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Interacting particle systems have been used to model a wide range of complex systems. Recently, these models have been shown to be effective at modeling macroscopic dynamics of large numbers of socially interacting biological organisms such as locust swarms, fish schools, and human crowds. Since simulations of interacting particle models are computationally expensive and also are difficult to analyze, there is much to be gained from kinetic and hydrodynamic descriptions of these systems. Here, we focus on one class of these models which has been widely used to simulate fish schools. We describe the formal derivation of a corresponding hydrodynamic model and discuss the correspondence between the hydrodynamic model and the original particle system. (Received September 13, 2010)