Farms Are Keeping Endangered Species Alive

You might think that farmland means the death of biodiversity, but animals are quite adaptable, and they now need farms to survive. But farms are going extinct themselves, and endangered animals can't survive industrial agriculture.

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Over the last two millennia, as farms and pasture displaced forests and grasslands, agriculture has spread across more than 40% of the Earth's terrestrial surface. Wildlife, when it didn't go extinct, had to go somewhere. Some of it moved back to the farm, where it became semi-domesticated without anyone realizing it. Today, as the Earth undergoes yet another transition from subsistence growing to industrial mega-farms, there's nowhere else for that wildlife to go.

A study published this month in the journal *Conservation Letters* found that many threatened and endangered bird species in the developing world are dependent on human agriculture for their survival. At least 30 bird species, and it is theorized many more, came to rely almost completely on traditional farms for food, nesting, or resources as their original habitats have virtually disappeared.

"Conservation efforts in the developing world focus a lot of attention on forest species and pristine habitats—so people have usually been seen as a problem. But there are a number of threatened species—particularly birds but probably a whole range of wildlife—which heavily depend on the farmed environment," said lead author Hugh Wright of UEA's School of Environmental Sciences in a statement. "We need to identify valuable farmland landscapes and support local people so that they can continue their traditional farming methods and help maintain this unique biodiversity."

The study tallied globally threatened bird species using human-dominated landscapes, mostly agriculture, from a bird habitat database collated by the charity BirdLife International, and identified species reliant on low-impact agriculture in the developing world from the scientific literature.

Now the spread of intensified agriculture and industrial development is eliminating even these habitats. "These systems are expected to undergo widespread transformation due to economic change," the study found. "Conservation must identify valuable farmed landscapes and seek new mechanisms to maintain or mimic important land-management techniques in developing countries."

The study reveals the underlying tension in a world where we must constantly grow more food for a population that soared past 7 billion in 2011 (and for all the livestock we eat) with ever less fallow land. In the next 50 years, we will be forced to clear significant percentages of the remaining forests and grasslands, or learn to grow more with less. There are worries we won't find room for wildlife in that equation.

Another approach—or simply a complementary one—is presented in a recent University of Cambridge study advocating a strategy called "land sparing." Higher yields on existing farmland can prevent encroachment on natural lands spared for nature. Maximizing both food and wildlife, the scientists calculate, "would be better for biodiversity... if that allows more natural habitat to be protected or restored."

From a species diversity perspective, "wildlife-friendly," farms, even those with natural vegetation, are a poor stand-in for rich biodiversity in natural forests. But they may be better than nothing. If the world is going to retain a semblance of its original biodiversity during the next century, we must think about growing some crops far more intensively, while conserving traditional farming habitat (and untouched lands) for displaced endangered species. The wild has come home to roost. Soon it may have nowhere left to go.

Write a short typed essay of two or 3 paragraphs in which you explain why traditional farming methods are preferred over industrial farming when it comes to preserving biodiversity. In your essay explain...

- Why grassland and forest habitat has disappeared all over the world.
- How traditional farms can be "wildlife friendly".
- Why in the next 50 years it is expected that even more of existing forests and grasslands will have to be cleared.
- Why maximizing yields on existing farmland can help preserve biodiversity.