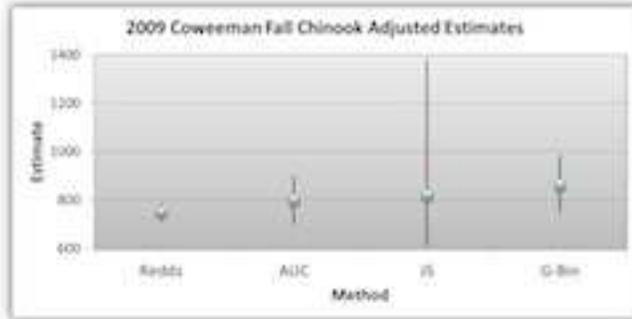


## Can Genetics-Based Methods Improve VSP Monitoring?

Advances in genetics offer some great new and efficient ways to calculate Viable Salmonid Population (VSP) metrics (i.e. adult abundance, juvenile production, distribution and diversity). Traditional calculation methods generally require data from multiple years or from outside the study system. Genetics-based methods can yield reliable estimates without these additional data needs, but are they sufficiently accurate?



To answer this question, CFS senior scientist Dr. Scott Blankenship and his collaborators applied a mark-recapture method using genetic tagging to estimate spawner abundance of fall Chinook in the Coweeman River, Washington. They then compared the results to those from more traditional methods, as shown in the graph above [[click the graph](#) for a larger view]. Dr. Blankenship discussed these findings in a presentation at the recent AFS annual meeting in Seattle, and an expanded version of the presentation is available as a PDF download [[Viable Salmonid Population monitoring using Genetics-Based Methods](#)], along with the [speaker notes](#). Look for an upcoming paper in the *Canadian Journal of Fisheries and Aquatic Sciences*.

## Modeling Salmon Exposure to Pesticides

Predicting the exposure of migrating salmon to environmental stressors is challenging because their distributions vary in time and space. CFS scientists recently developed the *INTERSECT* model to predict the co-occurrence of juvenile salmon with agricultural pesticides, and applied it to spring Chinook in the Willamette Basin, Oregon. CFS senior scientist Mark Teply recently gave a presentation [[PDF](#)] describing the model at a symposium held at the American Chemical Society meeting in Denver. A paper has been submitted to *Integrated Environmental Assessment and Management*.

## Are Rainbow Trout Offspring Significant Contributors to Steelhead Populations?

CFS scientists gave eight presentations at the 141st AFS annual meeting in Seattle, including two presentations describing the contribution of resident *O. mykiss* offspring to steelhead populations in the Yakima Basin, Washington [[PDF](#)]:

- [Maternal Life-History Type and Natal Rearing Origin of Adult Steelhead in the Yakima Basin](#) by Ian Courter.
- [Environmental Determinants of Residency or Anadromy in \*O. mykiss\*: a Life-Cycle Simulation Approach](#) [[speaker notes](#)] by Steve Cramer.