

What's the Big Idea?

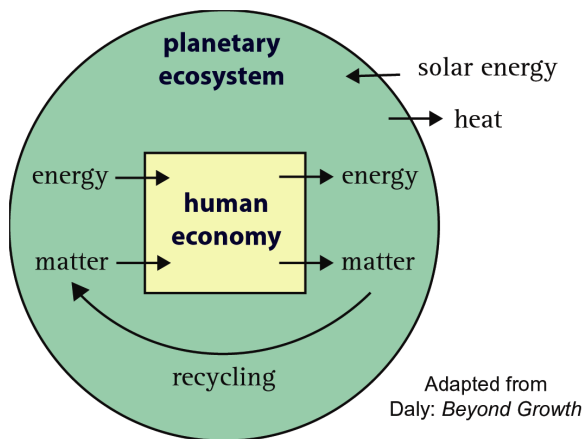
Farmed salmon as a touchstone in our evolving relationship with nature

By Howard Silverman

It's only recently, in a historical sense, that we've seen human actions have an impact on the largest natural systems on the planet. The hole we've created in the ozone layer, part of the Earth's atmosphere which otherwise shields us from radiation, is one example.

Such impacts highlight the existence of an ongoing relationship between the human and natural worlds. Our role in this relationship is mediated in a variety of ways: through our cultural customs and norms, our laws, and quite importantly in this modern age, our economics. Exploring the Hidden Costs of Farmed Salmon [http://www.sectionz.info/issue_1/Hidden_costs.html] provides an introduction to several crucial facets of this relationship. Let's take a closer look.

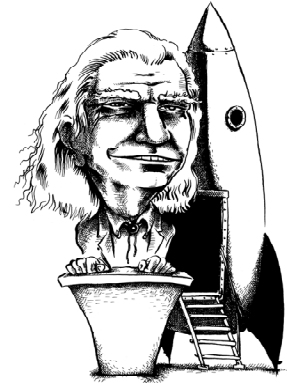
Here's a simple diagram that illustrates the interactions between ourselves and the larger natural world:



Seems to work ok. We take matter and energy from nature and then release them again. But what happens when increases in both population and consumption cause that box labeled "human economy" to expand and fill the circle?

That's where the relationship stands now. The fact that we are having a noticeable impact on global systems means that the box is impinging upon the circle. We are starting to hit some limits.

The ratio of the size of the box to the size of the circle is one of the questions studied under the subject of "ecological footprints."



"Earth has become a space ship. In what we might call the "old days," when man was small in numbers and earth was large, he could pollute it with impunity. Now man can no longer do this; he must live in the whole system. In a space ship there are no sewers."

– **Kenneth Boulding**,
Former President of the
American Economic
Association

Source:
<http://csf.colorado.edu/authors/Boulding,Kenneth/spaceship-earth.html>

Ecological Footprints

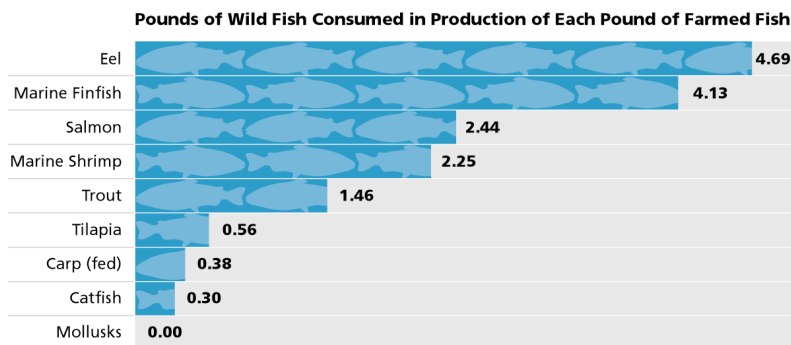
The notion behind ecological footprints is that we can measure our overall consumption of things like food, living space, and fuel in terms of the number of acres of productive land and water required to feed us, house us, and keep our climate stable. This total acreage is our “footprint” upon the Earth.

A 2002 study published in the Proceedings of the National Academy of Sciences called “Tracking the ecological overshoot of the human economy” estimates that our footprint is already 20% larger than the Earth’s productive capacity.

In this context, the explosive growth of salmon farming seems a little worrisome. After all, salmon are carnivores. Nearly two and a half pounds of wild fish from the oceans are needed to raise each pound of farmed salmon.

You can learn about your own ecological footprint by participating in the fascinating Ecological Footprint Quiz [<http://www.earthday.net/footprint>] sponsored by Earth Day Network and Redefining Progress. After answering some questions about your daily habits, it computes the amount of productive land necessary to maintain your lifestyle.

The quiz shows that one way we can reduce our footprints is to reduce our consumption of resources. But another way is to consume smarter. Take a look at this chart of pounds of wild fish required to produce each pound of farmed fish.



Based on Figure 5 of Goldburg et. al. (2001).

Seafood farming, or aquaculture, holds great promise for helping to feed the world. But by looking at this chart it becomes pretty clear that our opportunity lies in the farming of carp or of mollusks such as oysters and mussels, not of salmon, shrimp or eel.

Still, there’s a more fundamental problem at work than that of misguided consumption. It’s this: in our lopsided economic system, prices do not reflect the true costs of production. The price of farmed salmon, for example, doesn’t include the cost to our oceans of the loss of those wild fish. If it did, the price of farmed salmon would rise relative to that of oysters and mussels, which can be farmed without depleting the oceans. And we would all get clues about our footprints right there in the price tag.

How can we rectify this situation and bring a measure of true-cost pricing to our economic system? By closing the loops.



“Just as businesses need accounts to assure that they don’t spend more than they earn, we need ecological accounts to know how much of our resources we use compared to how much we have.”

– **Mathis Wackernagel**,
Lead-writer, “Tracking the ecological overshoot of the human economy”

Read the abstract:

<http://www.pnas.org/cgi/content/abstract/142033699v1>

Learn more:

<http://www.redefiningprogress.org/programs/sustainability/ef/efb-rochure.pdf>



“There is something fundamentally wrong in treating the Earth as if it were a business in liquidation.”

– **Herman Daly**,
Former Senior Economist
at the World Bank

Closing the Loops

A few of the points that we've discussed about farmed salmon, such as poop and epidemics, are related to the problems that the farms can cause for their surrounding waters. Farmed salmon sewage pollutes the ocean and parasites like sea lice can spread from the farms to decimate nearby stocks of wild fish.

In economic terms, these types of problems are called "externalities." An externality occurs when a private cost is spread to the public at large, in this case from their farms to everyone's oceans. Externalities are essentially loopholes that allow us to be cheated; we are all paying to subsidize the profits of the salmon farmers and the artificially low price of farmed salmon. Plenty of people don't eat any farmed salmon, but they bear the cost of polluted and infected an polluted oceans just the same. Getting rid of externalities is what we mean by "closing the loops."

By isolating the farms from the oceans, we can close these farmed salmon loops easily enough. Visit the Take Action page on SectionZ.info [http://www.sectionz.info/issue_1/take_action.html] to learn more.

But a more efficient way to close loops in general is, no surprise, through adjustments to our economic system. If we can get the prices right, so that the true costs are in the product, then the free market will take care of the rest.

How do we achieve that? One of the simplest ways is through a rethinking of our taxes. Take a look at this example:

In March 2002 a general furor over the litter of plastic bags in Ireland led the government to institute a tax of 16¢ on each bag that leaves stores. The use of plastic bags immediately dropped over 90% and the tax is expected to raise \$10 million in its first year of operation. (Here's a BBC report: <http://news.bbc.co.uk/1/hi/world/europe/2205419.stm>.)

The money that the Irish government has raised can now be used to cut taxes in other areas. Many who propose this kind of tax shifting clearly specify that income from taxes on externalities should balance the lowering of other taxes. One of the excellent publications in this field is Northwest Environment Watch's *Tax Shift* [http://www.northwestwatch.org/pubs/tax_shift.pdf].

Why hasn't this idea, supported by countless economists, taken hold? The vested interests of the polluters, whose loophole profits we are subsidizing, are surely one reason. If ever there were an issue that is worth your time of a letter to the editor of a major newspaper, this is it. Let's close those loops.



"In general, economics tells us that when you tax something, you get less of it. Our problem is that we tax things we want more of, such as paychecks and enterprise, instead of things we want less of, such as toxic waste and resource depletion... Whether you think government is too big, too small, or just right, tax shifting is a revolt that makes sense: it gets taxes off our backs and onto our side."

Alan Thein Durning

Lead-writer, *Tax Shift*

http://www.northwestwatch.org/pubs/tax_shift.pdf

Economics with Wisdom

What does it mean to be truly human? Many over the years have wrestled with this question. The Latin name for our species, *Homo sapiens*, means Wise Man. With the rise of economics as an all-encompassing mediator of human relations, another Latin designation has risen to recent prominence: *Homo economicus*, Economic Man.

As the embodiment of our economic system, Economic Man models a kind of human behavior that is perfectly rational and completely self-interested. He always makes decisions that favor his dollars-and-cents well being.

What portions of ourselves are not accounted for in such a model? "*Homo economicus* takes no pleasure when a neighbor receives a gift from someone else," writes Herman Daly. Or, we might add, at the astounding sight of a king salmon leaping waterfalls on its journey home to the stream where it was spawned.

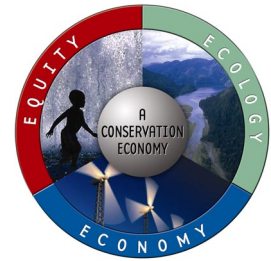
A sense of community and a sense of place are among the joys for which *Homo economicus* has no feeling. But there is a vision for an economic system that, by adding a measure of wisdom, brings us closer to the true calling of *Homo sapiens*. Incorporating a conservation of both our human community and regional splendor into its operation, it employs features that are at the same time radically bolder, yet far more conservative, than economics-as-usual. We call it a Conservation Economy [www.ConservationEconomy.net].

A Conservation Economy recognizes that there is something unique that ties us together in this space, we of this land from roughly Alaska to San Francisco. The features of the flora and fauna speak volumes.

We live amidst the remnants of the world's largest coastal temperate rain forest: hemlock, fir, spruce and redwood that receive over 1400 mm of precipitation a year. And amidst the remnants of one of the most spectacular phenomena in all the animal kingdom - the annual migration of Pacific salmon. These are what make our place on Earth special.

We now have a tremendous opportunity to preserve the wealth of this land, the bounty that has been treasured by its inhabitants for over 12,000 years - its wild salmon. Why would we ever allow it to be threatened for the sake of an inferior substitute?

Welcome home to **Salmon Nation** [www.SalmonNation.com].



ConservationEconomy.net



SalmonNation.com