

Experiments with the wild at the Oostvaardersplassen

This article draws on a discussion of the differences between laboratory and field experiments to examine the practices and politics of rewilding. The analysis focuses on the Oostvaardersplassen, a flagship example that figures centrally in discussions about rewilding in Europe. The article reflects on the wider significance and potential of this wild experiment for conservation practice.

JAMIE LORIMER & CLEMENS DRIESSEN

Experiments – real and otherwise

Open a dictionary and turn to the entries for ‘experiment’ and you encounter ambiguity. One popular definition describes a scientific procedure undertaken to make a discovery, test a hypothesis, or demonstrate a known fact. A second common understanding is of a course of action adopted without being sure of the eventual outcome and likely to generate surprising results. What an experiment is clearly varies.

Sociologists of science have tended to associate the first definition with laboratory science. Laboratories enable scientists to domesticate wild nature and create artificial environments. Laboratories establish clear spatial divisions between a controlled environment and worlds they purport to model; theoretically rendering laboratory research inconsequential to the world out there. They also police who can contribute to and contest the production of natural knowledge. But the standardisation of laboratory spaces allows scientists at diverse locations to assume that the conditions ‘here’ are equivalent to those ‘everywhere’, and thus experimental results can be generalised.¹

Such experiments are rare in the field, where conservation largely takes place. A different conception of experiments applies here. In contrast to the lab, the field is ‘found’, not ‘made’ and carries with it “an idea of unadulterated reality just now come upon”.² Controlled manipulations are uncommon and field science involves the careful selection of suitable environments for observation and measurement, remaining open to surprises that might interrupt research expectations in promising ways. Findings are often place-specific. Field sites are more visible and public than laboratories. Gaining authority within them involves negotiating with a wide array of social groups and forms of expertise – like farmers, hunters and citizen scientists. Finally interventions in the field will have real-world consequences.

Table one summarises the contrasting properties of laboratory and field experiments. Many forms of applied science ‘shuttle’ between lab and field and gain authority from each.³ Often science is practiced without theory or even testable hypotheses,

Table 1 **Comparative summary of some properties of ideal laboratory and field experiments**

Laboratory experiments	Field experiments
Made/artificial	Found/natural
Ordered/domesticated	Disordered/wild
Inconsequential	Consequential
Anywhere	Here
Secluded/private	Visible/public

is infused with local values and must wrestle with unpredictable and surprising materials.⁴ More fundamentally, the ubiquity of modern science – in terms of both the knowledge it has created and the consequences it has unleashed – has erased the boundary between the lab and field. We live in a world characterised by ‘real world experiments’⁵, in which all of us should be (but are often not) involved in deliberating as to their conduct and consequences.

In this paper we focus on the example of the Oostvaardersplassen (OVP) – a polder in the Netherlands that has become a controversial flagship for the rewilding movement. Drawing on the distinction between types of experiments presented above, we work through the following three points of tension relating to this example: whether the site is understood as *found or made*, the relative importance attached to *order and surprise* in its management and the *involvement of people and stakeholders* in the management decision-making processes. Through an appraisal of what is happening at OVP we examine the potential of such wild experiments for conservation.⁶

Accidental ecology of the Oostvaardersplassen

The OVP is a publicly owned 5500ha polder located just North of Amsterdam. The land was reclaimed from the sea in 1968 and intended for industrial development. This did not occur and the site was abandoned, resulting in the emergence of a wetland area. This was colonised by greylag geese, whose grazing behavior prevented forest succession and created habitat for a range of rare and migratory bird species. By 1983 the OVP had been designated as a nature reserve. It was first managed by the land reclamation authority, before becoming the responsibility of Staatsbosbeheer (the state forestry agency). The site management team, including the ecologist Frans Vera, introduced herds of horses, cattle and red deer to diversify the ‘naturalistic grazing’ performed by the geese. These animals gradually ‘de-domesticated’, developing behaviours and creating ecologies that are claimed to be analogous with Europe at the end of the Pleistocene.

Inspired by his experiences at OVP and his PhD research, Vera published a book that outlined a new paradigm for European paleoecology and (consequently) nature conservation.⁷ He challenges the orthodox assumption that the climax equilibrium vegetation for Western Europe at the end of the Pleistocene was the closed-canopy ‘high-forest’ and proposes an alternative, non-linear model of shifting forest-pasture landscapes, kept partially open by the grazing of large herbivores. The accidental

ecology of OVP offered a unique opportunity to ‘experiment with large ungulates living in the wild’⁸ to test his alternative ecological hypothesis and to demonstrate their implications for wildlife management. The OVP experiment helped drive a paradigm shift in Dutch conservation towards ‘nature development’, engineering ‘new nature’ with large herbivores in a networked ‘ecological main structure’.

The OVP experiment has proved controversial in the Netherlands and across Europe. Traditional conservationists fear the loss of habitats for rare species, animal welfarists are concerned with the ethics of de-domestication, farmers and other rural citizens are anxious at the demise of cultural landscapes, while scientists contest the veracity of Vera’s paleoecology and its utility as an ecological baseline. The management of the OVP has been subject to two inquiries by international commissions assembled by the Dutch government. Much of this debate centres on the framing of OVP as an experiment and can thus be usefully explored by making reference to the three axes for enquiry that were introduced above.

Found-made

Vera and his colleagues present OVP as an ideal laboratory to test a scientific hypothesis. The land was literally made; created from the sea as part of the largest artificial island in the world. Without any cultural history the terrain and hydrology can be sculpted with dikes, pumps and diggers. As the site is fenced and entrenched, flora, fauna and human access can be controlled. However, the scientific legitimacy of OVP as a site to test Vera’s paleoecological hypothesis (and from which to scale up its outcomes) requires that it be accepted as analogous to wild ‘found’ sites (past and present). They have downplayed human intervention, to stress the abandonment of the land, the ‘self-willed’ or ‘spontaneous’ nature of its ecology and its subsequent discovery by conservationists. Histories of the site ascribe great agency to the geese and subsequent herbivores as architects of ecological change.

Critics of the OVP experiment have revealed paradoxes that undermine its found or made status. For example, commentators sympathetic to the farming and hunting lobby dwell on fences and flood control, arguing that the artificiality of OVP undermines its authenticity. In contrast, Dutch and UK ecologists take issue with the presentation of OVP as a lab. They challenge the degree of control that has been exerted and the extent to which its findings can be generalised.⁹ OVP is presented as a distinct place, not a generic laboratory.

Partly in response to these criticisms advocates have sought to move beyond the lab-field binary. Here they pitch OVP as a model for conservation in the context of novel ecosystems, where found-made distinctions hold less sway. For example, Vera no longer presents his paleoecological baseline as an authentic return to a prehistoric wild nature, but as a dynamic ‘reference’ for future management. Emma Marris heralds the OVP experiment as exemplary for conservation on a ‘ragamuffin earth’.¹⁰ For Wild Europe, this necessitates a terminological shift from the ‘unspoiled’ to the ‘untamed’.¹¹ Here the emphasis is on processes, which Rewilding Europe argues serves “to highlight rewilding as a concept that does not aim at the fixed conservation



Wild nature in suburbia - The location of the Oostvaardersplassen on a reclaimed polder adjacent to the new town of Lelystad.

of particular species, habitats or a priori lost landscapes, but rather opens for (sic) the continuous and spontaneous creation of habitats and spaces for species”.¹²

The lab-field and the made-found distinction also came to the fore in a related controversy over the legitimacy of experimenting with cattle and horses at OVP. As the aurochs and tarpan are extinct, Vera selected ‘back-bred’ animals with hardy natures and wild aesthetics as his surrogate bovine and equine grazers. Released from the forms of animal management associated with agriculture they were to de-domesticate themselves, creating the ‘Serengeti behind the dykes’ that advocates imagined.¹³ However, animal welfare campaigners argued that these herbivores were not ‘found’ in the wild, nor did they arrive of their own accord. They are ‘made’ animals, taken from zoos and confined within the reserve. They should therefore be subject to the animal welfare associated with experiments in artificial spaces like laboratories, farms and abattoirs.

Although they successfully defended their policy in court, charismatic animals dying in the suburbs quickly turned into a public relations disaster for SBB the OVP managers. A compromise was reached whereby a wildlife ranger, armed with a rifle and silencer, patrols the OVP identifying and killing those animals whose bodily condition and behaviour indicate that they would not survive the winter. This has been popularly termed population control with the ‘eye of wolf’. In practice, as so little is known about wild bovine and equine behaviour (let alone their interactions with wolves), the scientific criteria used to assess the condition of individual cattle

and horses are adapted from those used to judge the welfare of farm animals. A novel set of relations have emerged here that combine practices associated with found and made sites.

Order-surprise

Some of the most striking differences between rewilding at OVP and the conservation practices prevalent across much of North-West Europe, relate to how site managers deal with surprises. The dominant, equilibrium model of European conservation imagines landscapes tending towards a closed canopy forest that is currently kept in abeyance by agriculture and forestry, low-intensity versions of which generate much of what is valued as biodiversity. This orderly biogeography provides a structure for identifying, monitoring, researching and nurturing various species and habitats. Here ecologies are linear and can be known and predicted. Hypotheses can be deduced and tested. Surprises are anomalous.

Vera is one of a number of ecologists and conservationists who contest this paradigm. Vera proposed his alternative 'theory of the cyclical turnover of vegetations' with its dynamic 'ecological reference' of the forest-pasture landscape.¹⁴ This theory could perhaps be used to establish hypotheses for testing in the field experiments at OVP. What is perhaps most surprising and different about OVP is the lack of prediction and management that has taken place. Until recently there have been no targets, no models and no explicit action plan.

Partly this absence is due to a lack of interest in (and thus funding for) ecological science from the government agencies that own and manage the site. More fundamentally, it suggests a very different ethos toward field experiments. This is characterised by a conscious desire to escape some of the ordering practices that frame European conservation. OVP became famous as a source of surprises and those interested in its ecology were keen to nurture and learn from its inadvertent ecological processes. For example, the return of carrion in the form of dead herbivores encouraged a pair of rare white-tailed eagles to nest (formally) below sea level, displaying behaviours unanticipated by ornithologists.

The challenges of such speculative wildlife management are perhaps most clearly displayed in the efforts of conservationists at OVP to comply with the Natura 2000 legislation that governs conservation in Europe. Natura 2000 prescribes a natural order founded on the compositional ideal of a premodern ecology. It identifies a list of rare and threatened species and habitats that should be monitored, modelled and managed. OVP accommodates a host of Natura 2000 target species, especially birds. It is a Special Protection Area. But conservationists at OVP are exploring nonlinear ecological processes, not just species patterns. This has caused problems. In 1996 the population of rare spoonbills at OVP dropped from 300 breeding pairs to zero, causing concern amongst the external ornithologists who detected it. Accusations were made that the increase in foxes at OVP as a consequence of high-levels of carrion had led to the collapse. There were calls for a change in stocking densities and hydrological regimes. Eventually, the population at OVP bounced back and many of the displaced spoonbills were found to have moved out to colonise the wider landscape.



Wild herbivores at the Oostvaardersplassen - konik ponies and heck cattle.

Photo by GerardM, Wikipedia Creative Commons

However, this event left SBB exposed. They had not predicted it, were not managing for it and could not offer comprehensive data to account for it. The successive independent commissions on the management of OVP have demanded that more be done to comply with Natura 2000. Calls are made for an improved 'statement of management objectives' and a 'system of environmental monitoring', including 'analysis and modelling to identify current processes, predict future trends and to set thresholds to acceptable change'.¹⁵ Much of this advice aims to bring OVP in line with prevalent practice. It seeks to circumvent conditions of uncertainty and rationalize the uncertainty that characterizes the current management regime.

Public involvement

SBB have been reluctant to engage with interested Dutch stakeholders around the controversies mentioned above. To explore the character of public involvement in this experiment, we will briefly draw on a distinction offered by the sociologist of science Michel Callon and his colleagues between 'secluded research' and 'research in the wild'. Secluded research, they argue, can take place in lab and field and has an important role, but should be linked to its publics through engaging in research in the wild. This involves techniques for 'dialogic democracy' that 'facilitate and organize an intense, open, high-quality public debate'¹⁶ where people with

diverse expertise gather discuss particular events, policies or sites. We can explore this distinction by focusing on controversies over the management of the large herbivores at OVP.

The Dutch government responded to the animal management controversy by assembling the expert panel, who were charged with examining the issue and advising the government minister on how it might be improved. They made recommendations in their first report in 2006. The panel was recalled during the harsh winter of 2009 when the controversy flared up once more and the responsible minister was forced to answer questions about OVP in parliament. They published their second report in 2010. In short the panel argued that SBB are not conducting a legitimate (laboratory) scientific experiment.

They first invoke the criteria used to evaluate secluded research, to argue that SBB is failing to comply with the fundamental requirement of future falsification and the full disclosure of data. They suggest that there has not been enough transparency in the data collection and publication to qualify this as a rigorous laboratory experiment. Turning to the public dimensions of the OVP controversy the ICMO then take SBB to task for not carrying out the 'stakeholder involvement' they explicitly advocated in their first report. This is a damning critique. In Callon and colleagues' terms, OVP is neither 'secluded' enough to qualify as science nor 'wild' enough to be democratic.

Much of the ICMO critique of SBB centres on their perceived failure to control the ways in which the management of OVP has been made public and visible, not with the openness of the management procedures themselves. The focus here has been public education, employing various 'experts in communications' to help frame the findings for external audiences. In response to this criticism SBB and other rewilding advocates have gone on the offensive, increasing the visibility of the site through film and photography. Access to the OVP via jeep safaris and bird hides has been promoted, including exclusive bookings for high-end private events. While these images and practices constitute a form of public engagement, they continue to present OVP as a site that is accessed and known by a small cadre of scientists. While these attempts have gone some way towards persuading the Dutch public of the legitimacy of the experiment, the current approach is redolent of the 'deficit model' of public understanding of science that has been heavily criticised in the sociology of science.

To use Callon and his colleagues' terminology, the ICMO is characteristic of a 'delegative' model of democracy reliant on the 'aggregation' of already existing expertise to answer a pre-existing question. There is little evidence here of their 'dialogic' model of research in the wild in which collective decision-making emerges through a deliberative process.

Wild experiments

In many ways OVP is an anomaly amongst nature reserves, which are generally conceived as 'found' analogies of a prehistorical or premodern past. OVP is presented as a made site for knowing and experimenting with an uncertain future.

It is uninhabited and uncultivated, but it is not purified. It is hybrid, in the sense that it is a contrived association of people and wildlife. It serves as the inspiration and catalyst for the proactive 'development' of 'new natures'. Understood this way OVP provides one means of moving beyond the paralysing politics of paradox in which much modern conservation often becomes locked. There is, and never has been a singular Nature to which we can return or against which we can dispute the authenticity of a purported reconstruction. OVP offers an alternative to the stale found-made distinction about which such paradoxes depend. It offers a space for wildness without the daunting geographical purity of wilderness.

The OVP case study aligns best with the second definition of an experiment outlined at the start of the article. Although the contemporary ecology of OVP is presented as a test of Vera's hypothesis, in practice it is valued for its ability to surprise. Freed from the management prescriptions associated with ensuring convergence towards an equilibrium Nature, OVP generates non-analogue events, behaviours and ecologies. What is taking place at OVP would therefore seem to have a great deal to offer environmentalism in the Anthropocene. Environments cast off from a fixed Nature and operating in the wild outside of the laboratory (or equivalent computer models) are inherently political. Nonequilibrium ecology offers few universal criteria for identifying failure or for specifying undesirable future scenarios, however self-willed.

Many of the local opponents to what is happening at OVP are defending clearly specified natures, like those associated with animal welfare, the future of rare birds or the demise of the cultural landscapes they inhabit. These are familiar and commendable political projects with hard fought territorial and legislative gains. There is a real risk that rewilding, with its open-ended ecology of surprises could inadvertently play into the hands of those who would like to see them removed. As such it is vital that we keep sight of a set of wider debates about the future political ecology of Europe that will frame how wilding proceeds.

The OVP has become a legitimating exemplar for the ambitious continental rewilding strategy named Rewilding Europe. This demands a paradigm shift in conservation policy (and subsidy) away from the current model of 'land sharing' to a more segregated model of 'land sparing'. This shift would demand the intensification (or continued global outsourcing) of agriculture and the abandonment of the forms of agriculture currently practised elsewhere. The ecological merits of this change are currently subject to much debate. Its possible future geographies and political ecologies will be thrashed out behind closed doors in Brussels in the coming years of Common Agricultural Policy reform. Given the current climate of austerity, rewilding could offer a convenient gloss for cutting expensive subsidies, waiving perceived restrictive conservation legislation and even the accelerated implementation of markets in ecosystem services.

References and notes

1. See for example Gieryn T (2006) City as Truth-Spot: Laboratories and Field-Sites in Urban Studies *Social Studies of Science* 36 5-38; Kohler R 2002 *Landscapes & labscales: exploring the lab-field border in biology* University of Chicago Press Chicago

2. Gieryn, City as truth spot, page 6
3. Gieryn, (2006)
4. See for example Rheinberger H-J (1997) *Toward a history of epistemic things: synthesizing proteins in the test tube* Stanford University Press Stanford
5. Krohn W and Weyer J (1994) Society as a laboratory: the social risks of experimental research *Science and Public Policy* 21 173-183
6. A longer, academic version of this paper has been published elsewhere. See Lorimer, J. and Driessen, C. (2014) Wild experiments at the Oostvaardersplassen: rethinking environmentalism for the Anthropocene. *Transactions of the Institute of British Geographers*, 39(2): 169-181.
7. Vera F (2000) *Grazing Ecology and Forest History* CABI Publishing Wallingford
8. Vera, *Grazing ecology*, xv
9. Birks H (2005) Mind the gap: How open were European primeval forests? *Trends in Ecology and Evolution* 20 154-156; Hodder K, Bullock J, Buckland P and Kirby K 2005 *Large herbivores in the wildwood and modern naturalistic grazing systems* English Nature Research Report No. 648 English Nature, Peterborough
10. Marris E (2011) *Rambunctious garden: saving nature in a post-wild world* Bloomsbury New York
11. Wild Europe (2010) Wild Europe Field Programme; a Field Programme for creating European Wilderness. Poster available at www.wildeurope.org/index.php?option=com_content&view=article&id=13&Itemid=24 [accessed 16th October 2012]
12. Rewilding Europe (2012b) Rewilding as a tool, and the role of science Available at <http://rewildingeurope.com/news/articles/rewilding-as-a-tool-and-the-role-of-science/> Accessed 12 October 2012
13. See van den Belt H (2004) Networking nature, or Serengeti behind the dikes *History and Technology* 20 311-333
14. Vera, *Grazing ecology and forest history*
15. ICMO 2006 Reconciling Nature and human interests. *Report of the International Committee on the Management of large herbivores in the Oostvaardersplassen (ICMO)* Wageningen, page 13
16. Callon M, Lascoumes P and Barthe Y (2009) *Acting in an uncertain world: an essay on technical democracy* MIT Press Cambridge, Mass. Page 178

Jamie Lorimer is Associate Professor at the School of Geography and the Environment, University of Oxford. Jamie.lorimer@ouce.ox.ac.uk

Clemens Driessen is a philosopher and cultural geographer working at Wageningen University. clemens.driessen@wur.nl