

9. Paul Dinnel presented an overview of the sediment larvae test protocols, which include the bivalve (Pacific oyster: *Crassostrea gigas*; the bay mussel: *Mytilus edulis*?) and echinoderm (purple urchin: *Strongylocentrotus purpuratus*; green sea urchin: *Strongylocentrotus droebachiensis*; sand dollar: *Dendraster excentricus*) tests (enclosures 24 - 27). Most of the discussion that ensued centered on the echinoderm embryo test.

Temperature. Testing temperatures were discussed at length, and there was general agreement to adopt a 15 degree Centigrade temperature for all of the echinoderm species. Use of the 12 degree Centigrade temperature specified in the Phase II MPR (page 5-20) and draft PSEP bioassay protocol has resulted in exposure times of up to 120 hours (Cathy McPhearson, EVS) to reach the pluteus development endpoint. Cathy McPhearson indicated she had one experience with purple sea urchins that took up to 7 days to reach the pluteus larvae stage even at 15 degrees Centigrade. Labs at the workshop reported that they were generally getting pluteus development within 48 - 96 hours with exposure temperatures of 15 degrees Centigrade. The PSDDA program allows (after PSDDA agency approval) adjustments to the exposure temperatures to ensure development to pluteus stage between 48 - 96 hours. A minimum test duration of 48 hours was also suggested as a protocol clarification that needs to be adopted. Paul Dinnel indicated that he had no problem going with a recommended exposure temperature of 15 degrees Centigrade to speed up the pluteus larvae development.

10. David Kendall then provided a summary wrap up of the workshop. The following items discussed in detail in this memo should be considered in the finalized PSEP bioassay protocols, and will be reviewed for adoption at the next PSDDA Annual Review Meeting. The PSDDA Data Manager will send out a letter soon providing guidance to workshop participants and labs doing bioassays relative to protocol clarifications discussed at the workshop.

D. Sediment larvae Bioassay (Bivalve/Echinoderm)

b. Temperature 15 degrees C (Echinoderm)