

DMMP CLARIFICATION PAPER

SEDIMENT LARVAL TEST SPECIES RECOMMENDED FOR TOXICITY TESTING BY THE DMMP PROGRAM

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INTRODUCTION

Bioassays are used in the Dredged Material Management Program (DMMP) to evaluate toxicity in sediments proposed for dredging. The Sediment Larval bioassay has been an important part of the biological test suite of the DMMP over the past 16 years. Test species initially recommended for potential selection include three echinoderm species (*Dendraster excentricus*, *Strongylocentrotus purpuratus*, *Strongylocentrotus droebachiensis*) and two bivalve species (*Mytilus galloprovincialis* and *Crassostrea gigas*). The DMMP has always provided for use of practical experience and adaptive management to revise existing technical and policy guidance.

PROBLEM IDENTIFICATION

Practical experience with the performance of the sediment larval bioassay over the sixteen years of DMMP implementation have resulted in some necessary adaptive management recommendations regarding species selection recommendations. During PSDDA/DMMP implementation, three of the five recommended larval species have consistently shown limited use for making DMMP open-water disposal decisions. Data from tests using the bivalve, *Crassostrea gigas*, or the sea urchins, *Strongylocentrotus purpuratus*, and *Strongylocentrotus droebrachiensis* has been limited because the negative seawater control and reference sediment(s) frequently failed to meet programmatic performance guidelines for data acceptability. This has consistently limited the usability of toxicity data involving these species to make DMMP open-water disposal decisions. These performance problems have frequently resulted in a requirement to retest with largely unsuccessful results. Because of frequent performance problems with these species, the DMMP have informally stopped recommending their use for the sediment larval bioassay test. In practice, the DMMP are now relying on either the bivalve, *Mytilus galloprovincialis*, or the sand dollar, *Dendraster excentricus* for test species recommendations.

PROPOSED CLARIFICATION

1. The DMMP propose to clarify the species recommended for routine use for the Sediment Larval Bioassay. The two recommended species are either the bivalve: *Mytilus galloprovincialis*, or the echinoderm (sand dollar): *Dendraster excentricus*.

2. The DMMP also recognize that in rare cases, seasonality may play a role in limiting potential species actually available for testing. Therefore, if the spawning condition is poor due to seasonality for both *Mytilus galloprovincialis* and *Dendraster excentricus* , the laboratory/applicant may propose alternative species for DMMP consideration on a case-by-case basis. Any potential substitution of species other than the two recommended species must be pre-approved by the DMMP prior to initiating testing.

REFERENCES

PSDDA Users Manual¹

Grays Harbor/Willapa Bay Dredged Material Testing Manual¹

¹ February 2000 PSDDA Users Manual is currently being updated and combined with the 1995 Grays Harbor/Willapa Bay Manual as a regional manual for DMMP, and is expected to be completed by the end of 2005.