

Here's a bit of info on honeybees:

Number of honeybees in North America and South America in 1500 AD: 0

Honeybees originated in Africa, migrated to Europe and Asia, then to the Americas (isn't that a familiar story?). *Apis mellifera* were brought as domestic hives by European settlers of the "New World" ... in fact, native Americans sometimes knew of the proximity of European settlers when hives of honey bees (a species new to them) were sighted in lands they inhabited.

Feral hives - that periodically escaped from the European immigrant domestic hives and established themselves in the wild - were recently common in North America, until the arrival of the Varroa mite (*Varroa destructor*) from Asia about 15 years ago. This parasite now infests and decimates most feral hives within several years of escape from a beekeeper's apiary, so that nowadays when you spot a feral honeybee hive, it hasn't been there long and won't be there long. The honeybee population now depends on domesticated care by beekeepers for its health (basically inspection and treatment of hives for Varroa mites, etc., maintains the health of the hives).

A more recent threat, lately in the news - CCD (colony collapse disorder) - affects domesticated hives and has severely diminished the numbers of healthy domesticated hives kept by beekeepers (that's a double whammy). This disorder - CCD - may be due to parasites or pathogens or possibly due to certain insecticides. The reliance of humans (now 7,000,000,000 in number on our planet) on honeybees as pollinators is due to the industrialization of agriculture in which gigantic monoculture crops result in huge numbers of plants coming to flower at a given location within a few weeks. Efficiency of pollination of these crops - especially those needing assistance of insect pollinators - has come to depend on the seasonal provision of portable hives at the right time at the right place by commercial beekeepers - who annually move tens of thousands of hives on flatbed trucks along south to north routes as crops come to flower each season. The stress of constant relocation of hives, with the associated exposure of bees to pathogens of hives from all across the country and to the agriculture chemical environment may be part of the problem that bees are having.

As in almost all of the issues in which the planetary environment is being degraded (loss of rainforest / land and ocean habitat, global warming, loss of species diversity), the elephant in the room is that big number (7,000,000,000 now ... will be 9,000,000,000 before you know it) which is really driving the whole machine along this present course. Although the birth-rate-per-capita has actually been decreasing, the death-rate-per-capita, especially among children, has been decreasing even more quickly - which is due to the success of agriculture and sanitation and medicine - humans doing what we must do to prevent disease and death when we can - doing the right thing for our fellow man.

As the mass of humanity rises from crushing, inhumane poverty to share in some small piece of the modern world, resource utilization per capita will also increase. And, of course, modern agricultural methods (and its managed insect pollinators - honeybees) will be called upon to increase efficiency and output to an ever-larger number of humans.

Quite a conundrum ...