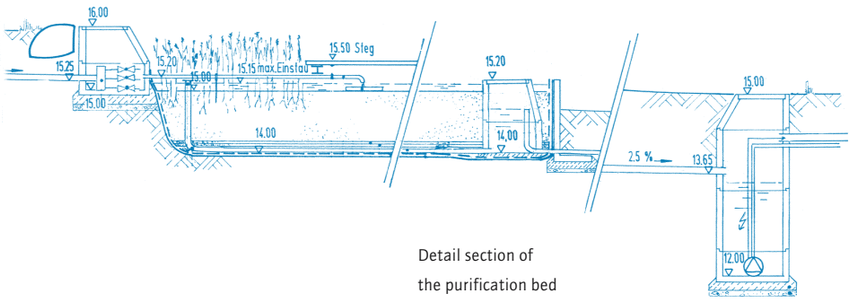
E_02_a_dreiseitl_042-077_16 19.09.2005 11:10 Uhr Seite 66

Rainwater for the bears in Zurich zoo



Detail section of the purification bed

The first zoo was established 4,000 years ago at the imperial court in China with a few exotic animals, followed 2,300 years ago by Alexandria and 420 years ago by Augsburg. Until the modern period, interesting mammals, above all bears, roamed in ramparts and fortification ditches, contained in special pits or enclosures. Zoos have been with us for some time as institutions – though its functions have changed. In the age of extinction the showplaces of yesterday are changing into reserves for animals that are under threat. The WWF's koala bear identifies an enclosure as the last resort on every second information board. But the view through the fence is far from revealing the gratitude of gibbon, gnu or giraffe. And the visitor's expression is often similar to that of the sad koala bear, who can find little that is pleasurable in the change from a danger-filled existence to a life with full board and medical care.

Zoos have to change again, and offer more room to fewer animals. The zoo in Zurich, Switzerland, plays a leading part in this field on the world stage. Working on a master plan dating from 1993, this zoo wants to go over to keeping animals in way that is appropriate to the species, so that their basic needs in terms of landscape can be considered. And this twenty-year programme also tries to make a contribution to conserving resources: the Zurich animals' basic water needs in their habitat will be met with recycled rainwater. The Zurich planner Walter Vetsch is responsible for new landscape design and modifications, but Herbert Dreiseitl's studio has taken on the water technology. The bear enclosure was the first part of the project to be completed, in 1995, followed by the waterfowl area in summer 1997, and the sea-lion and ape areas are at the planning stage.

It is not just animals that live in water all the time, like sea-lions, for instance, that make heavy demands on water resources, bears too need clean water. This need is met by collecting rainwater from the surrounding paths and green areas and storing it in underground tanks. These feed the circulating system in the bear enclosure. The water is pumped up to a rocky plateau, then runs down an impressive waterfall 6 metres high and 3 metres wide into the bear enclosure, then flows in a stream to two little lakes. It is a considerable challenge to use a comparatively simple technique to process surface and circulating water in a way that is aesthetically appealing and drinkable for the animals. Part of the cycle of 2,000 litres per minute trickles alternately through one of a total of three filter beds in a vertical direction, before being returned to the water cycle.

A skilfully camouflaged gap in the ground prevents the bears from getting to the filter beds, though visitors are allowed to do so. They can cross the pools on a wooden walkway and convince themselves that great efforts are being made to manage water in a way that is ecologically sound. The zoo in Zurich has found an impressive way towards a new zoo strategy – and others will follow.

The water is purified in the reed beds, which are bound into the overall design by a walkway.

These waterfalls are part of the water cycle, and the purification beds reduce the proportion of fresh water needed dramatically.

Even though they are a long way from home – at least the water and the rest of their immediate surroundings should be right for the bears in Zurich zoo.