

# Management Strategy Evaluation Steps

- Define objectives and performance metrics
- Develop candidate management strategies, harvest control rules, etc.
- Implement operating models and condition them to historical data
- Simulation and evaluation of candidate management strategies
- Select a management strategy
- Consider implementing the management strategy

# PROCESS NOT LINEAR!!! ITERATIVE!!!



### **Effective Communication is essential**

### Several audiences:

- •Scientists ↔ Commissioners (Objectives, preliminary results)
- •Scientists ↔ General public (Industry, NGOs, etc)
- •Commissioners ↔ NGO, Industry, other stakeholders (national level)
- •Scientists ↔ Scientists (technical support, communication support)

### Communication mechanisms:

- Dialogues and "spaces"/ Intermediate groups (formal or informal)
- Presentation of results in a standard and clear way



# Chronogram of Workshops related to MSE in the EPO

### Management Strategies (Funded by WWF, FAO/ABNJ)

- Panamá, February 2015
- San Diego, USA, August 2018

### Introduction to MSE to EPO Tuna Industry (Funded by WWF, FAO/ABNJ)

- Manta, Ecuador. June 13, 2019.
- Panamá City, Panamá. June 18, 2019.
- •San Diego, USA, August 12, 2019
- México City, México, August 14 2019.
- •Colombia. September 19, 2019.

# Workshops for scientists-managers to elicit alternative objectives, performance metrics, harvest control rules (Funded by IATTC)

- San Diego, December 9-10, 2019.
- San Diego, just before SAC, 2020.



## IATTC Staff Activities and Research Plan

### **MSE - EEO**

**DOCUMENT SAC-10-01a** 

SSP	Target/Draiget		2018	20	19	2020	20	21	2022	2 20	<b>12</b> 3
ref.	Target/Project			1	2	1 2	1	2	1 2	1	2
1. SUS	TAINABLE FISHERIES										
Goal I:	Test harvest strategies using Management Strategy Evaluation (MSE)										
I.1.	MSE for tropical tunas in the EPO: bigeye tuna										
I.1.a	Conduct an MSE for tropical tunas in the EPO										
	a. Improve the bigeye assessment for use as spatial OM										Г
	b. Run preliminary simulations with spatial OM									T	Г
	<ul> <li>Technical meeting to agree on overall/revised MSE Plan by IATTC staff and collaborator</li> </ul>	s									Г
	2. Continue technical development of MSE, HCR, MP, outputs (with Project R.1.b)										Г
	a. Run preliminary MSE based on initial input from managers and stakeholders										Γ
	b. Run final MSE based on revised input from managers and stakeholders										Γ
	c. Propose evaluated HCR/MP to Commission for adoption, plan work for other tropical										Γ
	tunas										
1.2.	Collaborate with ISC in Pacific-wide MSEs for albacore and Pacific bluefin tunas	ALB				*	*	*	* *	*	1
	(*dependent on ISC scheduling)	PBF			*	*	*	*	* *	*	:
1.3	Initiate MSE work to evaluate indicator-based harvest strategies for prioritized species and										
	species of specific interest										
I.3.a	Evaluate potential reference points for dorado in the EPO										L
2. KNO	WLEDGE TRANSFER AND CAPACITY BUILDING										
Goal R	Improve communication of scientific advice										
R.1.	Improve communication of the staff's scientific work to CPCs										
R.1.a	Workshop on training, communication and evaluation of management strategies for tuna										l
	fisheries in the EPO										
	a. Other MSE workshops for scientists-managers (to be planned)										
R.1.b	Technical development, communication and evaluation of MSEs for tropical tuna fisheries in the	he									
	EPO involving managers, scientists and other stakeholders										
R.2	Participate in global initiatives for the communication of science: t-RFMO MSE working group										

# Species focus, Timeline

Initial MSE work focus on bigeye tuna, and will move to the other species towards the end of the current work plan.

#### **Expected Timeline and Deliverables:**

- 2018: Improved bigeye assessment for use as spatial operating model (OM). Workshop on training, communication and evaluation of management strategies.
- 2019: SAC-10: Report improvements to BET model for its use as OM.
  Introductory harvest strategies workshops for the Industry
  Workshops for scientists-managers to elicit objectives, performance metrics, alternative HCRs (Asia, Americas)
- 2020: Workshops with managers / stakeholders to show initial results and gather feedback, Technical workshop SAC-11: Report on revised MSE plan and preliminary results based on outcomes of workshops
- 2021: Updated MSE results based on input from managers and stakeholders SAC-12: Report on revised MSE plan and preliminary results based on outcomes of workshops
- 2022: Final MSE results based on revised input from managers and stakeholders SAC-13: Report on revised MSE plan and preliminary results based on outcomes of workshops
- 2023: SAC-14: Report final results, present plan for other tropical tunas IATTC annual meeting: Recommend evaluated HCR/management procedure for bigeye for adoption;



# Species focus, Timeline (revised)

Initial MSE work focus on bigeye tuna, and will move to the other species towards the end of the current work plan.

### **Expected Timeline and Deliverables:**

- 2018: Improved bigeye assessment for use as spatial operating model (OM).

  Workshop on training, communication and evaluation of management strategies (San Diego).
- 2019: SAC-10: Report improvements to BET model for its use as OM.
  Introductory harvest strategies workshops for the Industry (Ecuador, Panama, USA, Mexico, Colombia)
  Workshops for scientists-managers to elicit objectives, performance metrics (USA)
- 2020: Workshops for scientists-managers to alternative HCRs (USA, tentatively right before SAC) SAC-11: Report on revised MSE plan and outcomes of workshops, AM: Commission consideration of a MSE WG for scientists, managers, and other stakeholders Workshops with managers / stakeholders to show initial results and gather feedback, Technical meeting
- 2021: Updated MSE results based on input from managers and stakeholders SAC-12: Report on revised MSE plan and preliminary results based on outcomes of workshops
- 2022: Final MSE results based on revised input from managers and stakeholders SAC-13: Report on revised MSE plan and preliminary results based on outcomes of workshops
- 2023: SAC-14: Report final results, present plan for other tropical tunas IATTC annual meeting: Recommend evaluated HCR/management procedure for bigeye for adoption;



Questions?

