

Northern Norway: Nature provides cold storage at the National Library

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Mo i Rana

Mo i Rana; a small community near the arctic circle in northern Norway. The community was built up around the national steelworks, but in 1988, the government decided to cut subsidies to the works. Projects that could minimize unemployment were developed, and establishing of National Library - Rana Branch was one of these.

Legal Deposit Act

In 1989 the Norwegian Parliament passed «The Legal Deposit Act». This act of Parliament makes it a duty for the publisher or producer to deliver one or more copies of every work that enters the public domain. Though originally designed to ensure the delivery of books and other printed matter, the act also provides for the compulsory deposit of films, music on records etc. and broadcast material. Norway has a population of only four million and Norwegians read more books, magazines and newspapers per head than anyone else in the world. The National Library - Rana branch collect and preserve this material.

Mountain Storage Vaults

Previous to the planning of the mountain storage vaults there was a discussion concerning the preservation of all the materials delivered in accordance with the deposit Act: Do we have the necessary resources to develop mass conservation techniques, and are we able to treat all the materials? The answer was no, but instead we built a storage vault where the materials have optimal storage conditions.

In 1991 two caverns into the Mofjellet (Mofjell) were blasted out. In one of them, the first storage vault was built. When this storage vault is filled up, we have the next cavern to build in.

The mountain storage vault was built to house and preserve one copy of all the material delivered in accordance with the «Deposit Act». We have 42 000 meter of shelves, that contain books, magazines, maps, newspapers, microfilm (of - among other things -all of the newspapers), magnetic tapes, and acetate film. But the storage vault also contains old materials, for example old newspapers and old photographic material. We also have approximately 30 tons of nitrate film, but - because of its flammability - the storage vault for this material is located outside the mountain.

All materials which need rehousing, are packed in storage boxes made out of acidfree/buffered cardboard containers (or polypropylene containers for acetate film).

Climate and technical solutions

The mountain itself has an internal temperature of 8°C summer as winter, and that is also the temperature chosen for the storage vaults. This is of course also very cost effective. The relative humidity is quite low; 35 %RH (we don't have collections of leather, parchment or other materials which require higher relative humidity). All of the air in the vault (16.000m³) is replaced every hour. The input air in the different rooms consists of 10% fresh air and 90% recycled air. The fresh and the used air is cleaned through a class EU-95 filter, then a micro filter and finally a carbon filter. The air for different types of material is kept separate to prevent fumes from one sort of materials from spreading to other types of material.

We don't know yet whether these efforts will have the desired effect on the preservation of the different materials, and we know that we have to do more to preserve modern media such as for example magnetic tapes. A following up program on the different materials including degradation testing is therefore necessary.