



Though now melted, the recent snow transformed Wisley. The Rock Garden looked wonderful in its white blanket:



Trees and shrubs with snow-lined branches always look attractive and two stood out for me – an *Acer* and a *Pinus sylvestris*:



While beautiful to look at, snow brings problems too. Some staff, me included, were unable to get into work at times and for a while the Garden was closed while we spent a lot of time clearing paths and the car park. While it is hard work, everyone joins together to get the job done and there is a great team spirit.



Snow brings problems for plants too. Even a relatively small amount of snow can be heavy enough to bend shoots and small branches. The bamboo shown left, normally almost upright, had been bent over so it was touching the floor.



A quick shake to get the snow off and it soon springs back up. It is well worth checking plants, especially evergreens such as conifers, for this kind of problem – if left too long, branches may not spring back and the plant will lose its shape. In some cases branches may even be broken off.

Our ponds were frozen over too:



It used to be thought that it was good to break a hole in the ice on ponds to allow oxygen in for the fish and other pond life. However, recent research by the charity Pond Conservation has found that this is not always necessary as oxygen can build up under an ice cover. I thought the information that Pond Conservation give about this is very interesting and useful, so at the end of this log I have added in full the text of their press release about this. On our own ponds, there is always a portion anyway that is free of ice where we keep a pump running.



The ducks that live on our ponds have been finding it difficult, but as explained above there is some water that is still unfrozen. They have however like many birds, been finding it hard to find food.

We have been helping by putting out some extra bird food for them. For the ducks we just sprinkle it on the floor.

There are lots of other bird feeding stations in the garden so hopefully many of the birds at Wisley will make it through these hard times.



Where the pump is running, the water splashes up and drips back down, forming icicles at it goes



Just outside the rock garden, a planting of *Phlox* on the path heading to the big Glasshouse had captured little hats of snow.

Amongst its stems a Robin watched me intently as I was taking the photos, no doubt hoping I would disturb a titbit of food.



Like most Robins, he was quite bold and unafraid of me and let me hold the camera just a few inches away from him to get an even closer shot:



The Glasshouse itself has a now famous Robin that seems to have taken up permanent residence inside, no doubt enjoying the warmer climate within. Very sensible, given the temperature outside means that even the large lake in front of the Glasshouse is frozen over.



Another of the problems that snow causes is that if left to accumulate on glasshouse roofs, it blocks out a lot of light. Also, large accumulations weigh a lot and could damage the glasshouse structure. So it is well worth removing snow where practical. On smaller houses it is quite easy to do this using a brush, as ably demonstrated here by Lucie:



Our big waterfall feature is still running and this means the Larix pool beneath is partially free of ice and the Mallards tend to accumulate here.

Finally this week just to remind us that colours other than white could still be found, here are a couple of flowers from the Display House:



Above: *Fritillaria striata*
Below: *Hepatica* 'Hanashiori'



See the next page for the information about ponds from Pond Conservation

Should I break the ice on my pond to protect its wildlife?

Many of Britain's 3 million garden pond owners will be wondering whether they should break the ice on their ponds to protect wildlife.

Standard advice has always been that, to safeguard garden pond wildlife during freezing weather, you need to make a hole in the ice to 'allow oxygen into the pond'.

But new research undertaken by Pond Conservation suggests that most garden ponds and their wildlife will be OK during the big freeze if just left to their own devices.

And most surprising of all, if ponds have clear water and plenty of pond weeds, oxygen levels can actually go up during the freeze – the exact opposite of what is traditionally believed.

Why does this happen? Even under ice, plants continue to photosynthesis, producing oxygen. With a covering of ice the oxygen is trapped in the pond and, if the ice cover lasts for long enough, oxygen levels will rise.

So if garden ponds have lots of underwater plants or algae, oxygen levels can nearly double in the coldest weather.

So what should people do to look after their ponds?

- Don't worry too much. Your pond is unlikely to freeze solid, and there's a good chance it will have enough oxygen for the animals in the pond - dragonflies, damselflies, mayflies, water beetles, hibernating frogs and the rest - to survive.
- Don't bother to make a hole in the ice: there's little evidence this makes any difference to the amount of oxygen in the pond. This is because oxygen diffuses so slowly into still water – about 2 millimetres a day! – so it takes over 6 months for oxygen to diffuse to the bottom of a 50 cm deep pond.
- If there is lots of sediment or leaves in the bottom of the pond - and you also have fish - you do need to get oxygen into the pond. To do this you need to stir the water in some way so that de-oxygenated water is constantly brought into contact with the air. Running a pump or fountain, if you have one, should do the trick.
- If the pond is covered with snow, brush as much snow off as possible. Snow blocks the light and will stop underwater plants from producing oxygen. In these conditions, oxygen levels can go down a lot. **BUT SAFTY FIRST - TAKE GREAT CARE NOT TO STEP ONTO THE POND ICE IN CASE YOU BREAK THROUGH.**
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Dr Jeremy Biggs of Pond Conservation said:

“In the longer term – if you want to make a pond that will naturally maintain high oxygen levels in winter, make sure that the pond has plenty of underwater plants (even algae will do), and is shallow (around 20-30 cm maximum depth is good).

Shallow ponds are better lit than deep dark ponds so can produce more oxygen for their volume. Ideally, also keep the pond water as clean and unpolluted as you can to help the submerged plants flourish”.