Climate Change

Most of us are aware of the impact climate change can have on the world; rising global temperatures, melting glaciers, sea level rise. What impact would it have on Snowdonia though, and what can you and I do to try and reduce its impact? This area has been through several periods of change already. Rocks formed by volcanic ash falling on top of creatures living in a warm sea. Shaped by the power of ice sheets and valley glaciers leaving the shapes that we see and admire today.

Rare Plants.

Some remnant Arctic alpine plants can be found here such as the Snowdon Lilly (Lloydia Serontina) and tufted saxifrage (saxifragia cespitosa). As their title suggests these like an arctic alpine environment with snow and ice on craggy soil poor slopes where there are few nutrients. These plants are under threat. They're rare as their at the edge of the mountainous area where they can survive. This is the only area in England and Wales where the tufted saxifrage grows and the only place in the world where you will find the Snowdon Lilly. The plants have existed here for 15,000 years, but climate change might be too much for them. With mild winters the plants were under real threat of extinction. Recently there's been some respite. Two harsh winters in 2009 and 2010. The hope is that the plants will become stronger. However if we then have dry hot summers it will undo the benefits of the cold winters. On top of that, cold winters attract the winter mountaineers with their crampons and ice picks to walk on snow and do ice climbs, in exactly the area where the Snowdon Lilly lives. What's the answer? Ban winter mountaineering? Transplant the plants to a fridge? Attempts have been made to grow these plants from seed and transplant them onto the slopes, but with limited success. The next step? Well that’s up to you and me. Walk, share lifts, switch off all those machines that have red light on them, and do whatever you can to reduce the emissions of Carbon dioxide to the atmosphere. Extinction is a looming reality for these plants on our doorstep.

Rare fish

The Gwyniad is unique to Snowdonia. Locked in Llyn Tegid since the last Ice Age it has adapted to be an unique species. It lives at great depths where it's cold as its an arctic fish originally. There are however threats to Llyn Tegid. Blue green algae blooms at times; a sign of eutrophication where algae thrives in warm conditions where there are plenty of nitrates and these in turn absorb oxygen from the lake and depriving other species. The problem is worse in warm weather. If the lake were to warm, then the Gwyniad would die and become extinct. To ensure it’s future, eggs were take from the fish and bred in another, higher, lake as a secondary population. And there are schemes with farmers to reduce the amount of nitrates that enter the lake. And you can do your bit. If you’re camping in the area, use environmentally friendly detergents and washing up liquid, making sure that no nitrates and phosphates can enter the system.
**Coast**

There are 23 miles of coastline in Snowdonia, much of it sandy beaches although some coves and caves exist. Small villages are dotted around the coast as well as temporary and permanent campsites. The main coastal settlements, Barmouth and Tywyn were left out of the National Park boundary as they were deemed to be too ‘urban’ and didn’t fit in with national Park purposes when the boundary was decided.

If there was to be a significant rise in sea level as glaciers and ice caps melt the consequences could be extreme. Not only would homes be under water, but the infrastructure of the area would be as well with railway line and roads under water. Looking after the coastline is important to ensure the safety of the communities beyond, and the economy that depends on the coast through tourists attracted to it annually, and agriculture; the best land in Snowdonia is this flat arable land by the coast.

Hard engineering can save low lying land, but it is very expensive. A recent scheme in Tywyn cost £6.4 million. A cheaper way is ensuring that coastal sand dunes are healthy and use them as natural defences. However with rising sea levels, the rivers will also be higher and the well drained arable land may flood occasionally, or return to marshland.

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**Agricultural land.**

When most people think of Snowdonia, a vision of mountains and sheep come to mind. How will it look if things get warmer? What happens if we have severe periods of drought or storms? Farmers may have to consider other forms of agriculture and diversify. There may be hope of growing crops on the flat valley floors usually useful only for sheep or one crops of Silage. More reservoirs may be needed to supply those distant cities in the rain shadow, and use the water for electricity generation as well. It’s quite possible that farmers in the future will have to be flexible.

Climate change may bring opportunities with it for some. It will certainly be a challenge.