



**WCPFC
MANAGEMENT OBJECTIVES WORKSHOP**

Manila, Republic of the Philippines
28-29 November 2012

DEVELOPING HARVEST CONTROL RULES FOR PNA

**MOW1-PRES/09
28 Nov 2012**

SPC-OFP



Developing Harvest Control Rules for PNA

PNAO



Introduction

- Examine the performance of alternative HCRs for skipjack that:
 - have less than a 5% chance of exceeding a $20\%SB_0$ limit reference point
 - achieve a target reference point of 40%, 50%, or $60\%SB_0$ on average



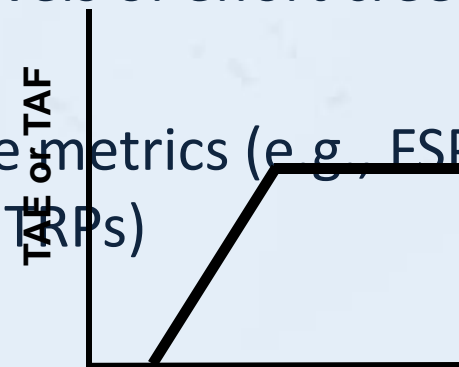
Calculating SB_0

- SB_0 calculated as:
 - the level of adult population present if we never fished
 - over a time period thought to best represent current and likely future average environmental and stock productivity conditions.

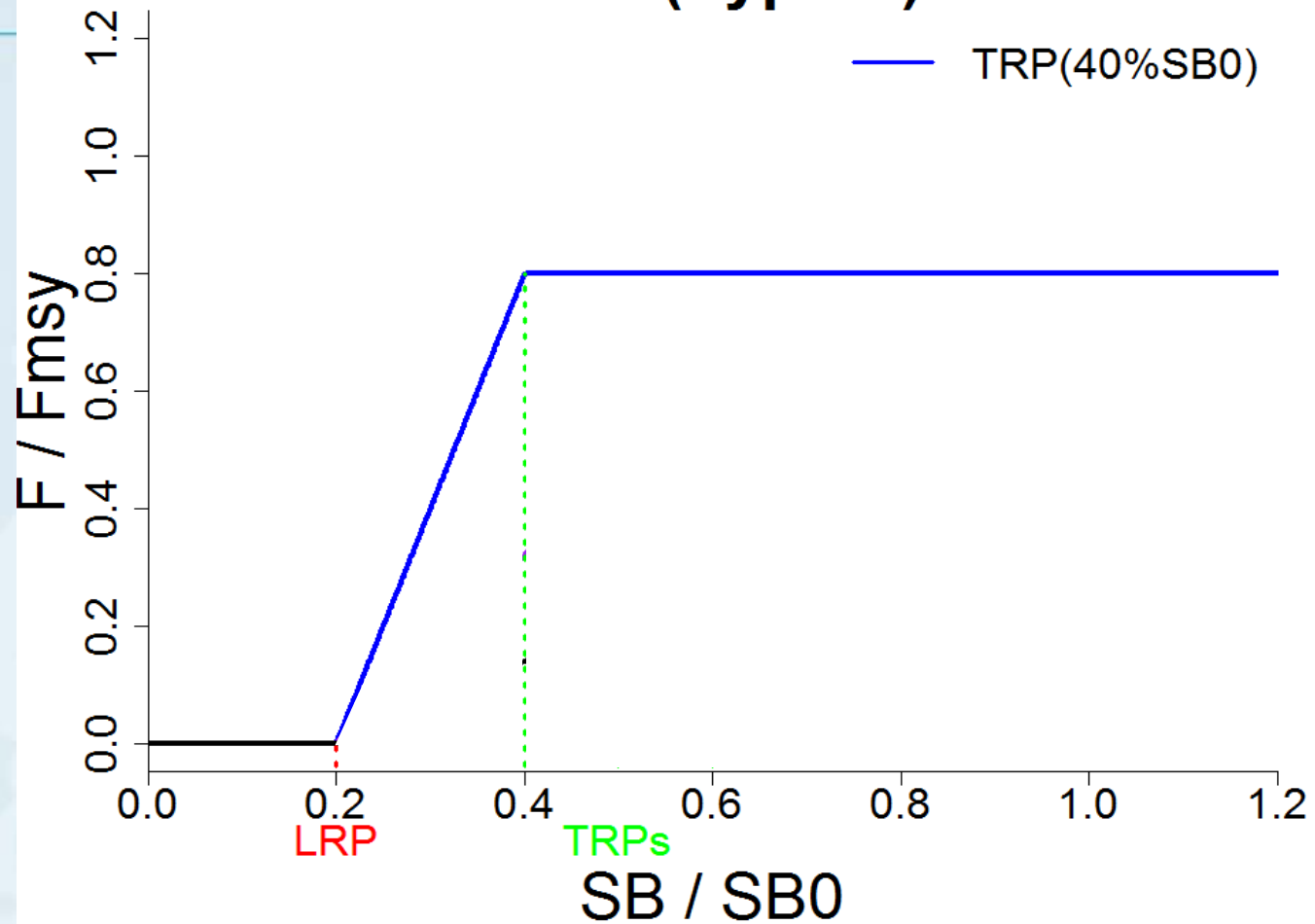


Development

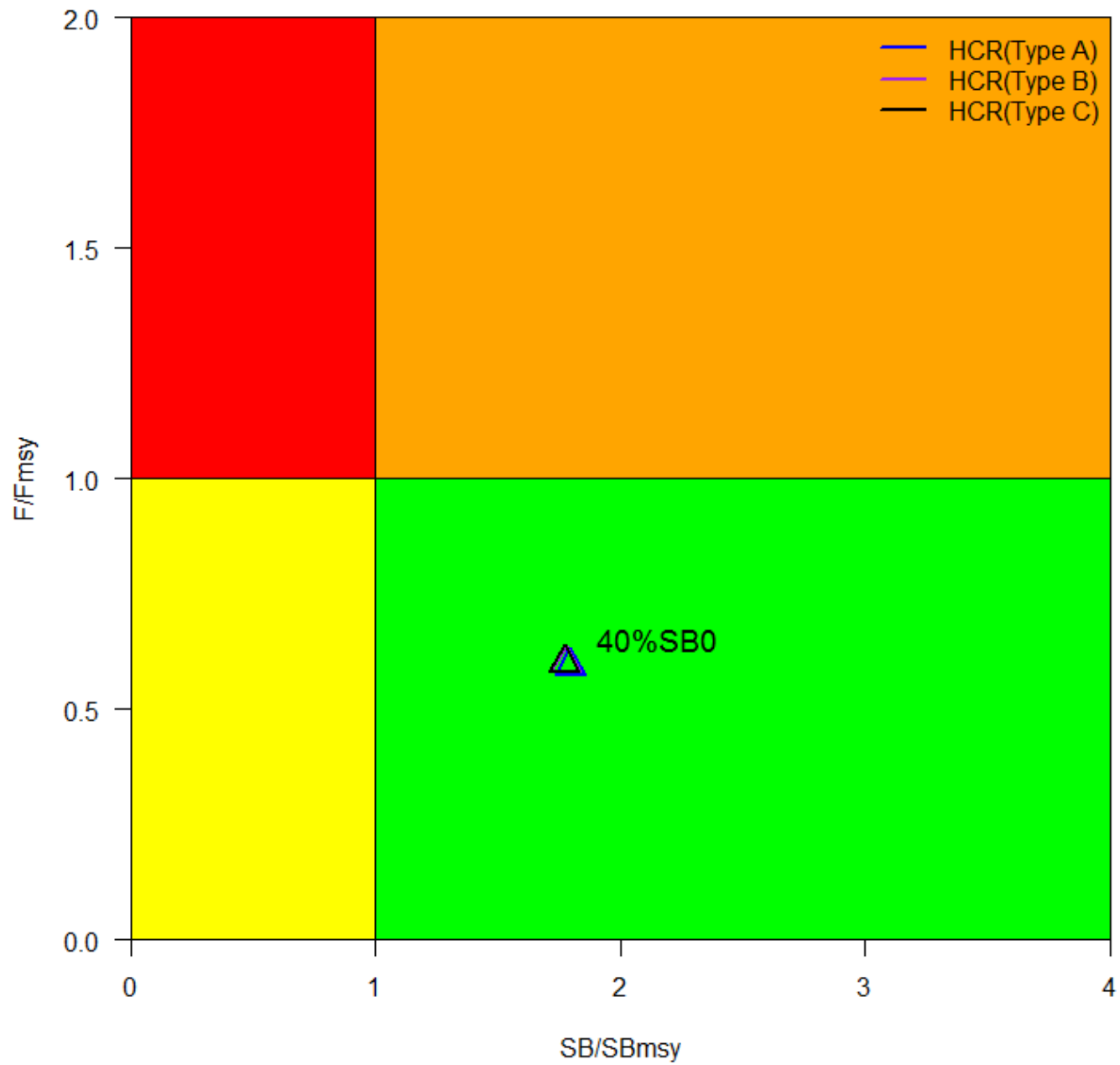
1. SB_0 time period = 2000 – 2009
 - represents current and likely future average environmental and stock productivity conditions
2. Evaluation of three different types of “sliding” HCRs
 - iterative search for a specific HCR that, on average, resulted in meeting TRPs: 40%, 50%, or 60% of SB_0
 - evaluation of three different levels of effort creep: no, mild, or moderate
3. Reporting of relevant performance metrics (e.g., ESPR, probability of exceeding LRPs and TRPs)

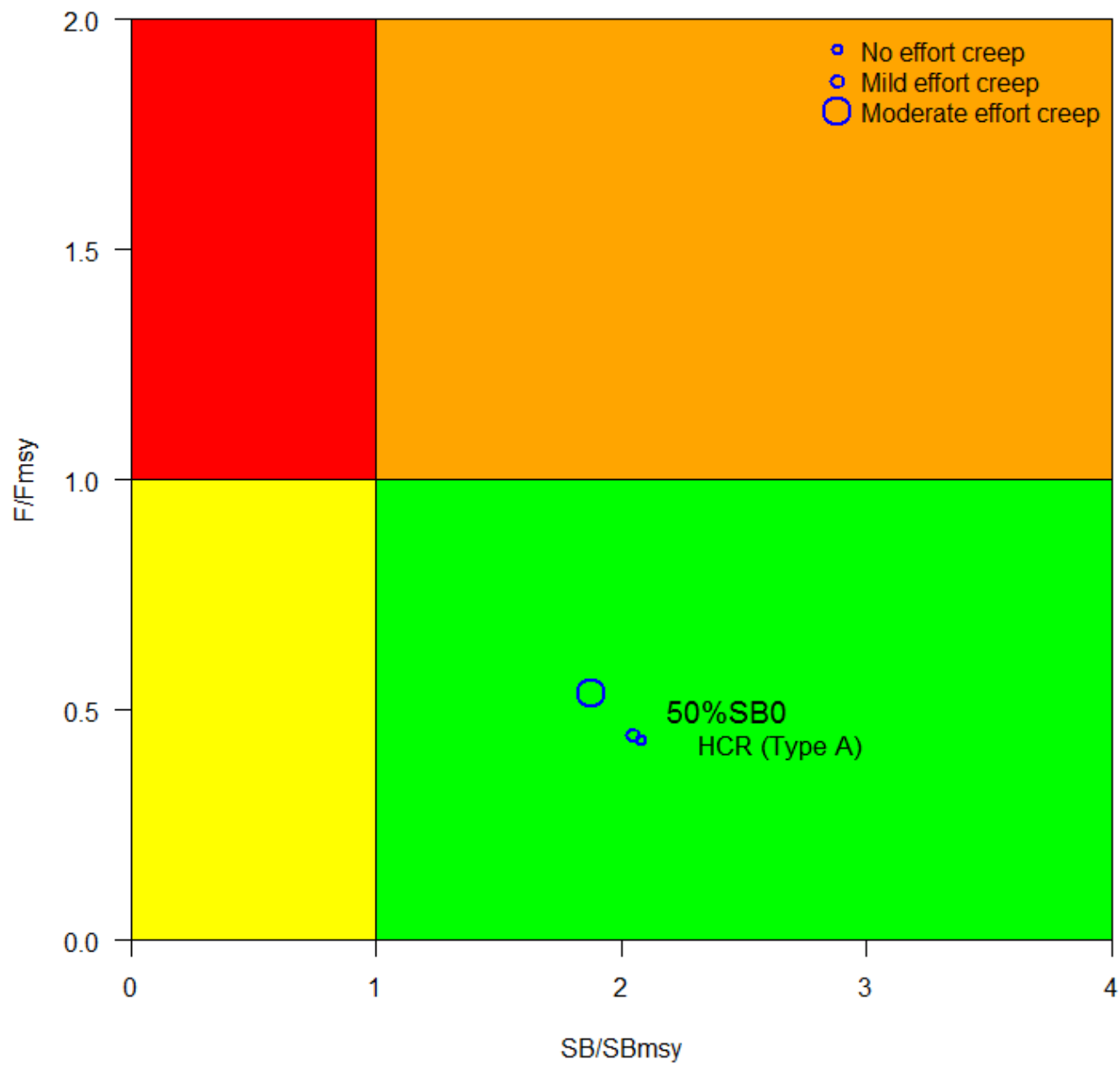


HCR (Type A)



Catch ('000s mt)	1591	1310	972
VB ₂₀₄₀ /VB ₂₀₁₀ (FS R2)	0.90	1.02	1.16
FSPR ₂₀₄₀	0.47	0.55	0.69
Prob. exceed 40%FSPR	0.38	0.08	0.00







Next Steps

- Management/stakeholder input:
 - further refine specific management objectives for the skipjack fishery;
 - identify a target (or set of target) reference point(s); and
 - further advise on biological/economic/social metrics to ensure specified objectives are met.
- Technical developments