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THE EFFECTS OF TAGGING AND TRANSPORT STRESS ON JUVENILE WINTER FLOUNDER, *Pseudopleuronectes americanus*: IMPLICATIONS FOR SUCCESSFUL STOCK ENHANCEMENT

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Aquaculture and stock enhancement practices unavoidably subject fish to a variety of husbandry related stressors. Two particular stressors are the handling and movement of fish. Examining the aforementioned disturbances and their related physiological changes has proven useful in modifying capture and transport techniques. Unfortunately, much of the published literature on teleost stress physiology has focused on adults, while information describing the transport and/or handling stress response of juveniles is lacking. The few juvenile species that have been studied suggest that handling and confinement associated with fish transport are likely to impact the performance and scope of juvenile survival. As part of a large scale and ongoing study at the University of New Hampshire, we are in the process of evaluating two potential stressors associated with the stock enhancement of reared juvenile winter flounder, *Pseudopleuronectes americanus*. The first study seeks to quantify the physiological stress associated with tagging, and to determine whether physiological differences exist in winter flounder juveniles when tagged with elastomer tags or coded wire tags. A second experiment will measure physiological differences in cultured juvenile winter flounder during and after transportation from the hatchery to a release site, and also determine if stocking density during transport affects stress physiology. For both experiments, juvenile winter flounder (weighing approx. 100-400 mg) will be snap frozen and stored for a series of procedures that will yield a fluid (from homogenation) of approximately 500 μ l. Triplicate samples of glucose (mg/dl) and cortisol (ng/ml) will then be analyzed to measure the changes in stress levels. Results of the research will contribute to knowledge on the stress response in juvenile fish, and indicate if, and how, our tagging, transport and acclimation practices should be modified.