HANDOUT #5

OSCMXX: Reduce the effects of predators on covered fish species by modifying channel geometry of high predator density locations. The BDCP Implementing Entity will reduce the effects of predators on covered fish species by modifying the channel geometry of locations in the Delta that are known to have high densities of predators ("predator hot spots") at a funding level of $___ over the term of the BDCP. The BDCP Implementing Entity will examine existing bathymetry data, fish monitoring data, and radio and acoustic tagging study results to determine the locations and causes of predator hot spots throughout the Delta. Locations of hot spots likely include areas with physical parameters that favor predators, such as deep holes, shaded habitat, and abrupt depth changes. Once the cause is identified, the BDCP Implementing Entity will modify the channel geometry to eliminate the cause. Preference for which hot spots to remove will be given to areas of high overlap with covered fish species, such as migratory routes or spawning habitats.

Hypotheses: Removing predator hot spots in the Delta is expected to reduce local predator abundance, thus reducing predation mortality of Chinook salmon (ODFW 1998, Lindley and Mohr 2003, Nobriga et al. 2003, Nobriga and Feyrer 2007, 2008), steelhead (ODFW 1998), Sacramento splittail (Moyle et al. 2004, Nobriga and Feyrer 2007, 2008), and delta smelt (Stevens 1966, Moyle 2002, Nobriga and Feyrer 2007, 2008), and possibly longfin smelt (Nowak et al. 2004), green sturgeon (J. Israel pers. obs.), and white sturgeon.

Adaptive Management Considerations: Monitoring would consist of assessing the abundance, distribution, and size of centrarchid species before and after implementation in hot spots to determine the performance of the action. In addition, survivorship of covered species would be monitored using acoustic tagging studies or similar techniques.

If results of fish monitoring indicate that channel modification is not sufficient to significantly reduce adverse effects of predators on covered fish species, the action would be modified to be more effective through the BDCP adaptive management process.