PLoughing virgin land

What the law says & why

Strict laws governing the cultivation of virgin soil have angered many farmers. But that’s because there’ve been few explanations of why these laws are necessary. Odette Curtis, project manager of the Renosterveld Management Conservation Project in Overberg in the Western Cape, helps farmers understand what’s at stake.

Two laws deal with the cultivation of virgin soil – the National Environmental Management Act (NEMA) and the Conservation of Agricultural Resources Act (CARA). Many farmers are angered by these laws, because they dictate what they can and can’t do on their own land, and that’s the problem with these seemingly unreasonable laws – they tell you what to do but not why such measures are necessary.

The protection of virgin land, erosion control and veld maintenance are dealt with in law as both “green” (environmental) issues, and as “brown” (agricultural) issues, which shows how important it is to keep natural veld intact. But before discussing this, we must look at the relevant legislation.

CARA

The national agriculture department is responsible for implementing CARA, which stipulates, among other things, that:
• You can’t cultivate virgin soil without written permission.
• You can’t cultivate any land with a slope of more than 12% without written permission.

• You must protect cultivated land effectively against water and wind erosion.
• The veld on the farm must be effectively protected against deterioration and destruction.

NEMA

The Department of Environmental Affairs and Development Planning is responsible for implementing this Act. NEMA states that before any listed development activities can be undertaken, you must undertake an environmental impact assessment and obtain an environmental authorisation. The listed activity that relates to cultivation of virgin land is “the transformation or removal of indigenous vegetation of 3ha or more, or of any size where the transformation or removal would occur within a critically endangered or an endangered ecosystem listed in terms of section 52 of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)”. This includes:
• Transformation or removal of indigenous vegetation on land that has been transformed over 10 years ago.

Why read it?

• The fact that the protection of virgin land is not only dealt with in law as a “green” (environmental) issue, but also as a “brown” (agricultural) issue, shows how important it is to keep natural veld intact.
• When it comes to conservation, interventions must be proactive, not reactive.
• Improving habitat management and integrating management of veld and arable lands into a single strategy will benefit the farmer enormously.

Not only are scenes like this disheartening for conservationists, they’re totally unacceptable from an agricultural perspective. That’s why CARA prohibits any ploughing of virgin land without a permit. Permits for ploughing endangered habitats won’t be approved.

Photos: Odette Curtis
Any phased transformation or removal of indigenous vegetation.
• Removal or transformation of indigenous vegetation with, for example, a bulldozer to create firebreaks, roads or tracks.

Evidence of illegal cultivation is collected by mapping the ploughed sites and overlaying the maps on a time series of aerial photographs, which are available for the whole country.

Preserving natural habitats
CARA and NEMA prevent the abuse of all land, and prevent activities that would have only dubious short-term benefits and no long-term benefits at all for both agriculture and conservation.

The loss of natural habitats is one of the greatest causes of species extinction on earth. In these cases, alternative land uses such as agriculture, timber harvesting and urban development break up natural habitats into fragments, which are dispersed across the landscape and vary in size, shape and quality.

This is disastrous for natural systems as many mobile species can’t function. In the Amazon, for example, many specialised forest birds are affected by deforestation, because they can’t use open foreign habitats for feeding or breeding, or travel across them in search of other suitable forest fragments.

The Eastern Cape’s grasslands have been severely fragmented by afforestation (plantations and invasive woody aliens), which has affected the Rudd’s Lark, a very specialised and threatened grassland bird which is unable to make use of forest habitat.

For fragmented habitats, larger, more continuous and well-connected fragments encourage movement and are more conducive to species survival.

Farmers can help protect fragmented habitats, as these habitats don’t exist in isolation. What goes on around them, affects them.

Even if one doesn’t plan to “interfere” with the habitat itself, what happens on the surrounding land might still harm it. This is known as an edge effect and might take the form of pesticide or herbicide drift, fertiliser run-off, overgrazing or alien species invasion. The smaller the fragment, the greater the edge effect. For example, an edge effect of 5m will have very little impact on an 800ha fragment, but a significant effect on a 4ha fragment.

But what happens inside the fragment is also important. The ecological integrity of fragmented grassland or fynbos habitats, for example, is directly affected by fire and grazing – tools that can either improve or completely degrade these systems.

Why we must act quickly
There’s serious concern about the long-term viability of fragmented systems. The Extinction Debt Theory suggests severely transformed habitats are still paying off their “extinction debt” – future species loss due to past actions – and that we haven’t seen the full effects of habitat fragmentation as it’s a fairly recent phenomenon and many species haven’t had time to fully respond to the effects.

For example, several small fragments may have a high diversity of plant species, but in fact, due to a combination of edge effects and mismanagement, pollinator numbers have fallen and many plants aren’t producing enough seed. These plants can be likened to the “living dead”.

Despite ongoing research, our understanding of some individual species’ needs their responses to fragmentation...
and their ability to survive in the new habitats is so poor we might not know the extent of the potential extinction debt until it’s too late. We must act fast and, as a priority, secure the largest tracts of remnant veld, link these to each other through corridors where possible, and consider rehabilitating or allowing productive lands to return to their original state, which often requires expensive interventions.

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Yet we also have an ever-growing human population, an increasing food demand and very little funding to buy land for conservation, or even improve management in existing fragments.

The laws relating to the cultivation of virgin land can be seen as a compromise – they take these factors into account, seeking to preserve the fragmented habitats we already have without impinging too much on existing agricultural activities.

The benefits for farmers

And it’s not about being high-handed and draconian. When it comes to conservation, interventions need to be proactive, not reactive, and improving habitat management and integrating management of veld and arable lands into a single strategy will benefit the farmer enormously.

When considering a conservation plan for a fragmented landscape, we need to look at the system at a landscape level, not at an individual species or patch level, as the ultimate aim is to conserve processes, not species.

Focusing on individuals is ultimately self-defeating. Say we put a fence around the last population of a rare plant to prevent it from being grazed, but fail to manage the entire system to ensure the plant’s pollinators are conserved. The plant will go extinct anyway.

What must be done, then? Just following basic best-practice guidelines can go a long way to making a notable impact on ecological processes:

• Try to reduce edge effects by avoiding spraying on windy days.
• Don’t fertilise up to the fragment edge.
• Be proactive about erosion control.
• Clear invasive aliens, particularly where they’re invading water courses or virgin land.
• Adopt a grazing regime based on informed decisions about appropriate times and frequencies for a specific veld type.

Consider what you’ll get in return – an abundant supply of clean water, healthy soil, a viable population of pollinating insects and birds for your crops, and good grazing from veld.

Times are tough, but trying to improve profits using desperate measures such as ploughing remnants of virgin land, even though this natural habitat is marginal or unviable from a farming perspective, means everyone will lose in the end.

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ABOVE: A beautiful pair of cherry spot moths (Diaphone eumela), photographed in renosterveld. Their larvae feed on lilies such as chinchereinch. Pollinators like these are critical for ecosystems to keep functioning.

BELOW: Trichodiadema pygmaeum; a succulent classified as vulnerable on the Red Data List, occurring in renosterveld habitats. The presence of this plant is likely to be a good indicator of healthy veld.