

In Jeopardy : The Future of Organic, Biodynamic, Transitional Agriculture

The ever expanding war on “invasive species” is giving “green cover” to the widespread use of inadequately tested pesticides that threaten the health of the very soil and water that sustain all life.

Wherever man migrated he brought plants prized for food, fiber, medicine and ornament. With world exploration and trade, the exchange of flora and fauna became ever wider, and after 1492, the ecosystems of the continents were transformed.

Importation was encouraged by presidents and agencies such as the United States Office of Plant Introduction. The US Department of Agriculture planted the now vilified kudzu, and tamarisk for erosion control, fodder and other useful purposes. Today, 98% of our crops and many plants we think of as American as apple pie are actually from somewhere else --including the apples in that pie.

At the beginning of the 20th century, however, laws were passed “to protect crops and livestock from the wilds of Nature.” Mid-century, in a climate of war and fear of foreign attack, the theory of *invasion biology* branded alien species “invaders.”

But all-out war was declared on “invasive species” in 1999 with Executive Order 13112, which authorized billion dollar funds and a massive network of agencies to “rapidly respond” to “alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health.” The National Invasive Species Council was created, whose co-chairs include the secretaries of Interior, Agriculture, and Commerce, State, Defense and Homeland Security, Treasury, Transportation, Health and Human Services as well as Administrators of the EPA, USAID, and the US Trade Representative. Programs coordinate and collaborate with federal, state, county and environmental organizations with a variety of funding sources. Washington State has one of the most sophisticated invasive species networks, and has cannibalized the commission on biodiversity.

More often than not, this war employs chemical weapons. Mike Ludwig exposes the very cozy relationship among government, conservationists and the biotech industry that manufacture herbicides in the *Truthout* Special Investigation: [The Pesticides and Politics of America's Eco-War](#). Pesticide profiteers have been involved in this offensive from the beginning. One might question whether the chemicals are merely a method of combat or motive for the war.

Ecologists have begun to raise objections to this approach. Some point out it is ideology rather than sound science that drives the targeting of certain species. Some reveal that many of these demonized species are not inherently harmful and in fact provide environmental services as water filters, soil cleansers, stabilizers, enhancers, protectors, and air purifiers. Others remind us the real drivers of plant “invasions” are frequently man made: climate change, nitrogen eutrophication, increased urbanization and other land-use changes. Evolutionary biologists warn against shortsightedness: ecosystems are constantly changing. Species and communities naturally come and go.

And, of course, there is the warning against the use of dangerous compounds as a solution to perceived problems. As Timothy Scott writes in [Invasive Plant Medicine](#), “[E]ven if the poisons are carefully applied (and they aren't most of the time) they eventually contaminate the water, soil and air and enter the food chain, affecting microorganisms up through to our dinner plates.” Furthermore, these costly

eradication efforts often fail, affect unintended species, (including nearby plants and bees) and actually create superweeds that then require more and stronger herbicides.

Non-native species have been intentionally introduced to hundreds of millions of acres in the US:

- Wheat [from the Near East and Ethiopia] 58 million acres
- Soybeans [from East Asia] 76.6 million acres
- Sorghum [from Africa] 5.6 million acres
- Corn [mostly genetically engineered and therefore from nowhere] 92 million acres.

Yet no one calls these monocultures, pesticide-purged of biodiversity, “invasive.”

Thus the label of “invasive species” is political, not ecological. It masks complex issues of land usage and legal questions. And it is exploited to justify an arsenal of control methods that may indeed cause-not prevent-economic, environmental and harm to plant, animal and human health.

Let's examine some of the featured invasive non-natives in Washington State:

In his paper, *Should we care about purple loosestrife?*, Claude LaVoie, professor of Environmental Management at Université Laval, Canada describes a massive media campaign to condemn purple loosestrife and refutes the “science” behind it. He calls the depiction of purple loosestrife in scientific studies “(lacking definition) far removed from that in newspapers (alarming)” describing this plant's negative impacts on wetlands as “probably exaggerated” and pointing out that of the studies done most were somewhat biased, relied on anecdotal information and were not formally reviewed. He considers only one review to be really impartial, “and this one painted an inconclusive picture of the species.”

Though Washington State requires its eradication, edible garlic mustard contains more vitamin C than orange juice, more A than spinach, and shares the medicinal benefits of both garlic and mustard.

On the Hoh River, Japanese knotweed is injected and/or sprayed with glyphosate and imazapyr in the name of salmon restoration. Despite this righteous intent, we have been unable to find any scientific support for Japanese knotweed’s interference with salmon. There is also an assumption that water quality and the water community are unaffected by chemically laced vegetation decaying on waterbanks. The impact of glyphosate and imazapyr on phytoplankton and marine organisms has never been scientifically examined. On the other hand, the virtues of Japanese knotweed have been ignored. Long planted along riverbanks for stability and shade, beekeepers value the flowers as an important nectar source when little else is flowering. This plant has been used for centuries as a gentle laxative and is an excellent source of the potent antioxidant resveratrol, and it is now used in treating Lyme disease. It exemplifies [Tim Scott](#)’s caution that in attacking “invasives,” we may be “destroying potent medicinal remedies.”

Fritzi Cohen owns Moby Dick Hotel and Oyster Farm on Willapa Bay in Nahcotta, WA. For 20 years, she has been fighting the use of insufficiently studied pesticide combinations sprayed by the state and county that have contaminated her tidal flats and oyster beds in order to eliminate a non-native grass, *Spartina alterniflora*. This eradication project was based on politics, not science. Dr. James Morris, Director of Baruch Institute of Marine and Coastal Science, has demonstrated that contrary to the claims that this grass harms the ecosystem, it provides economic benefits that outweigh the costs of controlling

it. This purge has cost taxpayers well over 25 million dollars, degrading Willapa Bay and certainly not helping the health of the ocean.

Chemical warfare campaigns are being waged against so-called "invasive species" on vast tracts of public, tribal, and conservancy land throughout the country which add to the proliferation of pesticides accompanying agricultural GMOs and habitat restoration.

Whether by drift, seepage, runoff or court order, it is an invasion of chemicals, not plants, we should be worried about. The escalating use of pesticides is putting the future of organic, biodynamic, and transitional agriculture in jeopardy. It looks to us as if this is a war on everything ORGANIC.

It is time to reexamine the underlying assumptions and motivations for the 'war on invasive species', consider its collateral damage, and explore creative rather than destructive responses to changes in our environment.

We must rely on science not self-interest in distinguishing harm from hype. And realize that the term 'invasive' can be arbitrary, 'harm' subjective and 'safety' unproven. We must abandon eco-illogical practices that throw precaution to the wind and water and soil and if controls are judged -based on fact not fear-to be necessary, we must use methods that safeguard the environment and all creatures in the food chain.

Short of stopping global trade and travel, preventing new introductions will be difficult at best and without reversing global warming species will be migrating and mutating to adapt to climate change. And we are not returning to some imaginary 'pristine' Eden. The genie is not going back in the bottle.

Shouldn't we embrace the possible benefits of these of these newcomers: as food, fiber, medicine, biofuel, carbon sequestration, erosion control, coastline protection, new industry?

Before embracing "invasiveness" as a claim to virtue that justifies all means of extermination, perhaps we should reflect on the catastrophic changes following the invasion of the Americas by our own European culture.

Visit fearlessfund.info for details

For color pictures of the plants described see: www.nwcb.wa.gov/

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