

## The Real Wealth Purchased in a New England Fish Dinner

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There is a growing realization within the scientific community and the public at large that the environment makes a real contribution to wealth that is not adequately valued by markets. In addition, almost everyone recognizes the feeling if they are getting a “good deal” on a purchase; i.e., in economic terms, there is surplus value in the consumption of the item. We hypothesize that the surplus value in products of the environment can be quantified through emergy methods. Emergy quantifies real wealth or the amount of quality-adjusted work that an item can do when it is used for its intended purpose. In other words, emergy evaluation allows us to attribute a fair and objective value to both the work of the environment and the work of people. In this study, we used emergy evaluations to determine the real wealth in Rhode Island (RI) fishery and organic farm products that might be used by restaurateurs in creating a New England fish dinner. These estimates of real wealth were expressed in emdollars (Em\$), a combined emergy-money unit that represents value based on distributing the buying power (money flow) in proportion to the emergy flows in an economy. Our study includes emergy evaluations of the State of RI, the Narragansett Bay and RI coastal shelf, the winter flounder fishery in RI during the 1970s and 1980s, a RI organic farm, and a restaurant located in Newport, RI. The Em\$ value of the portions of fish and vegetables served with a fish dinner at the restaurant was compared with the emdollar value that could be purchased by spending the dollar cost of the fish platter on an average product in the RI and the national economies. The difference shows the additional real wealth or surplus value purchased by the consumer in buying a RI fish dinner. For example, tourists dining at the restaurant receive 2.12 times the real wealth (Em\$) in purchasing the RI fish dinner compared to the real wealth that they could purchase by spending the \$16.95 cost of the fish dinner on a product where the emergy purchased reflects the average U.S. emergy to money ratio. In this study, we demonstrate that emergy evaluation is a practical method for quantifying the work contributions of the environment and for revealing the surplus value in farm and fishery products.

Keywords: emergy evaluation; real wealth; surplus value; fishery products; organic farm products; Rhode Island