

calls. However, what you have failed to notice is that the prevailing market system of value assessment is no different. The only difference is that the market system is institutionalized in our society and the numeric models are not, at least not yet (Oregon has adopted a numeric habitat assessment model into state estuarine mitigation law).

The field of economics relies heavily on abstract models to describe how humans interact with a self-imposed market system. Numbers generated in economic formulae are often based on assumptions and subjective decision making. For example, capitalization rates used in farm real estate appraisals are based on assumptions regarding risks on returns of capital investment which are linked to uncertain future market conditions.

The degree of predictability of human economic behavior is largely a function of the degree to which it has been institutionalized and researched. The degree of objectivity of estimating economic values is a function of socially conditioned perception.

During my thesis research I came across four real estate appraisals of fair market value for the same property: \$500, \$1750, \$2000 and \$4000 per acre. Each appraiser made different assumptions to fit his/her objectives and subsequently four widely separate appraisals were derived.

Wetland values are real and they must attain perceptual parity with traditional material values in the consciousness of society if we are to insure their existence for future generations.

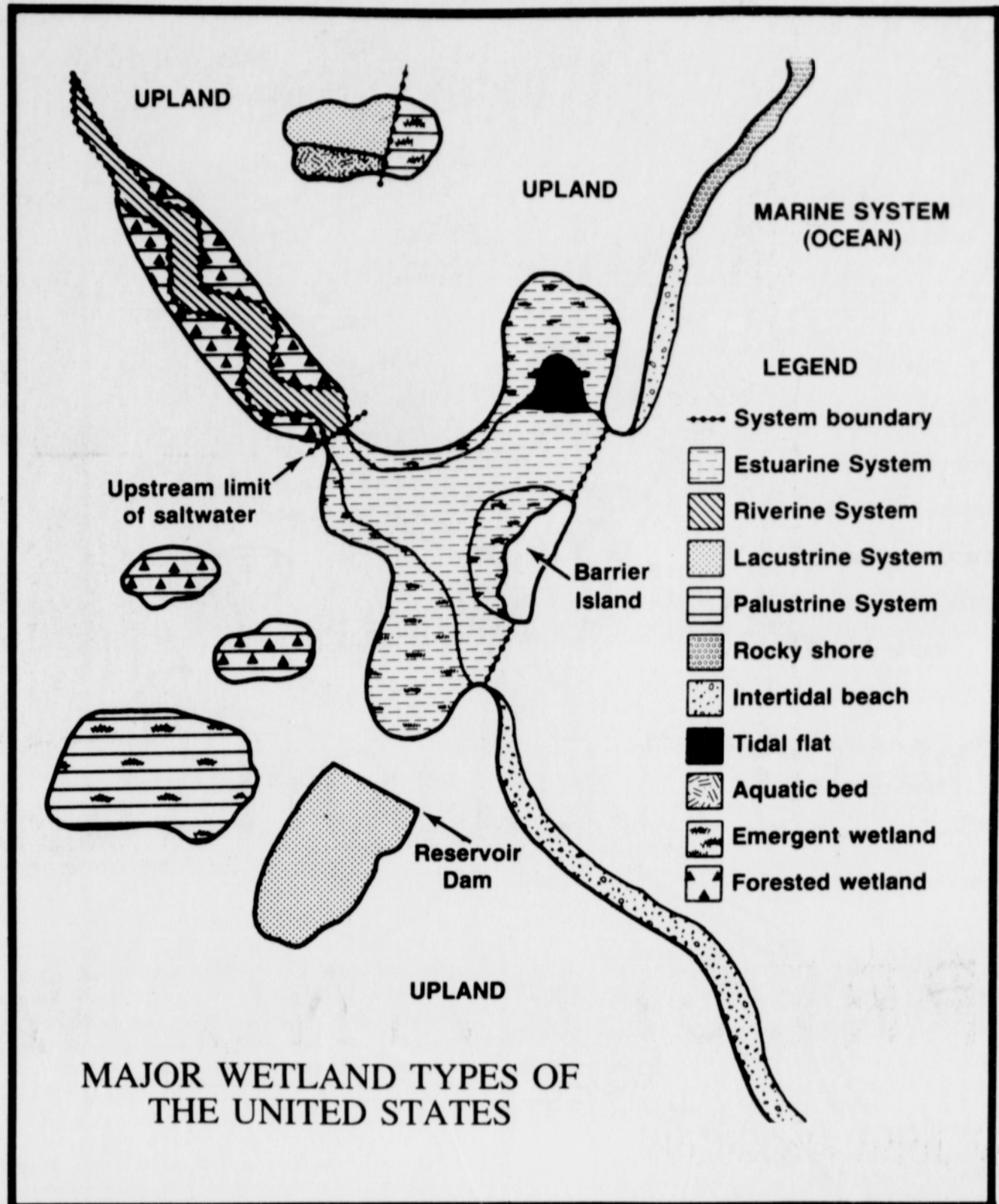
Why is there a disparity between traditional market values and nonmarket amenity values in our society?

The simple answer is socially conditioned greed and shortsighted economic goals versus social consciousness and future generations. The more precise and more meaningful answer is much more difficult to articulate. It is broad in scope. One approach is to hold a mirror up to our society and the roles we have been conditioned to play. Economic theory is a good starting place for this. One of the central tenets of neoclassical economic theory is that self-interest is a primary human motivator. Economists explain that even helping save a life satisfies some internal self-interest regarding self-esteem and recognition. I agree. However, it is useful to separate "hard" self-interest from "soft" self-interest and social self-interest.

Until relatively recently, economists considered many natural resources as free commodities (e.g., air and water). Since you could not put a price on it, it could not be considered in the system (wetlands and old growth forests also fall into this category). However, pervasive environmental problems forced economists to try and incorporate them into their economic models. But since there was really no place for them, they called them externalities. Hence they were and are still discounted in many market-oriented analyses. So we are left with a society that rewards legally "hard" self-interest, discounts future generations, discounts nonmarket resources vis-a-vis material resources and lives in a self-made illusion regarding market objectivity with regards to measuring values. Throw in a bit of cognitive dissonance theory — that is, we must fit our behaviors to fit our beliefs or be terribly confused and unsettled — and we have begun to scratch the surface of rationale behind disregard for the natural environment.

Wetland assessment models are designed to play into the existing illusion regarding the objectivity of numbers and to combat the delusion that wetlands and other natural resources are, at best, secondary in importance to market valued items. We are saying that we can measure the values of wetlands with the same degree of validity as any market valued item. Wetland assessment models are designed to itemize components of wetlands that generate wildlife and other values. This array of values is presented to educate decision makers and the general public about the very real nonmarket values of increasingly scarce wetlands.

Wetland assessment models are the numerical analog of the conservation and preservation interests in our society who are forced by



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a pervasive worldwide number crunching value system to start playing the numbers game.

There are several considerations to be made when using these systems. One, the numbers generated for a particular wetland's value have no absolute meaning. They are only meaningful in a relative sense when compared to other numbers generated using the same system on similar wetland types. Second, while a total numerical score is desirable for wetland value comparisons, it should not be considered as the final word on the value of a wetland. For example, consider a hypothetical case where a wetland scores low on every criteria rated except one. Maybe it is an isolated wetland near a school that uses it as a classroom for outdoor education. Perhaps it contains a rare habitat type and/or an endangered species. One criteria may be the best reason in the world to protect the wetland. If this point is not communicated clearly to decision makers, low scoring wetlands may be lost despite isolated high values.

We can use numeric models to make mitigation requirement decisions for impacted wetland values. Areas that are not classified as extremely sensitive habitats (designated for protection) may still have high value for wildlife. Wetland development projects in these areas may have mitigation requirements as a condition of permit approval. We can use numeric values to determine replacement

acreages for impacted sites (all problems with technical feasibility of mitigation not considered). Mitigation can be considered the "value in exchange" component in numerical wetland value assessments.

Both numerical wetland assessment methods and market assessment methods should be viewed critically with regard to their assumptions and subsequent criteria. Neither system is inherently more objective than the other. Users of numeric wetland assessment models should realize the display of wetland preservation values are necessary if they are to be given adequate consideration in the decision making. Numeric systems should not be considered the final decision making tool but rather as sources of information to be integrated into the decision process.

For resource managers, assessment models offer valuable decision making criteria. For teachers, they are dynamic task oriented teaching tools that touch every aspect of individual and social behavior. Hopefully they will aid in the integration of the social and biological realms in the consciousness of our future citizens.

John Marshall is a new resident of Astoria. He moved from Portland in December. His interest in wetlands stems from his research on the Jackson-Frazier Wetland in Benton County, Oregon. This wetland, one of the most valuable wetlands in the Willamette Valley, was recently partially destroyed by a developer who refused to obey state and federal wetland regulations.

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