

Essential Steps for Biological Overlays in Developing Senate Bill 3 Instream Flow Recommendations

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General Recommendations

- Quantification of biology-based flow parameters
 - Use sources from the literature review
- Causal connections based on available data and known relationships
 - Create a conceptual model showing flow-ecology relationships and ecological processes

General Recommendations

- Parameterize the flow regime analysis (i.e. HEFR)
 - If there is available information, it can be used in place of default values in preliminary analyses
- Subsistence flow should maintain water quality and key habitat
 - Information from available water quality data sources or models can be used

General Recommendations

- Base Flows should be identified
 - Focal species information and qualitative life history information can be used to confirm and refine these estimates
- High Flow Pulses are important
 - Life history information or connectivity can be used to refine magnitude, timing, duration and frequency of high flow pulses

General Recommendations

- Overbanking flows maintain balance and diversity of riparian areas
 - Assessments of lateral connectivity, studies of fish assemblages using floodplain habitat, information on hydraulic conditions can be used to refine hydrology based determinations

Recommended Procedure

- Step 1: Establish clear operational objectives
- Step 2: Compile and evaluate available biological information and identify a list of focal species
- Step 3: Obtain and evaluate geographically oriented biological data in support of a flow regime analysis

Recommended Procedure

- Step 4: Parameterize the flow regime analysis using ecological and biological data (if available)
- Step 5: Evaluate and refine the initial flow regime matrix