Initial OMP development suggestions for the south coast rock lobster resource

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In order to initiate OMP development for the south coast rock lobster resource, the authors propose the following as a "strawdog" for comment by the workshop.

1. Assessment Model (to serve as reference case operating model)

Model 2 (the ASPM which fits to CPUE and catch-at-age data, and which allows for time-varying selectivity – see RLWS/DEC05/ASS/7/2/3) be used for preliminary OMP development.

2. Management Objective

The preliminary management objective to be used when tuning alternate OMPs, be $B^{sp}_{2016} / K^{sp} = 0.40$, which serves as a customary default for many US fisheries. A possible alternate to investigate is maintenance of current spawning biomass.

Each candidate OMP (TAC-rule) be used to set TACs for 2006-2015 (10 year period) towards this end. Note that there may be trade-offs in relation to the period over which the target abundance level is sought to be attained.

3. Statistical framework

The outputs from a Bayesian MCMC assessment be used as the basis for projecting the resource into the future.

4. Summary statistics

The following summary statistics be reported, with the median values and 90% probability intervals to be provided.

C_{ave}	the average catch over the 2006-2015 period
AAV	the average inter-annual catch variation over the 2006-2016 period
B^{sp}_{2016} / K^{sp}	the final spawning biomass relative to K
$B^{sp}_{2016} / B^{sp}_{2006}$	the final spawning biomass relative to current spawning biomass
$B^{\exp}_{2016} / B_{msy}$	the final exploitable biomass relative to B_{msy}

E_y / E_{2005} the effort in future years compared to that in 2005, where *y* covers all years from 2006 to 2015.

In addition similar statistics will be provided for the following assessment outputs:

B^{sp}_{2006} / K^{sp} the current spawning biomass relative to *K*

$B^{\exp}_{2006} / K^{\exp}$ the exploitable biomass relative to *K*

$B^{\exp}_{2006} / B_{msy}$ the current exploitable biomass relative to B_{msy}

MSY the maximum sustainable yield

5. Input data for the OMP

The data available for input into an OMP be historic catch series, CPUE and catch-at-age data.

6. Generation of Future data

For the moment, future CPUE be the only additional data used as input into an OMP. For future years (2006+) future CPUE data be generated as follows:

$$CPUE_y = qB^{\exp}_y e^{\varepsilon_y} \qquad \varepsilon_y \sim N(0, \sigma^2_{CPUE})$$

7. Assumptions regarding projections into the future

For the reference case (RC):

a) Future recruitment is assumed to follow the stock-recruit curve with stochastic residuals generated from $N(0, \sigma^2_R)$ [$\sigma_R = 0.4$].

b) Future selectivity functions assume $\delta_y \sim N(0, \sigma^2_{sel})$.

c) Since there is a TAE as well as a TAC management restriction on this fishery at present, future catches will be less than TACs indicated by the OMP in years where such an effort ceiling is hit.

8. Robustness tests

To be specified later.