

Fraser River Sockeye Spawning Initiative

Introduction: Process & Model

CSAP Meeting May 2010

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Outline

- Triggers
- Scope
- Process
- Guiding principles
- Escapement strategies
- Next Steps / Expectations for Science Advice

FRSSI Triggers

Initiated in 2002/2003 due to:

- Stakeholder feedback on *1987 Rebuilding Plan* (debate about escapement targets, productivity assumptions)
- 2002 season (much lower than exp in-river mortality, large esc)
- Ministerial review of 2002 season
- Emerging policy initiatives (*Wild Salmon Policy*)
- Push towards a broad, collaborative process

FRSSI Scope

Goal = Long-term guidelines for setting target levels of spawner abundance at different run sizes

FRSSI = A process, and a model, feeding into other processes (e.g. annual management plans)

Implementation so far:

- Part of annual planning process
- WG and Workshops to review model updates/additions
- Develop a shortlist of 3-4 options for each management group
- Options included in *draft* management plan (IFMP)
- Public review during pre-season consultation

FRSSI Process

Initial Development (2002-2005) – 6 Workshops

- Workshop series to review the analyses, guide model development, and shape communication materials

Planning Workshops (2006-2007) – 6 Workshops

- Major milestone: Wrap up development process and move towards using the tools
- Focus on trade-offs and preferences
- Extensive discussion of alternative strategies and structured comparisons

Implementation and Annual Review (2007-2010)

- Practical challenges
- Model revisions

FRSSI Process

Full Review (2010)

- Commitment made during 2006/2007 planning workshops
- Based on 4 years of experience, review:
 - Model inputs and structure (-> CSAP)
 - Planning process
 - Implementation challenges
 - Escapement strategies

Review to build upon:

- New/revised info (e.g. spawner-recruit data, env. mgmt adj)
- Current policy developments (e.g. WSP implementation)
- Science Advice

Guiding Principles 1

Long-term escapement strategy based on:

- Fraser sockeye escapement is managed in 4 groups (Early Stuart, Early Summer, Summer, Late)
- Escapement strategies for each management group are designed to protect component stocks and stabilize total harvest across all sectors.
- Annual targets for each management group are based on escapement strategies that specify target levels of total mortality across different run sizes.

Guiding Principles 2

Long-term escapement strategy based on:

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.

Guiding Principles 3

Long-term escapement strategy based on:

- The exact shape of the escapement strategy for each management group (i.e. the run sizes at which it changes from no fishing to fixed escapement, and then to fixed mortality rate) for each management group is selected based on simulated performance and reviewed in public consultation.
- Candidate escapement strategies are compared based on their performance relative to biological and social indicators.
- Biological indicators reflect the intent of the WSP and emphasise comparisons to stock-specific escapement benchmarks (e.g. How often does the 4-yr average escapement fall below the benchmark?).
- Social indicators focus on stability in total harvest (e.g. How often is the realizable harvest less than 1 Million fish?).

Escapement Strategies = TAM Rules

TAM = Total Allowable Mortality

3 ranges: no fishing, fixed escapement, fixed TAM

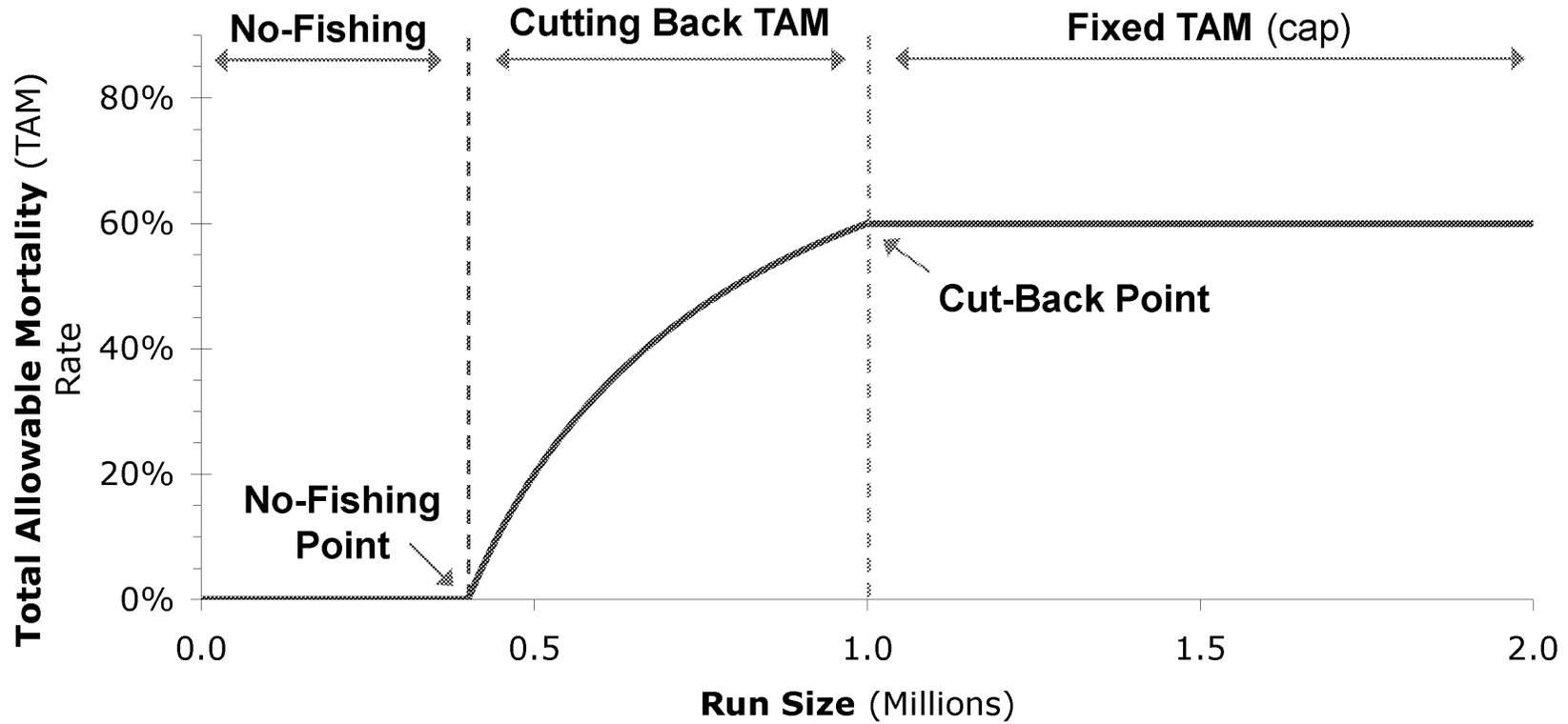
Cap on Total Allowable Mortality = 60% throughout

Cut-back point = switch from fixed TAM to fixed escapement, and start to cut back TAM from 60% cap

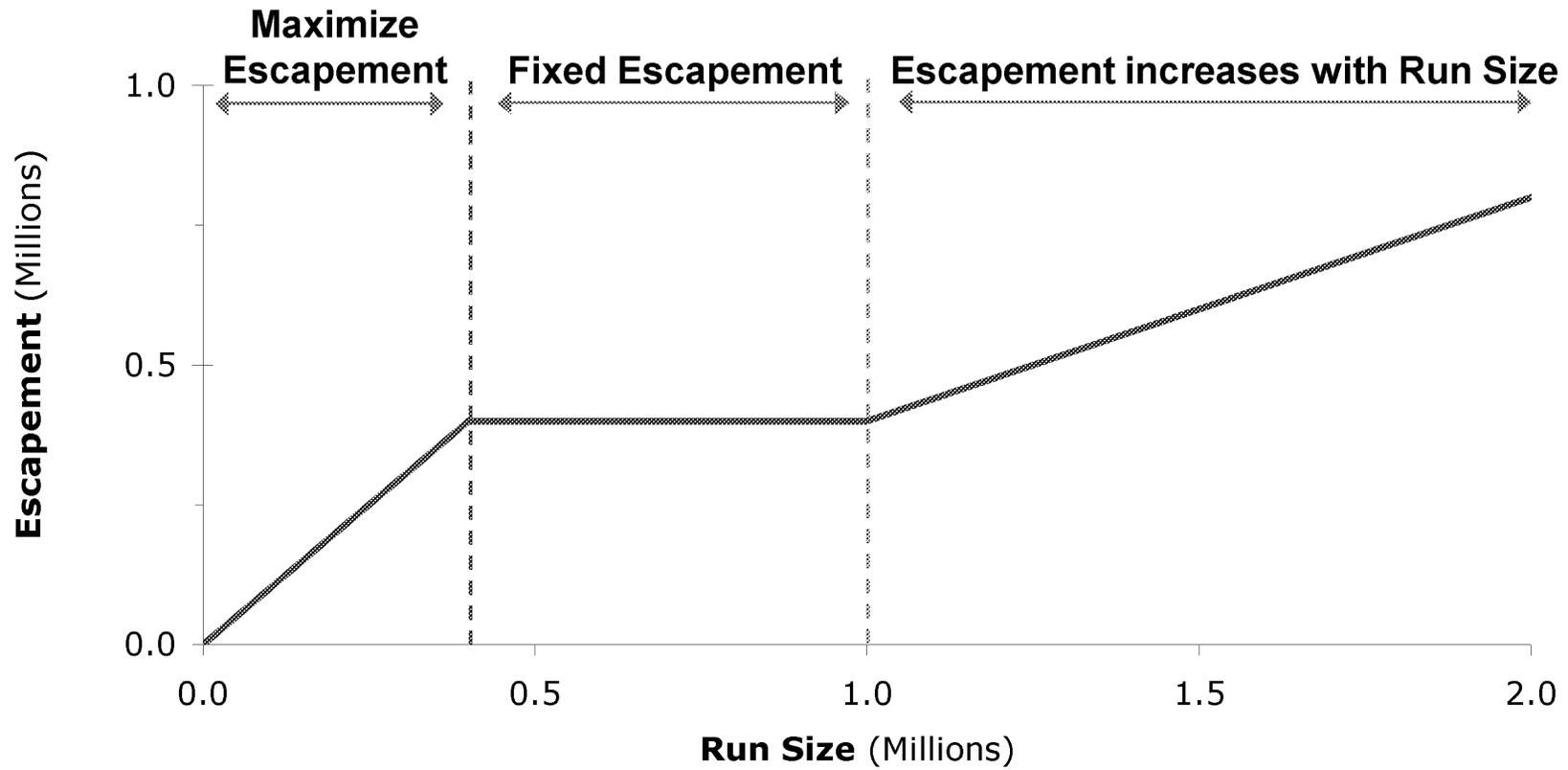
No-fishing point = switch from fixed escapement to no fishing (except test fishing)

Fixed escapement = No fishing point = 40% of cut-back point

TAM Rules



TAM Rules



Next Steps

Science Advice

- Seeking feedback on methods
- Assumptions about stock dynamics
- Model structure
- Presentation of results
- Use in planning setting

Next Steps

- WG and workshops to work with updated tool
- Incorporate other work (e.g. WSP benchmarks)
- 2011 planning