

Supporting information for

“Bio-economic management strategy evaluation of deepwater stocks using the FLBEIA model”

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Table S1. Scenarios run in the *Sebastes mentella* case study.

Scenario	Stock recruitment	Observation model	Assessment model	HCR
sm0a	Segmented regression			TAC = 8000 t
sm0b	Autoregressive recruitment			
sm1a	Segmented regression	Real population observed	None	ICES
sm1b	Autoregressive recruitment			

Table S2. Scenarios run in the *Pagellus bogaraveo* case study. 30% CV corresponds to the lognormal error introduced into the simulation of the abundance index.

Scenario	Advice Implementation	Observation Errors	Assessment Model	HCR
pb0a	OK	–	–	TAC = 270 t
pb0b	Error			
pb1a	OK	None	Real population observed	ICES
pb1b	Error	None		
pb1e	OK	Aging error		
pb1c	OK	30% CV		
pb1d	Error	Overshoot not observed + 30% CV	XSA	
pb1f	Error	Aging error + 30% CV		
pb1g	Error	Aging error + Overshoot not observed + 30% CV		
pb2a	OK	None	Real population observed	Annex IV
pb2b	Error	None		
pb2c	OK	30% CV	Abundance index	
pb2d	Error	30% CV		

Table S3. Scenarios run in French mixed-fisheries case study. MaxProf denotes scenarios where maximization of profits was used to describe FL01 fleet dynamics. The names of the stocks that appear together with the fleet dynamics function correspond to the restraining stocks. *Pollachius virens* was always managed using perfect observation and its HCR management plan in all scenarios. *TAL*: total allowable landing.

Scenario	FL01 Fleet dynamics	Stock	Observation Model	Asses. Model	HCR
mf0	Status quo	ALL	–	–	–
mf1	Fcube (<i>M. dypterygia</i>)	<i>M. dypterygia</i> ,	Real population	–	ICES
		<i>A. carbo</i> , <i>C. rupestris</i> Sharks	observed –	–	<i>TAL</i> = 0
mf2	MCP (<i>M. dypterygia</i>)	<i>M. dypterygia</i> ,	Real population	–	ICES
		<i>A. carbo</i> , <i>C. rupestris</i> Sharks	observed –	–	<i>TAL</i> = 0
mf3	Fcube (<i>M. dypterygia</i>)	<i>M. dypterygia</i>	Catch at age & Abundance Index	XSA	ICES
		<i>A. carbo</i> , <i>C. rupestris</i>	Real population observed	–	ICES
		Sharks	–	–	<i>TAL</i> = 0
mf4	Fcube (<i>M. dypterygia</i>)	<i>M. dypterygia</i>	Abundance Index	–	Annex IV
		<i>A. carbo</i> , <i>C. rupestris</i>	Real population observed	–	ICES
		Sharks	–	–	<i>TAL</i> = 0
mf5	Fcube (Sharks)	<i>M. dypterygia</i> ,	Real population observed	–	ICES
		<i>A. carbo</i> , <i>C. rupestris</i> Sharks	–	–	<i>TAL</i> = 0
mf6	MCP (Sharks)	<i>M. dypterygia</i> ,	Real population observed	–	ICES
		<i>A. carbo</i> , <i>C. rupestris</i> Sharks	–	–	<i>TAC</i> = 500 t
mf7	MCP (Sharks)	<i>M. dypterygia</i> ,	Real population observed	–	ICES
		<i>A. carbo</i> , <i>C. rupestris</i> Sharks	–	–	<i>TAC</i> = 1500 t
mf8	MCP (Sharks)	<i>M. dypterygia</i> ,	Real population observed	–	ICES
		<i>A. carbo</i> , <i>C. rupestris</i> Sharks	–	–	<i>TAC</i> = 2500 t
mf9	Fcube (<i>A. carbo</i>)	<i>M. dypterygia</i> ,	Real population observed	–	ICES
		<i>A. carbo</i> , <i>C. rupestris</i> Sharks	–	–	<i>TAL</i> = 0
mf10	Fcube (<i>A. carbo</i>)	<i>M. dypterygia</i>	Real population observed	–	ICES
		<i>C. rupestris</i>	–	–	–
		<i>A. carbo</i> Sharks	Abundance Index –	–	Annex IV <i>TAL</i> = 0
mf11	Fcube (<i>C. rupestris</i>)	<i>M. dypterygia</i> ,	Real population observed	–	ICES
		<i>A. carbo</i> , <i>C. rupestris</i> Sharks	–	–	<i>TAL</i> = 0
mf12	Fcube (<i>C. rupestris</i>)	<i>M. dypterygia</i> ,	Real population observed	–	ICES
		<i>A. carbo</i> , <i>C. rupestris</i>	–	–	–
		<i>C. rupestris</i> Sharks	Abundance Index –	–	Annex IV <i>TAL</i> = 0

* *Pollachius virens* was managed using perfect observation and its HCR management plan. * Abundance index is observed with a multiplicative lognormal error with median one and 30% CV.

