Farming for wildlife

If we buy cheap food, wildlife can pay the price. **James Fair** investigates the hidden costs of non-organic and learns how agriculture can become more compatible with biodiversity.

The best of both worlds: a barn owl hunts over grazing marsh in Cley, north Norfolk.

Flushed from the shallow, seasonal pond, a flock of teal wheels in the December sky, and two, then three, snipe erupt from a clump of reeds, zigzagging erratically in typical fashion. Daylesford Organic Farm's environmental scientist Tim Field sighs with satisfaction: "If you get a peregrine among that lot, then you're really seeing something."

In the summer, Daylesford – a mixed farm in the north-east of the Cotswolds – has lapwings, too, though they have yet to raise any chicks. At the pond's edge, Field proudly reveals the artificial holt put in for an otter that traverses Daylesford's portion of the River Evenlode. With winter linnets in the market garden, and a sparrowhawk patrolling a small copse, this is farmland as it's meant to be.

For anyone thinking, "That's all very well, but you pay twice as much for the food because it's organic", here's a short quiz. How much do you pay for a pint of milk – 50p? 75p? £1? Are you sure? Did you consider the cost of removing pesticides, nitrates and phosphates from our water courses, or the price that we will eventually have to pay for the loss of soil from our landscape? Research dating back to 1996 calculated the total, external costs of British agriculture at £2.34 billion, but added that this was almost certainly a "substantial underestimate".

THE TRUE COST OF FARMING

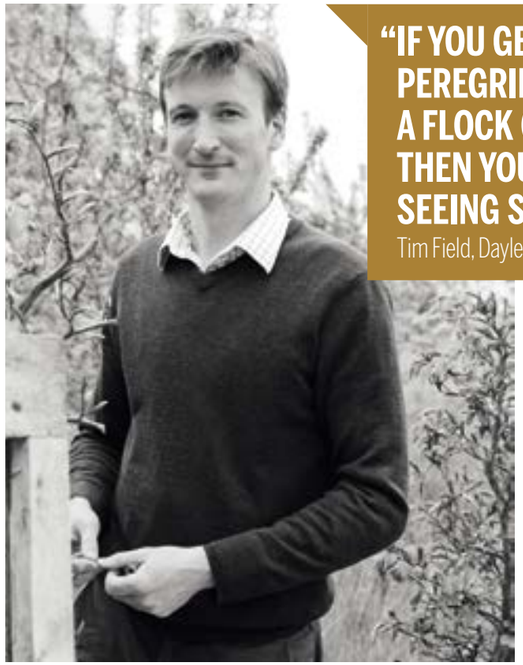
For a start, the research didn't consider the cost of coping with climate change that can be attributed to food production, or indeed the subsidies paid to farmers through the EC's Common Agricultural Policy (CAP) – research has estimated it cost the UK £4.7bn in 2008, or nearly £400 per household per year. If you're a taxpayer and the customer of a privatised water company, then you foot the bill for all of these 'externalities'.

"We are paying a lot more for our food in hidden ways," says organic-farming pioneer Patrick Holden, founder of the Sustainable Food Trust. "Through taxation, through CAP and through the Health Service, because we're feeding the public bad food. We are degrading environmental capital, and storing up problems for our children. This is not true-cost accounting – an auditor would declare it illegal." ▶

COMPLEMENTS **FARMING TODAY** BROADCAST ON BBC Radio 4

David Tipling/FLPA

A brown hare runs across game cover on the edge of a large arable field. Modern, specialised farming techniques are making life difficult for Britain's hares.



"IF YOU GET A PEREGRINE AMONG A FLOCK OF TEAL, THEN YOU'RE REALLY SEEING SOMETHING."
Tim Field, Daylesford Organic Farm

The RSPB's Hope Farm shows that farmers can help wildlife without damaging their profits.

Farming techniques that support bird populations have been trialled at Hope Farm.

By not, on the whole, using artificial fertilisers and pesticides and by being less reliant on monoculture farming, the organic system does not offload these 'externalities' to the consumer in the same way, and therefore appears to be artificially expensive. Conventional food would cost more if we paid its true price, whether it's milk, maize or mānuka honey.

IMPACT ON WILDLIFE

But the true cost of farming to our wildlife has never been clearer – the number of farmland birds, for example, decreased by 54 per cent between 1970 and 2014. The loss of wildflower meadows since World War II has been even more dramatic – down by 97 per cent – while an estimated 320,000km of hedgerows have been ripped out.

Organic farming can help to reverse these losses, as shown by a catalogue of peer-reviewed research. Positive impacts have been found for plants, invertebrates, birds and small mammals, with one meta-analysis finding that organic farming increases overall species richness by 30 per cent. But because consumers usually pay more for organic food, it is a marginal commercial activity, with just 2 per cent of the UK food market.

"WE ARE DEGRADING ENVIRONMENTAL CAPITAL, AND STORING UP PROBLEMS FOR OUR CHILDREN."
Patrick Holden, Sustainable Food Trust

Other ways of counteracting wildlife declines work by rewarding farmers through Countryside Stewardship 'agri-environment' (AE) schemes, in which payments are distributed via CAP for the implementation of wildlife-friendly features such as wildflower strips, beetle banks and seed-producing cover crops.

We know that these work because the RSPB has been meticulously monitoring what's taken place at its demonstration farm in Cambridgeshire. It bought Hope Farm in the early 2000s, and has been farming it conventionally but developing techniques and features that provide food and habitat for birds and insects. In that time, says manager Ian Dillon, it has been able to maintain crop yields while increasing wildlife populations.

"We did our monthly winter bird count earlier this week," Dillon says as he shows me around the farm. "We recorded 2,300 birds of 43 species of which 378 were yellowhammers, compared with 250 birds of 22 species in December 2000 – of which two were yellowhammers." In terms of the total number of birds, that's an increase of 920 per cent in only 15 years.

During the same period, the number of skylark territories on the farm has soared from 10 to 40, and there are six or seven pairs of grey partridges, a species that has declined by 90 per cent in the past four decades.

So AE schemes do work. But if that's the case, then how come 70 per cent of UK farms have a scheme of one sort or another, yet wildlife populations continue to decline?

The grey partridge has suffered from the loss of insect prey on farmland.

There are, arguably, two key problems. The first is that, until last year, the system was set up so that most farmers were paid for doing very easy things that have not been shown to benefit wildlife – instead of growing a wildflower margin by the side of a field, for example, they just make it grassy. According to Dillon, choosing these "easier, cheaper" measures delivers more profit for farmers, so no wonder they're the default option.

Now, AE has changed and – conservationists agree – should produce better results for wildlife over time, even though fewer farms will receive payments.

Plus, argues Alastair Leake, who runs Allerton, the Game & Wildlife Conservation Trust's demonstration farm in Leicestershire, farmers of his generation were trained merely to worry about increasing their yields in the years following World War II, when food security was the major concern.

"Suddenly, we build the environment into our thinking and expect farmers to be able to address it," he says. "So the fact that 70 per cent of them have signed up to an agreement is fantastic."

But there's another problem. Consumers have no idea whether the food they buy ▶

has benefited biodiversity or not. A carrot that's been grown in a field surrounded by a luxuriously thick hedge offering nesting space for whitethroats and a 6m-wide margin of clover and vetch that's humming with bees could have been cultivated in a desert for all that the grocery shopper knows about it.

Agricultural land is a key resource for brent geese, providing winter cereals and grass. This flock was photographed at South Swale, Kent.

THE BEST SYSTEM

What if there was a third way? What if there was a system in which the consumer knew that their food had been grown with wildlife in mind, but at the same time – unlike with organic food – it wasn't necessarily any more expensive than conventional products of the same quality?

Actually, this system already exists. Now called Fair to Nature – it was known as 'Conservation Grade' until last year – it used to be most closely associated with the cereal producer Jordan's. In 2015, however, Jordan's pulled out of the project, and its most high-profile brands are now the RSPB's bird food, the flour producer Allinson and a salad company called Steve's Leaves.

Brent geese: Terry Whittaker/2020VISION/NPL; simon: Conservation Grade: owl: David Kjaer/NPL Tortoiseshell: Clive Dodd/Alamy; yellowhammer: Paul Miguel/FLPA; hare: Gary K Smith/FLPA

"OUR ARGUMENT IS THAT CONSUMERS AREN'T ASKING FOR FAIR TO NATURE BECAUSE THEY DON'T KNOW ABOUT IT."

Simon Tonkin, Fair to Nature

Here's how Fair to Nature works. Farmers who want to have their food marketed with its label must give up at least 10 per cent of their land to wildlife habitat, with some specific requirements such as putting in wildflower strips and plants that provide winter food for birds, plus broader practices that benefit woodland and the environment in general.

In return, the farmer receives a modest premium to reflect the fact that they are 'producing' biodiversity as well as food, while Fair to Nature receives a fee from the brand for administering the standards, advising farmers and ensuring compliance. Consumers see the Fair to Nature label, but not necessarily any difference in price.

"A lot of brands use it at the moment as a point of difference – the cost isn't passed to the consumer," says Fair to Nature's conservation manager Simon Tonkin. "This is about giving consumers a choice – they ▶

FOUR KEY FARMLAND SPECIES

British farmland supports countless animal species. Here are four that are suffering mixed fortunes.

BARN OWL

The loss of tussocky grassland – habitat for its small-mammal prey – in our farmed landscape has hit populations. Even so, the BTO says that barn owl numbers doubled in 1995–2013. Nestboxes and the warming of the climate have been crucial, adds the Barn Owl Trust.

SMALL TORTOISESHELL

The butterfly is still quite common, though its occurrence in the UK has declined by 15 per cent in the past 40 years (and its abundance by 73 per cent). Loss of flower-rich areas has hit many species of butterfly, and there is growing evidence that neonicotinoid pesticides have too.

YELLOWHAMMER

One of the farmland species hit by the loss of the winter stubble which provides seed for overwintering birds, caused by the change from spring to autumn sowing. Solutions involve providing seed in winter, and improving hedge habitat for nesting birds in spring and summer.

BROWN HARE

Hares thrive in a 'patchwork quilt' landscape with a mix of arable crops and pasture for livestock that provides food throughout the year. But the majority of today's farms are either arable or livestock, and pasture-only farms make it especially hard for the species.

Wildflowers, such as these poppies in the Derbyshire Dales National Nature Reserve, are vital for our struggling pollinators.

Dales: Angela Hampton/FLPA; beetle: Alfred Schauhuber/Imagebroker/FLPA

know that the commodity going into that product has come from a farm that's doing its best for wildlife."

But, as Tonkin concedes, Fair to Nature doesn't have many brands and isn't very visible within supermarkets. Allinson is found in most of the key ones, but Steve's Leaves only sells in Waitrose.

"It's a bit of a circle," he admits. "Brands say that they love the idea but their consumers aren't asking for it. Our argument is that consumers aren't asking for it because they don't know about it."

A CALL FOR CHANGE

So where does that leave the future of farmland wildlife? Both organic food and Fair to Nature are currently too marginal to have much impact, but AE is far from perfect. As Jenna Hegarty, senior agriculture policy officer for the RSPB, says, it's trying to "bolt measures onto a fundamentally unsustainable system".

Patrick Holden is more damning, arguing that AE is merely an attempt to mitigate the harm done by conventional farming in 90 per cent of our farmscape. "AE is mopping up the damage, but as we know it has failed to arrest the relentless decline in biodiversity," he says.

Arguably, 'organic' is just another label among an ocean of them – Fair Trade, Fair to Nature, RSPCA Assured (formerly Freedom Food), the Red Tractor. "There's a lot of dross out there," says Hegarty. "All that the Red Tractor tells you is that the food has been produced to the legal requirements of the country in question. There are no associated environmental positives."

Holden suggests that we should get rid of the organic standard, and have a system in which food gets points for the positive environmental and biodiversity impacts associated with its production.

A joint report that was produced by Which? and the UK government and published last year found that, while people buying food are initially concerned about quality, price and health, when prompted they begin to consider broader issues. "Participants... were shocked to hear about the impact of food production on climate change, the environment and water shortages," the report noted.

Perhaps this is the biggest obstacle of all to restoring wildlife populations: ignorance. Until the public is aware of the effect of farming on wildlife, there will be no pressure on politicians to take action. And until they do, farmers won't change either. "I don't blame farmers," says Holden. "The best business case at the moment is to use nitrogen fertiliser and pesticides to make the maximum amount of money. It's still the most profitable way to farm."

JAMES FAIR *is* BBC Wildlife*'s environment editor and edits our Agenda section.*

+ FIND OUT MORE

Farming Today regularly features organic farming. Listen to any episodes you've missed at **http://bbc.in/1ysf4tG**

FOUR WAYS FARMERS CAN HELP WILDLIFE

Here are four ways that farmers can support wildlife on their land – and be paid for it.

SKYLARK PLOTS

Skylark plots are undrilled patches of land, ideally measuring at least 16m^2, in winter-sown cereal fields. Conservationists believe that by June the density of the cereal is too great for skylarks to forage effectively, and that the undrilled plots provide an alternative space in which the birds can find food. Two plots per hectare can increase the number of skylark chicks that fledge successfully by an impressive 50 per cent. **http://bit.ly/1Pz4DaC**

BEETLE BANKS

A beetle bank is a hibernation refuge for overwintering ground beetles and spiders in the middle of a large field that has been ploughed to create a ridge up to 0.4m high and 2m wide and then sown with perennial grasses. The invertebrate predators, whose densities can exceed 1,000 per square metre, reduce the numbers of crop pests such as aphids. **http://bit.ly/20qHHIW**

WILDFLOWER STRIPS

These margins on the edges of fields must be at least 6m wide and usually consist of clovers, trefoils and vetches. They are especially important for insects such as bumblebees, butterflies and moths, but they also improve the reproductive capacity of predators such as hoverflies and parasitic wasps. **http://bit.ly/1RKYCxW**

WINTER SEED FOR WILD BIRDS

The change from spring to autumn sowing of many crops that took place in the 1970s and 80s massively reduced the availability of seeds for farmland birds during the winter. Planting special mixes of wheat, barley, kale and millet puts those seeds back into the landscape, though this still leaves a 'hungry gap' for the birds in early spring. **http://bit.ly/1ZQd0nX**

The priceless necklace ground beetle needs beetle banks.