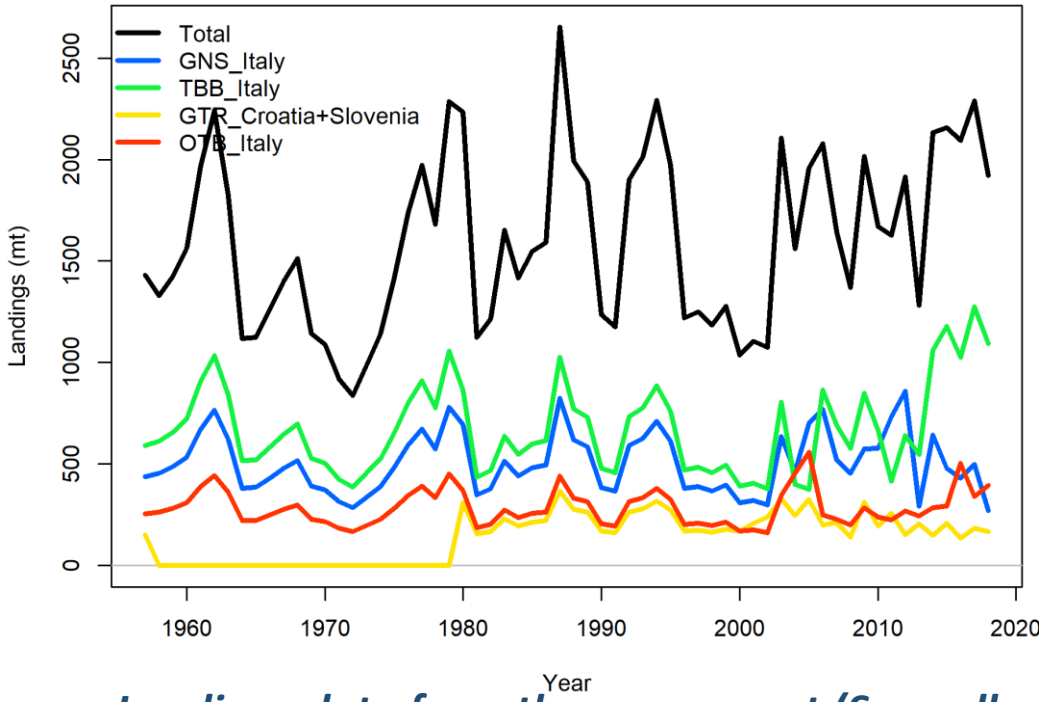
by considering technical interactions and/or spatio-temporal closures.

*investigating the **consequences** of scenarios, to evaluate how **changes/shifts in fishery-driven effects** (e.g. fishing mortality, gear/fleet selectivity) influence **stock and fisheries productivity**.*

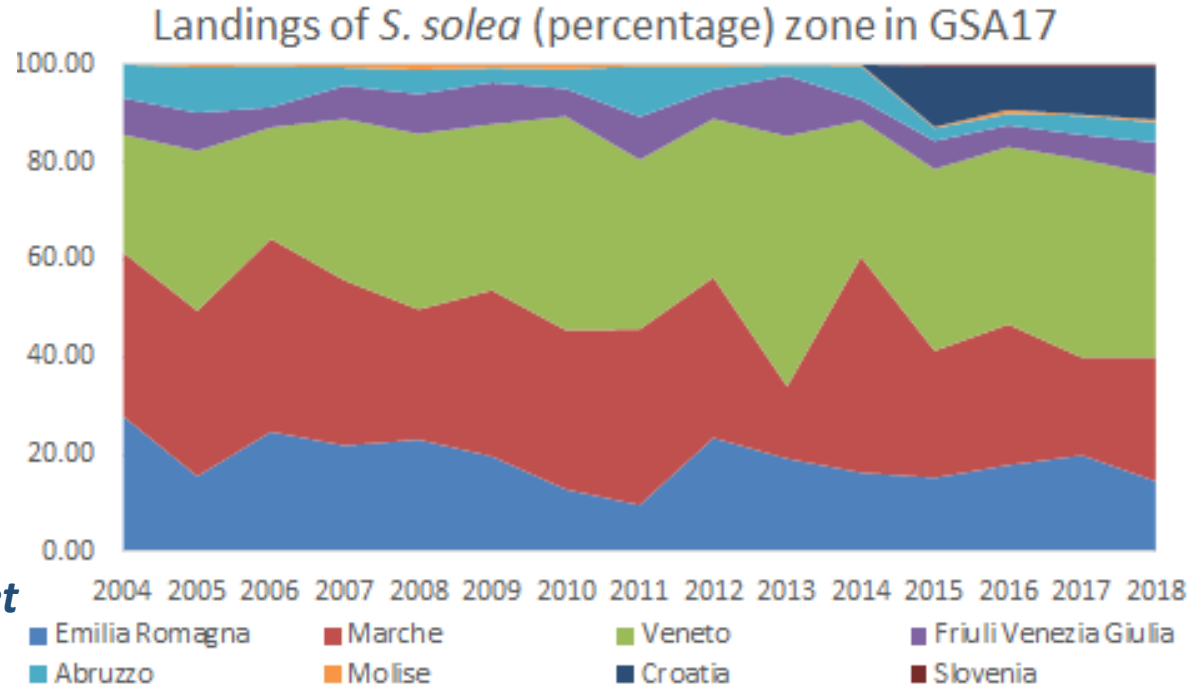
***23 interacting fleets, given by the combination of region/country and fishing technique**, were included in the bioeconomic model.*

Simulations using bioeconomic modelling – BIOECO

Landings by fishing techniques and countries/regions

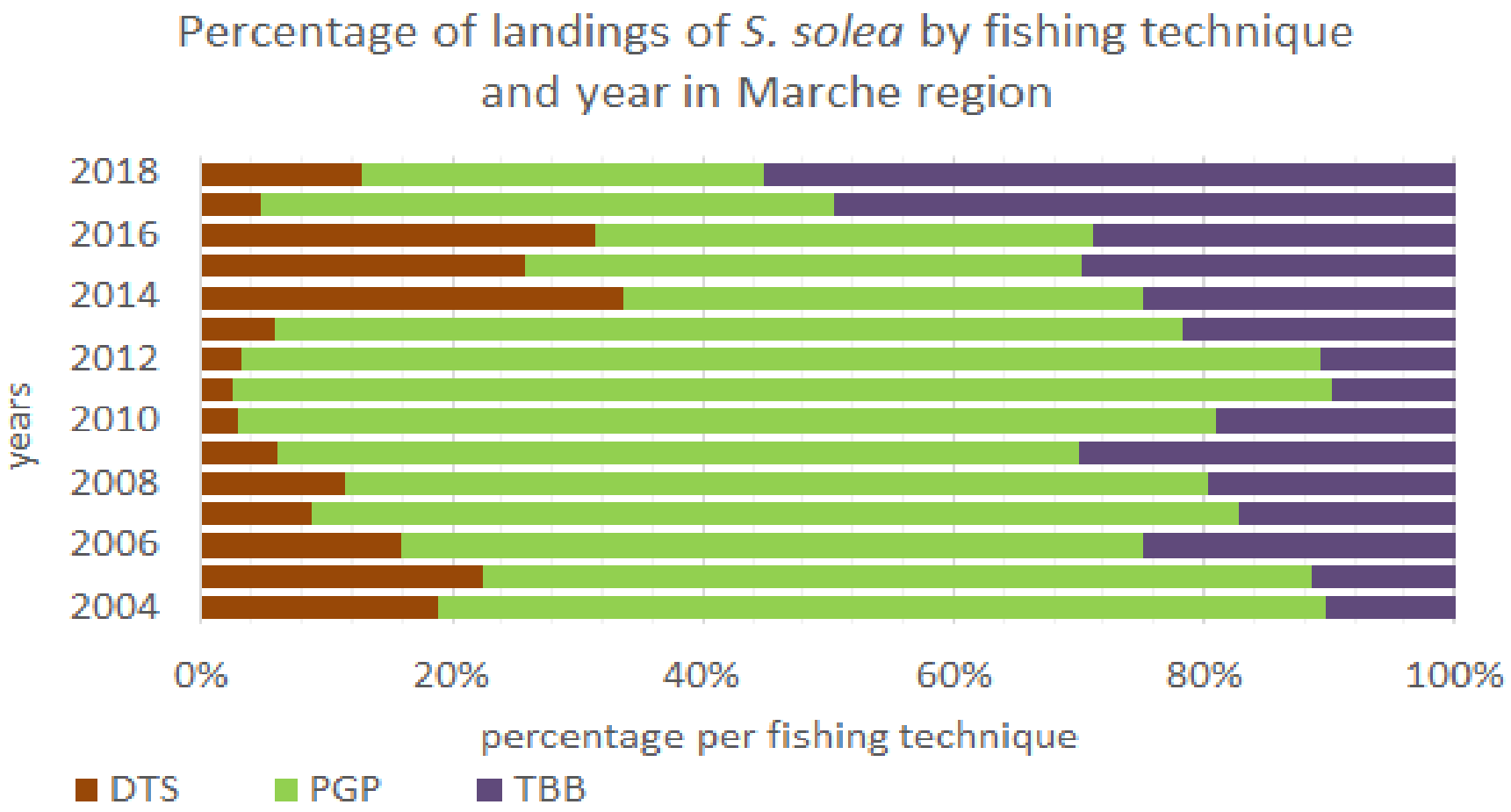


Landings data from the assessment (Scarcella et al., 2019)



Landings data used for comparison and to parameterize the productivity by fleet

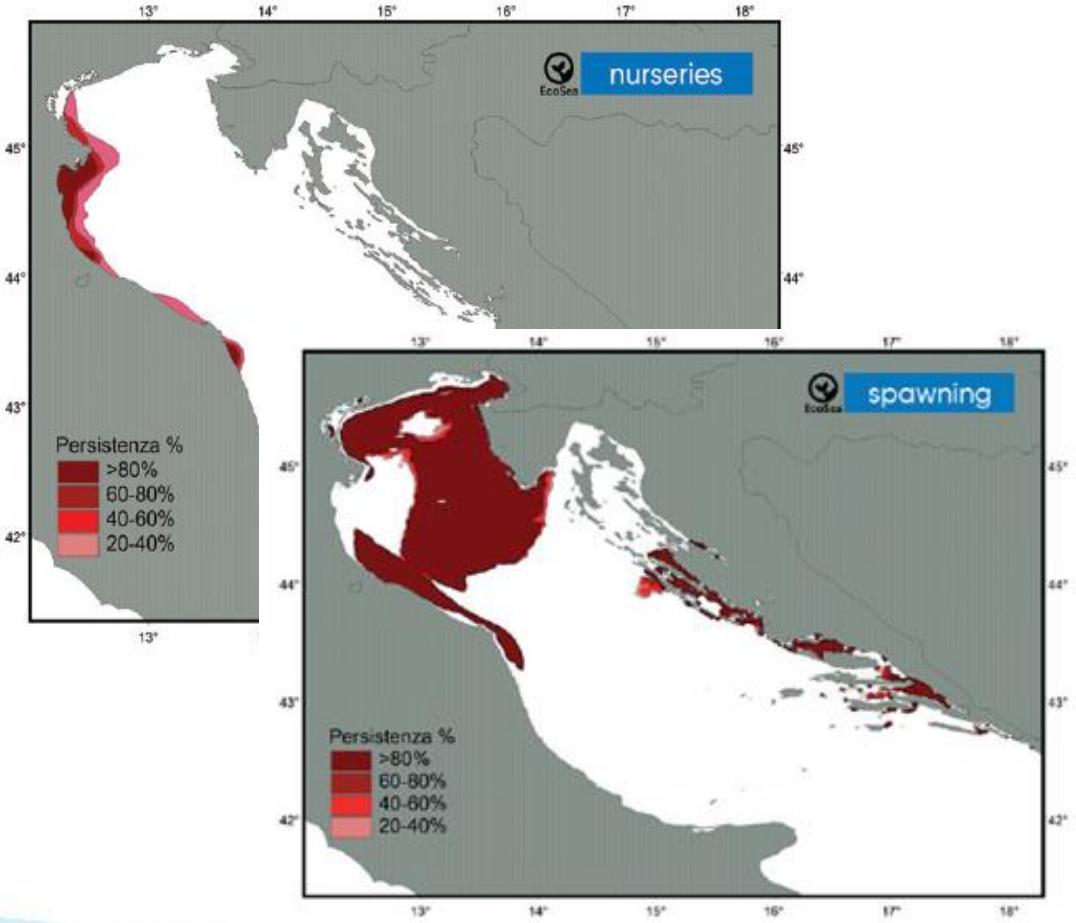
Landings by fishing techniques in the Marche region



Simulations using bioeconomic modelling – BIOECO

Improving the exploitation pattern

*considering **spatio-temporal closures***

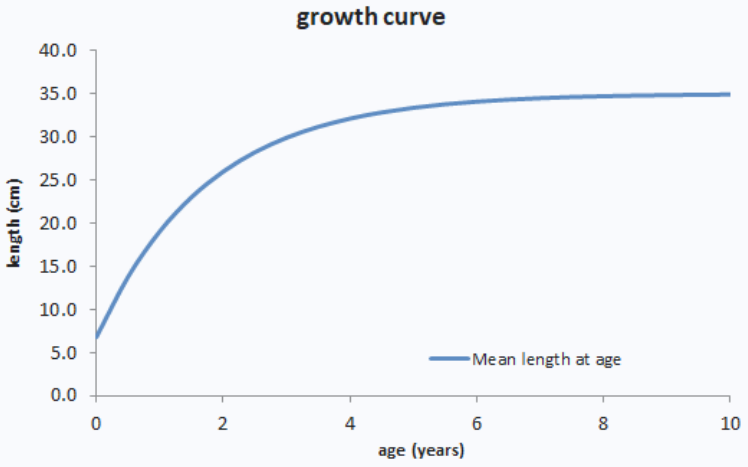


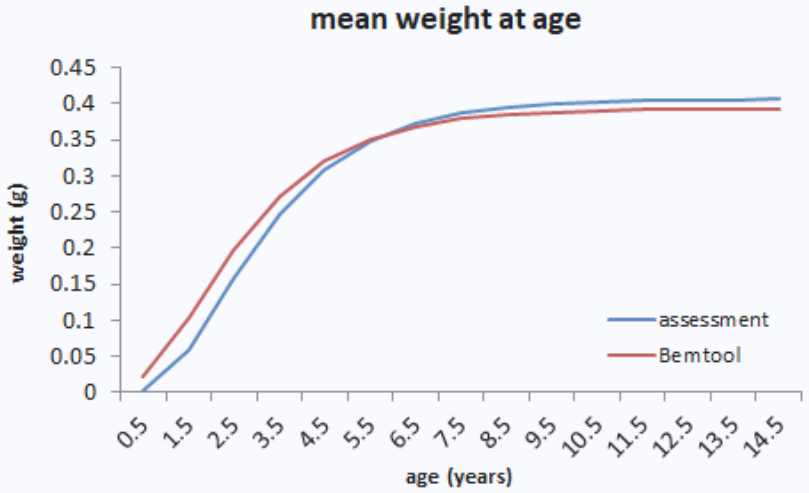
*Linking **fishing grounds** (e.g. the more visited) to the beam trawl (TBB) group of vessels by month/season.*

*Combine the information on the fleet behavior with the main **target species** (common sole) **distribution according to the season and life stages**.*

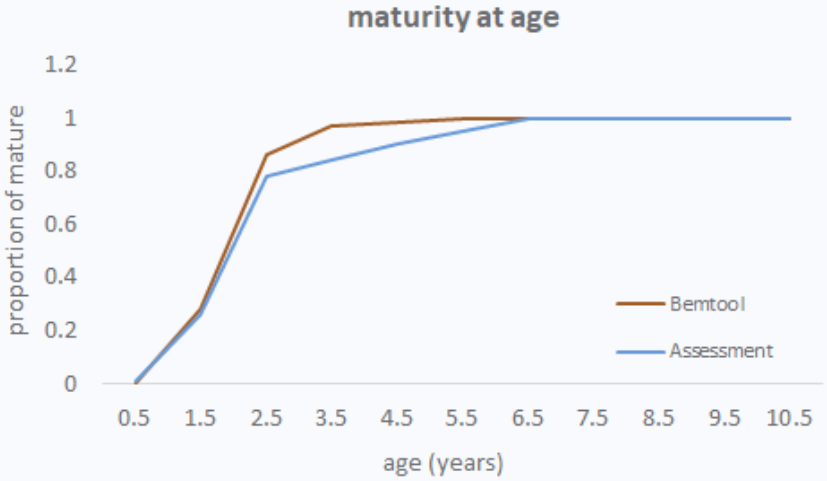
A specific selectivity is associated to the fleets

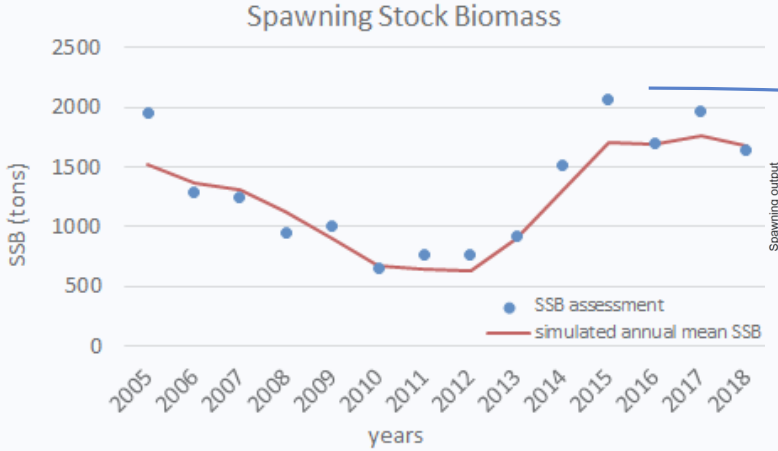
BIOECO – Mimicking stock assessment

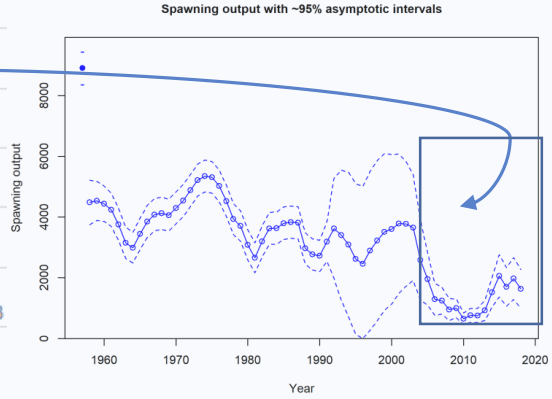




Currently the stock is slightly overexploited with the need to preserve the reproductive potential (Scarcella et al., 2019)







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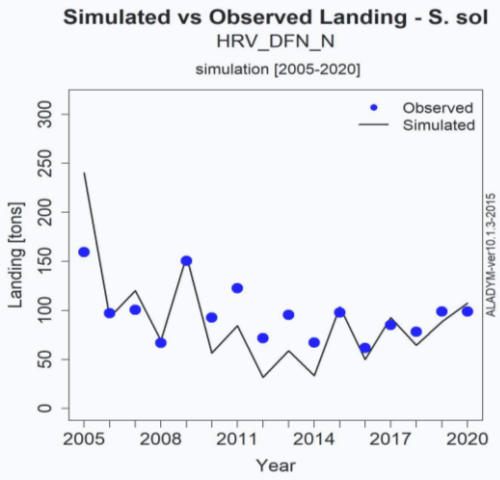
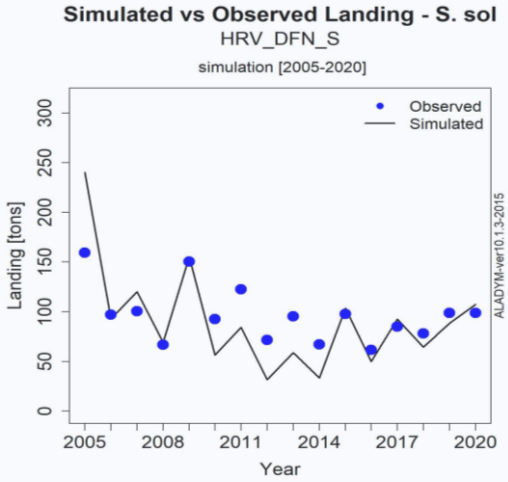
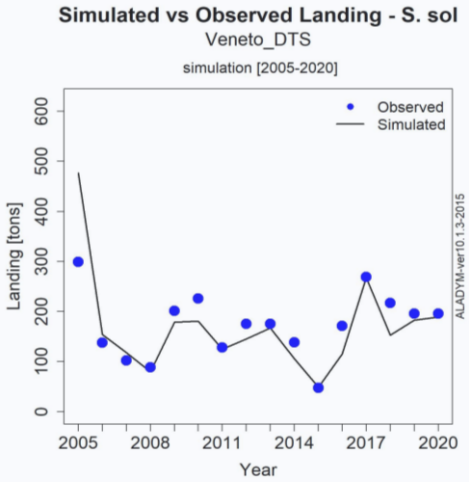
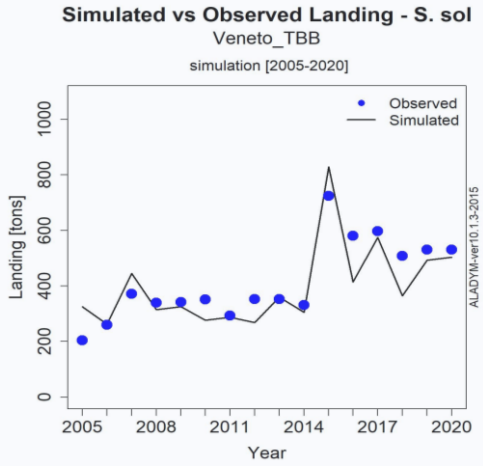
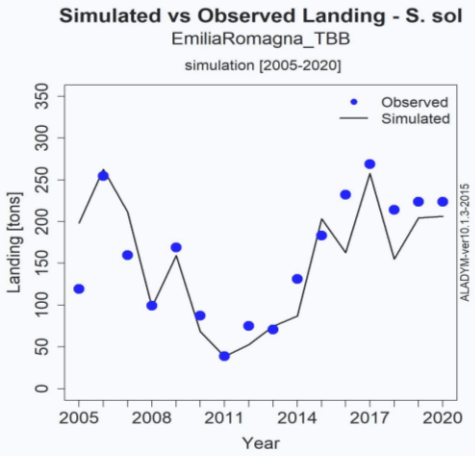
BIOECO – Mimicking landings by fleet and sub-region

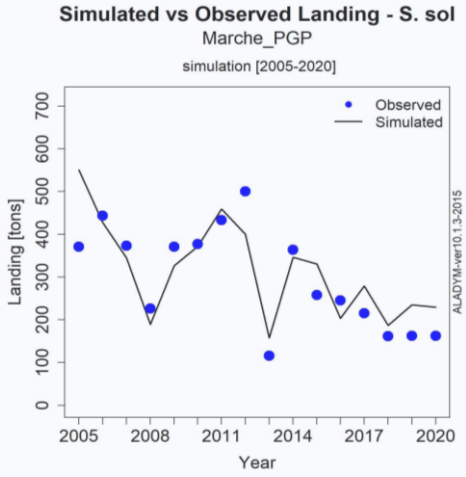


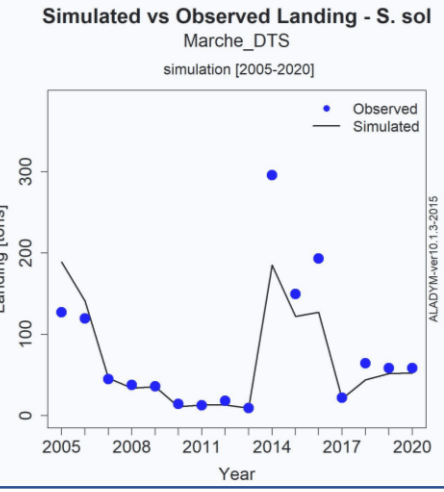


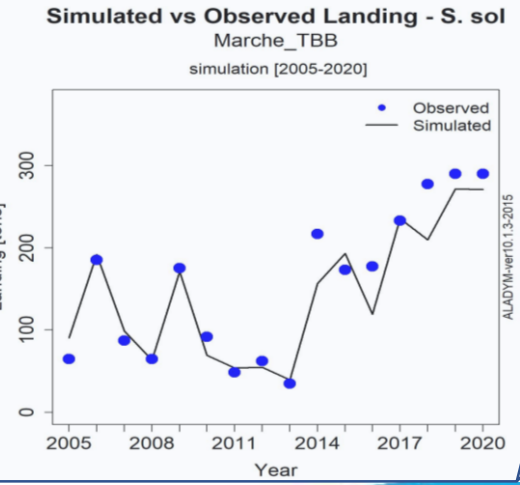












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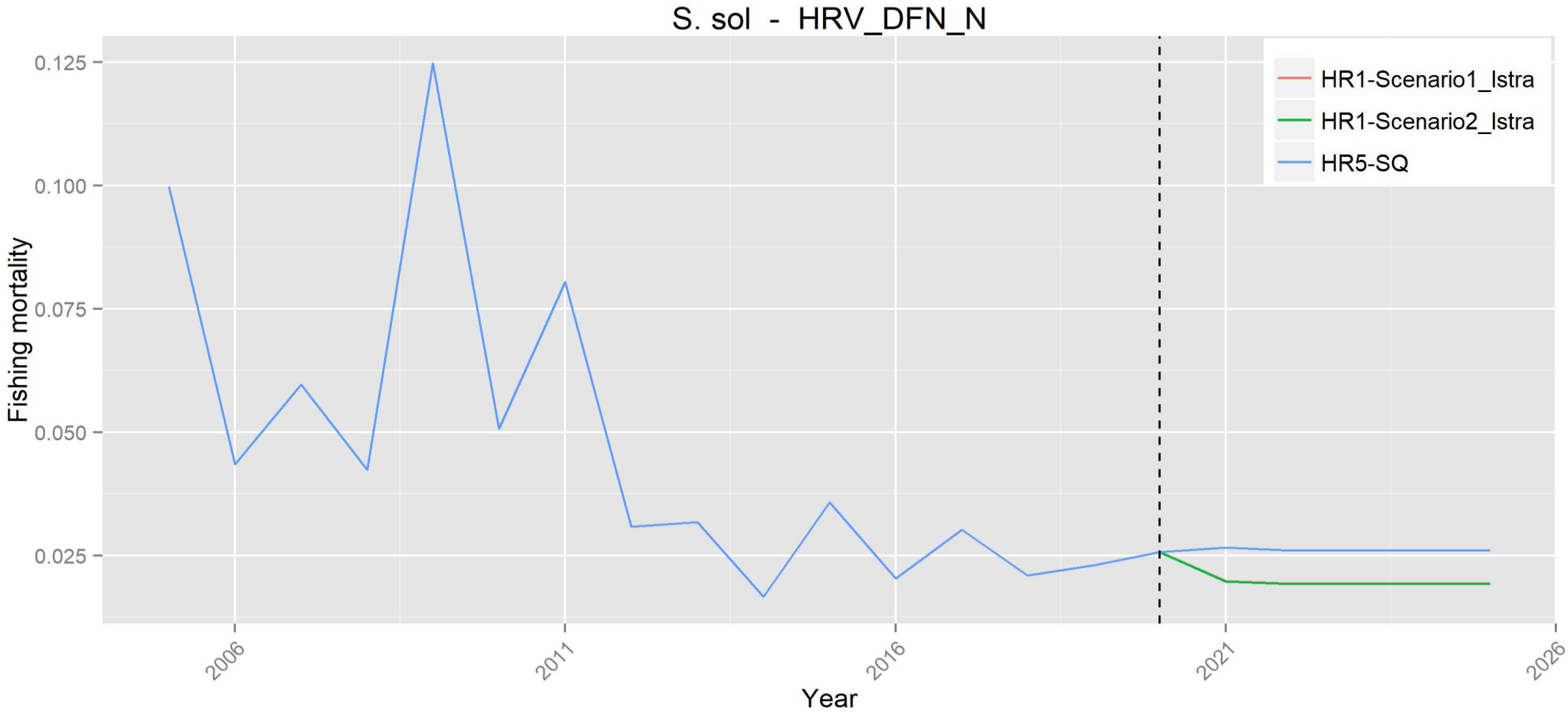
BIOECO – Four Management scenarios + Status Quo

Scenarios	Fishery/Fleet	Measure
Scenario 1-Istria	Croatia DNF Nord	increase length at first capture (2cm)
Scenario 2-Istria	whole Croatia DNF	increase length at first capture (2cm)
Scenario 1-Marche	TBB Marche	improve fleet selectivity, extending the fishing prohibition within 6 nautical miles to December
Scenario 2 Marche	TBB Marche	improve fleet selectivity implementing the fishing prohibition within 9 nautical miles in October, extended to December
Status Quo	All	No changes from the current situation

BIOECO scenarios – Istria - Fishing mortality trend



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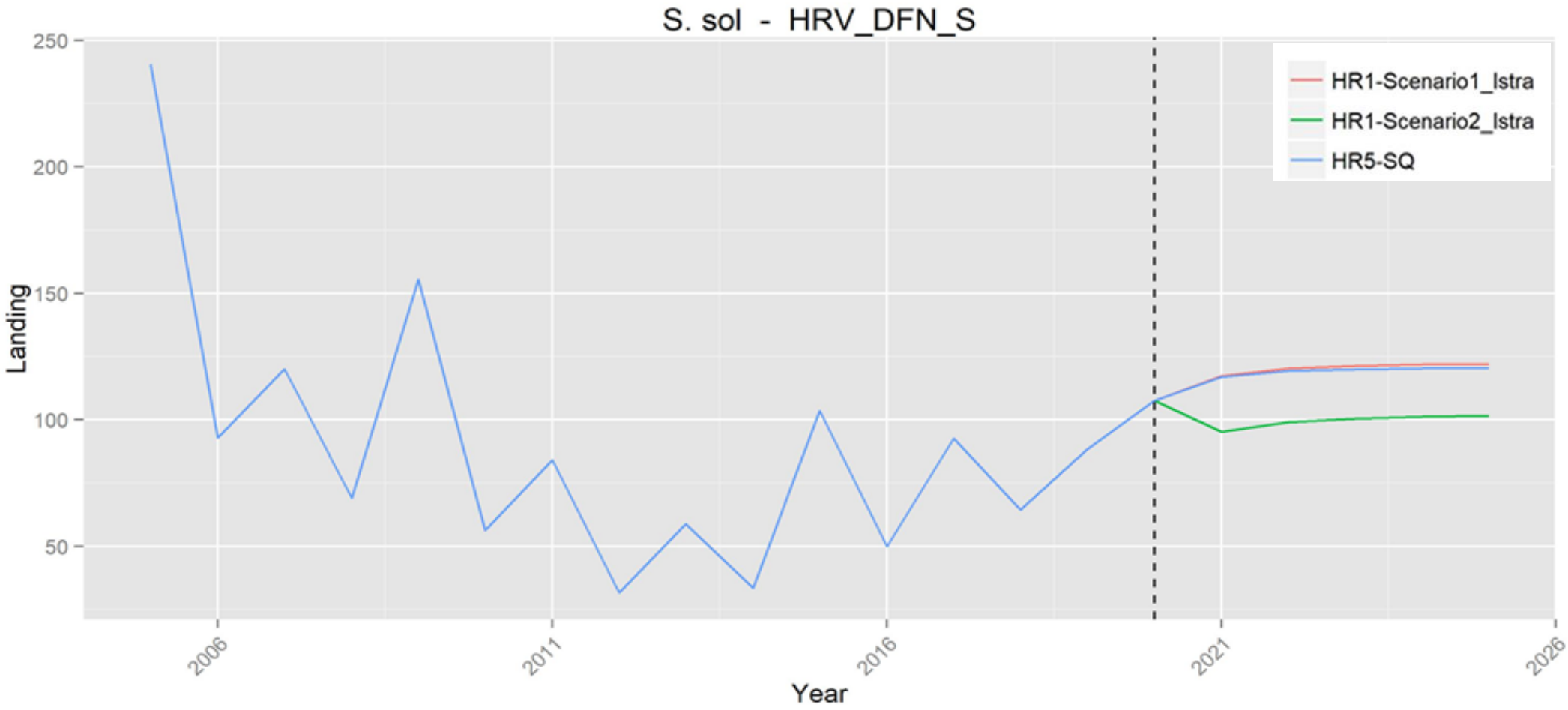
BIOECO scenarios - Istria – Landing trend



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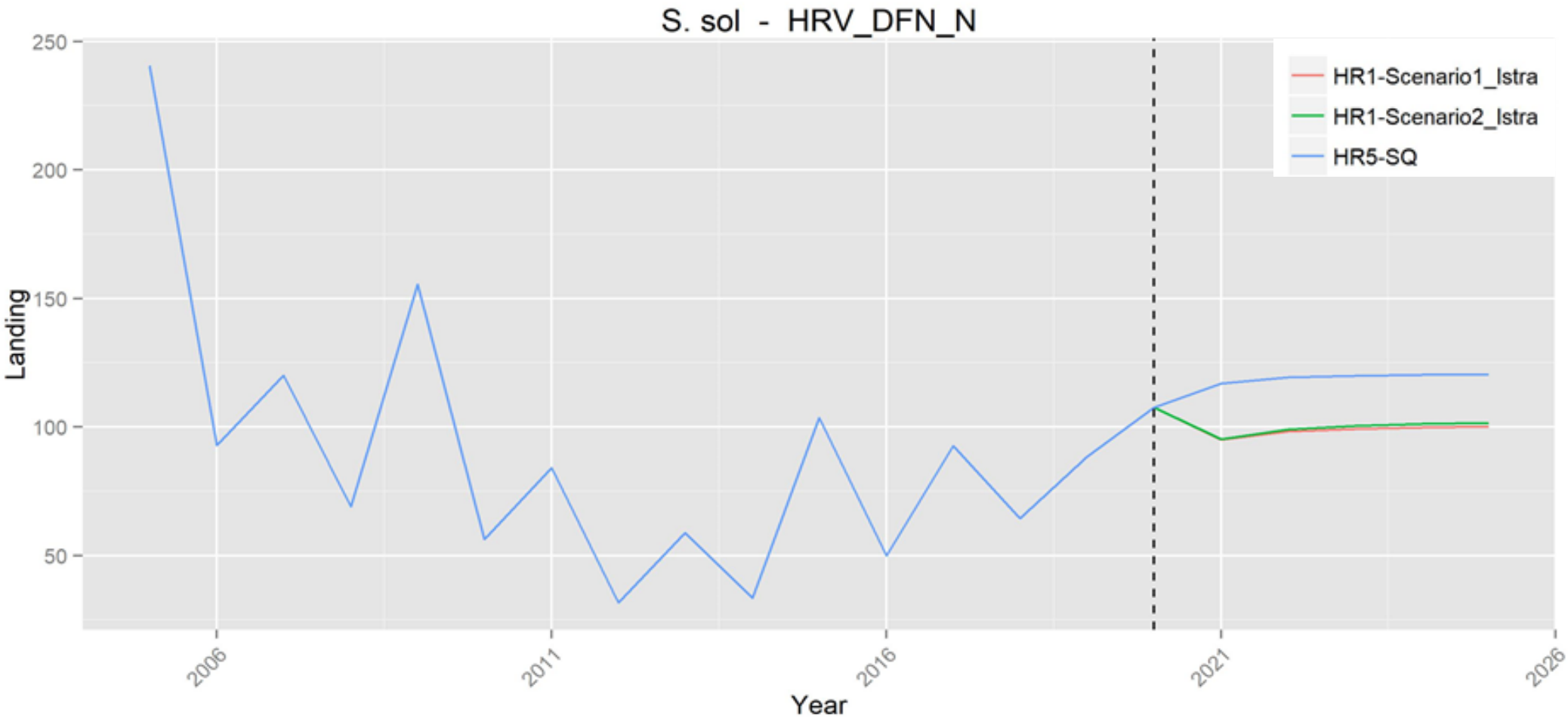
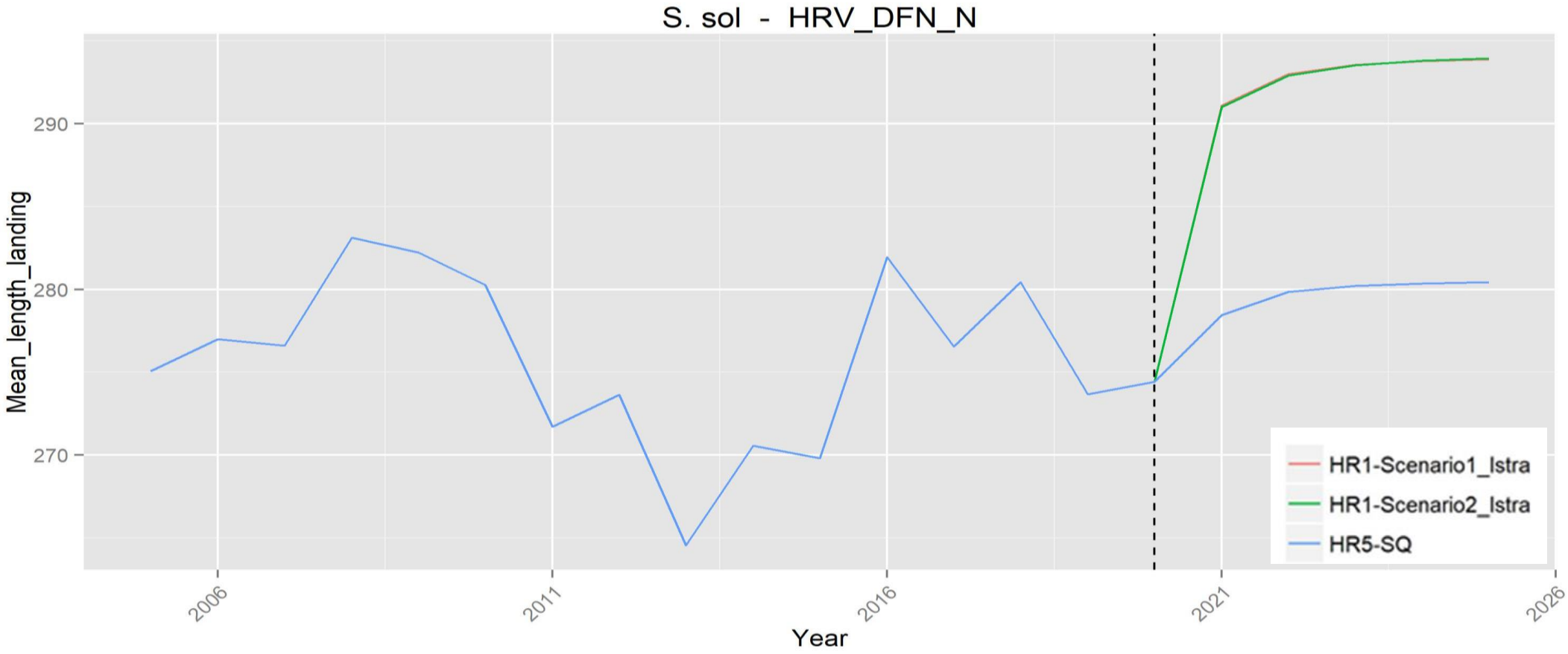
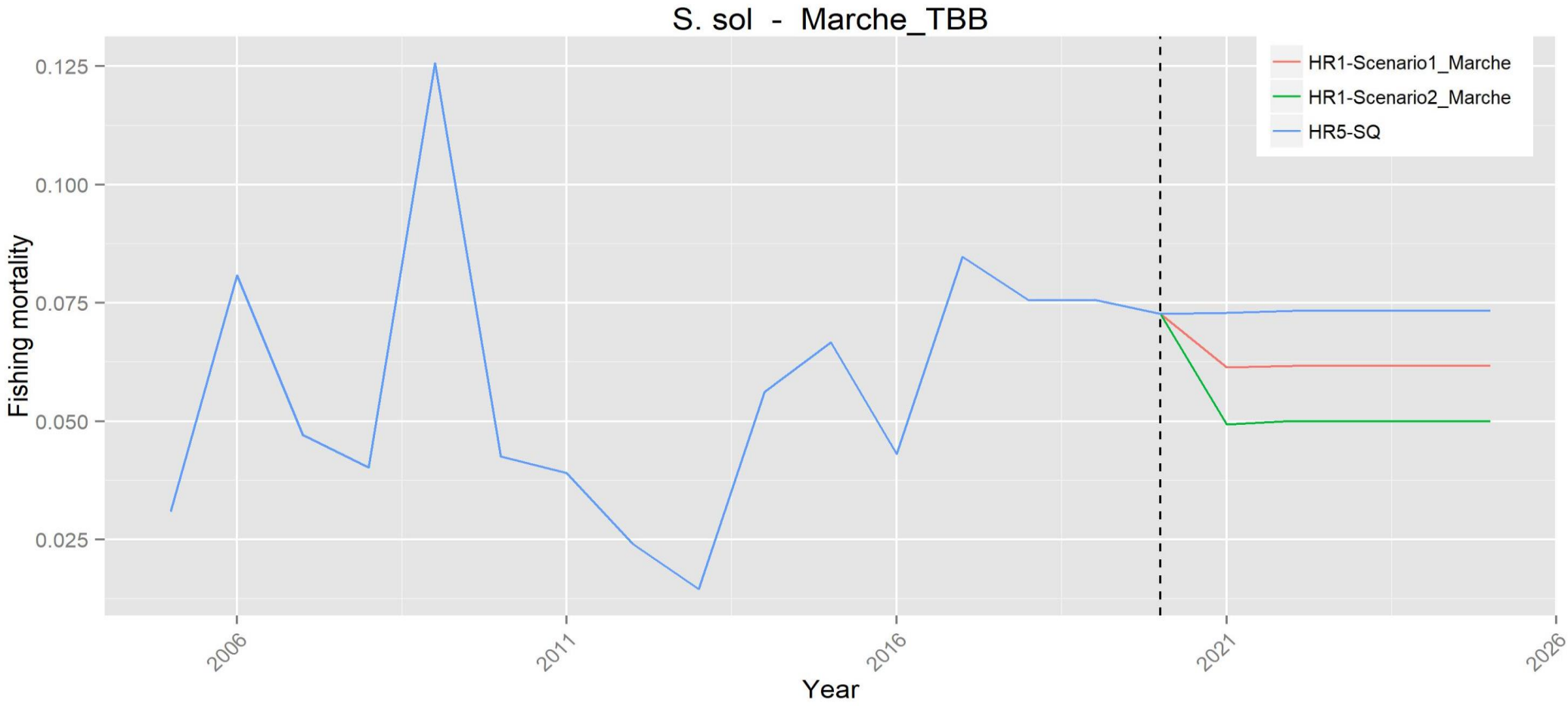
BIOECO Scenarios - Istria – Landing trend



BIOECO scenarios - Istria – trend of mean length in the landing

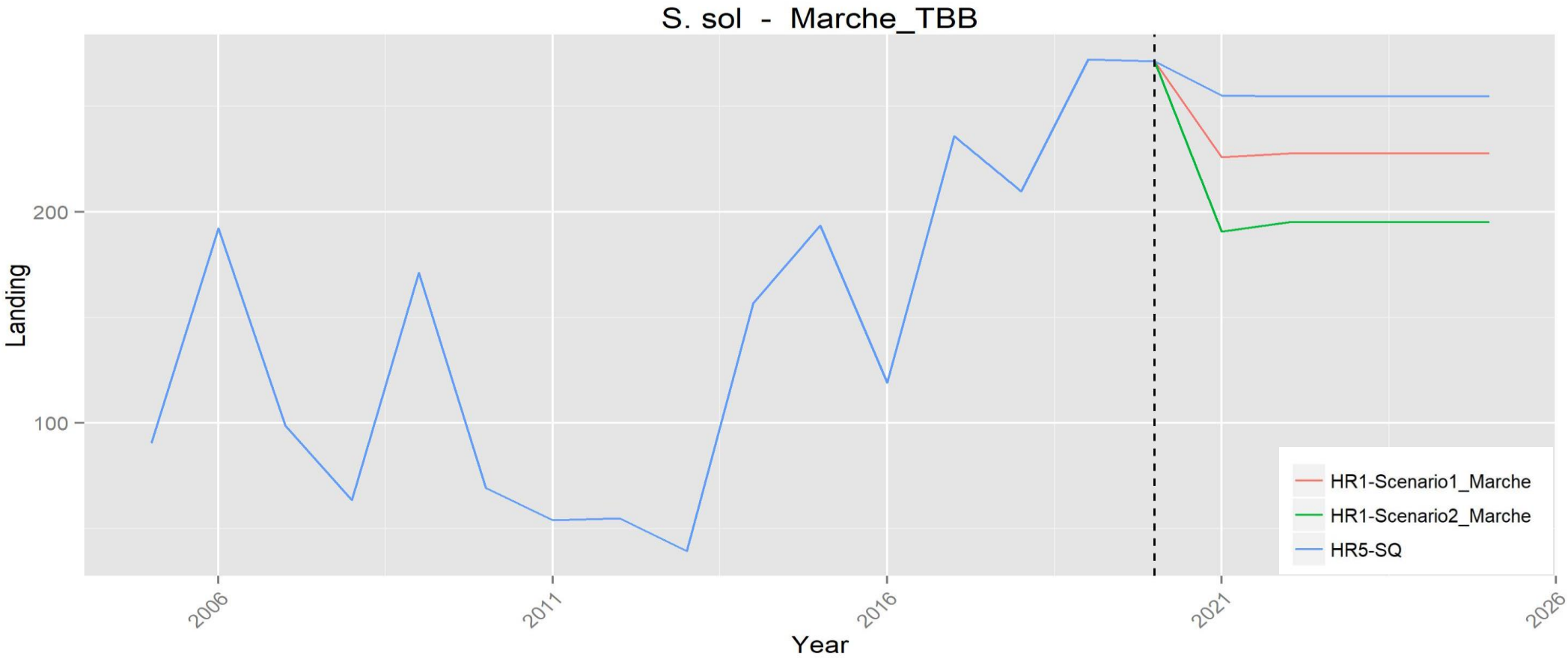


BIOECO scenarios - Marche – Fishing mortality trend

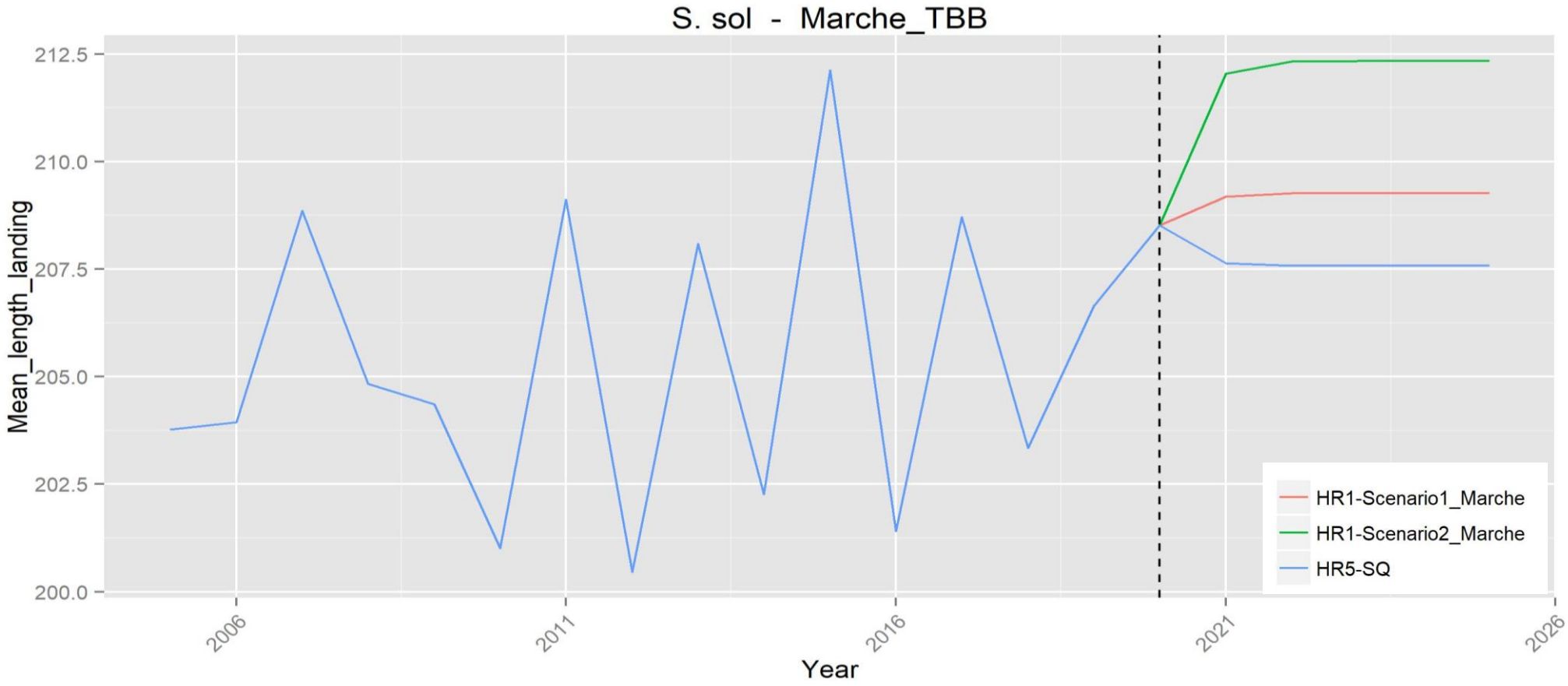


Space for Logos

BIOECO scenarios – Marche – trend of TBB Landing



BIOECO scenarios - Marche
trend of mean length in TBB landing



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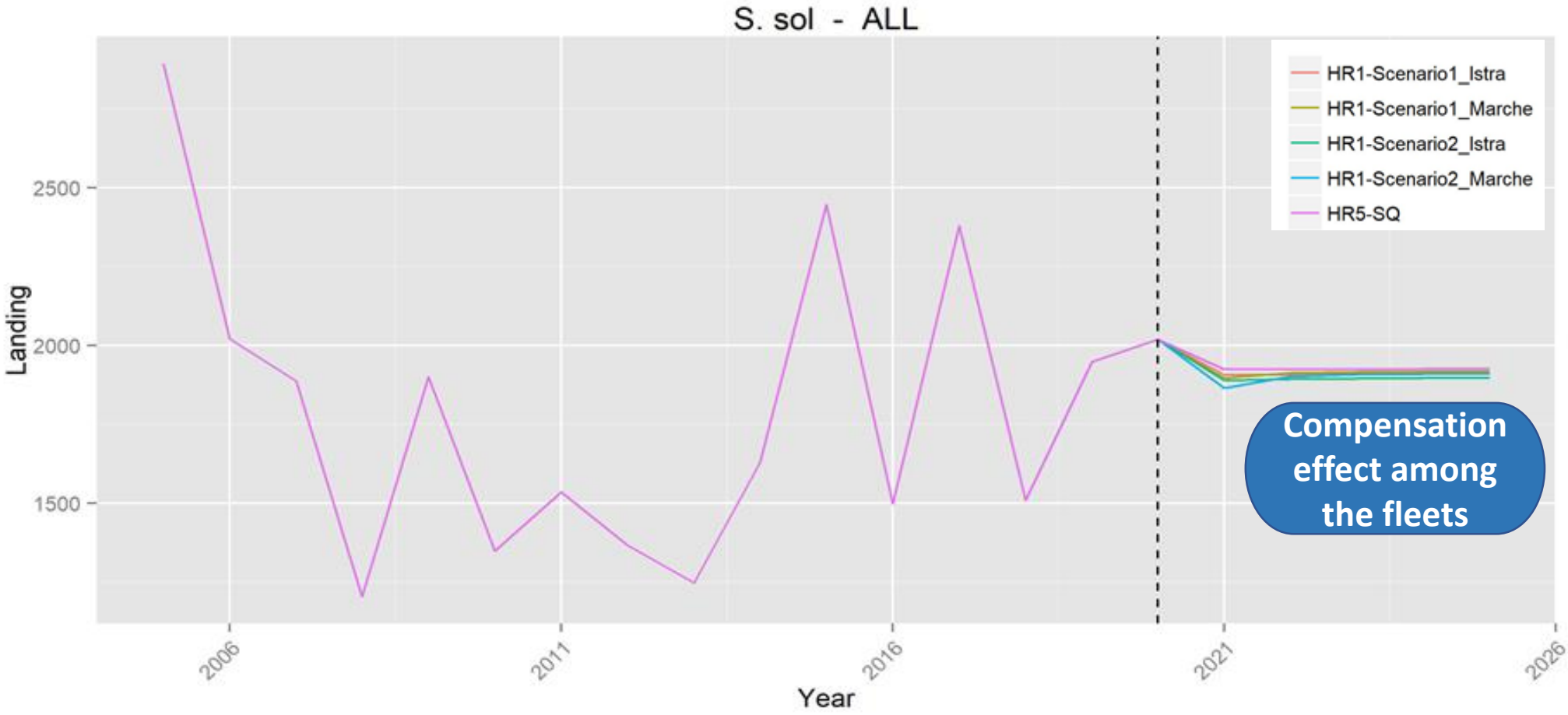
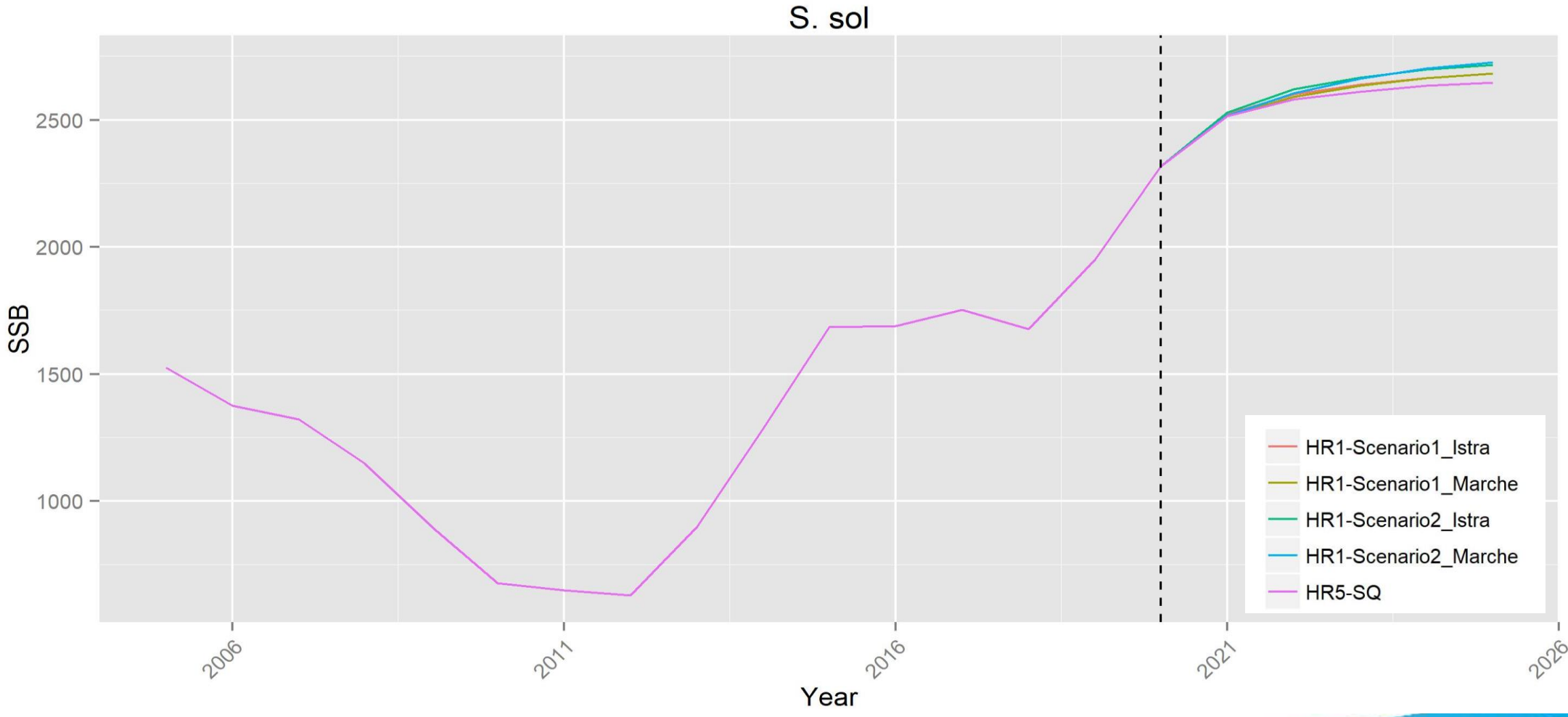
BIOECO All scenarios – trend of landings for all the fleets



BIOECO All scenarios – trend of SSB



Some remarks and next steps

A new assessment will be carried out, new elements will be taken into account depending on the timing

New scenarios to be implemented, inputs needed:

a. *Extending to the other beam trawlers and trawlers the same measure as for Marche beam trawlers?*
b. *Extending best practices of Istria small scale to the western Adriatic fleets?*
c. *Introducing a fishing ban for small scale fisheries in winter time when common sole reproduces?*
d. *A combination of measures?*
e. *Other suggestions?*

Preliminary results of Pilot Actions case studies

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