**Annual parentage analysis, spawning surveys and screwtrapping**

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Issue Paper submitted by the RM&E Team to the Steering Team

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| **Problem Description** | **Resolution Request** |
| The RPA contains a suite of actions related to hatchery effects, and Chinook and steelhead passage and reintroduction. Goals and criteria have only been broadly described, raising questions about what RM&E is needed. There is disagreement on the adequacy of existing information, and the need for long-term annual monitoring. | Please clarify specific sub-basin goals for reducing hatchery effects, and for reintroduction programs.Are there specific targets or criteria, or should these be developed, for assessing if goals are being achieved?Should reintroduction plans be completed for each subbasin in order to identify goals, criteria, and what RM&E is needed? |
| **Points** | **Counter Points** |
| The RPA and draft HGMPs include assessment of hatchery effects. Assessing hatchery effects requires annual spawning and parentage analysis. | Hatchery effects have been well documented for existing conditions. Managers accept high PHOS below dams. PHOS above dams is determined by the reintroduction strategy, and can be estimated by adults released. Until new actions are taken, changes in spawning attributes (CRR, pHOS, spawner abundance and distribution) related to the WVP are highly unlikely.  |
| Annual trends in spawning and juvenile production are needed to assess the effectiveness of completed RPA actions. | Effectiveness of actions will be evaluated against performance targets or criteria, not by comparison to pre-existing conditions. |
| Adaptive management of Chinook reintroduction above Corps dams requires annual data on spawning effectiveness and juvenile production. | Given that hatchery fish are released above dams, the established trap and haul protocols work well. Post-effectiveness evaluation will be needed after dam passage is improved. |
| Reintroduction plans for each subbasin are needed to document the goals, strategy, objectives, and criteria for success. Without these, RM&E cannot be identified or tied to a management goal. | After HGMPs are finalized, fish co-managers will prepare reintroduction plans. In the interim, annual data are needed to further inform and refine reintroduction strategies in each subbasin. |

Relevant FY17 concept papers: APH-09-01-CGR, APH-09-01-DET, APH-09-01-FOS, APH-15-01-SYS, JPL-10-02-SYS