

WILD SALMON POPULATIONS IN A CHANGING CLIMATE

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INTRODUCTION

Data from the Norwegian Meteorological Institute shows a 15.5 percent increase in precipitation in the years 2000-2008.

Recent climate prognoses suggest that the increase will persist throughout several decades and create a need for new environmental and energy concepts.

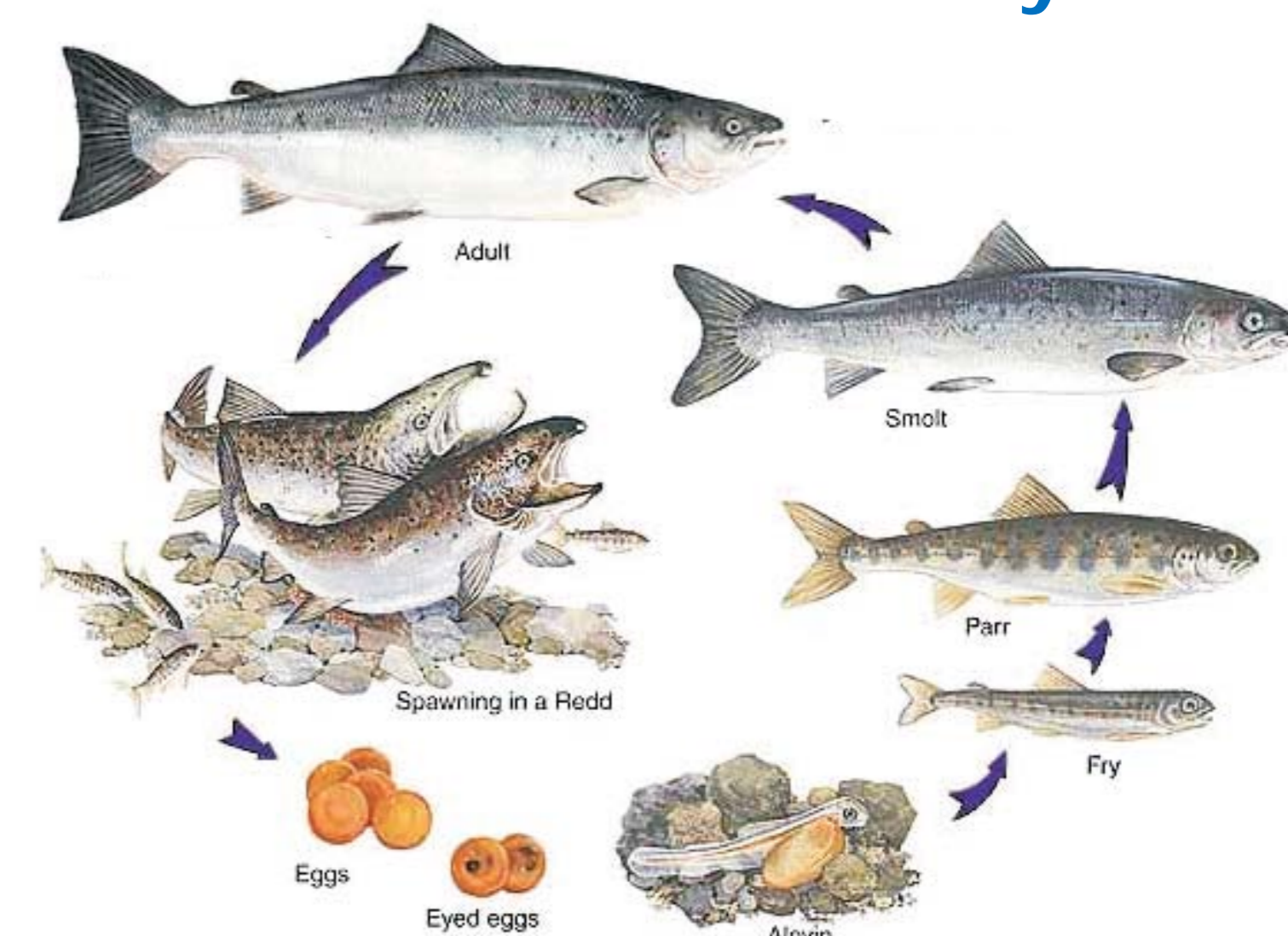
The anticipated increase in future runoff will lead to increased hydropower production. However, the increase in runoff may also present an opportunity to restore weak salmon populations in regulated rivers and increase salmon production.

METHOD

To predict salmon production under different climate scenarios, an individual salmon life-cycle model is being developed. The model framework focuses on the different life stages of salmon and life history decisions, particularly those affected by climate variables such as water temperature and discharge.

Ecological forecasting will be based on blending functional and correlative based models

Atlantic Salmon lifecycle



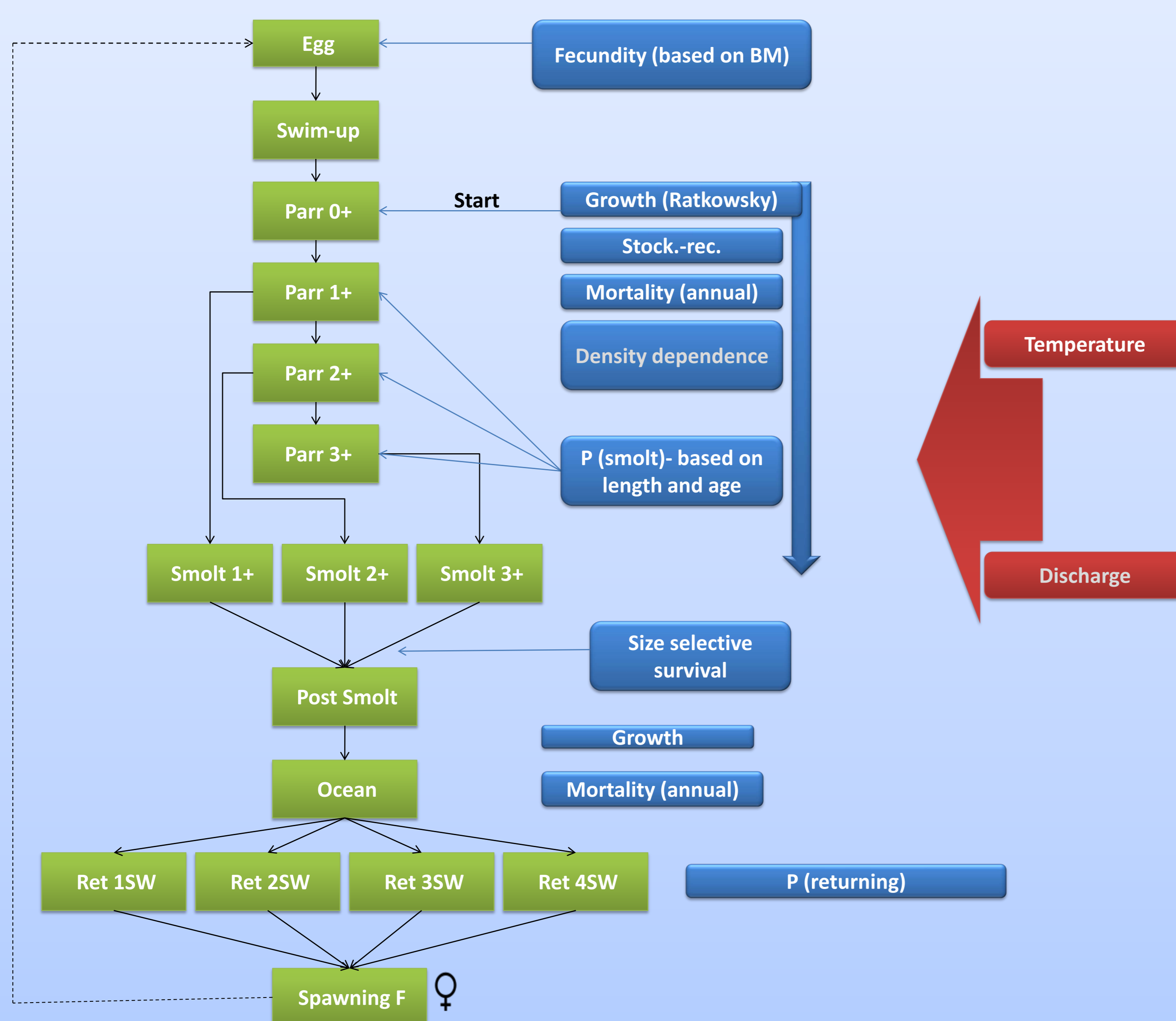
MAIN GOALS

Ecological predictions based on future climate scenarios of temperature and discharge

- Possible developmental paths of future salmon production

Reveal limitations and new challenges for salmon populations

Individual salmon life-cycle model



Time-step: weeks

Preliminary results; example of model output

