

Fiona McIntyre, of the Scottish Golf Course Wildlife Group, gives some advice on making the most of the water on your course

The name's pond...



This winter's heavy rainfall has produced many new and often unwelcome ponds, wetlands and bums on Scotland's golf courses. However water can be an asset to your course, in the right place.

Ponds and wetlands for example can provide golfing features, reservoirs for the irrigation system, a catchment to alleviate drainage problems, or simply an attractive addition to the course. In reality many ponds on golf courses will serve more than one purpose. Whatever their purpose on the course it is likely that ponds will support wildlife, and with careful management could be further enhanced for wildlife and golfer alike.

Throughout Scotland many ponds are being lost, and many more suffer damage through pollution and inappropriate management. This means that golf course ponds can be important wildlife resources within the wider countryside. Ponds provide breeding areas for frogs, toads, newts

and dragonflies. If they are large enough ducks and moorhens may breed and other fauna such as deer, foxes and birds will welcome a source of drinking water.

So what makes a good pond? There are a number of features that are important such as irregularly shaped edges, shallow margins well stocked with native plants and a variety of depths. A good pond should look like it has always been there, and that the golf course has been built around it. Ponds that do not already have these features often look unnatural and fail to mature. There are many examples of 10-15 year old ponds that still look as though they were built last year, and will always look like this due to poor design. However, such ponds can be enhanced through creation of shallow margins and planting, which can be done by excavation or partial infilling.

The position of a new pond on a golf course needs to be carefully select-



ed to ensure that a hole is enhanced by it. It can be completely out of play, and solely for the benefit of wildlife and the landscape, or it can be brought into play to create challenge and interest on the course. Position may be determined by factors such as drainage problems and the desire to alleviate those. However, if it is intended to enhance the course, it will need to be carefully positioned, designed, constructed and managed to ensure that it becomes an asset to the course, and of benefit to wildlife.

Ponds can be important elements of the drainage system on the course. They can provide localised catchments for flood water, acting as a sink to draw excess water from playing areas. Excavation of the pond will provide topsoil that can be used to build up and re grade in other wet spots, further alleviating the problems.

When ponds are created in areas that are already wet, they may not need to be lined to hold water.

However in well drained or seasonally wet areas a liner will be necessary. Butyl is the most common material used, and is usually suitable for most situations. Other possible liners are heavy duty black plastic, a clay based material known as bentonite and concrete. Plastic usually has only a short life span often to 15 years, whereas butyl is often guaranteed for up to 50 years. Bentonite is expensive but can be useful in situations prone to vandalism or other damage as it is self sealing when punctured, and repairs can usually be made successfully. Concrete is not generally recommended, as it is difficult to ensure that it does not leak. If leaks do occur repair is difficult and usually requires a complete reconstruction.

Creating a new pond provides the opportunity to incorporate the shallow margins, irregularly shaped edges, and variety of depths which are ideal for wildlife. Wildlife ponds do not need to be deep (one metre at most),

unless of course they are also required for irrigation or drainage.

Introducing appropriate plants into the pond will enhance it further, helping it to mature, soften and become integrated into the surrounding landscape. Native species such as branched bur-reed and bottle sedge, along with attractive flowering marginals such as Purple Loosestrife, Meadowsweet, Marsh Marigold, Yellow Flag, Ragged Robin and Water Lilies will all improve the pond for wildlife and create an attractive feature that will enhance the course.

Care should be taken not to plant inappropriate species. Many ponds have become accidentally infested with vigorous aliens such as Canadian pondweed, Floating Pennywort and New Zealand Swamp-stonecrop, that choke out native species. These usually arrive accidentally when plants are introduced from garden centres. It is always best to acquire plants from natural sources (with the landowners

permission) or reliable native plant suppliers specialising in aquatics.

Like all habitats it is important to manage ponds well. Over management, through clearing out too much of the pond too often, will reduce plant, invertebrate and amphibian populations. Long term lack of management can lead to silting and drying of a pond.

All wetlands need protection to ensure they are not polluted or damaged. There is much that golf courses can do to enhance and protect their wetlands for their value to wildlife and golfer alike. One of the highest risks to any wetland on a golf course is the possibility of accidental contamination from chemical applications on the course. This most commonly occurs through runoff from treated surfaces or leaching of chemicals through the soil from treated areas into wetlands.

There are two ways to reduce chemical pollution of water bodies.

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No-spray zones can be created around and alongside water bodies and water courses. Buffer strips of rough vegetation should also be allowed to develop alongside ponds and water courses. These measures help to protect the pond from direct contamination and runoff, and help to give bums and ditches more character and definition, contributing to the overall interest of the course. Certainly, some banks will need to be more intensively managed but those areas should be minimised, also saving on time and management effort.

Vegetation also helps stabilise eroding banks by increasing soil binding. There will be places where such strips are not possible e.g. where bums cross fairways, but careful adherence to the no-spray zones, and allowing rough vegetation to develop immediately the bum is out of play will all help to reduce potential problems.

Herbicides and pesticides can affect wildlife directly, through toxicity to the plant life and invertebrates that are the basis of the food chain. They can persist in water bodies, adversely affecting amphibian reproduction

and even causing deformities. They have a cumulative effect, leading to high mortality in animals at the top of the food chain.

Fertilisers can cause unsightly 'algal blooms', which are undesirable ecologically, as they can strip out the oxygen from the water causing drops in invertebrate populations and sometimes even fish kills, but these are extreme cases and careful management can avoid such problems.

Golf course ponds and wetlands can enhance the course for both golfer and wildlife, but they do need to be well designed and managed to be a long term asset to the course. Importantly, what is best for the clubs and golfer in terms of pond creation and management is usually best for wildlife, thereby resulting in a better playing environment for all.

Furthermore it may be possible to obtain funding for pond creation or enhancement through the Scottish Environment Protection Agency, or Scottish Natural Heritage, where these ponds will benefit wildlife as well as the golf club.

If you have any questions about ponds and their management please contact Fiona McIntyre or Jonathan Smith at: The Scottish Golf Course Wildlife Group, The Stables, Dalkeith Country Park, Dalkeith, Midlothian, EH22 2NA
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