Title: Developing a Drought Monitoring Protocol for Juvenile Salmonids on the Mendocino Coast

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Abstract: The impacts of drought conditions on juvenile salmonids throughout the Northern Coastal region of California are not well understood. The distribution of in stream habitat that remains suitable for over summer rearing or dries out disconnecting habitats has been noted in the past but not studied (McClary et al, 2019). The California Department of Fish and Wildlife’s (CDFW) Coastal Fisheries program is developing a drought monitoring protocol using a combination of methods from California Sea Grants ‘Wetted Habitat Assessment’ (2021) and CDFW ‘Salmonid Spatial Structure Monitoring Survey Protocol: Summer Snorkel Survey Methods’ (Garwood et al. 2022). Data was collected throughout the summer of 2022 in coastal Mendocino County to investigate summer drought conditions, their spatial and temporal variability across the landscape, and the potential impacts to juvenile salmonid populations.

Using the known spawning universe for adult salmonids, all annually surveyed reaches and a subset of the selected reaches from the 2021/2022 Mendocino coastal monitoring project were selected. With crews of two to three people, nineteen reaches were snorkeled at the beginning of the dry season (June 13th to July 27th 2022) and the end of the dry season (August, 29th to September 29th, 2022). Select pools which met minimum depth qualifications were snorkeled to collect salmonid and other aquatic species abundance and habitat measurements. Areas of disconnection, isolated pools containing salmonids, and sections of dry stream channel were noted using the Esri Quick capture App.

Wetted Habitat Assessment surveys were conducted From August 8th to 25th, focused on disconnected stream sections and isolated pools in eleven additional spawning reaches using the Pendragon App. Habitat metrics were collected in all isolated pools and snorkel counts were conducted when possible.

Preliminary results on change in salmonid observations with a focus on steelhead numbers, habitat area, and drying trends in all surveyed reaches for summer 2022 will be presented. Additionally, as this was a developing study for our region, a discussion on field methods, lessons learned, and improvements for the future.