



October 15, 2008

To: Mr. Richard Marovich
Putah Creek Streamkeeper

Subject: Adult Aquatic Insects / Avian predation



Yellow sticky trap hung over Putah Creek. In 24 hours, the trap captured a significant number of *Glossosoma*, an indicator species in Putah Creek.



Riparian species are well represented on sticky trap collections.



Yellow sticky trap after 24 hours. Small species represent one of the taxonomic obstacles.



A species commonly found on traps hung over Putah Creek. This species was observed in significant numbers on the riparian willows along the Design Channel.

Background:

Recent discussions about documenting avian predation on adult aquatic insects have been based on the aquatic phase of benthic macroinvertebrates. In other words, collections of aquatic invertebrates would be used as the basis for determining the prey base used by riparian-feeding bird species. That paradigm seems misleading as it assumes that populations of aquatic insects will emerge and survive in the same proportions as communities in the nymphal (aquatic) phase.

I submit that the technique of using well-timed yellow sticky traps - possibly coordinated with collection of nymphal phase invertebrates - will give a more accurate measure of the adult aquatic insects available to avian species. Because adult aquatic invertebrates (specifically mayflies and caddisflies) are crucial to species level identification, I have "hatched" the majority of invertebrates collected in Putah Creek. Those specimens are in my reference collection.

Report:

To determine the feasibility of documenting the rate of emergence of aquatic insects in specific areas of Putah Creek, I have placed six yellow sticky traps along the Design Channel. The results are interesting and document insect "hatches," and the adult insects potentially available to fish and avian species.

In early October, I also noted a significant number of riparian insect species such as small wasps that "appear" to be gall wasps. I observed them feeding and/or ovipositing in the stream side willows in the Design Channel area.

Recommendation:

Develop baseline data of adult aquatic invertebrate species that form the prey base for avian and bat species in the Lower Putah Creek Corridor. I can do that during my regular invertebrate collections at no additional cost.

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