

## TERRE Policy Centre celebrated Wild Life Week

“ TERRE Policy Centre in collaboration with Pune Municipal Corporation and Department of Forest, Pune celebrated Wild Life Week by organizing the first Exhibition on biodiversity. The exhibition is full of knowledge about the wild animals, mammals, biodiversity on hills with the rare photographs. Mr Prabhakar kukdolkar , Senior scholar in wild life is an architect of the exhibition.

Mayor of Pune Mrs. Chanchala Kodre inaugurated the exhibition. mr Rajendra Shende , Former Director UNEP was performed key note address during the inauguration event. ”





# 10 things you can do to help biodiversity

**B**iodiversity 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

- 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: [www.pioneerthinking.com/lawn.html](http://www.pioneerthinking.com/lawn.html) [www.qc.ec.gc.ca/ecotrucs/solutionsvertes/lawn/lawn.html](http://www.qc.ec.gc.ca/ecotrucs/solutionsvertes/lawn/lawn.html).
- 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

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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.

## Habitat

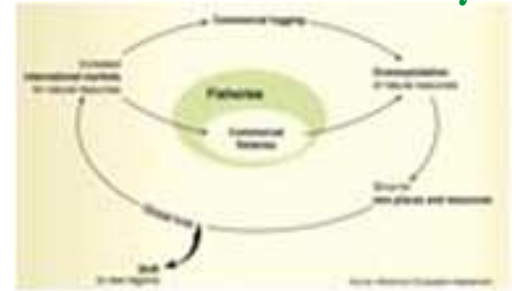
- Reduce, reuse, and recycle, with an emphasis on the first one. Ok, everyone has heard of this, but it comes down to the "A" in the  $I = PAT$  equation. The more we can each reduce our demand for new resources, the less habitat conversion will be necessary to get those resources or the energy to make the products we demand, and the less waste goes into the landfill.
- 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!"
- 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: [www.ecomall.com/biz/cleaning.htm](http://www.ecomall.com/biz/cleaning.htm).

## Food choices

- Buy organic foods. This helps reduce inputs of fertilizers and pesticides into the environment, which in turn

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## What is a "driver" and how does it affect biodiversity?



Natural or human-induced factors that directly or indirectly cause a change in biodiversity are referred to as drivers.

- ☞ Direct drivers that explicitly influence ecosystem processes. include land use change, climate change, invasive species, overexploitation, and pollution.
- ☞ Indirect drivers, such as changes in human population, incomes or lifestyle, operate more diffusely, by altering one or more direct drivers.

Some direct drivers of change are easier to measure than others, for instance, fertilizer usage, water consumption, irrigation, and harvests. For other drivers, indicators are not as well developed and measurement data is less readily available. This is the case for non-native species, climate change, land cover conversion, and landscape fragmentation. Changes in biodiversity are driven by combinations of drivers that work over time, on different scales, and that tend to amplify each other. For example, population and income growth combined with technological advances can lead to climate change.





# What factors lead to biodiversity loss?

- ☞ What is a "driver" and how does it affect biodiversity?
- ☞ What is a "driver" and how does it affect biodiversity?
- ☞ What are indirect drivers of biodiversity change?
- ☞ Which direct drivers are critical in different ecosystems?
- ☞ How are specific direct drivers affecting biodiversity?
- ☞ How is climate change affecting biodiversity?
- ☞ How quickly are drivers causing change?

# 10 things you can do to help biodiversity

From page no. 2... 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!

●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!

●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.

●Reduce single-person car use. Each gallon of gasoline burned releases ~20 pounds of the greenhouse gas CO2. 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 CO2 released into the atmosphere from your vehicle than was taken up by photosynthesis by the plants used to make your fuel.

● 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.

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

## Quick Question

Which one is not a type of biodiversity?

- Genetic diversity
- Exosystem diversity
- Species diversity
- Ecosystem diversity

## Last Issue's Answer

Genetic, species and ecosystem are the three types of biodiversity.

Quick Answer  
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If you know the answer, send in your entry to us at :  
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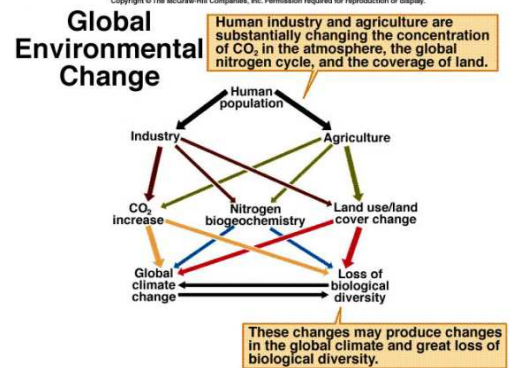


Figure : Biodiversity is threatened by a variety of global changes resulting from the combined actions of human society. The most direct threats are overharvesting and loss/disturbance of habitat resulting from conversion of natural ecosystems to human use (thick red arrow). However, other changes such as increased nutrient availability and elevated CO2, with the resulting climate change, are also long-term threats. Figure from Molles 2004.





## How are specific direct drivers affecting biodiversity?

Natural disturbances (such as fires) or changes in land use (such as road construction) lead to the fragmentation of forests. Such habitat changes have a significant impact on biodiversity, as small fragments of habitat can only support small populations that tend to be more vulnerable to extinction.

Invasive alien species that establish and spread outside their normal distribution have been a major cause of extinction. This has particularly affected islands and freshwater habitats and continues to be a problem in many areas, as effective preventive measures are lacking. In New Zealand, for example, plants have been introduced at a rate of 11 species per year since European settlement in 1840.

Overexploitation remains a serious threat to many species, such as marine fish and invertebrates, trees, and animals hunted for meat. Most industrial fisheries are either fully or overexploited, while destructive fishing techniques harm estuaries and wetlands. The overexploitation of bushmeat is in a similar situation, where sustainable levels of exploitation are poorly understood, and the catches

difficult to manage effectively. The trade in wild plants and animals and their derivatives is estimated to reach nearly \$160 billion annually. Because this trade crosses national borders, the effort to regulate it requires international cooperation to safeguard certain species from overexploitation.

Over the past four decades, excessive levels of nutrients in soil and water have emerged as one of the most important drivers of ecosystem change in terrestrial, freshwater, and coastal ecosystems. More than half of all the synthetic nitrogen fertilizers ever used on Earth have been used since 1985, and phosphorous uses are now three times what they were in 1960.

The total amount of nitrogen made available to organisms by human activities now exceeds that from all natural sources combined. Excessive additions of nitrogen and phosphorous to freshwater or coastal marine systems can lead to excessive plant and algae growth (eutrophication) and a lack of oxygen as well as to other environmental problems.



## How quickly are drivers causing change?

Today many drivers of extinction, such as land use change, emerging disease, and invasive species, are all occurring together and at a greater intensity than in the past. Because exposure to one threat often makes a species more susceptible to a second, and so on, multiple threats may have unexpectedly dramatic impacts on biodiversity. Drivers affecting biodiversity range from local to global and from immediate to long-term. Climate change may operate on a spatial scale of a large region, whereas political change may operate at the scale of a nation or a municipal district. Socio-cultural changes typically occur slowly, on a time scale of decades, while economic changes tend to occur more rapidly. Many impacts of management interventions on ecosystems are slow to become apparent. For example, a population cannot recover more quickly than the time needed to give birth to a new generation, and recovery will often take several generations. Moreover, human institutions are often slow to reach decision and to implement them. In addition, none of the drivers appears to be slowing or well controlled and we have not yet seen all of the consequences of changes that occurred in the past. For some species this process can be rapid, but for other it may take 100 to 10 000 years. Time lags between habitat reduction and extinction provide an opportunity for humans to restore habitats and rescue species from extinction. Notwithstanding this, habitat restoration measures will not be likely to save the most sensitive species, which will become extinct soon after habitat loss.



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