Assessing the effects of drought conditions on Central Valley steelhead fishing:

What is driving the decline in catch rates?

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**Abstract**

The lower American River steelhead (*Oncorhynchus mykiss*) sport fishery in California’s Central Valley is monitored in its entirety by California Department of Fish and Wildlife’s (CDFW) Central Valley Angler Survey (CVAS) using a simple, stratified-random sampling design that includes both roving count and interview components. Survey data indicate that angling success, measured as catch rate (CPUE), is highest on Central Valley rivers with highly successful propagation programs, such as the lower American River. The lower American River supports roughly 52% of angling effort targeting steelhead in the Central Valley, the highest of any river covered by the survey. Despite relatively high angling effort targeting steelhead, estimated steelhead catch on the lower American River has decreased in recent years, during which time California has experienced multi-year drought. Stream flow on the lower American River has been at its lowest levels since the last major drought 25 years ago. The **purpose** of this study was to assess how steelhead catch on the lower American River relates to angler effort, steelhead total abundance, and stream flow. Of particular interest is how effort and catch vary between drought and normal water years. I found that angling effort as well as CPUE did not differ between drought and normal water years. An unexpected result was that steelhead total abundance was the only significant factor affecting steelhead catch rates on the lower American River. Declining catch rates are thus associated with declining total abundance, the cause of which needs further investigation.