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Restoring environmental damage:  
putting a price on ecosystem services

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# Restoring environmental damage: putting a price on ecosystem services



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ON 7 AUGUST 2009 A 40-INCH PIPELINE ruptured, spilling 5,400 cubic metres of crude oil into the soil and groundwater of La Crau nature reserve in southern France, a habitat protected under French and European law. The operator had to excavate and replace 60,000 tons of soil, install 70 wells to pump and treat groundwater and 25 pumps to skim oil from surface water, at a cost in the region of €50m. However, this was just the primary remediation (that is, restoring the site to the state it would have been if the damage had not occurred). The operator was also required to compensate for the damage to the habitats and the loss of the ecosystem services that would otherwise have been provided by La Crau nature reserve. Measures included purchasing land outside of the nature reserve and contributing to its management for a period of 30 years (over €1m), monitoring the water table for 20 years (over €500,000), monitoring fauna over three years (€150,000) and rehabilitation in accordance with best available ecological techniques (nearly €2m). Overall, the compensatory restoration (to compensate for the amount of time that the ecosystem was impacted) and complimentary restoration (to compensate for elements of the ecosystem that had been permanently lost) came to more than €6.5m.

Many operators might expect to meet the costs of clean-up, although the magnitude of the costs might come as a shock. What might be more surprising is the requirement to compensate for the time it takes for the natural resources to return to health, and the requirement to purchase and then foster alternative habitats for those destroyed by the incident. Further, the degree of compensation and its cost are not figures plucked from thin air: the quantification of the ecosystem services (the benefit the natural resources provide) is a science that has become well established in the US and is now gaining traction in the UK.

This article looks at the mechanisms available to regulators and the courts to compel restoration and some practical examples. The restorative mechanisms contained in the Environmental Damage (Prevention and Remediation) Regulations (EDR) 2009 are the most high-profile example but there are many others and it is worth exploring these before looking at the impact of the EDR 2009.

## EXAMPLES OF RESTORATIVE MECHANISMS

There are many examples of restorative mechanisms in environmental law.

Businesses who operate under an environmental permit under the Environmental Permitting (England and Wales) Regulations 2010 can find themselves subject to an 'enforcement notice' in the event that there is a contravention of the permit. Such notices may specify steps to remedy the effects of pollution caused by the contravention. The wording 'remedy the effects' is open and could well include restorative measures to the natural environment.

For damage to water bodies caused by unauthorised discharges, the Environment Agency can issue a 'works notice', which may require works or operations to remedy or mitigate pollution or restore the waters, including flora and fauna, to their state immediately before the discharge (so far as reasonably practicable to do so). This power, contained in s161A of the Water Resources Act 1991, is a well-utilised tool by the Environment Agency. The statutory power expressly includes a reference to the restoration of flora and fauna and therefore such works notices can require the restocking of fish stocks and the creation of replacement habitats.

A similar power exists under s25A of the Water Resources Act 1991 in the event of damage caused by non-compliant abstraction or impoundment of water. Again, as with the restoration of damage following unauthorised discharges, the Environment Agency may issue an 'enforcement notice' to require the restoration of affected waters including flora and fauna to their state immediately before the abstraction or impoundment. Again, there is also the caveat 'so far as reasonably practicable to do so'.

For unlawful deposits of waste, s59 of the Environmental Protection Act 1990 empowers the waste regulator to issue a notice specifying steps that must be taken with the view to eliminating or reducing the consequences of the deposit of waste. This wording is markedly different from other restorative measures and such notices are commonly used to compel the removal of waste from a site. However, the phrase

'eliminating or reducing the consequences' is wide enough to include remedial or restorative measures in addition to the physical removal of the waste.

Another familiar example of a restorative measure can be found in the contaminated land regime in Part IIA of the Environmental Protection Act 1990. If land has been designated by a local authority as contaminated land then the local authority (or in some cases the relevant national regulator) can issue a 'remediation notice' requiring works or operations for the purpose of restoring the land or waters to their former state. There have been relatively few remediation notices under the contaminated land regime to date. This is partly because the regime is complicated and the regulators are often slowed down by disputes over who should be the 'appropriate person' to bear the cost of the remediation. But it is also because once a person has accepted liability for the costs of remediation then more often than not the parties can agree to remediate the land on a voluntary basis. A good example is the case of Brofiscin quarry in which Burges Salmon acted for the former owner of a contaminated landfill site. Press reports from the time of designation indicated that the clean-up might cost £100m but, after several years of wrangling, a small number of companies agreed to pay for a rather more modest remedial solution which involved installing an engineered cap to the existing landfill and leaving the waste in situ at a cost of some £1.5m.

#### COURT ORDERS FOR RESTORATION

The above restorative mechanisms are available to regulators who are at liberty to impose them for breaches of environmental law without the need for a concurrent prosecution for those breaches. Indeed, a handful of restorative mechanisms, such as remediation notices under the contaminated land regime, do not require any breaches of environmental law in the first place.

The restorative mechanism under the Wildlife and Countryside Act 1981 for the restoration of harm caused to Sites of Special Scientific Interest (SSSI) is different. The regulator, Natural England, must bring a prosecution for a breach of the Act and, on successful conviction, the court can make an

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order requiring operations for the purpose of restoring the SSSI to its former condition.

Again, the language is familiar: there is an express reference to restoration to the condition that existed prior to the offence taking place.

Like the other mechanisms, it assumes that the harm can be restored and it is more limited in providing what is now known as compensatory or complimentary restoration. A good example is the prosecution by Natural England of Wemmergill Moor Ltd, a grouse moor operator within the Lune Forest SSSI noted for its upland blanket bog. The company had a management agreement in place permitting it to carry out certain activities without the need for specific consent from Natural England. One of those activities was the maintenance of existing tracks. The prosecution concerned a question about whether the engineering works associated with track maintenance and whether the tracks had been maintained (which did not require consent) or improved (which did). Burges Salmon acted for the landowner to resolve the criminal prosecution but also (and more importantly) to negotiate the degree of restoration that would be ordered by the court. Natural England's starting position was that the newly laid surface of the tracks would need to be removed. However, experts for the company believed that would do more harm than good. For a start, the tracks had existed for many years and the removal of the surface of the tracks would make it difficult to access the moor and might result in more off road movements which would damage other parts of the bog. The engineering works to remove the surface were also liable to cause significant damage. All of the experts agreed that, even if the road was removed, the restoration of the bog would

take a minimum of 20 years and would not be guaranteed even after a period of 100 years. Nevertheless Natural England was initially determined that 'primary restoration' (ie removing the track) was the only option. The company proposed a restoration package totalling £220,000 that included some engineering works to the tracks but also 'complimentary' works to other parts of the SSSI, such as the blocking of 40,000 metres of grips or drainage channels which were cut into the bog many years ago and which had a negative impact on the habitat. Expert ecological and hydrological evidence demonstrated that these measures provided far greater benefit to the SSSI as a whole than the wholesale removal of the tracks and, after some negotiation, Natural England agreed with this course of action.

That was not quite the end of the matter, however, because, under s31 of the Wildlife and Countryside Act 1981, the court can only order primary restoration (ie removing the track) rather than complimentary restoration which was proposed. The novel solution was for the company to undertake to the Court to carry out those works. A breach of an undertaking to the court is contempt of court and was therefore provided sufficient comfort to Natural England that the works would be completed.

#### THE ROLE OF THE EDR 2009

The Wemmergill Moor case demonstrates the limitations of many of the restorative mechanisms in existence prior to the EDR 2009. The EDR 2009 expressly include the concept of restoration encompassing both primary restoration, that is, restoring the natural resource that has been impacted to the condition that would have existed had the impact not occurred, but also complimentary restoration and compensatory restoration. Complimentary

## ‘Compensatory restoration can mean that the site ends up in a better condition than before the incident occurred.’

restoration is required when the natural resource cannot be restored and requires other steps to replace what has been lost. Compensatory restoration is steps that compensate for the loss of a natural resource over a period of time. So, for example, if it takes several years for the natural resource to return to full health then compensatory litigation might provide for an additional benefit during the intervening and subsequent years to ensure that, as a whole, the natural resource has been compensated. This can mean that the site ends up in a better condition than before the incident occurred.

Despite being in force for a number of years, there have been relatively few examples of the EDR 2009 in practice. In part, that is because the UK has not suffered from a great number of major environmental incidents of the type that the EDR 2009 was designed to cover, but it is also because the EDR 2009 is in many ways more limited in scope than other restorative mechanisms. The EDR 2009 targets those carrying out economic activities and imposes strict liability only on those who are carrying out specified higher-risk activities such as mineral extraction, the carriage of dangerous goods, or those operating under an environment permit. Further, damage is not ‘environmental damage’ under the EDR 2009 unless it reaches a certain threshold: for example, the EDR 2009 is only invoked if damage to water threatens its status under the Water Framework Directive or if damage to habitats has a significant adverse effect

on the ability of that habitat to reach or maintain favourable conservation status.

On the other hand, the European origin of the EDR 2009 has provided some striking features that are not seen elsewhere in UK environmental law. There is a role for ‘interested parties’ – which can include NGOs – to ask regulators to investigate potential environmental damage and to be consulted on the scope of the restoration. There is also a duty on businesses to self-report when environmental damage is suspected, even if it turns out not to be substantiated, with criminal sanctions for failing to act.

A central pillar of the EDR 2009 is the requirement for a comprehensive package of remediation measures to cover primary, complimentary and compensatory restoration, based on the principles of ecosystem services. Ecosystem services experts seek to quantify the full impact caused by the environmental damage, and this goes far beyond physical property damage, including the loss of recreational and amenity value, loss of services such as drinking water or food production, and loss of supporting functions such as nutrient cycles or cross-pollination. It also evaluates the time required for the site to be restored to the state it would have been in had the incident not happened, and quantifies the loss on a temporal basis. This exercise provides a figure for the total ecosystem services lost as a result of the incident, and this can be used to identify the extent of remediation required under the EDR 2009.

One example of the EDR 2009 in practice is the remediation following United Utilities’ spill of crude sewage into the Three Rivers watercourse, killing over 6,000 fish and polluting five kilometres of river, in July 2009. United Utilities was prosecuted and a court fine imposed, but the incident was also designated as environmental damage and so remediation measures were also required. Primary remediation was straightforward: the company paid £41,000 to restock the river with fish, but the compensatory remediation – to make up for the lost amenity value of the river – was explored over a period of more than 18 months. In October 2011 the Environment Agency served a remediation notice requiring compensatory remediation including improved access and the installation of 30 fishing pegs for anglers who had lost the use of the river for fishing, and habitat improvements such as installing coir rolls pre-planted with native reeds.

### CONCLUSION

The consequences of an environmental incident can be extensive: criminal fines, negative publicity, reputational damage and civil litigation are all threats to the bottom line, and so is the requirement to put right the damage through restorative mechanisms. Ecosystem services can now put a quantitative figure on qualitative factors such as loss of amenity and nutrient cycles. However, in most cases, restoration is a matter of negotiation with the regulators and proactive engagement at an early stage often produces better results – and better publicity – than waiting to see what the regulators impose.

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