# Proposed Klamath Basin Monitoring Framework

## Concept

* Create a scalable framework that informs fishery management decisions including, but not limited to MSA/harvest decisions, Tribal trust fishery needs and ESA obligations.
* Specific monitoring activities are designed to fit within the framework and can be adjusted in time and space depending on resource availability and specific needs.

## Structure

* Build around data needs for managing Chinook salmon and suckers.
* Maintain core monitoring activities to support estimates of:

### Abundance

* Ocean and freshwater harvest, prespawn mortality and escapement numbers of Chinook salmon adults throughout the Basin (including tributaries), preferably at the population level (e.g., Scott, Shasta, reaches of mainstem and smaller tributaries)
* Adult sucker population estimates in the upper Basin

### Productivity

* Chinook salmon productivity estimates (smolt estimates) from the same units that we have adult information (above), including empirical data on the number of smolts entering the ocean.
* Sucker productivity estimates
* Obtain information on timing, tissue and bio data collection (e.g., size, scan for tags, assess for health (e.g., disease)) for Chinook salmon and suckers.
* Recognize that the spatial scale (e.g., Shasta River estimate vs one estimate for all Chinook salmon upstream of the confluence of the Trinity and Klamath rivers) creates various issues with feasibility and cost. More units provide better information on freshwater conditions and productivity but may have cost issues associated with the number of downstream migrant traps required and feasibility constraints (e.g., downstream migrant trapping in the lower Klamath near the ocean).

## Flexibility and Leveraging

* Extend the sampling season and expand the sampling frame to provide similar estimates for coho salmon (therefore addressing ESA issues and recovery planning), steelhead, red band and lamprey.
* Depending on focus (e.g., Chinook salmon or coho, spring-run and/or fall-run Chinook, coho salmon or steelhead), the spatial scale and timing could be changed. For example, perhaps during the first 5-10 years following dam removal, spawning ground surveys could focus on Chinook salmon and coho salmon monitoring could rely on downstream migrant trapping until sufficient numbers of downstream migrants are collected to warrant SGS, etc.
* Seek opportunities to align the spatial aspect of fish sampling with various water quality and quantity monitoring; more or less reach specific assessments
* Coordinate local monitoring and research activities to leverage the "big and focused on fisheries and ESA" with the "small focused on such things as effectiveness monitoring of restoration activities" to learn more about the systems and conditions, etc. For example, PIT tagged fish in a local project looking at BDAs could be captured at "big" sites to provide more information.