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Northwest **Power** and **Conservation** Council

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October 4, 2016

MEMORANDUM

TO: Council members

FROM: Council staff

SUBJECT: Follow-up discussion about program action effectiveness and monitoring

BACKGROUND:

Presenter: Council staff and Committee members

Summary: Council staff will provide a brief review of the 5-logic steps associated with habitat actions (Figure 1) and then introduce the importance of geographic scale. Committee members will then discuss topics of interest to further clarify priority questions and expectations (see Background Section for topic examples). This discussion will be informative for guiding future committee meeting agenda topics, the on-going effort to update the Research Plan, and the adaptive management approach at the Program-scale.

Relevance: Update the Committee on the status of deliverables related to the Council decision Programmatic Issue #2 from the 2010-11 review of RME and AP Category of projects, including *ISEMP*, *CHaMP*, and *AEM*. This decision also supports implementation of the 2014 Program guidance for Adaptive Management and the 2014 Program's [Emerging Priority #2](#).

Workplan: As described under the Council's Annual Work-plan 2, B.

Background: The Fish and Wildlife Committee members will be discussing a variety of topics related to the Fish and Wildlife Programs' monitoring, research and effectiveness such as the below sample questions:

1. **Which actions are needed where and what extent?**
 - Are approaches for identifying limiting habitat factors the best available?
 - How much habitat protection and restoration is needed?
 - How long will the mitigation effect last? Do we need to plan/budget for maintenance?
2. **Are we achieving desired change / mitigation?**
 - Do mitigation actions improve conditions for fish, wildlife and their habitat?
3. **What and how much do we need to know to assess mitigation success?**
 - Is the level of reasonable certainty different between mitigation under the Power Act and recovery under the ESA? What level of certainty is appropriate for the Program (risk-uncertainty matrix figure 2)?
 - How to consider outside influences on mitigation success?
 - Is program guidance on research, monitoring, effectiveness appropriate to assess success of mitigation actions and Program strategies? Too little? Too much?
4. **Are we learning and adapting?**
 - Is information about mitigation actions and from IMWs informing decision-makers and guiding restoration activities in the Basin?
 - Is this information improving the Program's mitigation strategies and actions ?

More Info:

- [August, 9 2016 Council meeting](#) Agenda item *Update on Research Plan*
- [September 13, 2016 Fish and Wildlife Committee](#) Agenda item *Follow-up discussion...*
- [2009 Program](#) amendment and [2014 Program](#) amendment
- Fish and Wildlife Program's [2012 RM&E / Artificial Production project review](#), [2013 Council recommendations](#), and Council's [decision letter](#) sent to Bonneville.
 - Bonneville's *Columbia Basin tributary Habitat Improvement: A Framework for Research, Monitoring and Evaluation* ([Tributary Habitat Framework](#)),
 - Bonneville's program-wide approach to action effectiveness monitoring at the project/reach scale [document](#) (Project #[2016-001-00](#), *BPA Project Action Effectiveness Monitoring (AEM) Programmatic*),
 - Integrated Status and Effectiveness Monitoring Program (Project # [2003-017-00](#), *Integrated Status and Effectiveness Monitoring Program (ISEMP)*), and
 - Columbia Habitat Monitoring Program (Project #[2011-006-00](#), *Columbia Habitat and Monitoring Program - (CHaMP)*).

- 2007-ongoing, Pacific Northwest Aquatic Monitoring Partnership (PNAMP, [2004-002-00](#)) regional work on [IMW](#), [project effectiveness monitoring](#)
- 2003-2008 Collaborative Systemwide Monitoring and Evaluation Project ([CSMEP](#)) , regional work on fish population and habitat data.
- 2007-2008 Ad Hoc Supplementation Monitoring and Evaluation Workgroup ([AHSWG](#)), regional work on hatchery fish.
- 2009-2012 Anadromous Salmonid Monitoring Strategy ([ASMS](#)), regional work fish populations.
- 2007 Staff

Figure 1: The 5-logic steps of the program’s habitat framework (blue boxes) and connection to the three categories of research effectiveness uncertainty (gray boxes) associated with improving fish habitat. Note that the assessment may occur at different geographic scale (e.g., local, subbasin, ESU) depending on the question.

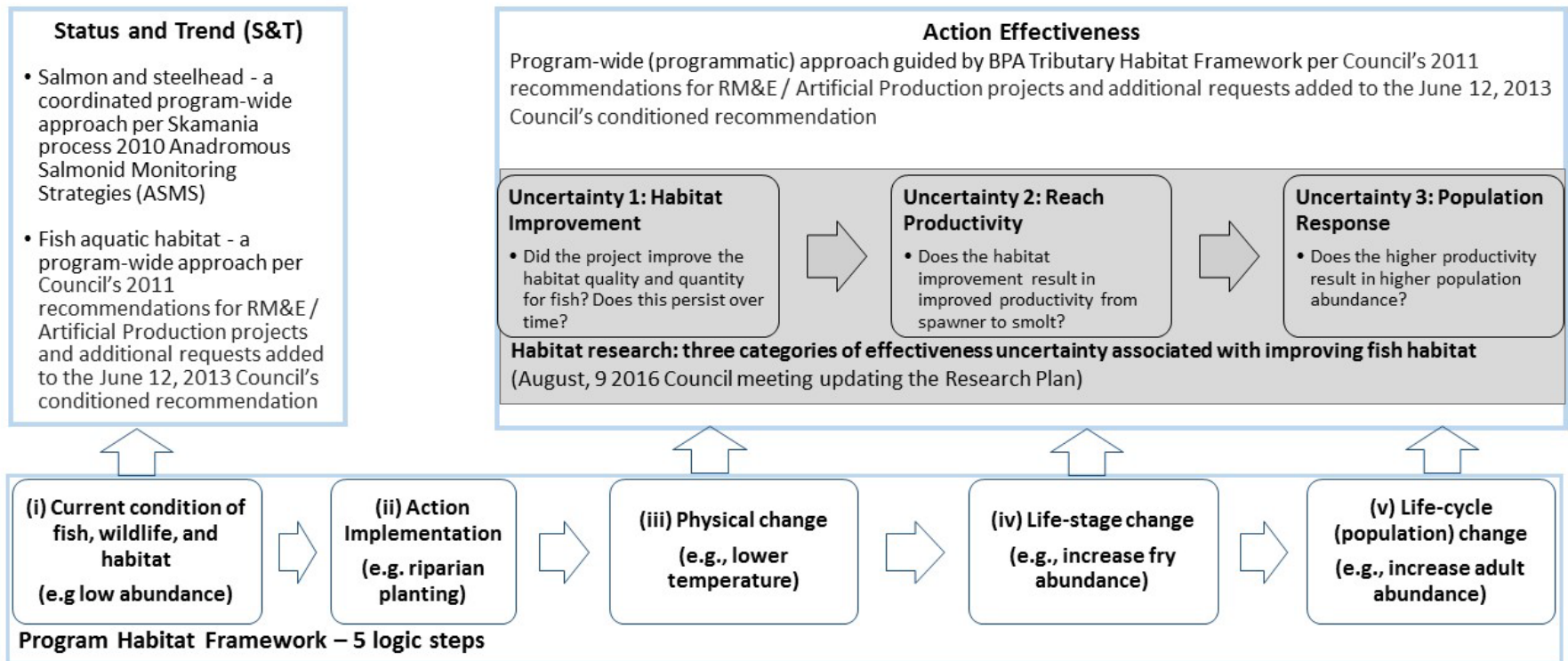
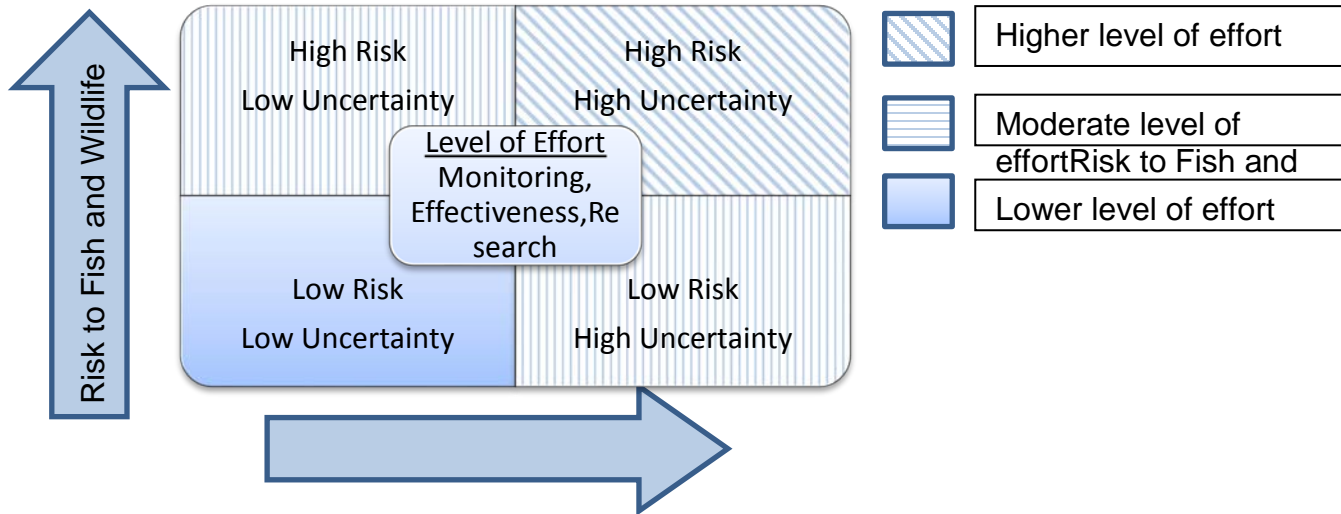


Figure 2 Risk-uncertainty matrix guiding monitoring efforts for a given action (hatchery, hydrosystem, habitat), and b



Note: the ISAB/ISRP suggested expanding the above conceptual two-dimensional matrix to a three-dimensional decision matrix by considering these three elements (see p. 145 ISAB/ISRP 2016-1).

- Expected cost of the new information
- Expected benefit of the new information
- Value of information to reduce uncertainty of the proposed action

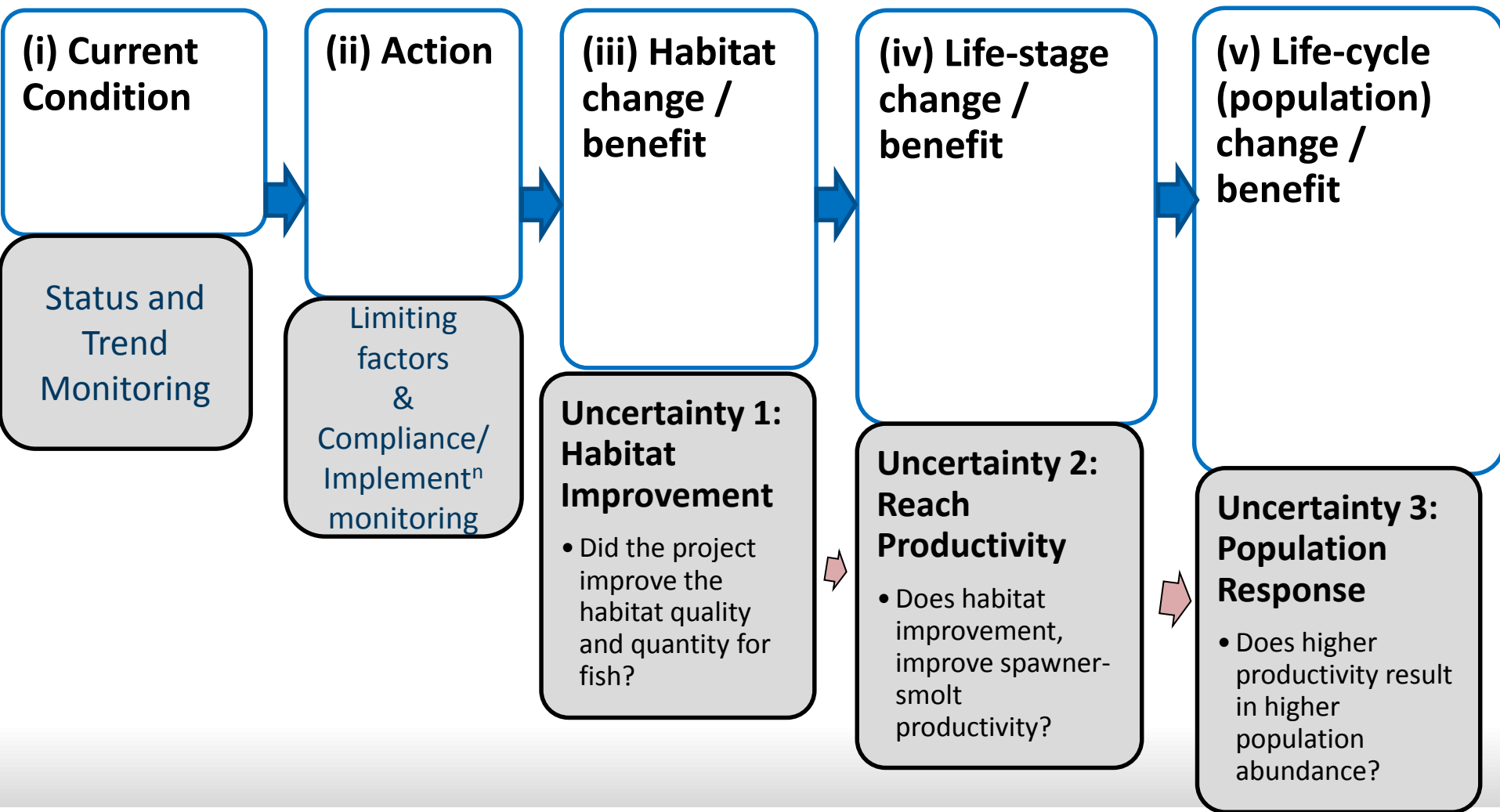
Follow-up Discussion monitoring & effectiveness: *are the program's information needs being addressed?*



**Council staff and
Fish and Wildlife Committee members
October 11, 2016
Portland, Oregon**

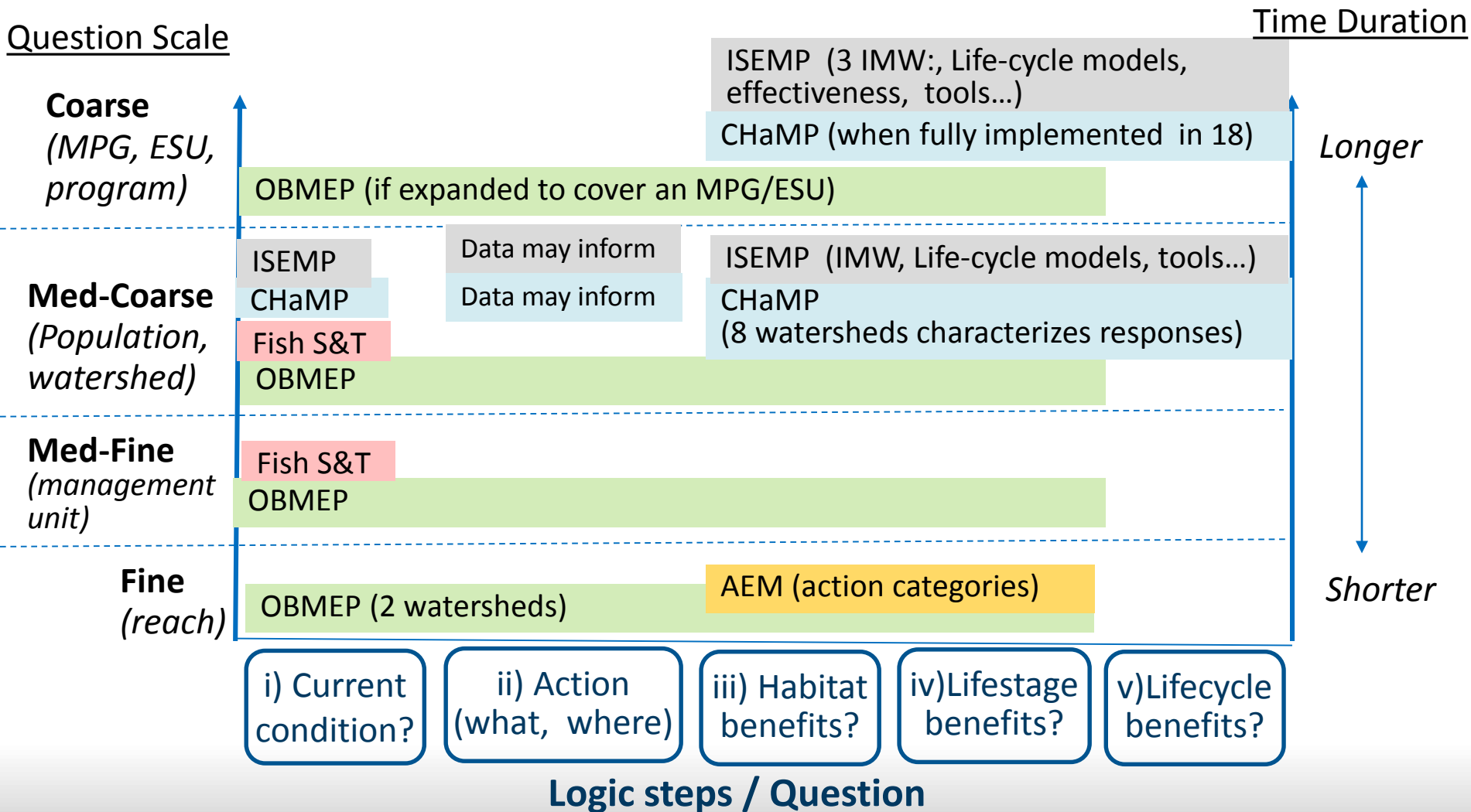
Fish and Wildlife Program Mitigation Information Needs

What Action, Where, and for Which Benefits



Project for What Question, What Scale, How Long?

(examples used for illustration, not comprehensive)



Upcoming Events Informing the 5-Steps/Questions

Council-related events:

Program-wide Bonneville Tributary Habitat Framework (Framework)

- *December 2016*, FW Committee's
 - Preview BPA's RME findings & framework improvements (draft)
 - Review Action Effectiveness Monitoring (AEM) project
- *Early 2017* submittal of BPA 's report (Synthesis & Framework)
 - ISEMP (~2005 Entiat, Bridge Creek, ~2007 Lemhi IMWs)
 - CHaMP (2011, 8 watersheds)

Regional Projects (component of BPA Framework)

- *November 2016*, Okanogan Basin's M&E Program presentation

Other events:

- *November 2-3, 2016*, PNAMP IMW workshop
- Next FW Committee agenda, e.g., other staff briefings, invite other partners to present (e.g. OWEB, WA-SRFB), other?

Discussion Topics / Future Committee Briefings

1. Which actions are needed where and what extent?

- Are approaches for *identifying limiting habitat* factors the best?
- *How much habitat* protection and restoration is needed?
- How long will *mitigation effect last*? Do we need to plan maintenance?

2. Are we achieving desired change / mitigation?

- Do mitigation actions *improve conditions* for fish, wildlife, habitat?

3. What and how much do we need to know to assess mitigation success?

- Is the *level of reasonably certain* different under the Power Act and ESA recovery? What level of certainty (risk-uncertainty matrix)?
- How to consider *outside influences* on mitigation success?
- Is *program guidance* on research, monitoring, effectiveness appropriate to assess success of Program's mitigation actions?

4. Are we learning and adapting?

- Is information about mitigation actions and from *IMWs* informing decision-makers and *guiding restoration* activities in the Basin?
- Is this information *improving the Program's* mitigation strategies/actions ?