Progress towards Achievement of Aichi Target 6

Reporting frames and examples

CBD/SBSTTA/22/INF/28

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CBD/FAO/IUCN-CEM-FEG Side-event on **Fisheries and Biodiversity—A Review of Progress Towards the Achievement of Aichi Target 6 and the Role of Fisheries Management in Contributing to Aichi Target 11**, SBSTTA 22, Montreal, Canada, 5 July 2016

Target 6

Target 6 describes the medium-term goal assigned to fisheries: *by 2020,*

6A: *all fish and invertebrate [target] stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem-based approaches, so that overfishing is avoided,*

6B: recovery plans and measures are in place for all depleted [target] species,

6C: and fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems

6D: and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.

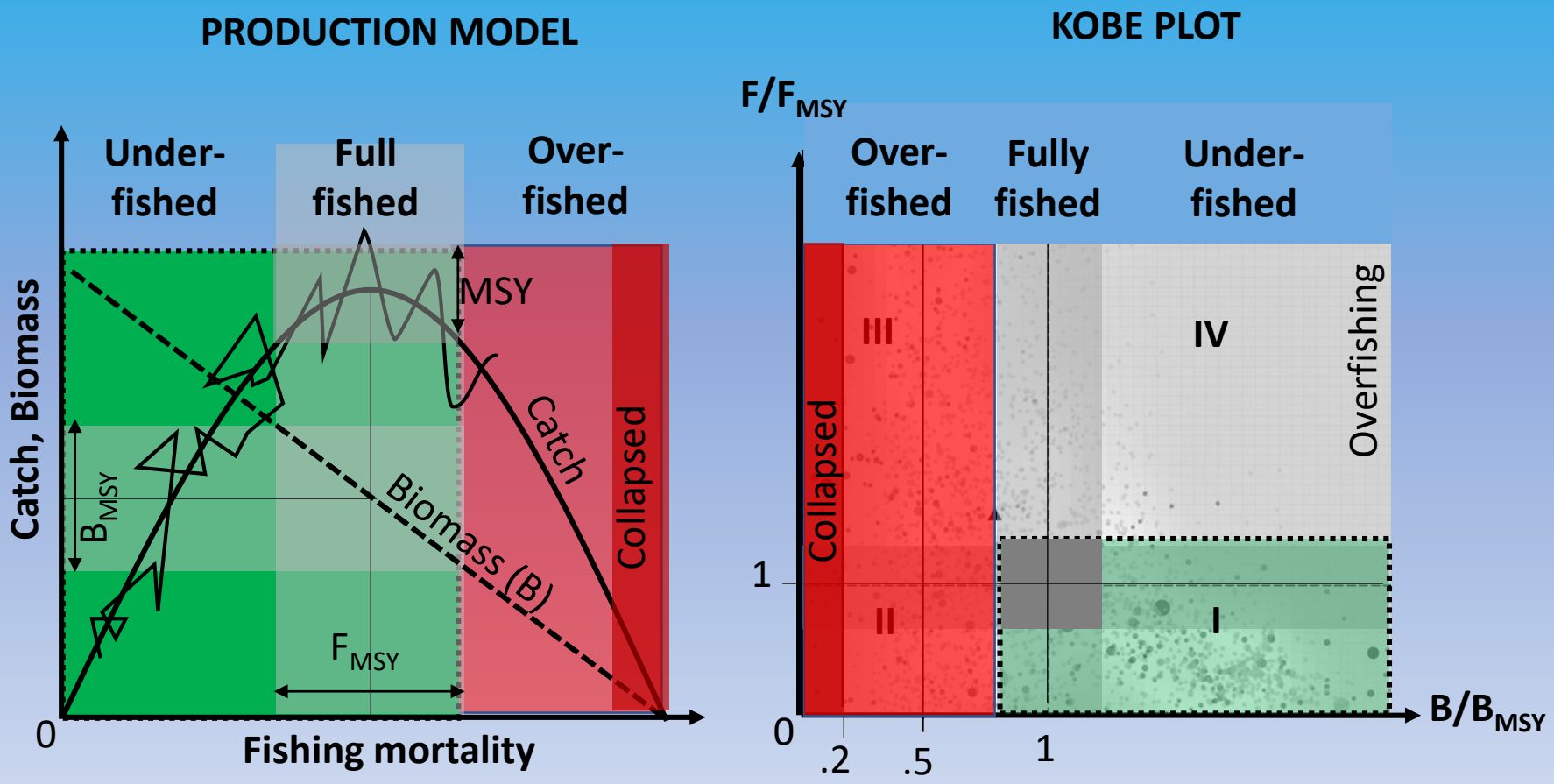
T6 Elements, actions and outcomes

Target 6 Elements		Actions (intermediate outcomes)			Expected final outcomes
		Laws	Policies	Plans	
A	**All target stocks**	Fishery Act; Adoption of international agreements (UNFSA, PSMA); Rebuilding and conservation laws	Rebuilding & protection goals & strategies; Capacity-building;	Approach; Measures; Roles; MCS Deadlines; Benchmarks; Evaluation	Sustainably harvested Legally harvested Overfishing is avoided
B	**Depleted target and non-target species**				Recovery plans & measures in place for depleted stocks; Non-target species not being depleted or else have recovery plans
C	**Threatened species; Vulnerable ecosystems**				No Significant Adverse Impact (SAIs)
D	**Whole ecosystems**				Within safe ecological limits (SELs)

State of stocks and T6 Elements

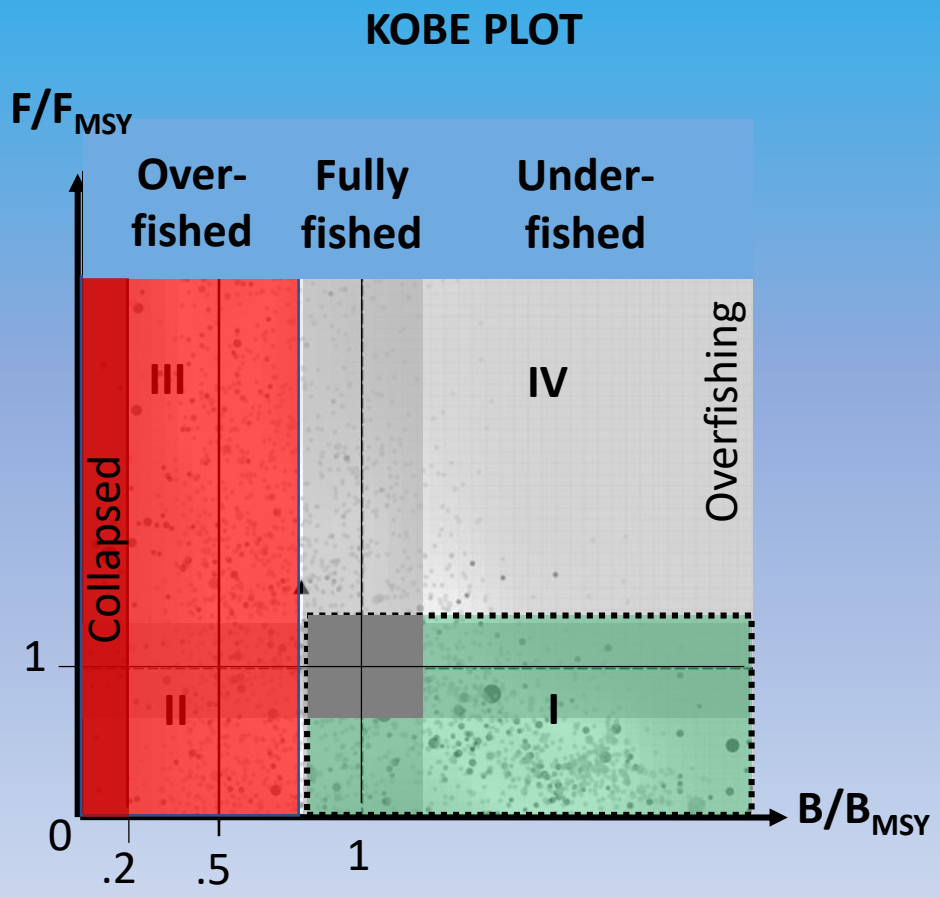
SPECIES/STOCKS								ECOSYSTEM	
	Target				Target/non-target		Threatened Protected spp		
Categories	Under fished	Develo-ping	Fully fished	Over-fished	Depleted	Colla-psed		VMEs	Other Habitats
Metric (B/B_{MSY})	>2.0	2.0-1.2	1.2-0.8	0.8-0.5	0.5-02 <Blim	< 0.2	Jurisdictional standard	Density of vulnerable spp.	Structure & function
Goal	Maintain at target level			Rebuild to target level			No SAIs	Protect/Maintain/restore	
	Within safe Ecological Limits (SELs)								
Main measures	Conventional controls of fishing mortality level and distribution (fishing pattern)			More stringent reduction of fishing pressure and protection of recruitment		Allowable harm estimates. Habitat protection. Fishing moratoria and stock enhancement measures		Gear restrictions Move-on rules. Protected areas	Whole tool box
	Management plan			Rebuilding plans (RP)		Mandatory plans?		Rest./Recov. ?	
Target 6 Elements	6A -sustainably harvested			6B-Depleted			6C-Threatened spp. & Vulnerable ecosystems		
	6D: Safe Ecological Limits (SELs)								

Target species: 6A, 6B, 6C



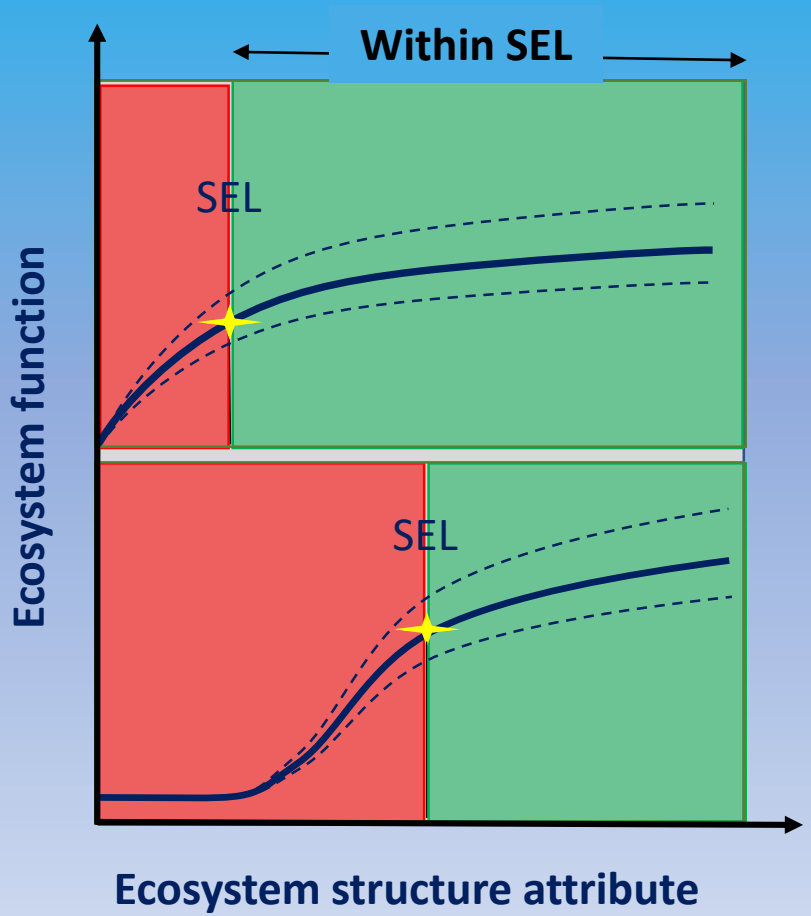
The target stocks are within fishery management targets for biomass and fishing mortality

Species: 6A-C



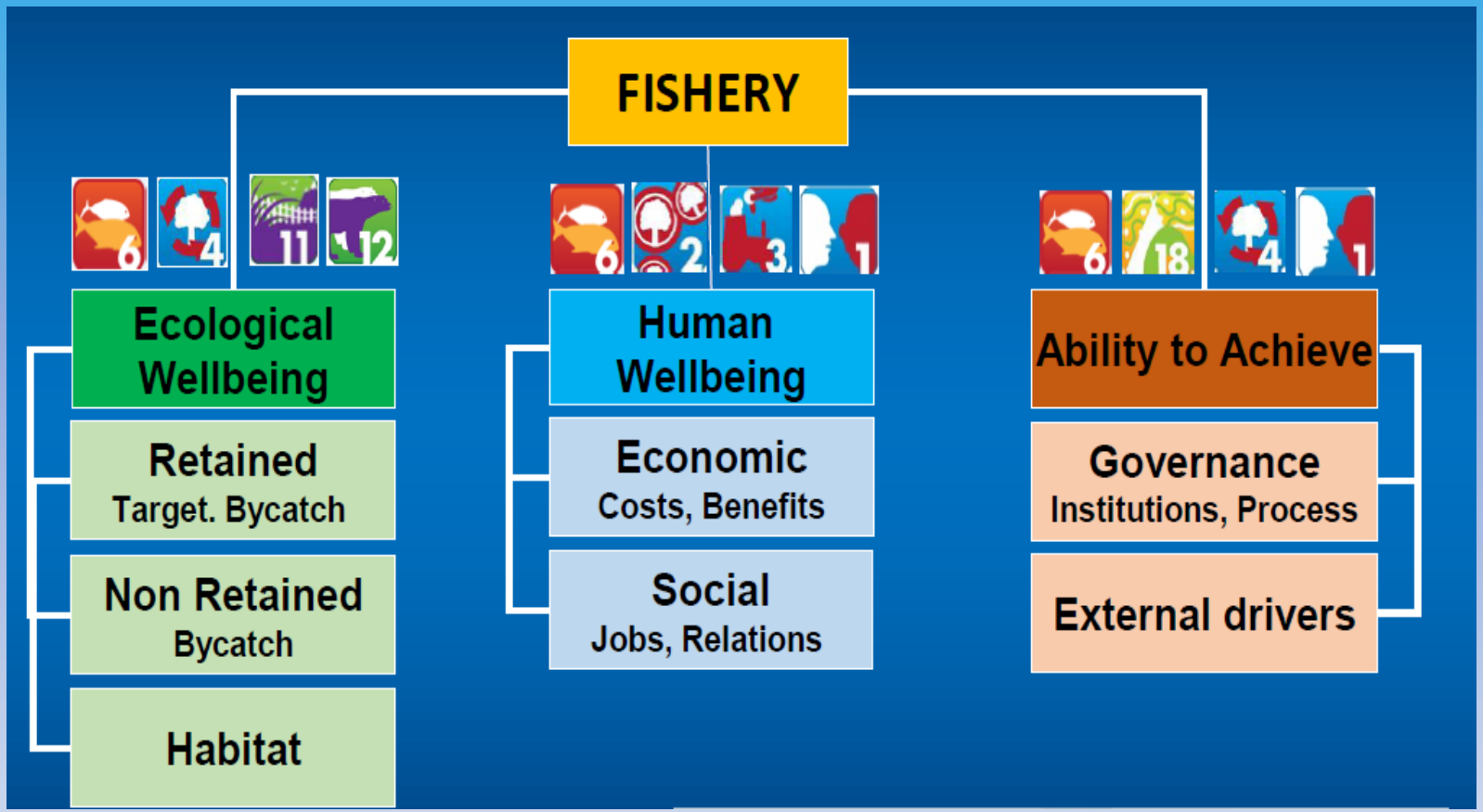
Conventional agreements and established practices exist for reporting

Ecosystems: 6C-D



Non global agreement yet exists for reporting

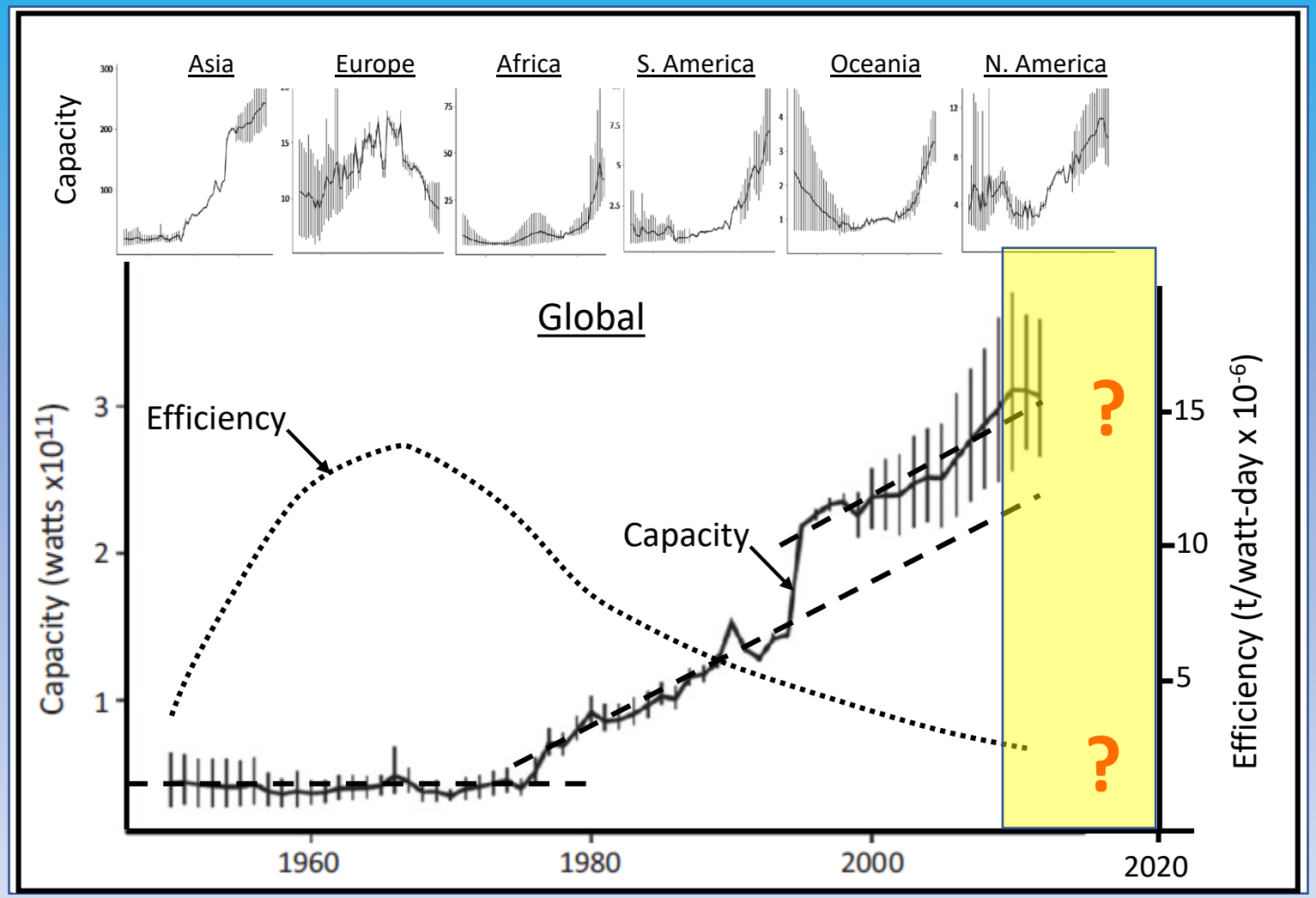
Ecosystem Approach to Fisheries



A framework for Ecological Risk Assessment

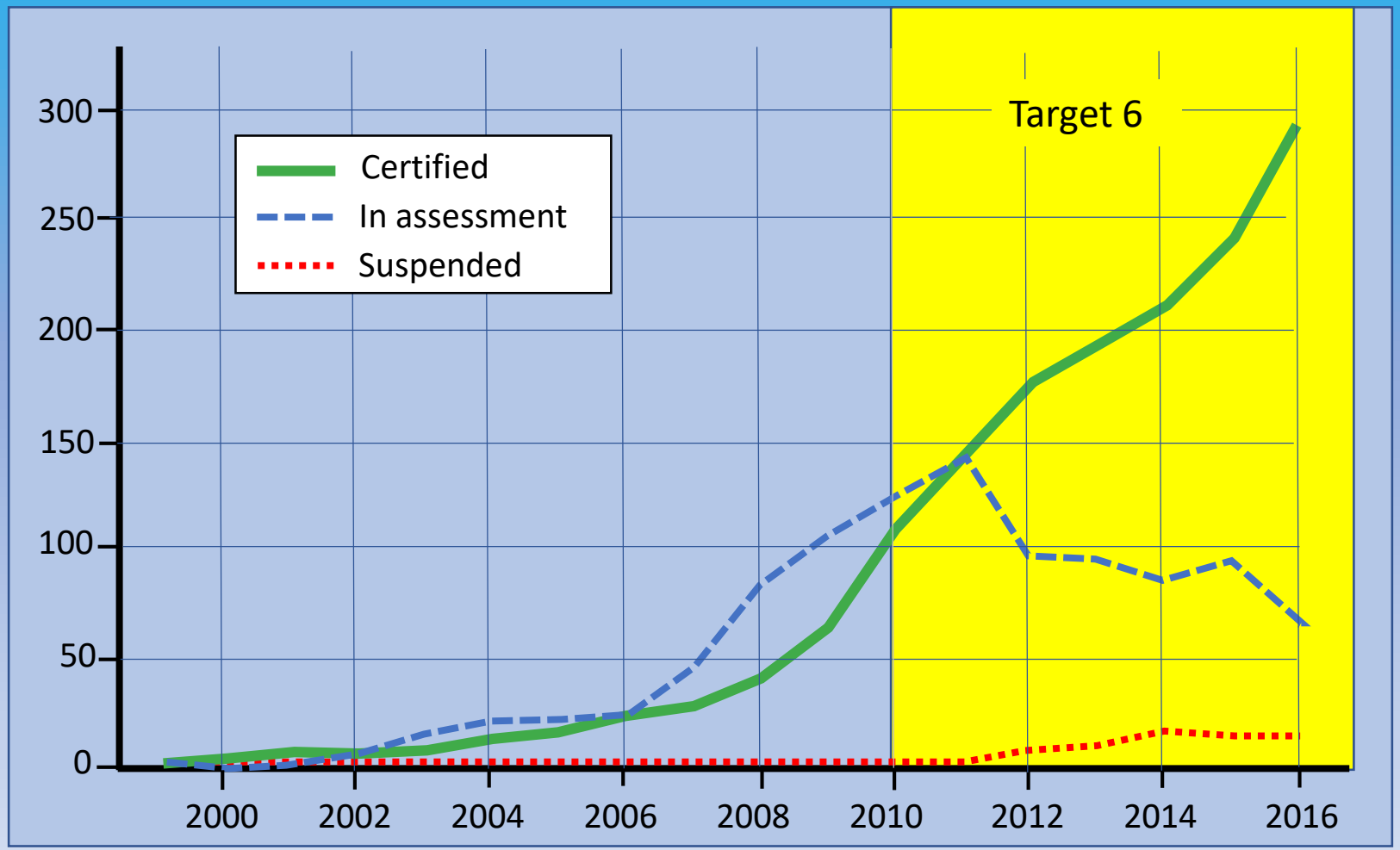
Available guidance

Fishing capacity & efficiency 1950-2013



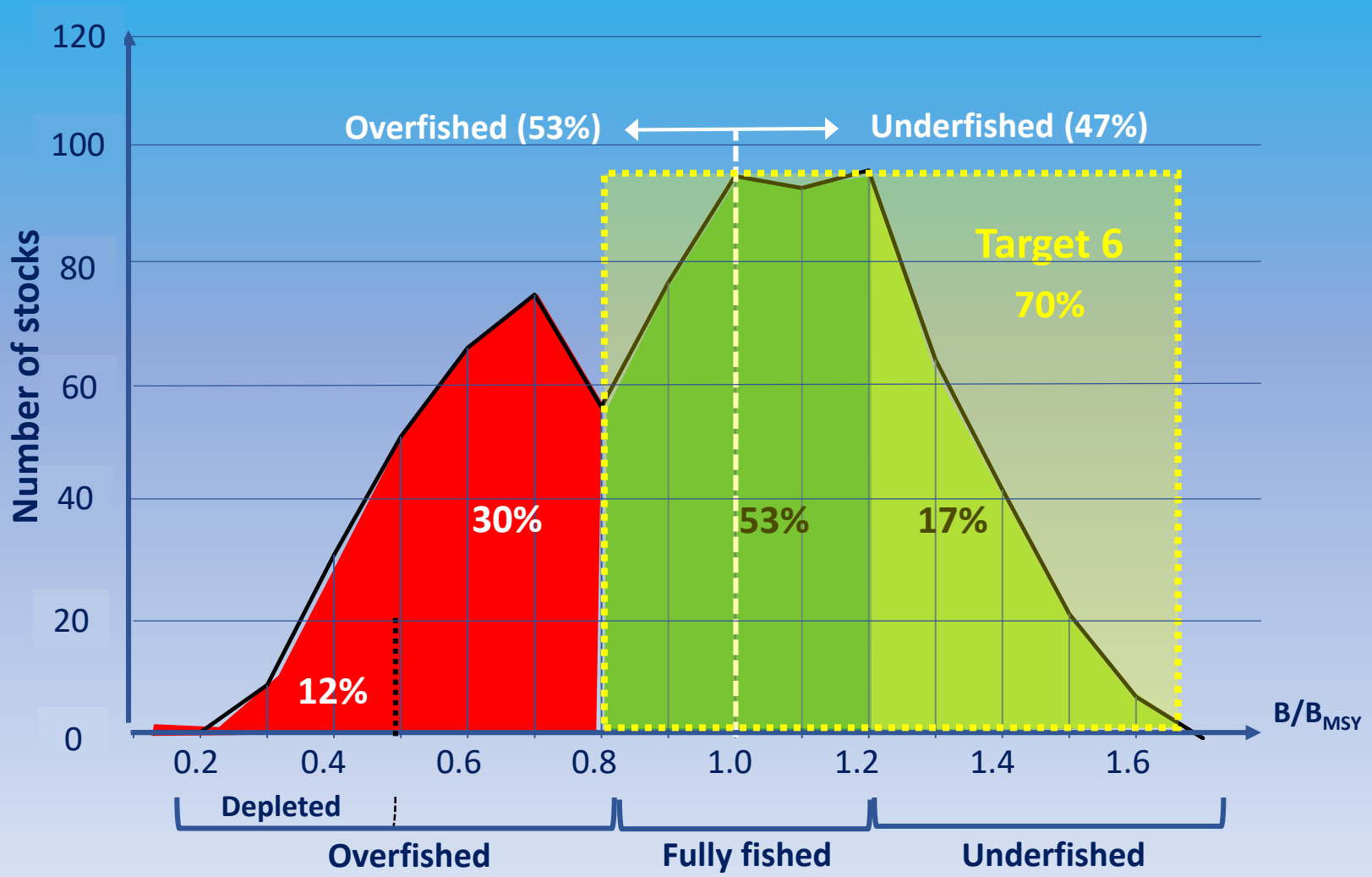
Bell, J.D.//Watson, A.R.//Ye, Y. 2016. Global fishing capacity and effort from 1950 to 2012. Fish and Fisheries. Online. DOI10.1111/faf/12187

MSC-certified fisheries 2000-2016



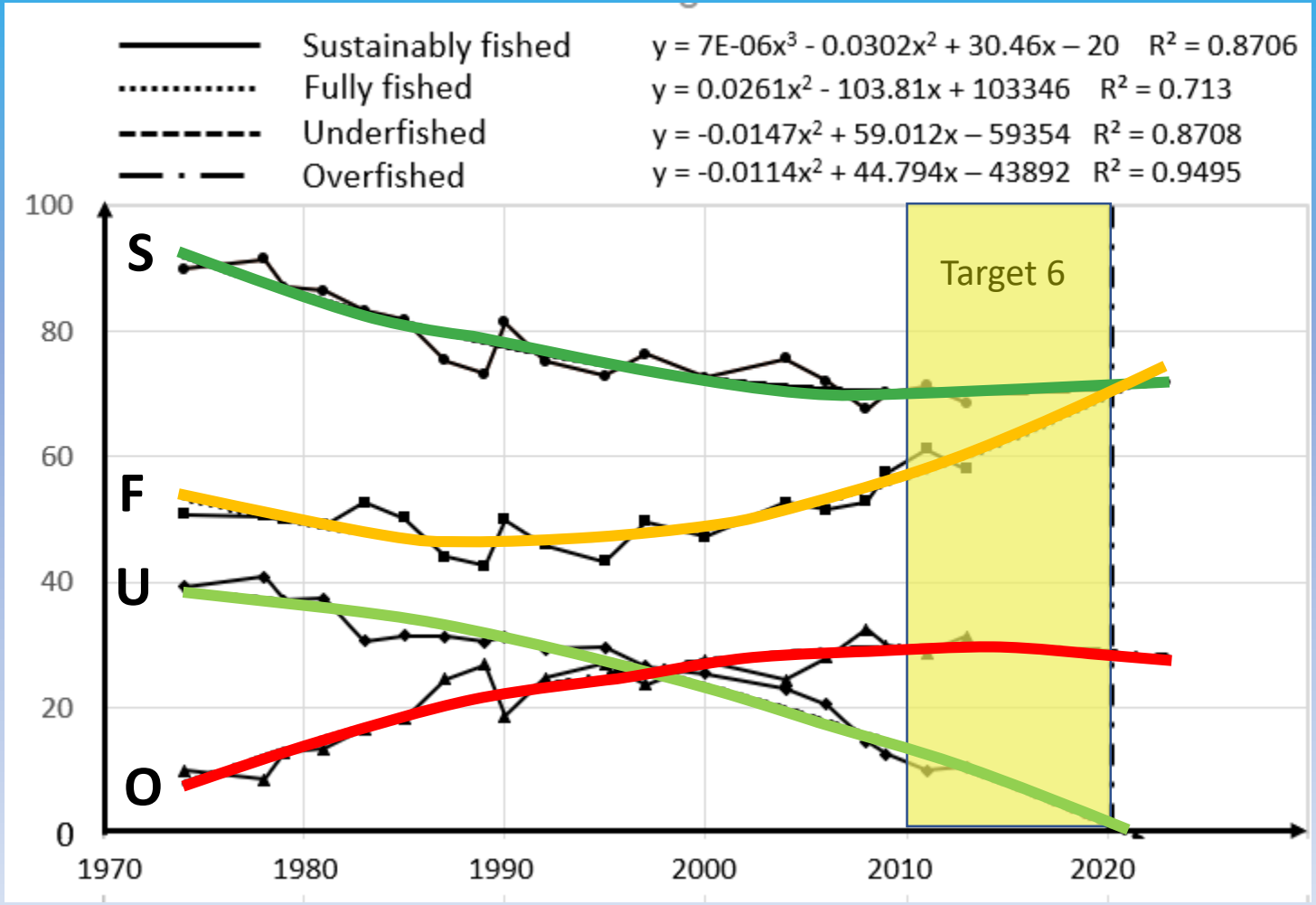
Number of fisheries certified, in assessment and suspended by the MSC since 2000 (MSC website).

State of target stocks - 2013



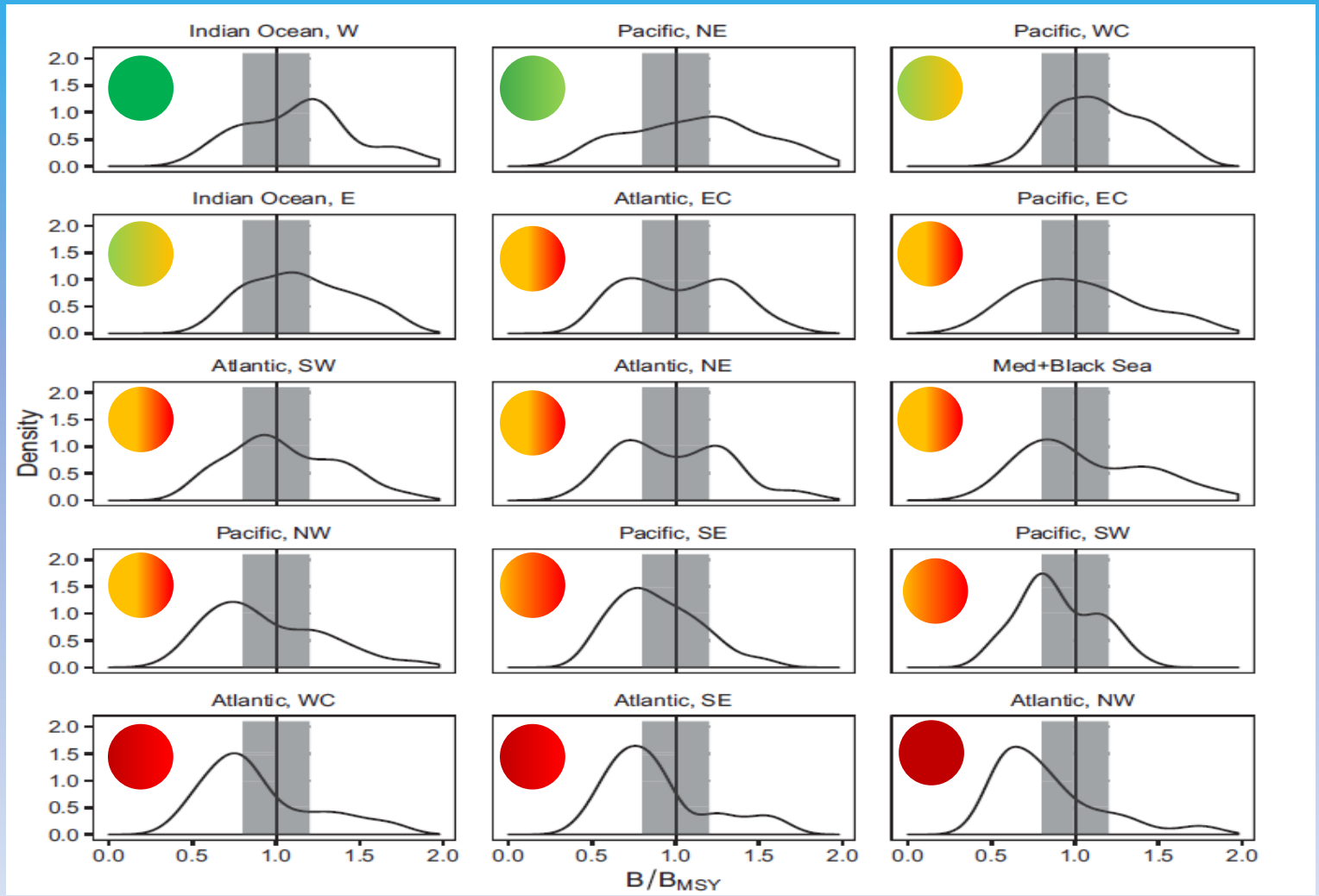
Rosenberg et al. 2017

State of stocks-1974-2013



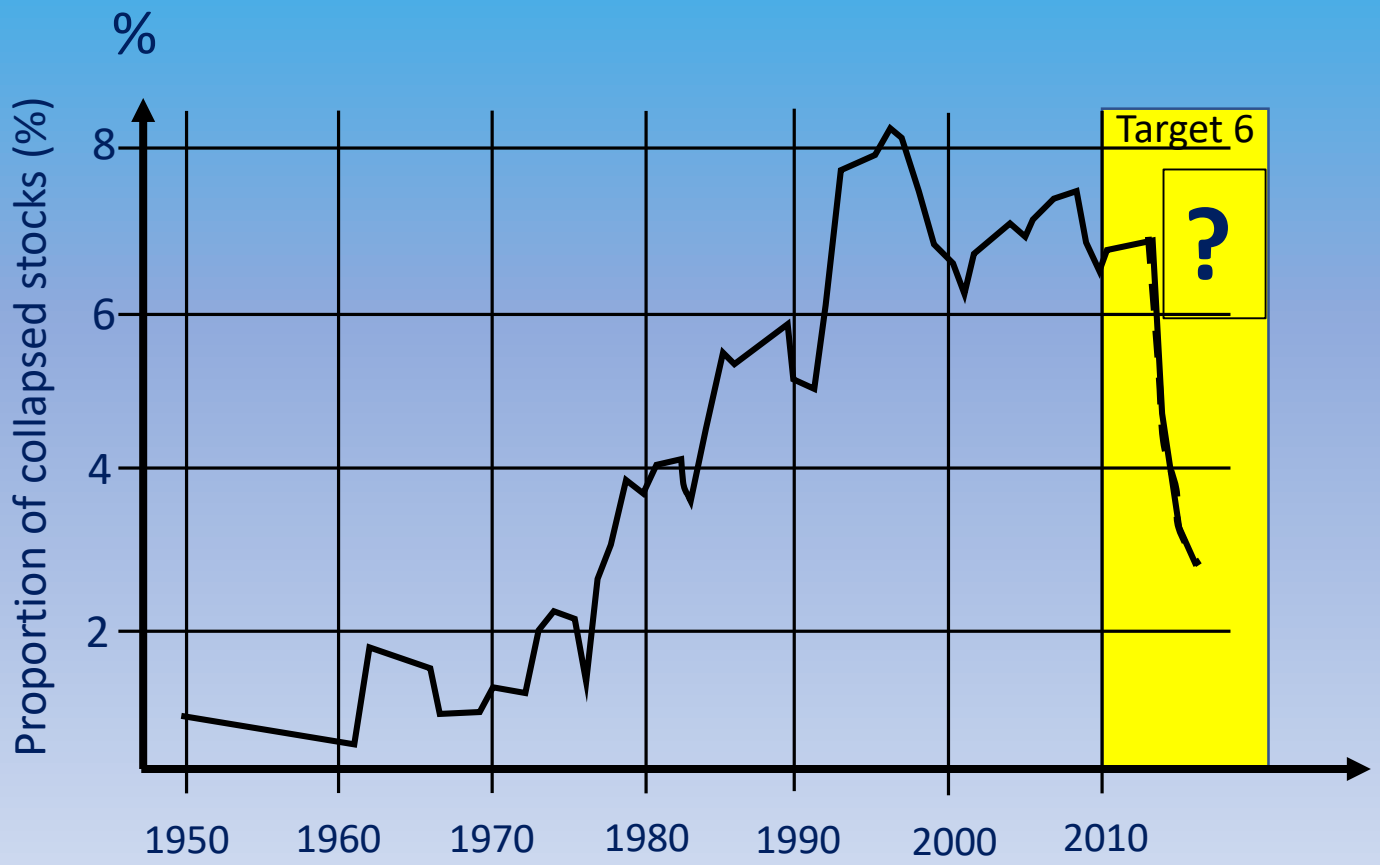
Extrapolated from FAO, 2016

State of regional stocks (2013)



Modified from Rosenberg et al., 2017

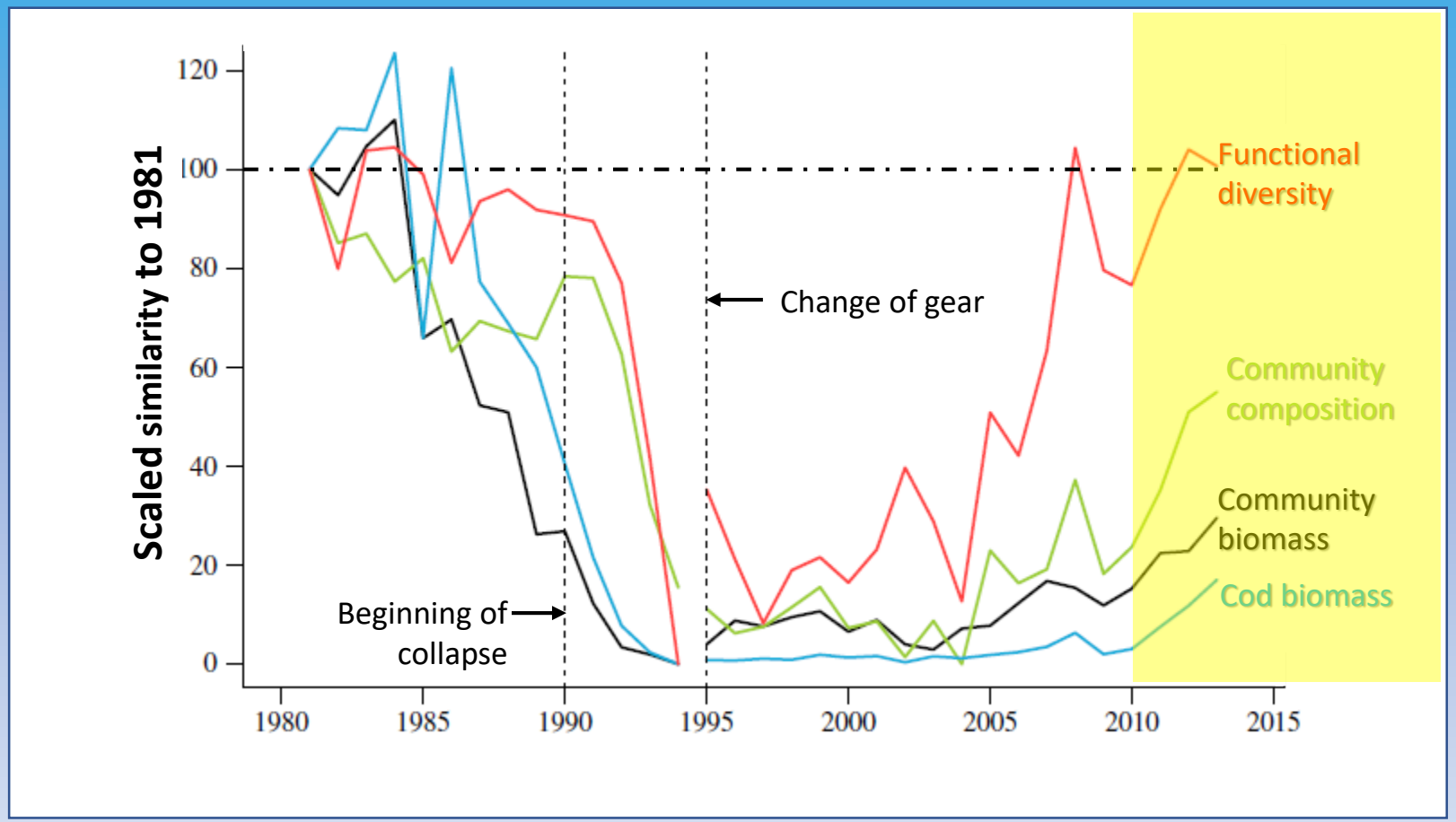
Stocks collapses



Hilborn, R. (forthcoming). Overfishing: Can we provide food from the sea and protect biodiversity? In: **Kareiva, P., Marvier, M., & Silliman, B.** (Editors). *Effective Conservation Science: Data Not Dogma*. Oxford University Press, Oxford, UK

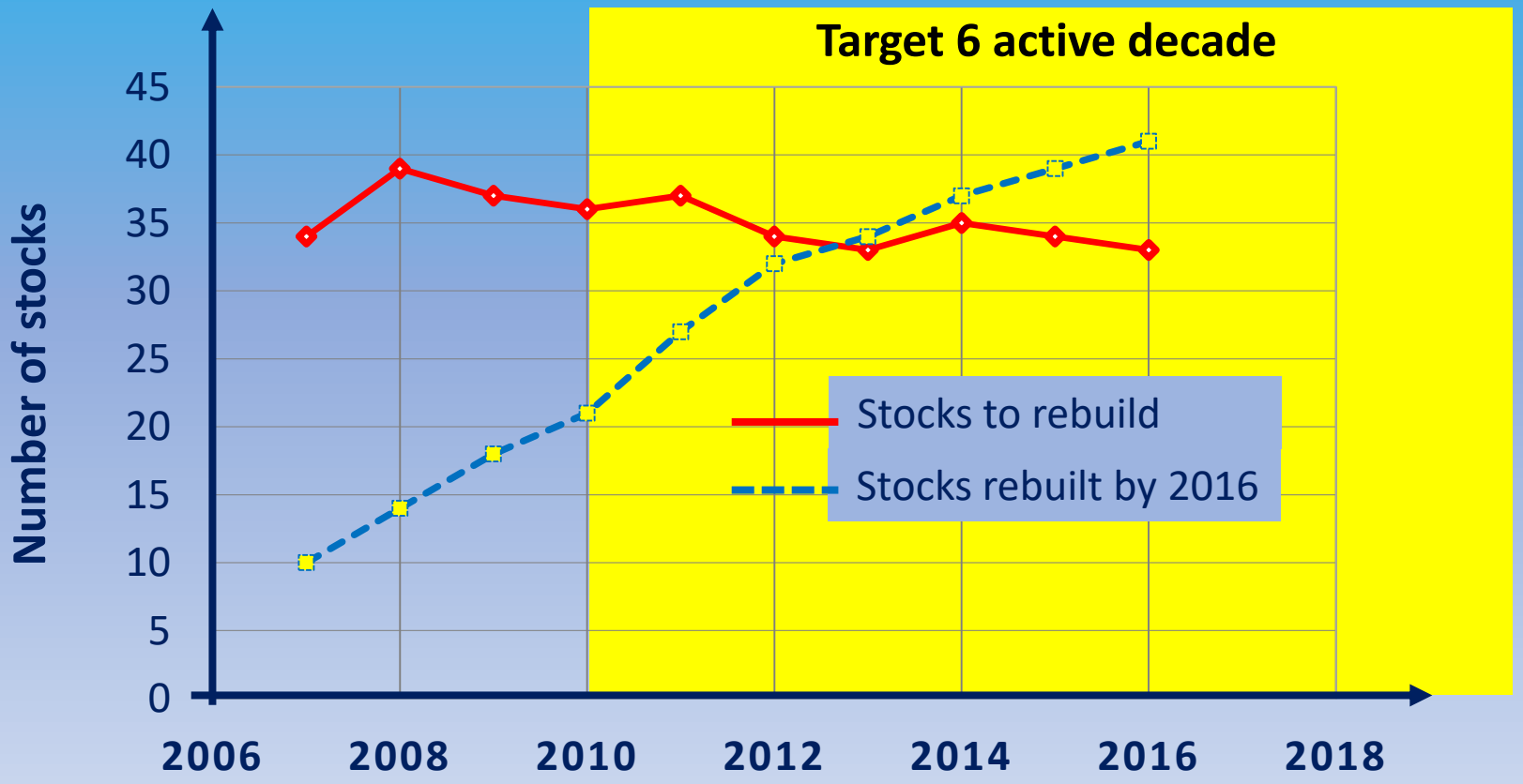
Data from Hilborn, 2017

Rebuilding species assemblages in Canada - 1980-2015



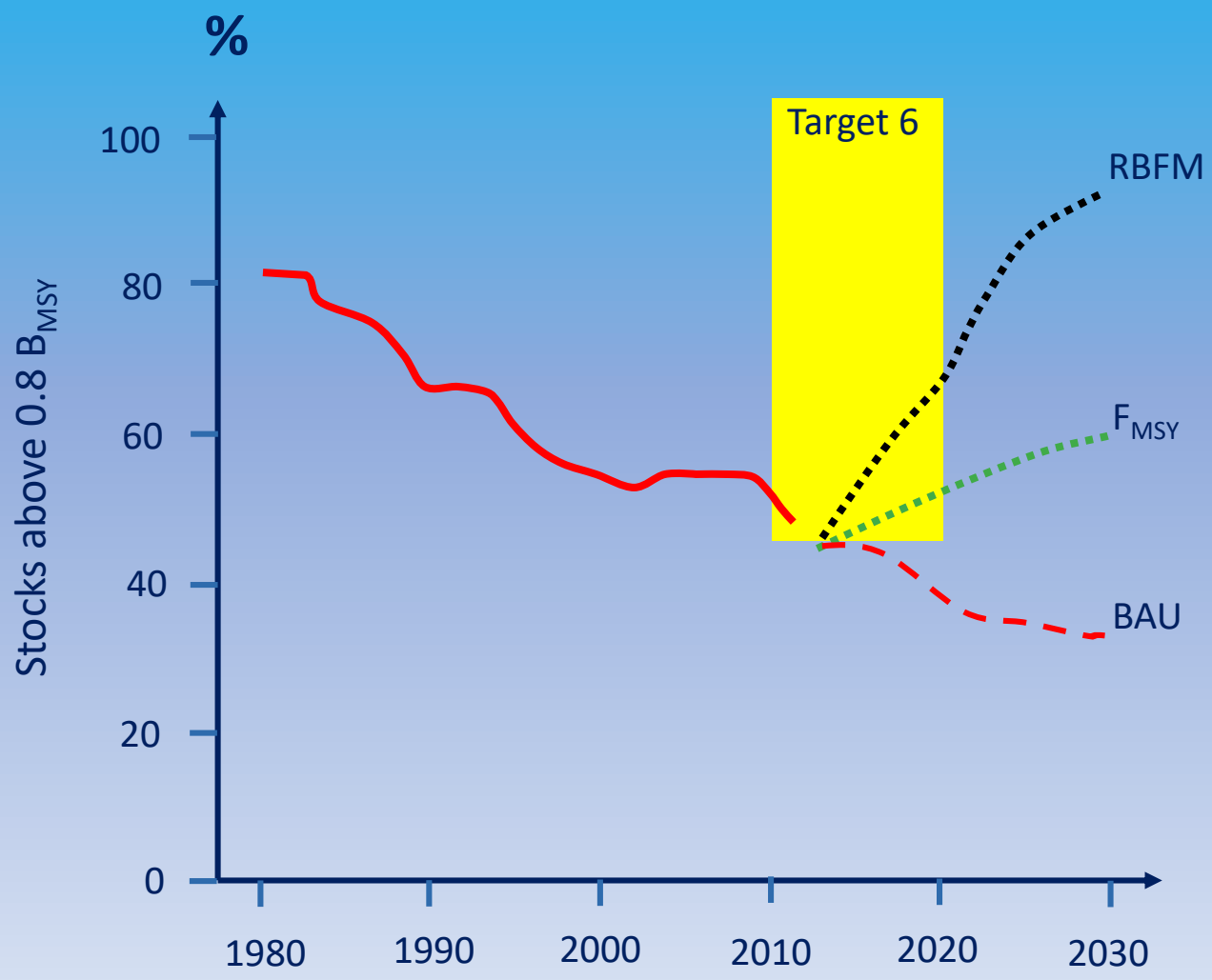
Pedersen, E.J.; et al. 2017. Signatures of the collapse and incipient recovery of an overexploited marine ecosystem. Royal society open science, 4: 1-15. available at http://dx.doi.org/10.1098/rsos.170215

Stocks rebuilding in USA: 2006 -2016



Data NOAA

Beyond 2020?



Costello et al., 2017

Ecosystems

Some concluding challenges

- **Reporting capacity**: For 2020, comprehensive reports will probably be produced for target and non-target species even if the consensus may not be always total. Reporting in Element 6D (safe ecological limits) will necesarily limited and **should be a central element for the post 2020 efforts.**
- **Time:** There tends to be a delay of 3 years between observations (facts) and formal reporting or publishing on trends. The Final status in 2020 will not be known completely until at least 2023. Extrapolations may be informative to some extent if used with due caution. **The timely reporting of States to CBD and FAO will therefore be essential, even if qualitative.**
- **Causality** between actions and outcomes is hard to establish in complex social-ecological systems. Outcomes may result to some extent from actions taken way before 2010. **Nonetheless, when States will report on actions taken to implement a Target 6 Element, the relationship should be at least very plausible**.

Some concluding challenges

- **Interpretation**: The meaning of indicators' levels and changes may not always be straightforward (e.g. low precision; multiple drivers). **Comprehensive guidance on such indicators, their construction and interpretation would be useful**.
- **Socio-economic context**: SIDS and LDCs are likely to need capacity-building to face the task of comprehensive reporting on Target 6. **Targeted bilateral cooperation would help.**
- **Institutional collaboration**: Comprehensive and coherent assessment will require intense cooperation among national and international institutions **particularly between environmental and sectoral agencies (e.g. FAO, IUCN and CBD).**

Questions?

References

Bell, J.D.;Watson, A.R. & Ye, Y. 2016. Global fishing capacity and effort from 1950 to 2012. Fish and Fisheries. Online. DOI10.1111/faf/12187

Costello, C. et al. 2016. Global fishery prospects under contrasting management regimes. *Proc. Nat. Acad. Sci.,*: 5125.5129 69 p. +suppl. www.pnas.org/cgi/doi/10.1073/pnas.1520420113-/DCSupplemental.

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Pedersen, E.J.; et al. 2017. Signatures of the collapse and incipient recovery of an overexploited marine ecosystem. Royal society open science, 4: 1-15. available at http://dx.doi.org/10.1098/rsos.170215