

Annual statistics for regulated scientific procedures performed on protected animals under the Animals (Scientific Procedures) Act 1986.

In the UK all experimental work with protected (sentient) animals which has the potential to cause suffering is regulated under the Animals (Scientific Procedures) Act 1986 (Amended Regulations 2012), usually referred to as ASPA. This regulation requires researchers to minimise animal use and harm, and report the numbers of individuals used and the severity of the harm they experienced to the Home Office. As a signatory of the [Concordat on Openness on Animal Research](#) Cefas is publishing its statistics on experimental use of animals in 2018.

Cefas conducts applied research using fish which aims to: protect wild populations, biodiversity and the environment; and reduce disease and improve welfare in cultured stocks. In support of these aims, in 2018 Cefas used 6,533 fish across twenty-one species in scientific procedures that had the potential to cause suffering to the fish (tabulated below). The species used reflect their importance as Biodiversity Action Plan (BAP) species, and to fisheries, environmental quality, aquaculture and recreational fishing.

Cefas has a strong culture of care, supported by [Animal Welfare and Ethical Review Bodies](#) which ensure all animal use is justified. Researchers minimise numbers used via robust experimental designs, and minimise suffering by implementing humane end-points and frequent monitoring. This is reflected in the actual severity levels which fish experience – the vast majority of fish used in 2018 (83%) were categorised as a mild severity level; a further 4% were classified as sub-threshold.

In 2018 ballan wrasse was the most used species; use in disease studies reflects their new importance as sea-lice eating “cleaner fish” in the salmon farming industry.

In 2018 Cefas also continued investigating the use of fish embryos as a replacement for later (sentient) developmental stages in studies on the effects of chemicals and pathogens.

Glossary (terms as defined in the [Guidance on the Operation of ASPA](#)):

Regulated procedure: “A procedure is regulated if it is carried out on a protected animal for a scientific or educational purpose and may cause that animal a level of pain, suffering, distress or lasting harm equivalent to, or higher than, that caused by inserting a hypodermic needle according to good veterinary practice.”

Non-recovery: “Procedures which are performed entirely under general anaesthesia from which the animal shall not recover consciousness”.

Sub-threshold: “below the level of pain, suffering, distress or lasting harm equivalent to that caused by inserting a hypodermic needle according to good veterinary practice”.

Mild: “Procedures on animals as a result of which the animals are likely to experience short-term mild pain, suffering or distress, as well as procedures with no significant impairment of the well-being or general condition of the animals”.

Moderate: “Procedures on animals as a result of which the animals are likely to experience short-term moderate pain, suffering or distress, or long-lasting mild pain, suffering or distress as well as procedures that are likely to cause moderate impairment of the well-being or general condition of the animals”.

Severe: “Procedures on animals as a result of which the animals are likely to experience severe pain, suffering or distress, or long-lasting moderate pain, suffering or distress, as well as procedures that are likely to cause severe impairment of the well-being or general condition of the animals”.

Cefas use of protected animals within regulated scientific procedures in 2018

Species		Actual severity level					Total (%)
		Sub-threshold	Non-recovery	Mild	Moderate	Severe	
Ballan wrasse	<i>Labrus bergylta</i>	100	-	1,816	421	1	2,338 (36%)
Minnow	<i>Phoxinus phoxinus</i>	-	-	1,006	-	-	1,006 (15%)
Atlantic salmon	<i>Salmo salar</i>	29	-	705	249	-	983 (15%)
Bullhead	<i>Cottus gobio</i>	-	-	802	-	-	802 (12%)
Sea/ Brown trout	<i>Salmo trutta</i>	-	-	554	-	-	554 (8%)
Three-spined stickleback	<i>Gasterosteus aculeatus</i>	16	-	126	-	-	142 (2%)
Goldfish	<i>Carassius auratus</i>	30	-	88	1	1	120 (2%)
Common carp	<i>Cyprinus carpio</i>	30	-	90	-	-	120 (2%)
Starry smooth hound	<i>Mustelus asterias</i>	-	-	-	99	-	99 (2%)
European eel	<i>Anguilla anguilla</i>	-	-	68	-	-	68 (≤1%)
Sea bass	<i>Dicentrarchus labrax</i>	-	-	35	33	-	68 (≤1%)
Undulate ray	<i>Raja undulata</i>	-	-	-	65	-	65 (≤1%)
Turbot	<i>Scophthalmus maximus</i>	30	-	-	26	-	56 (≤1%)
Stone loach	<i>Barbatula barbatula</i>	-	-	39	-	-	39 (≤1%)
Roach	<i>Rutilus rutilus</i>	-	-	26	-	-	26 (≤1%)
Brook lamprey	<i>Lampetra planeri</i>	-	-	18	-	-	18 (≤1%)
Grayling	<i>Thymallus thymallus</i>	-	-	15	-	-	15 (≤1%)
Perch	<i>Perca fluviatilis</i>	-	-	8	-	-	8 (≤1%)
Pike	<i>Esox lucius</i>	-	-	3	-	-	3 (≤1%)
Chub	<i>Squalius cephalus</i>	-	-	2	-	-	2 (≤1%)
Gudgeon	<i>Gobio gobio</i>	-	-	1	-	-	1 (≤1%)
All (%)		235 (4%)	- (0%)	5,402 (83%)	894 (14%)	2 (≤1%)	6,533