The National Trust (NT) is a charity that cares for over 300 historic buildings and their contents open to the public across England, Wales and Northern Ireland. There have been few previous studies on preservation of plastics within NT collections, which form a significant part of the more modern collections of objects.

**Aims**

- Design an assessment system for condition reporting plastics consistent with NT condition reporting processes and future capture with the forthcoming electronic Collections Management System.
- Survey plastics within a NT property to test the assessment system, and to get an overview of the state of preservation of the collection.
- Provide recommendations for storage and care of plastics within NT.

To this end, the authors surveyed plastics at Mr Straws House, Worksop, UK, a small Edwardian family home containing almost 200 household plastics from the 1920s and 30s to 1990, ranging from spice jars to jewellery, as well as fixtures and fittings such as light switches.

**Condition scoring**

NT uses a standardised condition scoring system, grading items into four categories based on their condition, stability and treatment priority, with 1 being the best or most stable, and 4 relating to objects in the poorest condition or the most unstable (deterioration expected within a year). These ratings have been used for all condition surveys within the Trust for some time, but there was no specific wording relating to scoring for plastics.

The authors created a set of definitions for condition, stability and treatment priority specific to plastic (fig. 1) which can be used for future surveys across NT, to ensure that condition assessment of different plastics is consistent.

**Surveying plastics at Mr Straws House**

The survey was carried out over two days and 181 plastic items were examined. There was a wide variety of plastics including natural, semi-synthetic and synthetics found during the survey, however only visual inspection was performed so not all were conclusively identified.

All items were photographed and a condition survey carried out using the agreed definitions. Buttons on clothing and synthetic fabrics were not surveyed, although PVC clothing items were included in the scope. Some collections of identical objects, such as bags of rubber rings, were surveyed as one item for speed and ease of recording.

**Findings of the survey**

The condition of the items surveyed was mainly good or fair, with 64% of objects falling into category 1 or 2. 71% of the items were not in need of treatment, or only a light clean, and so were graded as 1 for treatment priority (fig. 2). Only 6 (3%) were category 4Div, the lowest score possible. If this is representative of collections of plastics across NT overall, this distribution is generally encouraging.

38 objects were composed of cellulose nitrate or acetate, only one was actively deteriorating (fig. 3); the others appeared stable. The deteriorating cellulose nitrate brush was fully recorded and packed in charcoal cloth to reduce the rate of deterioration. Other actively deteriorating items were those made from natural rubber, e.g. plimsolls with sticky soles (fig. 3), and PVC, such as a PVC coat, also sticky and yellowing.

**Summary**

We have successfully defined a condition scoring system that works in situ for assessing plastics and plastic-containing objects. This can be used for future plastic surveys at other NT properties.

The majority of plastics surveyed were in good condition. The plastics that are deteriorating are those that are known to be vulnerable, namely cellulose nitrate/acetate, PVC and rubber.

Verifying this knowledge of the most vulnerable plastics enables us to recommend to properties across NT that these should be seen as a priority for correct storage and in-depth recording.