



Socrates debating

What is MSE? Keynote debate



featuring:
Doug Butterworth and Sarah Kraak





Debate needed

Focus on disputes

Not preaching to
converted

e.g. Kraak *et al.*
paper criticizing MSE

Include them in
debate



Beth Fulton



Criticism of MSE can
come from
misinterpretation of
intent...

...or an encounter
with MSE done
poorly.

Many definitions
of MSE, even
amongst users...



Is it:
'the evaluation of a management strategy'
where management strategy includes MP + HCR + implementation?

I am
confused...

What exactly
is MSE?

Or:
Not about implementation in the real world,
but only simulation of HCR applied to OM

Or:
MSE is equated to MP
(while I thought the MSE is an **evaluation of** an MP)



“MP Approach”
(MPA) arose in
IWC ~20 yrs ago



IWC MPA:

1. Specify plausible alternative models of resource & fishery (OMs)
2. Condition OMs on data (effectively alternative assessments)
3. Agree performance measures to quantify extent objectives attained
4. Select amongst candidate MPs for "best" performance trade-offs over objectives and OMs in simulations



“MSE” developed
in parallel in
Australia

Conceptually
more generic

"MSE" being used for both
specific (IWC) and generic
(Australia)

However also now used for
other processes
-> confusion



Laurie Kell

Within ICES & the EU we came to MSE later, and subsequently had many discussions over terminology. Our response was to develop a "living" glossary that was 1st compiled by the Methods Working Groups then the Fishery Systems WG. This glossary was then integrated into that of the Rademeyer *et al.* paper.

Rademeyer *et al.* 2007

From Glossary of common MP terminology:

- **MSE:** Management strategy evaluation—usually synonymous with **MP approach**; also often used to describe the process of testing generic MPs or harvest strategies.
- **MP approach:** Management of a resource using a fully specified set of rules incorporating feedback control; the approach is explicitly precautionary through its requirement for simulation trials to have demonstrated robust performance across a range of uncertainties about resource status and dynamics.



Rademeyer's description of
MP Approach sensible

Nevertheless, others have
used the term 'MSE' in a
wider yet at the same time
narrower sense.



Narrower:

only the

simulation

itself

Wider: purely academic, leading to generic conclusions



Tony Smith



I agree that's MSE, which is “also often used to describe the process of testing generic MPs or harvest strategies”.

The important point is that feedback management is involved and tested.

In Australia, we've used MSE to develop and test harvest strategies and EBM... almost none of which has led to **formal** adoption of MPs.



Better to distinguish
"MSE" and "MPA"?

"MPA" specific
and ultimately
tactical

"MSE" broader,
addresses more
generic issues



a 3rd type;
subject
of
our critique
in Kraak et al 2010
(discomfort)



- ‘Impact Assessment’ (STECF, ICES):
MSE: simulations of HCR applied to OM (**not** MP/selecting HCRs)
 - (im/explicit) if $SSB < Blim$ in $<5\%$ of simulation runs then HCR ‘precautionary’
 - insufficient time
 - insufficient range of plausible OMs
 - insufficient range of plausible observation error and implementation error
 - (which the scientists admit in their reports)
- So, these MSEs are NEITHER of the generic/academic type NOR of the MPA type



Should the process you describe be called "MSE"?



MPA came from failure of the IWC
New Management Procedure (NMP)
(1976)

NMP specified an HCR only

RMP **also** specified the estimator and
input data

key lesson from
work in IWC SC
late 80s

at the heart of the
MPA



Ok not to call
them MSEs.

Nevertheless,
stay alert of
others using
the term in this
sense.

Unfortunate:

MSE = evaluation

(MP Approach)

distinction

tactical MPA
strategic MSE

sensible



I agree that, given
different current
interpretations of MSE,
it is best when dealing
with the MPA to call it
(just) that rather than
MSE



Lines to different approaches:

1. MPA – tactical (as per IWC and South Africa)
2. MSE – strategic (e.g. Australia, later also in Europe)
3. Simulations, used for impact assessment but not as full MPA