Prevention of the spread of zebra mussels during fish hatchery and aquaculture activities

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Abstract.-Fish hatchery and aquaculture activities present numerous opportunities for accelerating the spread of zebra mussels *Dreissena polymorpha* to new locations. We tested aquaculture chemicals including NaCl, KCl, CaCl₂, formalin, and the lampricide TFM (3-trifluoromethyl-4-nitrophenol) for their efficacy against veligers and tolerance by several species of juvenile fish. Our short-term exposures simulated the high stress environment of fish transport. High concentrations of NaCl was the most effective against veligers, but also caused unacceptably high mortality in most fish species. A dilute solution of formalin (25 mg/L) in conjunction with KCl was effective against veligers, but safe for all fish taxa tested. However, concurrent exposures to 5000 mg/L NaCl (commonly used to counteract fish shock during transport) decreased the toxicity of the formalin to veligers.