10 things you can do to help biodiversity

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Biodiversity is threatened by the combined actions of our society just going about our day-to-day business (see Fig. 1). Most people aren't actively trying to harm biodiversity, but it's often difficult to see the connections between what we do and the downstream effects. As a rule of thumb, humanity's global environmental impact (I) is a function of total population size (P), affluence (A)(i.e., the extent of each person's resource use), and technology (T)(i.e., with what efficiency can we get what we need), or I = PAT (Ehrlich and Ehrlich 1981). To help get a sense of what your own impact might be, you can calculate your "ecological footprint". With some simple changes of habit, you can lessen your own adverse effects. Here are ten simple (and a couple not so simple) things that will help reduce your own environmental impact, and thereby your adverse impact on biodiversity. Many of them help in multiple ways.

Habitat

1. Reduce use of pesticides and fertilizers in lawn care. These often run off of lawns into adjacent lakes and streams with adverse effects for the plants and animals living there. See these links for lawn care advice: http://www.pioneerthinking.com/lawn.html; http://www.qc.ec.gc.ca/ecotrucs/solutionsvertes/lawncare.htm.
2. Get involved with ecological restoration in your area. Most areas have groups active in restoration. By volunteering, you can help restore habitat for native species and eliminate invasive species, all while learning something about your local plants and animals and getting active out in the fresh air. Do you own land adjacent to ecologically sensitive areas (e.g., woodlands, riparian areas, lakes)? Check with local conservation or restoration groups (e.g., Nooksack Salmon Enhancement Association) about the prospects of enhancing or restoring habitat on your property.

Waste stream

3. Reduce, reuse, and recycle, with an emphasis on the first one. Ok, everyone has heard of this, but it comes down to the "A" in the I = PAT equation. The more we can each reduce our demand for new resources, the less habitat conversion will be necessary to get those resources or the energy to make the products we demand, and the less waste goes into the landfill.
4. Composting both reduces the overall waste stream and thereby the need for landfill space, and it provides natural slow-release fertilizer for your flower or vegetable garden. As we say when cleaning out our fridge of all those moldy leftovers, "Eat it next year!".
5. Use environmentally friendly products for cleaning. This reduces chemical contamination of habitats both during manufacturing and when those chemicals go down the drain. One link of many: http://www.ecomall.com/biz/cleaning.htm.

Food choices

6. Buy organic foods. This helps reduce inputs of fertilizers and pesticides into the environment, which in turn reduces negative impacts on nearby beneficial insects (for pollination and pest control) and adjacent aquatic biodiversity. Organic foods are

increasingly available, even in regular supermarkets. Your favorite place to shop doesn't offer any? Start requesting it!

7. Buy sustainably harvested seafood. Many seafoods, though delicious, are not harvested sustainably – either for the individual species itself or for those species that are unlucky enough to be ensnared as "by catch". Some trawlers destroy extensive seafloor habitat in the process of catching fish; many shrimp farms destroy mangrove forests important as nurseries for wild fish species. See the Monterey Bay Aquarium Seafood Watch for a better understanding of how your favorite seafood fares.

Energy use - By reducing your energy demand, you reduce both carbon dioxide release into the atmosphere, which contributes to global warming, and the need to disturb habitat for fossil fuel prospecting and extraction. Plus, you save money!

8. Aim for energy conservation in your home. Home energy audits are often available from your local power companies. They know that it's more economical to conserve than having to build new power plants. Check out the Home Energy Saver web site.
9. Reduce single-person car use. Each gallon of gasoline burned releases ~20 pounds of the greenhouse gas CO_2. Car pooling, public transport, walking, and bicycling are often options. Gotta drive? Look into the growing number of fuel efficient vehicles, either gas-electric hybrids or turbo diesel (tdi) models. If you use 100% biodiesel, you can even make your driving "carbon neutral" – no more CO_2 released into the atmosphere from your vehicle than was taken up by photosynthesis by the plants used to make your fuel.
10. Incorporate renewable energy and/or energy efficiency into your next home. Thinking about building a new home or remodeling? With some careful thought about your region, your site, and your needs, you can drastically reduce your own energy consumption and still have a beautiful, comfortable home. While you're at it, think about some of the many alternative building and "green landscaping" materials out there. See the Home Energy Saver web site, above, and this recent article on Designing a "Green" Building.

This one goes to 11:

11. VOTE – Keep abreast of legislation affecting biodiversity and support people who demonstrate their support for long-term ecological sustainability.

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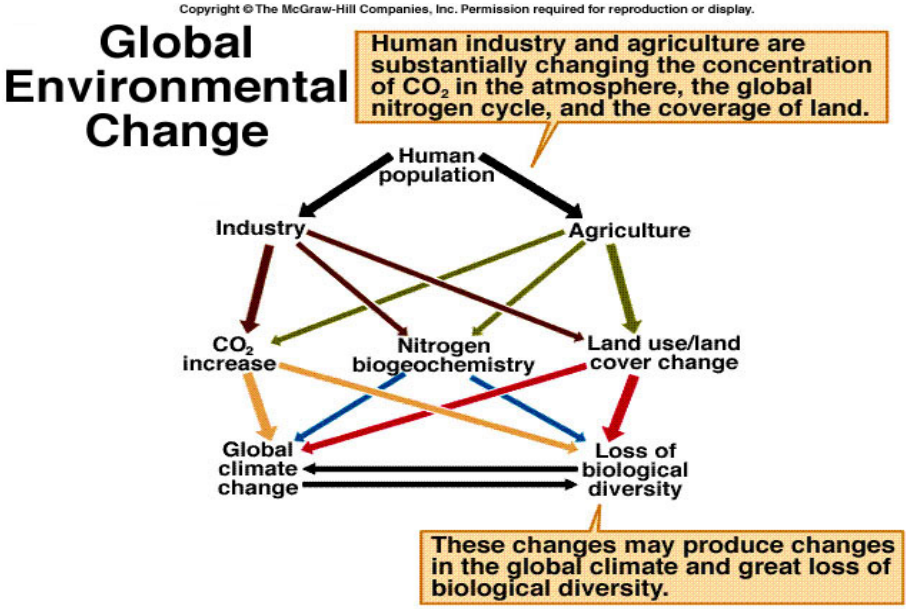

Figure 1. Biodiversity is threatened by a variety of global changes resulting from the combined actions of human society. The most direct threats are overharvesting and loss/disturbance of habitat resulting from conversion of natural ecosystems to human use (thick red arrow). However, other changes such as increased nutrient availability and elevated CO_2, with the resulting climate change, are also long-term threats. Figure from Molles 2004.

Other resources and links for action
Co-op America – Greening your office
Natural Resource Ecology Lab
American Museum of Natural History
Business and Biodiversity
Links to information
Do a Google search for your own area. There is lots of information on the web!

REFERENCES CITED

Ehrlich, P. R., and A. H. Ehrlich. 1981. Extinction: the causes and consequences of the disappearance of species. Random House, New York.

Molles, M.C. Jr. 2004. Ecology: Concepts and Applications, 3rd ed. McGraw-Hill Publishers, Boston.