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A Captive Ocean: Evaluation of Aquaculture, Fisheries Sustainabilty and Aquaria as Arks in the Setting of a Field-based Class

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Sustainability awareness is increasingly a subject in educational settings. Marine science classes are perfect settings of establishing sustainability awareness owing to declining populations of organisms and perceived collapse in fisheries worldwide. Students in oceanography classes often request more direct exposure to actual ocean situations or field trips. During regular session (13 week) or shorter term (4 week) summer classes such long trips are logistically difficult owing to large numbers of students involved or timing. This new approach to such a course supplement addresses the requests by utilizing local resources and short field trips for a limited number of students (20) to locations in which Ocean experiences are available, and are often supported through education and outreach components. The vision of the class was a mixture of classroom time, readings, along with paper and laboratories. In addition, short day-long trips to locations where the ocean was "captured" were also used to supplement the experience as well as speakers involved with aquaculture. Central Virginia is a fortunate location for such a class, with close access for travel to the Chesapeake Bay and numerous field stations, museums with ocean-based exhibits (the Smithsonian and National Zoo) that address both extant and extinct Earth history, as well as national/state aquaria in Baltimore and Virginia Beach. Furthermore, visits to local seafood markets at local grocery stores, or larger city markets in Washington, Baltimore and Virginia Beach, enhance the exposure to productivity in the ocean, and viability of the fisheries sustainability. The course could then address not only the particulars of the marine science, but also aspects of sustainability with discussions on ethics, including keeping animals in captivity or overfishing of particular species and the special difficulties that arise from captive or culturing ocean populations. In addition, the class was encouraged to post web-based journals of experiences in order to share opinions of observations in each of the settings, including the evaluation of the foods they were consuming during the class.