The challenges of using humane endpoints in fish research

Ngaire Dennison and Kathy Ryder, Animals (Scientific Procedures) Inspectorate, Home Office, UK

The principles behind the use of humane endpoints in animal research should be the same irrespective of the species of animal involved. The underlying tenet is that animals should undergo the minimum possible suffering in order complete a study, with animals removed from an experiment as soon as the outcome is achieved (or as soon as it becomes apparent that satisfactory results cannot be attained). The ongoing arguments around the issue of whether or not fish may feel pain or suffer do not alter the legal or ethical reasons for the need to apply humane endpoints for fish used in research.

There are, however, particular challenges to applying such endpoints for fish species, not least that to date there have been few easily recognised early signs of poor welfare identified for many types of experimental studies. Further to this are the issues that relate to the wide range of fish species, sizes and ages used in research, the advanced stage of disease/ pathology prescribed for some sorts of regulatory studies, and the limitations on viewing and accessing individual fish due to numbers of animals held and/ or enclosure design.

The ability to recognise normal appearance and behaviour of fish is critical to being able to identify both positive and negative indicators of welfare. Such essential knowledge can then be used in order to determine species and model specific clinical signs that can consistently predict that an animal will go on to develop more serious pathology allowing the use of earlier and more humane endpoints. There is considerable scope for improvement in this area.