Fraser Sockeye Spawning Initiative – 2010 Update

March 17, 2010
First Nation's Forum Meeting
Kamloops, BC
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Presentation Outline

- FRSSI Review
  - FRSSI Guiding Goals
  - FRSSI Principles
  - Response to previous feedback
  - FRSSI does *not* include...
- Summary 2010 Planning
- Updates Planned
  - 2010 biological updates
  - 2010 management updates
  - *after* 2010
- Timelines

FRSSI Goals

- Manage spawning escapement to ensure conservation while considering social and economic values
- Improve the existing consultation processes by focusing on proactive discussion of spawning targets and operational guidelines
- Develop management reference points and a long-term strategy for managing Fraser River sockeye
- Develop processes for reviewing and modifying harvest and spawner strategies

FRSSI Guiding Principles

Long-term escapement strategy based on:

- Escapement strategies for each management group (4) are designed to protect component stocks and stabilize total harvest by specifying target levels of total mortality at a range of run sizes.
- Candidate escapement strategies are compared based on their performance relative to biological and social indicators.
- Achieve a balance between conservation at low abundance and harvest at higher abundance

FRSSI Guiding Principles

To achieve a balance between conservation at low abundance and harvest at higher abundance, the strategies specify:

- **No fishing at very low run size**, except for stock assessment.
- **Fixed escapement at low run sizes** to protect the stocks and reduce process-related challenges at this critical stage (e.g. uncertain run size)
- **Fixed total allowable mortality rate of 60% at larger run sizes**. This cap on mortality serves two purposes: It ensures robustness against uncertainty (e.g. capacity estimate, changing run-size estimates) and protects stocks that are less abundant, less productive, or both.

Response to Previous Feedback (part 1)

- “black box” TAM optimizer
  - then: model chose “optimal” TAMs based on weighting preferences that were a model input
  - now: people choose TAMs - TAM outcomes are the output of model, individuals now make their own trade-offs when choosing TAM curves
- cyclic dominance
  - then: used two Ricker S/R curves to model dom/sub-dom and off-cycle years – no interaction between
  - now: larkin S/R relationship models interaction between all four years
  - ER floor on Late run TAM was implemented in 2008 in response to concerns that the allowable mortality would never exceed zero on off-cycle years due to cyclic nature of Adams River sockeye

Response to Previous Feedback (part 2)

- shape of TAM
  - then: logistic or “S” shaped TAM was confusing; straight hockey-stick shaped TAM resulted in counter-intuitive rise in escapement goals as run size decreased
  - now: modified “field hockey” TAM fixes escapement at one level as run size decreases
- interim benchmarks
  - then: no benchmarks resulted in massive amount of outputs for workshop participants to examine
  - now: interim benchmarks assist workshop participants to evaluate performance of different TAMs

Not Included in FRSSI

- Geographic Component
  - FRSSI outputs total allowable mortality, does not model *where* the mortalities take place (e.g. marine vs in-river / mixed stock fisheries vs terminal)
  - FRSSI will not develop an annual fishing plan
    - currently, annual fishing plans are done using the Pacific Salmon Commission pre-season model and IFMP development
  - work to develop a model which will include a geographic component is being conducted at SFU
- Allocations
  - does not specify which fishing group (e.g. commercial, First Nations, recreational) will get how much of the allowable mortality

Summary 2010 Planning

- Existing FRSSI model will be used to develop the 2010 escapement strategy and will include preliminary exploration of:
  - ER floor for all management groups
  - productivity assumptions
- FRSSI planning model and any revisions will be reviewed by CSAP (May 2010)
- Fraser River sockeye lower benchmarks CSAP (May 2010)

Summary of Work in Progress (May CSAP)

- biological assumptions
  - timing & overlap (accessible TAC)
  - productivity regimes
  - explicit modeling of PSM
- management strategies
  - preliminary examination of management aggregates
  - assessment of alternate ER “floors” for TAMs

Post CSAP

- modeling by CU
- further examination of stock groupings

Updates Planned for CSAP: Biological Updates

- timing & overlap (accessible TAC)
  - timing of management aggregates to vary based on historic relationships relative to E.Stu timing
  - alternative method of maximizing harvest opportunities within constraints

Updates Planned for CSAP: Biological Updates

- productivity regime assumptions
  - will be evaluating the effects of different patterns of productivity assumptions (e.g. long term vs recent vs declining into future vs return to long term, etc.)
- explicitly modeling Pre-spawn mortality
  - previously, PSM effects were implicitly included in S/R relationship

Updates Planned for CSAP: Management Updates

- stocks into different management aggregates
  - begin to evaluate the effects of moving stocks into different management aggregates (e.g. Harrison into Summers)
- ER “floors” for TAMs
  - examine the effects of different ER “floors” on TAM rules for *all* management aggregates – similar to work done for Lates in 2008

Post CSAP Work Includes…

- continue evaluation of moving stocks into different management aggregates
- modeling by CU
  - work is on-going to establish:
    - CU by CU parameters for:
      - stock-recruitment relationships
      - migration timing
      - DBE/MA

Timelines

- March 2010
  - draft IFMP
  - draft Fraser Sockeye escapement memo
- May 2010 CSAP
  - model updates
  - WSP Benchmarks

Timelines

- Consultations
  - January
    - 22 – FN Forum
    - 27/28 - UFFCA
  - March
    - 17-19 - FN Forum
    - 25-26 - IHPC
  - May/June
    - multi-stakeholder workshop
    - IHPC