

Abstract Submitted
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Ocean Renewable Energy Research at U. New Hampshire M. WOSNIK, K. BALDWIN, C. WHITE, M. CARTER, D. GRESS, R. SWIFT, I. TSUKROV, G. KRAFT, B. CELIKKOL, University of New Hampshire — The University of New Hampshire (UNH) is strategically positioned to develop and evaluate wave and tidal energy extraction technologies, with much of the required test site infrastructure in place already. Laboratory facilities (wave/tow tanks, flumes, water tunnels) are used to test concept validation models (scale 1:25–100) and design models (scale 1:10–30). The UNH Open Ocean Aquaculture (OOA) site located 1.6 km south of the Isles of Shoals (10 km off shore) and the General Sullivan Bridge testing facility in the Great Bay Estuary are used to test process models (scale 1:3–15) and prototype/demonstration models (scale 1:1–4) of wave energy and tidal energy extraction devices, respectively. Both test sites are easily accessible and in close proximity of UNH, with *off-the-shelf* availability. The Great Bay Estuary system is one of the most energetic tidally driven estuaries on the East Coast of the U.S. The current at the General Sullivan bridge test facility reliably exceeds four knots over part of the tidal cycle. The OOA site is a ten year old, well established offshore test facility, and is continually serviced by a dedicated research vessel and operations/diving crew. In addition to an overview of the physical resources, results of recent field testing of half- and full-scale hydrokinetic turbines, and an analysis of recent acoustic Doppler surveys of the tidal estuary will be presented.

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