

# FRSSI update

## Fraser River Spawning Initiative

- Jan workshop & follow up mtg summary
- next steps

to: FN Forum  
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# outline

- overview of purpose
- priorities & scenarios
- preliminary results & discussion
- process
  - request for feedback

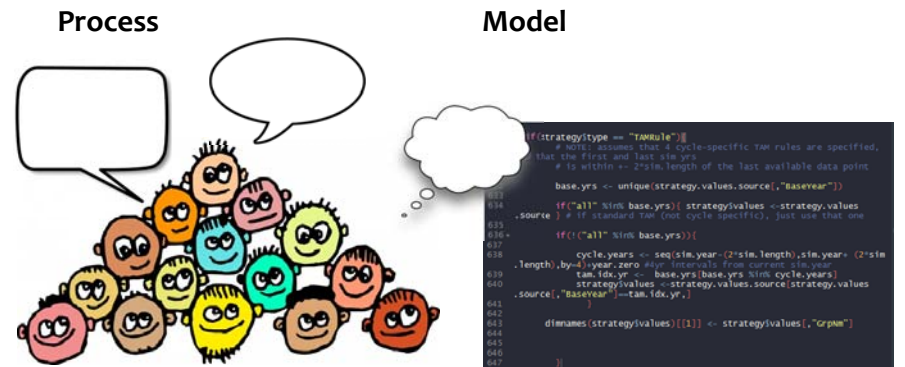


# acronyms

- ASH – additional stock-specific harvest
- BM – benchmark
- ER – exploitation rate
- LAER – low abundance exploitation rate
- MP – management procedure
- MU – management unit
- OCP – operational control point
  - also “fisheries reference point”
- PM/perf.meas – performance measure
- TAM – total allowable mortality rule



# what it is...



“All models are wrong.  
Some are useful.”

G.E.P. Box



## purpose

- evaluate potential escapement plans/harvest control rules over the **longer** term
  - trying to ID the “safe fails” (not “fail safe”)



no engine = safe fail

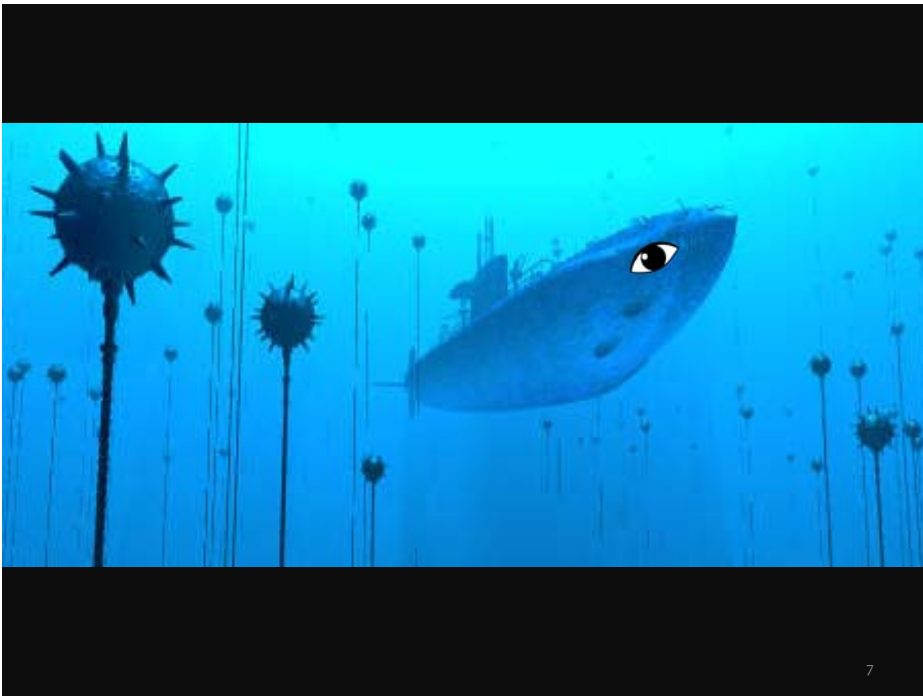


no engine = spectacular fail



fail safe  
(i.e. doesn't exist)  
(...sorry...)

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## PRIORITIES & SCENARIOS



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## Priorities for 2015-16 (pt.1)

- Main topic: Add spatial component to model
  - sub-topic: improve the way overlap constraints are handled
- update:
  - coding of spatial proxy & revised overlap done
  - in the testing phase
    - overlaps not a large as we experience in real life



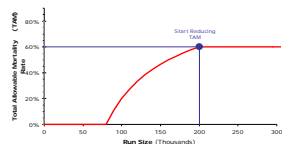
## Priorities for 2015-16 (pt.2)

- Main topic: additional work on biological models (including stock-specific stock recruit models, alternatives for cyclic stocks)
  - sub-topic: test alternate harvest strategies (including cycle-specific TAMs, additional stock-specific harvest, alternate MUs & closed loop models)
- methods:
  - test interactions between biological models & alternate harvest strategies to look for strategies that are robust across a range of assumptions (i.e., not trying to “solve” for “best”)



“scenario” =

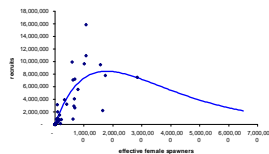
management procedure



(data + assessment + management action)



operating model



(stock + fisheries)



management procedures

- of particular interest for 2018:
  - LAER 20%
  - min ER 30% (WIP)
  - additional stock-specific harvest (ASH)



## Description: LAER 20% & min 30% ER

- in recent escapement plans:
  - LAER = 10% EStu, ESum, Sum & 20% for Lates
    - if Late run size  $\geq$  p75 forecast, then min ER = 30%
- MP LAER 20%
  - LAER = 10% EStu & 20% ESum, Sum, Lates
- MP min 30% (work in progress)
  - LAER = 10% EStu
  - min 30% ER for ESum, Sum, & Lates



## Description: ASH

- evaluating different mgmt procedures
  - mgmt procedure in this case =
    - trigger/OCP (when does something happen?) +
    - mgmt actions (what happens?)
- unlike LAER, min ER, this is “new”
  - policy discussions/decisions are taking place elsewhere (e.g. IFMP process)
  - using FRSSI model to test out implications of MPs
- 2 basic MPs:
  - multi-step checklist (incl. WSP status, 3 generation slope)
    - starting at MU level
    - starting at stock-specific level
  - stock-specific trigger + harvest rate over trigger



... or make that discussion & results

## PRELIM RESULTS & DISCUSSION



## discussion: S/R models

- using Larkin S/R model for all stocks since 2006. Generally:
  - better at representing cyclic patterns than Ricker
  - in long term, lower max run sizes than Ricker
  - at low SPN values, higher R/S than Ricker



## prelim results: LAER 20% & min 30%

- not much contrast
- possibly due to:
  - lower SPN in last few years → high R/S from Larkin
  - overlap constraints not as constraint-y as expected
  - previous work to ID zones of “safe fail” – e.g.,
    - responsive shape of TAM (lower ERs at lower run sizes)
    - specific set of TAMs being used were chosen & updated over the last 10+ years



## prelim results: ASH

- early days, still
- need to ID additional potential MPs with process for testing
  - iterative process



## pre-2015

- pre-2006: series of meetings & workshops to ID objectives, types of escapement strategies, define TAM rules
- 2006: TAM rules first implemented
- workshops have focussed on:
  - testing & selecting TAM rules in the early years shape: TAM cap, TAM “floor” (i.e., LAER pre-cursor) & fisheries reference points
  - more recently: answering specific questions
    - effects of Raft & Harrison in Summer run; increased TAM caps; alternate future productivity scenarios
- FRSSI technical direction: DFO / CDN Caucus FRP

How did we get here & where are we going?

## PROCESS



## 2015/16

- april 2015 workshop – identified four priority short(ish) term technical items
- june 2015 – approved technical team workplan
- May 2016 workshop – technical update/results
- FRSSI technical direction: expanded FN participation → “expanded steering committee”



## 2017

- still working from the priorities ID'd in 2015/16
- worked with focus groups in spring & fall to ID what would be presented at workshop
- workshop January 2018
- FRSSI technical direction: bilateral FRP & expanded steering committee
  - focus groups: workshop prep



## 2018 – technical workplan (draft)

- focus on stock-recruit evaluation
- hit “pause” on model development, instead: tune-up/renovate/bug hunt
- aim for CSAS review in 2-3 years
- process during that time: focus on new MPs within capabilities of existing model



## 2018 process ???

- ideas:
  - keep workshops
  - use focus groups more
- FRSSI technical direction?
  - e.g. continue on with bilateral FRP + expanded steering committee?
- future FRSSI participation?

