“Out of intense complexities intense simplicities emerge.” – Winston Churchill

Integrating Adaptive Management into NEPA Planning to Expedite Large Scale Ecosystem Restoration/Recovery Implementation

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07/29/2014
Adaptive Management

Plan – develop project objectives
Risk – identify risks and uncertainties
Contingencies – include contingency actions for each risk
Monitor – collect new data during plan implementation and assess change from plan
Adapt – identify and deploy contingencies
Closure – identify an end point or end state and document that it has been achieved
Potential Issues

Tradeoff between cost, timing, and certainty
Level of detail needed at NEPA phase
Accountability
Funding – timing and availability
Example: Washington State Route 520

$4.9 billion transportation corridor program
Impacts and mitigation evaluated at watershed scale
At NEPA phase project impacts are known but mitigation remained flexible
Mitigation Planning

Mitigation needs were identified based on impact types and amounts.

Mitigation opportunities were screened and “prequalified” in watershed context.

At NEPA phase mitigation planning focused on showing sufficient opportunity.
Evolution of Mitigation Details

Impact types, amounts identified at DEIS
Prequalified opportunities for mitigation identified at FEIS
Commitment to sites and concepts made with environmental permits
Designs finalized post-permitting
Tradeoffs

Schedule was accelerated by allowing detailed mitigation design to occur after NEPA and after environmental permits issued.

Cost was reduced by schedule acceleration.

Commitments were documented at ROD and embedded in permit conditions.

Flexibility allowed better targeting of mitigation in line with watershed plan.