

# Holy Loch Nature Reserve

## Sandbank



Partner in the  
Darwin Tree of Life project



Partner in Bioscan

# ABCAN

Argyll & Bute  
Climate Action Network

Partner in Abcan

## Response to the proposed Giant's Burn wind farm

**LNHR has such high biodiversity, that it is uniquely vulnerable on Cowal to pollution and other detrimental events.**

## Background

Argyll and Bute Council declared land it owns at the head of the Holy Loch as a **Local Nature Reserve** in 2013/14. In 2024, it then zoned the rest of the head of the loch as a Nature Conservation Site in its revised Cowal and Bute Local Plan.

**This gives the reserve legal protections that must be considered in any development that could impinge on its role in conserving biodiversity and providing amenity to the public. I am not aware that the developer has done this.**

The LNR itself comprises 20 acres of mostly upper saltmarsh, 2 acres of mixed Celtic rainforest and two acres of carr woodland that has regenerated on a historical landfill site. It is administered by a management committee working on behalf of Sandbank Community Development Trust, its tenant.

Exceptionally for Cowal, this piece of precious habitat has never been grazed commercially. The working hypotheses for research on the reserve are that its ecosystems are highly complex, stable in the long-term, and likely to be more resilient in the face of impending climate change, with more extreme weather events and rising sea levels. HLNR has recently installed a weather station to record localized weather events, and share those with the community. It is already clear that the head of the loch has extremely localised weather, mostly likely affected by wind moving around surrounding hills.

**The reserve provides an exceptional resource for studying near natural, ecological processes in an ecosystem untouched by human activity. As such, it is nationally important.**

## *Exceptional Biodiversity*

A sensible extension to this working hypothesis is that the reserve is significantly more biodiverse than the surrounding landscape comprising vast Sitka monocultures, roads, gardens and grazing pasture. What one sees today is almost entirely created by a combination of tides, weather and biotic/natural factors.

There is plenty of evidence that the Holy Loch, itself, suffered significant disturbance and pollution during its years hosting an American submarine base. But the recent return, by natural process, of the highly sensitive, indicator species, Dwarf Eelgrass/ Seagrass (*Zostera noltii*) suggest that the water and muds are finally cleansed of toxic substances, including heavy metals such as

Cadmium. It is highly likely that the community of animals that thrive in seagrass meadows will have returned too, but this hypothesis awaits testing. It's fair to conclude that the marine ecosystem is recovering well.

On land, the reserve and additional Nature Conservation site, have several distinct habitats supporting 270 or so higher plants and a plethora of animal species dependent on these. A programme is underway to reduce, and hopefully eliminate, Japanese Knotweed, Montbretia and Himalayan Balsam ( and many other invasive alien plants) from these lands, and study how natural processes incorporate these degraded patches back into the ecosystem.

To date, I have recorded approaching 2000 species of plant, fungus, lichen and animal living on the surface of the reserve, and in its dozens of ponds, burns and water channels. There are hundreds more to identify and record. I have yet to study life underground.

Nature reserves exist to conserve species biodiversity and legal protections prevent damage from human activity. And the HLNR does not disappoint in terms of the number of species, many of which are either designated by the Joint Nature Conservation Committee (JNCC) as endangered in some way, or likely to be, but are data-deficient. Data-deficiency derives from lack of recorders and the difficulty in identifying thousands of UK species. Dozens of species at the reserve have never been recorded in Argyll, and many only rarely, if at all, in Scotland.

**A recently-identified, hyperparasitoidal wasp, rare throughout Europe, has found its niche at the ungrazed HLNR.**

*Bioscan and Darwin Tree of Life*

The world is currently experiencing a catastrophic decline in nature, most alarmingly in insects and birds. Part of the Darwin Tree of Life programme comprises BIOSCAN, a project funded by the Wellcome Foundation at the Sanger Institute, to identify a million UK flying arthropods using DNA. An ability to rapidly identify and count large numbers of insects from around Britain via automation will help to visualize, in much greater detail, than ever before, how insect populations are faring in the UK. HLNR is a partner in BIOSCAN based on the hypothesis that the undeveloped reserve is an exceptional source of many species now scarce in the south, and why insect-eating birds, once common in the south seem to be faring far better here in Scotland. I have just sent the first 4400 insects, all individually packaged, to the Sanger Institute for DNA barcoding.

## *HLNR in geographical context*

The Holy Loch landscape is almost entirely man-made, and heavily industrialized particularly with Sitka monocultures. The hilltops are typical acid peatlands, degraded by grazing for hundreds of years by sheep and unnaturally high populations of deer. Although each habitat has its own biodiversity, the reduced number of plant species in monoculture Sitka, and lack of structural diversity in hilltop peatlands will inevitably depress numbers of species that can live in them. Similarly, livestock pasture, and the robotic insistence by Argyll and Bute Council that grass verges must be mowed when they are of greatest value to wildlife, only emphasizes the importance of our tiny speck of exceptional biodiversity in a heavily managed landscape.

Here, members of the public have the opportunity to experience a truly wild place, unencumbered by human activity, almost entirely defined by actions of the sea, weather and ecological processes. As such, it is an important place in Scotland for the study of ecology of near-natural ecosystems. It is vitally important that this ark of biodiversity is not in any way threatened by any further

industrialisation of the hilltops via pollution, both in the form of disturbed peat and another possible pollutants running through the reserve, **damaging the delicate webs of life in its burns**, and then getting washed up on its beaches, and deposited onto the marsh during winter spring tides. The reserve already has to contend with massive pollution from Sitka plantations, both in the form of pollen slicks and deep deposits of shed needles that enter water courses and end up on its beaches. Almost the only place on the reserve where plants do not grow are these needle patches. Sitka is an alien species, and few, if any native species consume it or can degrade its needles. Arrival of such pollutants onto the reserve from distant plantations is no different from damage caused by alien plants living within it. The simple fact is the HLNR ecosystem, established over thousands of years, is being constantly challenged by arrivals of these novel pollutants, and we do not know if any species have suffered from this. **So, there is no guarantee that native species won't be lost due to intolerance of these alien substances, including disturbed hilltop peat from the proposed development.** Adding to all that, the continual arrival of plastic onto the reserves marsh and beaches, could make the anxious even more worried.

## *An alien landscape*

HLNR provides a unique opportunity for the local community to experience how Scotland would have looked before intensive human activity totally transformed the landscape. Our tiny piece of Atlantic/Celtic rainforest is made up of mixed tree species unlike the oak monocultures being promoted as Scotland's (entirely man-made) Celtic rainforest. The development of woodland atop an abandoned landfill fills worried visitors with the hope that nature can repair itself if left to its own devices. The saltmarsh and scrub are close to truly natural. And the return of eelgrass to the loch show how capable nature is in recovering from marine pollution.

The proposed turbines will be enormous, looming down on the reserve, and creating an even greater sense that this unique ecosystem is being hemmed in, even more, by industrialisation of the very last pieces of unused land around the Holy Loch. We already have to contend with the site of Sitka self-seeding itself out with plantations and marching at alarming rates across the hilltops, with no-one responsible for containing it.

**The sad reality is that this unique ecosystem is an ark of biodiversity, stranded in a sea of heavily-biodegraded, industrialised land.**

**But the reserve could, in future, form a nucleus of biodiversity from which restoration of nature around the loch could begin.**

But this assumes that decisions made about how land around the loch is used do not have detrimental consequences for the Holy Loch itself and land that surrounds it.

## *Conclusions*

**We cannot afford to risk damaging this unique ecosystem either intentionally or not. Once lost, it would be near impossible to recover or mitigate.**

**There is a very high risk that the biodiversity of the Holy Loch and its surrounding land will be adversely affected by fine peat particles that leak into the loch via various water courses. Decision makers would need to be satisfied that all disturbed peat will be contained on the hilltop, and water courses adequately monitored for suspended organic particles and other pollutants.**

**To reiterate, LNHR has such high biodiversity, that it is uniquely vulnerable on Cowal to pollution and other detrimental events.**

**These huge, looming structures will be detrimental to the amenity value of the head of the loch, and eliminate, totally, the feel of a truly wild and natural site reminiscent of how Scotland looked before humans changed the landscape on an industrial scale.**

Anyone wishing to contend the evidence on which I base my conclusions is welcome to contact me for further discussions.

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NOTE: Although I asked to speak to the ecologist for the development, and was assured they would contact me, they never have. I am unaware of any assessment of this unique biodiversity by the developers.