

Crustacean Compassion

The case for the legal
protection of decapod
crustaceans





Overview

It is unscientific, unethical and legally inconsistent that current UK animal welfare legislation excludes decapod crustaceans from its protections.

Crustacean Compassion campaigns for the humane treatment of decapod crustaceans such as crabs, lobsters and prawns. Based on scientific evidence that they can experience pain, we are campaigning for their full inclusion in animal welfare legislation.

The scientific evidence includes a 2021 UK government commissioned report 'Review of the evidence for sentience in cephalopod molluscs and decapod crustaceans' authored by (Birch et al. 2021) at London School of Economics (LSE). This report concluded that there is strong evidence that decapod crustaceans are sentient and capable of feeling pain. The report also recommends that all decapod crustaceans should be included in all UK animal welfare legislation.

Currently the Animal Welfare Acts of the UK define an 'animal' as "a vertebrate other than man". This means that invertebrates such as crabs and lobsters receive no protection, and no consideration of their welfare has to be taken during storage, handling or killing.

However, they contain a provision that appropriate national authorities may "extend the definition of 'animal' so as to include invertebrates of any description...if the [authorities] are satisfied, on the basis of scientific evidence, that animals of the kind concerned are capable of experiencing pain and suffering".

There is ample precedence in countries such as Austria, New Zealand, Norway, and Switzerland; some Australian states and territories; and some German and Italian cities which already protect them in animal welfare law.

Our case is supported by leading scientific experts, veterinary professionals and public figures; by 40+ animal welfare organisations; and by a public petition signed by almost 60,000 people.

In this report we outline the ethical, scientific and legal case, as well as the commercially viable opportunities that exist to provide for the welfare of these animals. It shows why **legislative reform needs to happen now**.

"We recommend that all cephalopod molluscs and decapod crustaceans be regarded as sentient animals for the purposes of UK animal welfare law. They should be counted as "animals" for the purposes of the Animal Welfare Act 2006 and included in the scope of any future legislation relating to animal sentience"

(Birch et al, 2021) LSE Report

The Science

The UK government commissioned report 'Review of the Evidence of Sentience in Cephalopod Molluscs and Decapod Crustaceans' confirms that that decapods are sentient (Birch et al, 2021).

There is significant and compelling scientific evidence of decapod crustacean sentience (Conte et al, 2021) and their ability to experience pain and distress.

Just after the Animal Welfare Act was approved in 2005, the European Food Safety Authority (EFSA) acknowledged that scientific evidence clearly indicated that decapods are able to experience pain and distress. Since that time, increasingly compelling research has emerged.

In 2021, a UK government commissioned report reviewed over 300 scientific studies. The report concluded that decapod crustaceans are sentient and should be included in UK law.



Such findings raise important moral questions about the way in which we currently handle, store and kill these animals

“Evidence indicates that cephalopods (e.g. octopus, squid) and decapods (e.g. lobsters, crabs) are sentient, and are capable of feeling pain and distress”

British Veterinary Association

Research emerging from Queen’s University Belfast, UK has been particularly notable. Professor Robert Elwood and his team have performed numerous studies exploring pain in decapods. Their research focused primarily on distinguishing between nociception (a simple reflex response to a harmful stimulus), and an aversive, felt experience known as pain (Barr et al., 2008; Sneddon, 2004).

EXPERT SUPPORT

Our open letter calling for recognition of decapod sentience has been signed by aquatic animal scientists such as Lynne Sneddon and Jennifer Mather; animal welfare science luminaries such as John Webster, Michael Appleby OBE and Ian Redmond OBE; and leading animal welfare and veterinary organisations such as the British Veterinary Association, the Animal Welfare Science, Ethics & Law Veterinary Association (AWSELVA) and the RSPCA.

Find our open letter at
www.crustaceancompassion.org.uk

HERMIT CRAB MOTIVATIONAL TRADE-OFF EXPERIMENT

An experiment with hermit crabs found that when exposed to an electric shock, more crabs evacuated their shells than in the control group (Appel & Elwood, 2009b). The crabs retained a memory of the shock for up to 24 hours and were observed exploring the shell afterwards to try and locate the source of the pain. Fewer crabs evacuated their shells when they had a preferred shell species; more evacuated when their shell was less preferred. (Appel & Elwood, 2009b). This suggests that the pain was acting as a guide to decision making rather than a simple reflex response.



To make this distinction, as well as observing physiological responses, protective reflexes, and biological structures, the team looked at behaviour.

Furthermore, when vertebrates experience pain, they often lick, rub or groom the affected area (Weary et al., 2006). Some species of decapods have been found to exhibit similar behaviour (Barr et al., 2008). For example, glass prawns show a significant increase in grooming and rubbing when acetic acid is rubbed onto one antenna. The grooming and rubbing was directed towards the affected antenna. Prawns who had anaesthetic applied before the acid was brushed on did not groom as much as those who had none applied (Barr et al., 2008).

To make a distinction between a reflex response and pain, as well as observing physiological responses, protective reflexes, and biological structures, Elwood's team looked at behaviour. Could decapods demonstrate that they had retained a memory of a 'painful' experience (avoidance learning) or show that they were weighing up competing courses of actions to avoid it (motivational trade-offs)? Did they change apparently pain-related behaviour when given pain-alleviating medicine?

If so, it was highly likely that the decapods were experiencing a painful stimulus, not merely responding to reflex.

The results of this research were clear. Decapods displayed behaviour that met these criteria. (Elwood and Appel., 2009; Elwood, 2012; Appel & Elwood, 2009a, 2009b; Magee & Elwood, 2013; Magee & Elwood, 2016).

“These data, and those of other recent experiments, are consistent with key criteria for pain experience and are broadly similar to those from vertebrate studies.”

Magee and Elwood (2013)

Crustacean Compassion believe that based on the compelling scientific evidence all decapod crustaceans should now be protected under the Animal Welfare Acts of England and Wales, Northern Ireland, and Scotland; as well as in related legislation covering animal sentience, experimentation, housing, transport and slaughter.

For further information visit
www.crustaceancompassion.org

The Food Industry

Decapod crustaceans suffer in an industry where they have no legal protection.

There are numerous welfare issues for decapod crustaceans in the food industry. Being unprotected by animal welfare law, processors, restaurant owners and chefs are under no obligation to consider their welfare, and where concerns exist there are few guidelines. Below we outline some of the most serious welfare issues.

Welfare During Storage

A recent pilot study published in the academic journal *Animal Sentience: an Interdisciplinary Journal of Animal Feeling* found that in the UK lobsters are frequently displayed in overcrowded, brightly lit tanks, with no option for shelter, and unable to carry out natural behaviours (Carder, 2017). As naturally solitary creatures (Beard & McGregor, 2004) who favour dim lighting and crevice-like shelters (Mehrtens et al., 2005), it is highly likely that bright, crowded conditions in tanks cause stress.



Some decapods are not even kept in water; a supermarket in Surrey was found to be selling live crabs shrink-wrapped in plastic (Blair, 2015); and consumers purchasing lobsters online are sometimes advised to store these live animals in the fridge for up to a week. Since many species of lobster are unable to consume enough oxygen in air (Fotedor and Evans 2011), this is a significant welfare issue. This was recognised by an Italian high court who, along with Switzerland, have banned the keeping of lobsters on ice in restaurants (Reuters, 2017).

WELFARE CONCERNS

- Overcrowding
- Oxygen deprivation
- Unnatural lighting
- No shelter
- Storage on ice
- Poor water quality

Welfare At Killing

The most obvious cause of cruel treatment is inhumane slaughter methods. Decapods are not protected by the Welfare of Animals at the Time of Killing (WATOK) legislation, nor by the prohibition on 'unnecessary suffering' in the Animal Welfare Acts. In the food industry, there are no UK guidelines on humane slaughter available; and decapods can be sold to



consumers for home killing, with widely varying instructions, or no instructions at all. This can lead to a range of inhumane slaughter techniques being used in the home or in restaurants, with methods as listed below.

INHUMANE SLAUGHTER METHODS

- Live boiling
- Ice slurry
- Chilling in a fridge or freezer before live boiling
- Freshwater drowning
- Live carving/dismemberment

The British Veterinary Association has called for the humane slaughter of decapods before slaughter (BVA, 2020).

Live boiling in particular can extend suffering, even if chilled beforehand. Roth and Øines (2010:294) estimate that an edible crab boiled alive may remain conscious for at least three minutes; an interval which would be considered completely unacceptable in a vertebrate animal.

There is no need for decapod crustaceans to suffer in this way. Humane slaughter solutions are available, and simple steps can be taken to ensure the welfare of decapods by food businesses. Live animals should not be sold to consumers for home killing, as their welfare can be severely compromised during transport, storage and slaughter.

More information on this can be found at www.crustaceancompassion.org

A Political Opportunity

Why decapod welfare should be on the political agenda across the UK.

Crustacean Compassion campaigns for full legal animal welfare protection for decapod crustaceans across all the devolved legislatures. Our current campaign calls for them to be legally recognised as sentient and included in the definition of ‘animal’ in all relevant animal welfare legislation. This includes; Animal Welfare (Sentience) Bill, the Animal Welfare Acts of the UK, Welfare of Animals at the Time of Killing legislation, Welfare of Animals (Transport) and the Animals in Scientific Procedures Act. We see this as a moral necessity, but also a social and political opportunity: acknowledging the strength of public opinion on this issue and demonstrating that our animal welfare values are as progressive and as scientifically informed as those of other nations.

How can this be achieved?

Including decapod crustaceans under the definition of ‘animal’ in, for example the Animal Welfare Act (England and Wales) would ensure their protection. Decapods, as invertebrates, are currently exempt. However, provisions exist for extending the definition should scientific evidence show invertebrates of the kind concerned “*are capable of experiencing pain or suffering*” (Animal Welfare Act 2006). This is

the case in each of the UK’s devolved Animal Welfare Acts.

At the time the Act came into force, evidence suggesting that crustaceans were capable of feeling pain was available, and the Select Committee recommended their inclusion, but the government at the time declined. They cited the need for more evidence; yet were criticised by the Select Committee Chair for not running the existing evidence past the Defra Scientific Advisory Committee before making a decision (Select Committee, 2015). In 2018, following a Crustacean Compassion campaign, the government promised to conduct a review of decapod sentience (along with cephalopod molluscs). This report was published in 2021, it’s findings supported an amendment to extend the definition of animal to include decapod crustaceans and cephalopod molluscs in the Animal Welfare (Sentience) Bill, and their inclusion in other animal welfare legislation.

POWER TO ACT

The Government has the power to protect decapods based on the existing scientific evidence of their sentience. There is considerable public support for this, as well as across the political spectrum from the Conservative Animal Welfare Foundation, The Labour Party, and The Green Party. The Scottish Animal Welfare Commission also recognises their sentience. Acting on this issue presents a political opportunity, as well as a moral one.





Where are decapods protected?

Decapod crustaceans are already protected in other countries, the UK has been lagging behind. However, it is a pivotal time for animal welfare legislation in the UK, with an opportunity to meet and even exceed the protections offered by other nations. Incorporation of the LSE report's findings into the Animal Welfare (Sentience) Bill could make animal welfare history in the UK. Inclusion of decapods in the bill would alleviate the suffering of the more than 420 million animals landed in UK ports each year.

- **Australia** – in Australia, animal welfare is legislated at the state level. Decapod crustaceans have been included in animal welfare legislation in Victoria since 1997, New South Wales since 1998, the Northern Territory since 1999, Queensland since 2001, and the Australian Capital Territory since 2000.
- **Austria** – the Austrian Animal Welfare Act 2004 protects crustaceans under national husbandry guidelines. Crustaceans must be stunned before killing.
- **Italy** – Italy's highest court ruled in 2017 that lobsters must not be kept on ice in restaurant kitchens because it causes them unacceptable suffering. The province of Reggio Emilia has banned the practice of boiling lobsters alive.
- **Switzerland** – decapods are protected by the Animal Welfare Ordinance 2008. As of March 2018, decapod crustaceans must be stunned prior to slaughter in Switzerland. They also receive protection during transport, with a requirement that they be kept in a natural environment, making it illegal to keep them on ice or in ice water while alive.
- **New Zealand** – an Animal Welfare Bill in 1998 changed the definition of animals in New Zealand's Animal Protection Act 1960 to cover crabs, lobsters and crayfish, amongst other animals.
- **Norway** – the Norwegian Animal Welfare Act 2010 provides legal protection for decapods including in their killing, confining and transport.

Public Support

Decapod welfare has strong support from the public, the media and experts.

There is strong support from the public for the inclusion of decapod crustaceans under animal welfare law. Not only have nearly 60,000 people signed a petition online (change.org, 2021) and on paper to include decapods in the Animal Welfare Act 2006 (England and Wales), but 41 animal welfare organisations have also supported this recommendation in a joint post-Brexit animal welfare manifesto (Wildlife and Countryside Link, 2018).

In addition, our open letter with supporting scientific briefing was signed by 55 scientific experts, veterinary professionals and public figures, and received widespread media coverage in most major newspapers, across BBC radio and television, as well as internationally.

Public Petition

Then Defra Secretary of State, Michael Gove MP, and current Defra Minister of State, George Eustice MP, were petitioned to protect

decapod crustaceans from pain under the Animal Welfare Act 2006 (England and Wales). The petition (change.org) explains that this would impose a duty of care on owners or holders of decapod crustaceans for their welfare and would make it an offence to cause them unnecessary suffering at any stage.

“I love crab and lobster, and I want any meat that I eat to have been maintained at the highest possible levels of health and welfare”

Simon, Northern Ireland

By signing, the public showed their support for updated animal welfare legislation that requires anyone farming, storing or killing decapod crustaceans to abide by basic animal welfare rules – providing enough food, decent water quality, an appropriate environment, protection from pain and suffering, opportunities for natural behaviour, and humane slaughter methods.

Crustacean Compassion argued that not protecting decapod crustaceans under animal welfare legislation is unacceptable, and the public agreed.

“Selling crabs alive wrapped in shrink wrap, boiling lobsters alive, it’s simply not acceptable.”

Michaela Strachan,
TV Presenter and Conservationist



Open letter

When the UK government announced in December 2017 that a consultation would be held on a proposed Animal Welfare (Sentencing and Recognition of Sentience) Bill, we made the case for decapod crustaceans to be included within this new legislation. A compelling open letter was drafted and circulated, along with an accompanying scientific summary.

The Animal Welfare (Sentience) Bill was announced in May 2021 as part of a raft of new animal welfare legislation. It is currently passing through parliament and there are amendments tabled to include decapod crustaceans in the definition of 'animal' within the scope of the Bill.

OPEN LETTER SIGNATORIES

When published in January 2018, this had over 50 signatures asking for legal protection for decapod crustaceans (Crustacean Compassion, 2018). Signatories included:

- **Eminent scientists:** including Professor Michael Appleby OBE, Professor John Webster, Ian Redmond OBE, Professor Anil Seth, and Dr Lynne Sneddon
- **Veterinary experts:** including the British Veterinary Association, AWSELVA, former Deputy Chief Veterinary Officer Alick Simmons, Fish Veterinary Association President Ronnie Soutar, and Martin Cooke of the Veterinary Invertebrate Society
- **Leading animal welfare organisations:** Compassion in World Farming, RSPCA, Humane Society International, and Animal Equality
- **Legal experts:** including author of El Derecho de los Animales (Animal Law) Ricardo Fajardo, and Dr Cedric Sueur of the University of Strasbourg
- **Naturalists and broadcasters:** including Chris Packham and Michaela Strachan
- **Actors and comedians:** including Bill Bailey, Peter Egan and Kellie Shirley

“I asked to sign this letter to Michael Gove because I’m a vet who’s watched science answer all the questions we asked about this up to the point where we can now say....we know how much these animals suffer, we know that we routinely cause them untold suffering.”

Open letter signatory Dil Peeling ,
Former Senior Policy Officer, Eurogroup for Animals, Brussels.

The case is clear – there is strong scientific, veterinary, legal and public support for the legal recognition of decapod crustaceans as sentient animals that deserve animal welfare protections.

The open letter is available to view at
www.crustaceancompassion.org

The Solution

The humane treatment of decapod crustaceans.

It is both practically possible and commercially viable to kill decapod crustaceans humanely. There is no need for the cruel and outdated practices which we currently see in the food industry. We believe that the killing of decapods should be carried out by trained and licenced professionals in accordance with legally enforceable guidelines.

Welfare of decapod crustaceans during storage

Crustacean Compassion believes that a Code of Practice should be agreed by experts on the storing of decapod crustaceans, which takes into account the welfare needs of the different species concerned. Simple adaptations should be made to allow decapods enough space, appropriate environments for their species, protection from pain and suffering, and opportunities for natural behaviour.



The stunning and slaughter of decapod crustaceans

There are tried and tested methods of killing decapod crustaceans without causing unnecessary suffering, both in restaurants and in large-scale commercial practice. Such methods are already voluntarily being used, demonstrating that humane treatment of decapods is both practically and economically viable.

“We believe that this new Crustastun system is an important advance from an ethical point of view, and have discovered that it also enhances texture and flavour”.

Raymond Blanc OBE

Live decapod crustaceans are also sold directly to the consumer for home killing, through food outlets and online retailers. In such cases the consumer is tasked with storing and then dispatching the animal.

Crustacean Compassion believes to humanely slaughter a crab or lobster, they must firstly be stunned effectively, followed by mechanical killing, before they are cooked. Therefore, it is not possible to humanely slaughter decapods at home. The steps required for humane slaughter must be carried out by a trained professional.

Electrical Stunning

Crustacean Compassion believes that electrical stunning is the best option currently available for rendering decapods insensible to pain and distress. This must be done immediately before a swift and effective killing method.

Research shows this is currently the most efficient and humane method (Fregin and Bickmeyer, 2016; Roth and Grimsbo, 2013; Weineck et al, 2018). The evidence suggests it renders edible crabs unconscious within 1 second (Roth and Grimsbø, 2016) and causes the animals no additional measurable stress above that caused by handling (Neil and Thompson, 2012). The animals can then be killed immediately to ensure no recovery before death.

In 2020, the Humane Slaughter Association commissioned further research into the efficacy of electrical stunning, and the appropriate parameters for different species. Hilton Seafood and Tesco are also researching electrical stunning technology for their prawn/shrimp supply chain.

The Crustastun is a device used and recommended by renowned chefs. A version is also available for large-scale processors. Advocates report that since the process of electrical stunning aids tenderisation the meat has a better and sweeter flavour.

The Stansas, a Norwegian commercial dry stunner, for fish has also been adapted for the humane stunning of edible crabs in line with Norwegian animal welfare regulations.

Meanwhile, Ace Aquatech has won an award for an in-line fish stunner that can also be adapted for humane slaughter of decapod crustaceans.

“Our Responsible Fish and Shellfish Policy states that, all UK caught crab and lobster should be humanely stunned prior to cooking.. the preferred method is electrical stunning using commercial machines”

Customer Services, Waitrose

“All of our Tesco Own Brand UK Brown Crab and Lobster is humanely stunned prior to slaughter”

Aquaculture Manager, Tesco

Humane Slaughter

Mechanical killing methods include the ‘spiking’ of crabs or the ‘splitting’ of lobsters and similarly shaped species. These different techniques must be used due to contrasting layout of these species' ganglia.

Skilled, competent application of certain methods of mechanical killing of decapod crustaceans that effectively destroy their nerve centres can result in relatively swift (though usually not instantaneous) death.

Mechanical killing should only be applied by trained, competent practitioners, immediately after the animals have first been effectively electrically stunned, and before they are cooked.

The boiling of effectively stunned decapods as a method of slaughter is humane, as long as the stun lasts throughout the entire slaughter process.

More information can be found at
www.crustaceancompassion.org/slaughter

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About Us

Crustacean Compassion is an animal welfare organisation dedicated to obtaining humane treatment for decapod crustaceans. We are a group of professional animal welfare campaigners who are concerned by the inhumane treatment of crabs, lobsters and prawns in the food industry, given the extensive scientific evidence of their sentience. We began our campaign when we heard that crabs were being sold alive fully immobilised in shrinkwrap in UK supermarkets; and that enforcement agencies were powerless to act as the animals were not covered by animal welfare legislation.

Our campaigns are grounded in scientific evidence. We do not campaign against the use of decapod crustaceans as food. We welcome good practice in the food industry and believe that all sentient creatures deserve humane treatment, based on the needs of their species. To do this we engage with legislators and policy makers to strengthen and enforce animal welfare law and policy; we work to persuade and enable companies to sell higher welfare products across their shellfish product ranges; and we seek to educate both the public and policy makers on the science of decapod crustacean sentience and on their humane treatment and care.

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