AGENDA

9th Meeting, 2015 (Session 4)

Tuesday 28 April 2015

The Committee will meet at 10.00 am in the Sir Alexander Fleming Room (CR3).

1. **Consideration of new petitions:** The Committee will consider—

   - **PE1555** by Siobhan Garrahy on electric shock and vibration collars for animals

   and take evidence from—

   - Siobhan Garrahy;
   - Claire Staines, dog trainer and behaviourist;

   and will then consider—

   - **PE1556** by John Mayhew, on behalf of the Scottish Campaign for National Parks and the Association for the Protection of Rural Scotland, on a national parks strategy for Scotland

   and take evidence from—

   - John Mayhew;
   - John Thomson, Hon. Secretary, Scottish Campaign for National Parks;
   - Charles Millar, Chairman, Association for the Protection of Rural Scotland;

   and will then consider—

   - **PE1562** by Alan McLean on perverse acquittal

   and will take evidence from—

   - Alan McLean;
2. **Consideration of continued petitions**: The Committee will consider—

- PE1376 by James McDonald on banning the presence of free methanol in all manufactured products in our diet;
- PE1537 by Shona Brash, on behalf of the Coastal Regeneration Alliance, on the proposed energy park at Cockenzie;
- PE1540 by Douglas Philand on a permanent solution for the A83;
- PE1544 by Olivia Robertson on increasing the maximum sentence for convictions under the Animal Health and Welfare (Scotland) Act 2006;
- PE1553 by Councillor Andrew S Wood on rendering industry regulations;
- PE1557 by David R Slater, on behalf of Save our Whitesands car parks and river views, on no Scottish Government funding for Whitesands flood scheme;
- PE1558 by John Thom, on behalf of the RNBCC Crayfish Committee, Ken Dee Catchment, on American Signal Crayfish.
The following papers are attached for this meeting—

**Agenda item 1**

PE1555  Note by the Clerk  PPC/S4/15/9/1
PE1556  Note by the Clerk  PPC/S4/15/9/2
PE1562  Note by the Clerk  PPC/S4/15/9/3

**Agenda item 2**

PE1376  Note by the Clerk  PPC/S4/15/9/4

Food Standards Agency in Scotland
Email of 19 March 2015  PE1376/Q
Petitioner Letter of 11 April 2015  PE1376/R

PE1537  Note by the Clerk  PPC/S4/15/9/5
Scottish Enterprise Letter of 2 April 2015  PE1537/F
East Lothian Council Letter of 2 April 2015  PE1537/G
Petitioner Letter of 20 April 2015  PE1537/H

PE1540  Note by the Clerk  PPC/S4/15/9/6
Mid Argyll Chamber of Commerce Letter of 12 March 2015  PE1540/A
Transport Scotland Letter of 18 March 2015  PE1540/B
Argyll and Bute Council Letter of 19 March 2015  PE1540/C

PE1544  Note by the Clerk  PPC/S4/15/9/7
Scottish SCPA Letter of 13 March 2015  PE1544/A
Scottish Government Letter of 20 March 2015  PE1544/B
Petitioner Letter of 20 April 2015  PE1544/C

PE1553  Note by the Clerk  PPC/S4/15/9/8
Dundas Chemical Company Letter of 3 March 2015  PE1553/A
Scottish Government Letter of 19 March 2015  PE1553/B
Scottish Environment Protection Agency
Letter of 20 March 2015  PE1553/C
Department for Environment, Food and Rural Affairs
Letter of 24 March 2015  PE1553/D

PE1557  Note by the Clerk  PPC/S4/15/9/9
Geodesign Barriers Ltd Email of 3 March 2015  PE1557/A
Dumfries and Galloway Council Letter of 20 March 2015  PE1557/B
Alex Girdwood Email of 13 April 2015  PE1557/C
Petitioner Email of 14 April 2015  PE1557/D
Public Petitions Committee

9th Meeting, 2015 (Session 4), Tuesday 28 April 2015

PE1555 on electric shock and vibration collars for animals

Note by the Clerk

PE1555 – Lodged 19 March 2015
Petition by Siobhan Garrahy calling on the Scottish Parliament to urge the Scottish Government to ban the cruel and completely unnecessary use of electric shock and vibration collars on animals in Scotland.
Link to petition webpage

Purpose

1. This is a new petition, which collected 200 signatures and attracted 22 comments. All of the comments were supportive of the petition. However one commenter, Karen Fairclough, stated that while she agreed that electric shock collars should not be used, vibration collars are “vital for many deaf dogs” allowing owners to recall the dogs when off the lead.

2. The petitioner has been invited to speak to the petition and she will be accompanied by Claire Staines, a dog trainer and behaviourist. The Committee is invited to consider what action it wishes to take on the petition.

Background – summarised from the SPICE briefing

3. The purpose of the petition is to ban the use of electric shock collars in animals as a training and compliance tool. The petitioner argues that they are not necessary and that any good animal behaviourist will promote reward-based training methods that are appropriate and effective. Electric shock collars are worn around a dog's neck and deliver a shock either via a remote control or automatic trigger, for example, a dog's bark.

Arguments for electric shock collars

4. The Electronic Collar Manufacturers Association (the Association) argues that electric dog collars can form part of humane dog training. The Association states that dog collars can be useful in the balance of rewarding good behaviour and discouraging bad behaviour. On its website, the Association says—

“Aversive training can only be effective if the aversive stimulus is proportionate, getting the animals attentions by being sufficiently unpleasant but causing no harm or lasting effects.”

Arguments against electric shock collars

5. The Kennel Club argues that dogs with e-collars show signs of stress and there is strong public disapproval for the use of e-collars and public support for a ban.
DEFRA funded research on electric shock collars
6. A Defra funded project (AW1402) which reported in 2010 assessed the welfare of dogs trained with pet training aids, specifically remote static pulse collar systems. The final report “suggested that the use of e-collars in training pet dogs leads to a negative impact on welfare, at least in a proportion of animals trained using this technique.”

7. A further Defra funded project (AW1402a) which reported in 2011 had a single aim, namely to assess the impact of use of remote static pulse electric training aids during the training of dogs in comparison to dogs referred for similar behavioural problems but without e-collar training. It concluded that –

“The results of this study show that [both] the trainers’ general approach and the tools they use in training affect the dog’s emotional responses to training… Nevertheless the study did find behavioural evidence that use of e-collars negatively impacted on the welfare of some dogs during training even when training was conducted by professional trainers using relatively benign training programmes advised by e-collar advocates.”

Legislation in Wales
8. The Animal Welfare (Electronic Collars) (Wales) Regulations 2010 came into force in Wales on 24 March 2010. They prohibit a person from attaching an electronic collar to a cat or dog which includes collars used in association with electronic boundary fencing systems. Such fences send a signal to a collar fitted on the dog, if the animal goes beyond the set boundary. The Welsh regulations do not prohibit the use of vibration collars.

9. Subsequently, a petition (P-04-445) was introduced into the Assembly in January 2013 calling for the use of electronic collars linked with electronic boundary fencing to be permitted under the legislation. This aim was to prevent cats and dogs straying onto roads. In correspondence to the Welsh Petitions Committee in September 2013 Alun Davies indicated that the Welsh Government would be reviewing the legislation over summer 2014. The outcome of this review has not been announced.

10. In response to the petition, the RSPCA, who wish the legislation to remain in place unchanged, conducted a review of scientific information available on the potential effects of electronic boundary fencing and submitted their findings to the Committee on 20 January 2014.

Scottish Government Action
11. The use of electric shock collars is legal in Scotland as long as they do not cause unnecessary suffering. In 2007, the Scottish Government undertook a consultation on their use. An analysis of the consultation can be found here. Most animal welfare organisations supported a ban as well as organisations from the veterinary profession. Those opposed included the manufacturers and distributors of e-collars, the National Farmers’ Union Scotland, the Scottish Countryside Alliance, and the Scottish Rural Property and Business Association.”
12. The Animal Health and Welfare (Scotland) Act 2006 places a duty of care on pet owners and others responsible for animals to ensure that the welfare needs of an animal are met. All pets (including cats, dogs, rabbits, rodents, birds, horses, ponies, fish, snakes and other reptiles) are protected by the Act.

13. The duty of care placed on an animal owner or keeper is based on the ‘Five Freedoms’ originally recommended by the Farm Animal Welfare Council, but now generally accepted to cover any animal for which a person is responsible:

- its need for a suitable environment
- its need for a suitable diet
- its need to be able to exhibit normal behaviour patterns
- any need it has to be housed with, or apart from, other animals, and
- its need to be protected from suffering, injury and disease.

14. The Scottish Government has produced a code of practice for the welfare of dogs, outlining the requirements of this legislation and good practice for the care of these animals. The code does not mention electric shock collars.

Scottish Parliament Action

15. In May 2012, Jim Hume MSP asked a Parliamentary Question (S4W-07334) of the Scottish Government on its position on the research into the use of e-collars and the Welsh Assembly’s ban on their use. The Scottish Government indicated that its policy is that “is that such regulatory burden should only be imposed where there is clear evidence that doing so will improve animal welfare in the most proportionate manner.”

16. On 8 January 2015, the Parliament debated a motion by Christine Grahame MSP which sought the Scottish Government to ban the use of e-collars in Scotland. The Minister for Environment, Climate Change and Land Reform, Aileen McLeod MSP, stated that both the Scottish Government and DEFRA’s position is that “a ban on electronic training aids cannot be justified on welfare grounds at this time but that improved guidance for owners and trainers is the appropriate way forward”. However, the Minister continued saying “I am sympathetic and open to us having further discussions on the issue”.

Action

17. The Committee is invited to consider what action to take on the petition. Options include –

(i) To write to the Scottish Government, the Welsh Government, the Association of Pet Behavioural Counsellors, Electronic Collar Manufacturers Association, Scottish Society for the Prevention of Cruelty to Animals, the Dogs Trust, the Kennel Club, and the National Farmers’ Union Scotland.

(ii) Take any other action the Committee considers appropriate.
PE1556 – Lodged 14 March 2015
Petition by John Mayhew on behalf of SCNP and APRS calling on the Scottish Parliament to urge the Scottish Government to prepare and implement a strategy to designate more National Parks in Scotland, including at least one Coastal and Marine National Park. 
Link to petition webpage

Purpose

1. This is a new petition, which collected 1,123 signatures and attracted 89 comments. The petitioner has been invited to speak to the petition following which the Committee is invited to consider what action it wishes to take on the petition.

Background – the following is taken from the SPICE briefing

2. The National Parks (Scotland) Act 2000 sets out the following aims in relation to a relevant designated area:

- to conserve and enhance the natural and cultural heritage of the area
- to promote sustainable use of the natural resources of the area
- to promote understanding and enjoyment (including enjoyment in the form of recreation) of the special qualities of the area by the public, and to promote sustainable economic and social development of the area’s communities.

3. The designated area should also be of outstanding national importance because of its natural heritage or the combination of its natural and cultural heritage, and have a distinctive character and a coherent identity.

4. Scotland currently has two national parks, established following statutory consultation. Loch Lomond and The Trossachs National Park was established in July 2002, and the Cairngorms National Park was established in March 2003. Each Park has its own National Park Authority with a 25 member board.

Scottish Government Action

5. In 2008, a Strategic Review of Scotland’s National Parks was undertaken. The recommendations of the Review were consulted upon between November 2008 and February 2009, with a National Parks Strategic Review Recommendations: Consultation Report published in August 2009 setting out the decisions on the
Review's recommendations. One of the key recommendations was to set up a short life National Parks Strategy Group. The Consultation Report stated:

“The National Parks (Scotland) Act 2000 sets out the broad criteria which must be met and the processes to be followed in setting up new National Parks or amending the extent of existing National Parks. However the legislation does not provide guidance on the principles which Ministers might be expected to follow in deciding whether or not to activate the significant processes involved in formal assessments made under the Act. The remit of the Group will therefore focus on establishing:

a) The principles involved in considering boundary changes to existing National Parks
b) The principles involved in considering new National Parks”.

6. The Group was, however, not set up. On 16 June 2010, Richard Simpson MSP asked the Scottish Government what progress had been made towards establishing a national parks strategy group (S3W-34567). The Minister replied that the group’s establishment had been delayed until after the next spending review.

Scottish Parliament Action

7. Two Parliamentary debates have taken place since the publication of the Consultation Report. In November 2009, Roseanna Cunningham MSP’s motion S3M-05110 concerning the National Parks Strategy was debated.

8. On 12 September 2013, John Lamont MSP lodged a question asking what progress has been made towards examining the benefits of a national parks strategy. The Minister responded:

“…The Scottish Government’s priority, at a time of a 10.9% real terms reduction by the UK Government in the Scottish Government’s Fiscal Department Expenditure Limit (DEL) over 2010-11 to 2015-16, which includes a 26.6% capital budget reduction, has been to focus support on Scotland’s existing national parks. This includes supporting their five-year Partnership Plans and investing substantial capital in visitor infrastructure and facilities, rather than on the development of a separate national park strategy.

The Scottish Government has noted the recommendations made by the Scottish Campaign for National Parks (SCNP) and the Association for the Protection of Rural Scotland in their report ‘Unfinished Business’, and the welcome commitment to national parks in Scotland that this represents. However, the report’s recommendations, including the call for new national parks and the development of a national park strategy, must be viewed in the context of the current financial climate and the Government’s focus on supporting our existing national parks. This matter was discussed with representatives of SCNP and the Association for Protection of Rural Scotland when we met on 5 September 2013.”
9. In November 2013, Claire Baker MSP’s motion S4M-07932 entitled ‘National Parks, Unfinished Business’ was debated. On 29 April 2014, David Stewart MSP lodged a question (S4W-20921) asking the Scottish Government what plans it had to develop new land and marine parks. On 14 May 2014, the Minister noted in his reply:

“...While the success of our national parks is unquestioned, we believe it would be wrong at this time to raise expectations regarding the designation of others, particularly at a time of significant real terms reduction in both resource and capital funding available to the Scottish Government. While we would not rule out a further designation at a future stage, this would only be appropriate if there was a clear view expressed as to what model of new national park is being proposed; what its objectives were; whether a robust business case demonstrating its financial sustainability was demonstrated; and clear evidence of community and local authority support was made. As there are no current proposals which meet these tests, the Scottish Government has no current plans to designate further national parks in Scotland. Instead, we believe it is essential to continue to focus support on our two existing parks, to continue to deliver excellence in the visitor experience and to maximise the contribution they make to meeting local and national objectives, and in support of the statutory aims agreed by the Scottish Parliament.”

Action

10. The Committee is invited to consider what action to take on the petition. Options include –

(i) To write to the Scottish Government, Scottish Natural Heritage, Scottish Campaign for National Parks and the Association for the Protection of Rural Scotland;

(ii) Take any other action the Committee considers appropriate.
Public Petitions Committee

9th Meeting, 2015 (Session 4), Tuesday 28 April 2015

PE1562 on perverse acquittal

Note by the Clerk

PE1562 — Lodged 28 March 2015
Petition by Alan McLean calling on the Scottish Parliament to urge the Scottish Government to consider the need for trial judges to have the power to refer jury verdicts to the High Court of Judiciary in the event the judge believes the verdict to be perverse (e.g. irrational, unsupported, unbelievable).

Link to petition webpage

Purpose

1. This is a new petition, which collected 1,311 signatures and attracted 50 comments. All comments were supportive of the petition.

2. The petitioner has been invited to speak to the petition and he will be accompanied by Steve Keicher, an anti-knife crime campaigner. The Committee is invited to consider what action it wishes to taken on the petition.

Background – the following is summarised from the SPICE briefing

Proposed Reform

3. The information provided as part of the petition indicates that the petitioner is seeking new powers for a trial judge who believes that a jury’s decision to acquit an accused (not guilty or not proven) is perverse. In such cases, the petitioner would like the judge to have the ability to refer the verdict to the court of appeal for reconsideration.

4. A possible alternative would be for the prosecution to be given a new right to appeal the decision of a jury to acquit an accused. It may be noted that the defence (but not the prosecution) currently has the possibility of appealing on the grounds that the jury returned a verdict which no reasonable jury, properly directed, could have returned.

Current Legal Provisions

5. Criminal court cases are dealt with under either solemn or summary procedure. The former is used for the most serious of cases and may lead to a trial in the High Court or a sheriff court. Trials under solemn procedure involve both a judge and jury. The judge decides questions of law and the jury questions of fact.

1 The term ‘judge’ is used in this briefing to cover High Court judges, sheriffs and, in relation to justice of the peace courts, stipendiary magistrates and justices.
6. After a jury’s verdict has been recorded, it cannot be altered or explained. However, if it is self-contradictory or contrary to the judge’s directions on a point of law, the judge may require the jury to reconsider it.

7. Sheriff courts, along with justice of the peace courts, also deal with less serious cases under summary procedure. A jury is not used in a summary trial, the verdict is determined by the judge.

8. As well as being a trial court, the High Court also acts as the court of appeal. The defence and prosecution have different rights of appeal, with the prosecution’s ability to appeal against a verdict being more limited. In relation to solemn procedure cases:
   - the defence may seek to appeal against conviction on the ground that there has been a miscarriage of justice. The bases upon which the defence may seek to establish such a miscarriage include “the jury’s having returned a verdict which no reasonable jury, properly directed, could have returned”
   - the prosecution cannot appeal against the decision of a jury to acquit, although it can appeal against the decision of a judge to acquit without the matter being considered by the jury (eg where the judge accepts a defence submission of ‘no case to answer’ following the close of the prosecution evidence).

9. In relation to summary procedure cases:
   - the defence may seek to appeal against conviction on the ground that there has been a miscarriage of justice
   - the prosecution can appeal against an acquittal on a point of law

Scottish Law Commission


   “At the outset we should make clear that the present project is concerned only with judicial rulings and rights of appeal against judicial rulings; it does not involve consideration of rights of appeal following a jury verdict that acquits the accused. At present the accused has a right of appeal following a verdict of guilty but the Crown has no such right in the event of a verdict of not guilty or not proven. We are not asked to consider any change in this position.” (p 1-2)

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2 Section 106 of the Criminal Procedure (Scotland) Act 1995.
3 A submission of no case to answer (under section 97 of the Criminal Procedure (Scotland) Act 1995) seeks to establish that there is insufficient evidence in law to justify the accused being convicted. The prosecution’s right of appeal in this area is set out in section 107A of the Criminal Procedure (Scotland) Act 1995 (as inserted by the Criminal Justice and Licensing (Scotland) Act 2010).
4 Section 175 of the Criminal Procedure (Scotland) Act 1995.
5 Section 175 of the Criminal Procedure (Scotland) Act 1995.
11. It does, however, include some information on the existing ability of the defence to appeal a jury’s guilty verdict:

“In general (…) the Appeal Court has been reluctant to interfere with verdicts on this ground, on the basis that questions of credibility and reliability of evidence are matters for the jury and the court should be slow to substitute its own views.” (p 74)

“Overall, the cases seem to establish that the test that must be satisfied for such an appeal to succeed is demanding. The justification for a strict test is the general rule that credibility and reliability are matters for the decision of the jury, and unless the jury’s verdict is shown to be unreasonable or perverse the court will not interfere with it. Finally, it should perhaps be emphasised that the question of whether a verdict is one that no reasonable jury properly directed in the law could have returned is itself a question of law; that is the theory that underlies section 106(3)(b), and provides the basis on which the Appeal Court can interfere with such verdicts.” (p 75-76)

12. It also provides some relevant comparative information. For example, it states that:

“Canada is unusual in giving the prosecution a general right of appeal against acquittals on a question of law. This right, which has been available since 1892, extends to all acquittals, including acquittals by a jury on the merits of the case.” (p 88)

“In order to overturn a jury verdict of acquittal where the Crown has established an error of law at the trial, the onus is upon the Crown to satisfy the appeal court ‘that the verdict would not necessarily have been the same if the trial judge had properly directed the jury’, which has been held to be equivalent to showing that the jury’s verdict ‘might have been different’ had the error of law not occurred.” (p 89)

Level of Perverse Acquittals

13. Various issues make it difficult to assess whether and to what extent perverse acquittals might be a problem – in particular, legal restrictions on questioning jurors about their deliberations. In addition, it might be argued that there can sometimes be a role for juries in tempering the strict application of the law with mercy.6

Other Reforms

14. One possible reason for a jury reaching a verdict which an external observer might consider unreasonable could involve jurors being improperly influenced. In this context, it may be noted that provisions of the Double Jeopardy (Scotland)

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6 For example, see Professor Duff’s discussion of the use of the not proven verdict in The Scottish Criminal Jury: A Very Peculiar Institution (1999, p 195).
Act 2011 on tainted acquittals allow for the possibility of an accused person being retried for the same crime where the original acquittal may have been influenced by an offence against the course of justice (e.g. involving interference with a juror). The original acquittal must be set aside and a new trial permitted by the High Court, on the application of the Lord Advocate.

15. The fact that a Scottish jury can (at present) convict an accused on the basis of a simple majority is, at least when compared with any rule requiring unanimity amongst jurors, sometimes said to lessen the chances of perverse acquittals – on the basis that one biased juror has less power to affect the outcome. The size of jury majority required for a conviction is currently under consideration within the context of section 70 of the Criminal Justice (Scotland) Bill.

Action

16. The Committee is invited to consider what action to take on the petition. Options include –


   ii. To take any other action the Committee considers appropriate.
PE1376 – Lodged 18 November 2010
Petition by James McDonald calling on the Scottish Parliament to urge the Scottish Government to take necessary action to bring about a ban on the use of free methanol released by aspartame and to run an awareness campaign amongst health professionals to alert them of free methanol present in our diet.

Link to petition webpage

Purpose

1. This petition was last considered by the Committee at its meeting on 28 January 2014. The Committee agreed to await the publication of a study by Hull University into the safety of Aspartame and asked that SPICe undertake a review of studies. SPICe provided the review in August 2014 and that review is included as an Annexe to this paper. The Hull Study was published in March 2015 and is included separately with Members papers. The Committee is invited to consider what steps it now wishes to take on the petition.

Background

2. The petition was lodged on 18 November 2010 following which the Committee wrote to and received views from the Scottish Government, Food Standards Agency Scotland, Professor Mike Lean, and the petitioner.

3. The Scottish Government’s position is that, given that there is no evidence that aspartame found in soft drinks and other foods is harmful, it does not support the petition. The Scottish Government takes advice from Food Standards Agency Scotland (FSAS) on these matters. Professor Mike Lean, University of Glasgow, who has undertaken research in this area and provided an editorial on the issue for the BMJ, provided a detailed submission concluding that aspartame was very safe.

4. The petitioner and the FSAS agree that aspartame releases methanol when it is digested and that large amounts of methanol can be toxic. They also agree that methanol is produced by the human body and is found in fruit and vegetables and alcoholic drinks.

5. However, the petitioner contends that while the chemical makeup of the methanol produced by fruit and vegetables and the methanol that arises from aspartame is the same, there is a different effect on the human body; this is not a view shared by the FSAS who have stated that the pertinent factor is the level of methanol in the body, not its origin. The FSAS states that the level of methanol produced by aspartame found in food stuffs is well within safe limits.
6. The FSA (UK body) commissioned research into the effect of aspartame on those individuals who report adverse effects when consuming aspartame. The study was carried out by Hull University and published after being peer reviewed in March 2015.

7. The conclusion of the Hull Study was:

Using a comprehensive battery of psychological tests, biochemistry and state of the art metabonomics there was no evidence of any acute adverse responses to aspartame. This independent study gives reassurance to both regulatory bodies and the public that acute ingestion of aspartame does not have any detectable psychological or metabolic effects in humans.

8. The FSA and the European Food Safety Authority continue to consider aspartame safe for human consumption.

9. The petitioner disagrees with the FSA's and EFSA's opinions.

**Action**

10. The advice from the FSAS has not changed in light of the Hull Study. The Scottish Government has stated that it does not support the petition given the lack of evidence supporting the petitioner's view. The Committee is invited to close the petition.
PUBLIC PETITIONS COMMITTEE

ASPARTAME

INTRODUCTION

Following the Committee’s meeting on Tuesday 28 January, SPICe was asked to produce a paper summarising emerging research on the health effects associated with aspartame. The Committee wished to satisfy itself that there was nothing in the research base being produced outside of Europe which could result in action being taken by world health bodies such as the World Health Organisation or national food regulators.

This paper is split into two parts. The first considers the most recent research that has been published. It is not possible to ascertain what research is going to be published in the future, however, as can be seen below, aspartame and other artificial sweeteners are still a focus of research in some areas.

The second part considers what several of the world’s food regulators have already stated concerning aspartame, and whether or not they are likely to publish anything further in the near future.

In considering this paper, Members should note that SPICe cannot provide a systematic review of the research evidence. As will be seen, much of the research into aspartame would require more specialist analysis.

RECENT RESEARCH INTO ASPARTAME

How the search was conducted

As noted above, whilst it has not been possible to provide an outline of the research that is currently underway or about to be published, it is possible to summarise the most recent research.

Two research databases were used to conduct the search – PubMed and the NHS Knowledge Network. The search for recent articles involved looking for research published since 1 January 2013 and the first week of April 2014. The search terms included were “aspartame” combined with several other terms, namely: “health effects”, “safety”, “methanol” and “adverse effects”.
This resulted in 29 articles. However, a number were rejected as it was not apparent that they were considering any implications to health from consuming aspartame. The subject matter of this research included topics like the detection of aspartame and other sweeteners; the emission of artificial sweeteners from wastewater treatment plants; and, bitterness and sweetness perception of natural and synthetic non-nutritive sweeteners. In addition, a small number were not published in English which due to the timescale meant they could not be included in the final result.

Following this sift, 19 articles remained, which covered the following topics:

- the physiological effects associated with the consumption of aspartame itself (including an effect on health outcomes such as weight gain or weight loss)
- the physiological effects associated with the consumption of aspartame in combination with another additive (e.g. monosodium glutamate)
- the physiological effects a range of sweeteners and additives, including aspartame
- the extent to which the aspartame was consumed in particular populations

The articles concerning the latter matter were retained in this briefing as it was thought this may be of interest to the Committee.

It is important to note that not all of the studies considering any physiological effects resulting from the consumption of aspartame studied the effects in humans. Four studies produced their findings from experiments on mice or rats. A further study considered the effects of aspartame on cells derived from rats. A number of others were reviews of scientific literature, which may have included consideration of studies involving mice or rats.

The details of the studies, including abstracts are shown in Appendix 1. It should be noted that there may be other articles that the search has not identified, but which were not contained on either of the databases used for this paper. It should also be noted that whilst all the abstracts to the research are available freely online, most of the full study papers were not. Therefore, only the abstracts have been used in this analysis.

What the studies showed

Whilst the conclusions of some of these pieces of research are apparent, many of them are less so due to the way they are written and the scientific nature of the language used. This makes it difficult to ascertain exactly what they found in terms of the physiological effects (if any) of consuming aspartame, but also how the findings relate, if at all, to current guidance on the use of aspartame in place across the world. Given this it would be inappropriate for this paper to make any conclusions about the findings in this regard. As noted above, SPICe cannot provide specialist advice in this area.

However, a rudimentary analysis of the studies has produced some findings that may be of interest to the Committee.

_The geographical spread of the studies_
As can be seen from Appendix 1, the research has been undertaken by researchers in institutions from a range of countries. A summary is provided below:

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**Primary research or reviews of the literature**

Most of the studies analysed (13) were primary research, investigating the effects of aspartame and/or other sweeteners and additives on various physiological processes. Definitive conclusions cannot be taken from one study. The scientific community and regulators will consider each study and its findings within the context of the overall body of scientific literature on the matter.

The remaining six\(^1\) were reviews of the existing literature in connection with specific physiological effects or processes. Such reviews are useful as they consider the existing primary research on a topic and then assess them to establish whether or not there is conclusive evidence about a specific finding. However, they themselves are dependent on finding all the relevant literature to be reviewed.

Of the 13 primary research studies only three\(^2\) studied the possible effect of consuming aspartame itself. The remaining 10 studies either considered the effect of aspartame in combination with another additive, or considered the effects of aspartame alongside a range of other sweeteners or additives.

Of the six review studies, three\(^3\) considered the effects of aspartame itself, whilst three\(^4\) looked considered it alongside other sweeteners.

**What the studies found in respect of the effects of aspartame on health**

Of the 19 studies analysed five\(^5\) found a link between aspartame and the physiological effect being studied. Three of these studies were primary research,

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\(^1\) Studies 2, 4, 10, 11, 13 and 19 as listed in Appendix 1
\(^2\) Studies 1, 5 and 16 as listed in Appendix 1
\(^3\) Studies 2, 3 and 19 as listed in Appendix 1
\(^4\) Studies 10, 11 and 13 as listed in Appendix 1

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and include the study by Lindseth et al (April 2014). In an experiment of healthy adults they found that that participant who consumed high-aspartame diets had more irritable moods, exhibited more depression, and performed worse on spatial orientation tests. Though they found no influence on working memory. Given that the higher intake level of aspartame was below the typical accepted daily intake (i.e. 40-50 mg/kg body weight/day) they concluded that careful consideration was warranted when consuming food products that may affect neurobehavioral health.

Three studies\(^6\) did not find a link between aspartame and the physiological effect being studied. One of the studies was a review of the scientific literature. This was undertaken by Marinovich et al (October 2013). It summarised the most relevant conclusions of epidemiological studies concerning the use of low-calorie sweeteners (mainly aspartame), published between January 1990 and November 2012. Whilst it noted research indicating a link between Aspartame and other sweeteners and some excess risk of Hodgkin lymphoma and multiple myeloma in men, there was no association found in women. In addition, it found no association with leukaemia, haematopoietic neoplasms, pancreatic cancer, breast cancer risk. It also pointed to research finding no consistent association for cancers of the upper aerodigestive tract, digestive tract, breast, endometrium, ovary, prostate, and kidney. Finally, the researchers found that low calorie sweeteners were not consistently related to vascular events and preterm deliveries.

Three\(^7\) studies appeared to find some correlation to a physiological effect, but specifically concluded that further research was needed to look more in-depth into any association. One of these studies was considering the possible effects of aspartame in isolation from and in combination with monosodium glutamate, whilst the remaining two were considering the effects of aspartame alongside other additives and sweeteners.

In a further three\(^8\) of the studies the results or conclusions were unclear, either in relation to any specific finding concerning aspartame, or because they were unclear to the lay reader. In addition, a further two\(^9\) studies were inconclusive in their findings. Both of these were reviews of the scientific literature. For example, Yilmaz and Ucar, February 2014 considered the possible health effects of aspartame itself and found the published data on the genotoxicity and carcinogenicity of aspartame to be confusing. However, they stated that consumers should be aware of the potential side effects of aspartame before they consume it.

Finally, two\(^10\) of the primary research studies compared the consumption of aspartame and other additives and sweeteners against ADIs. One was based in Portugal and the other in South Korea. Whilst both did not find that ADIs were being exceeded for aspartame as well as other additives / sweeteners, it is difficult to extrapolate what these results would mean for the Scottish and wider UK populations.

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\(^5\) Studies 1, 2, 5, 14 and 17 as listed in Appendix 1  
\(^6\) Studies 9, 11 and 15 as listed in Appendix 1  
\(^7\) Studies 4, 8 and 12 of those listed in Appendix 1  
\(^8\) Studies 6, 13 and 16 of those listed in Appendix 1  
\(^9\) Studies 3 and 10 as listed in Appendix 1  
\(^10\) Studies 7 and 18 as listed in Appendix 1
Consideration of the regulatory framework or advice on ADIs

Given the Committee’s interest in the advice coming from regulatory bodies, there may be interest in how many studies considered or made reference to such matters. Out of the 19 studies, only three\textsuperscript{11} of the abstracts made reference to recommended ADIs for aspartame. None of these made any recommendation on a change to the ADI. One study by Soffritti et al (April 2014), which reviewed evidence on the carcinogenic effects of aspartame, considered that their findings should result in a re-evaluation of the current position of international regulatory agencies.

ASPARTAME AND THE VIEWS OF FOOD REGULATORS

The second part of the exercise conducted for the purposes of this paper considered the published guidance on aspartame by several of the world’s food regulators. After establishing this, each of the regulators were contacted to check that the guidance found on their websites was the most recent, and to establish if they were likely to publish anything further in the near future.

A selection of regulators who were known to have published guidance was chosen in an attempt to reflect different parts of the world. From outwith Europe these were Canada, the United States of America (USA) and Australia / New Zealand (these countries have a joint regulator). From within Europe, France was chosen as the regulator there had previously considered studies from Italy and Denmark which indicated a link between physiological effects and aspartame. In addition, Norway was chosen, given it is a European country not part of the EU. The results of what was found are contained in Appendix 2.

All of the regulators had pre-existing guidance on the use of aspartame though the dates these were published varied, from 1981 in the USA to 2005 in Canada and 2013 in Norway. All allowed the use of aspartame under certain conditions based on an ADI. When asked whether they had any plans to publish any new guidance in the near future, the regulators in the USA and Norway merely stated that they had no plans to do so. Those from Australia / New Zealand and Canada also stated they had no plans to publish new guidance, though noted that these are matters kept under review depending on any new evidence that is presented to them. The regulator in France has not, at the time of writing, responded to the request for information.

Jude Payne
SPiCe Research
23 April 2015

Note: Committee briefing papers are provided by SPiCe for the use of Scottish Parliament committees and clerking staff. They provide focused information or respond to specific questions or areas of interest to committees and are not intended to offer comprehensive coverage of a subject area.

\textsuperscript{11} Studies 1, 7 and 18 as listed in Appendix 1
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<tr>
<th>#</th>
<th>Title</th>
<th>Authors</th>
<th>Publication ref</th>
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<tr>
<td>1</td>
<td>Neurobehavioral Effects of Aspartame Consumption</td>
<td>Lindseth GN, Coolahan SE, Petros TV, Lindseth PD. (¹ Department of Nursing, University of North Dakota, USA)</td>
<td>Res Nurs Health. 2014 Apr 3 (April 2014)</td>
<td>Despite its widespread use, the artificial sweetener aspartame remains one of the most controversial food additives, due to mixed evidence on its neurobehavioral effects. Healthy adults who consumed a study-prepared high-aspartame diet (25 mg/kg body weight/day) for 8 days and a low-aspartame diet (10 mg/kg body weight/day) for 8 days, with a 2-week washout between the diets, were examined for within-subject differences in cognition, depression, mood, and headache. Measures included weight of foods consumed containing aspartame, mood and depression scales, and cognitive tests for working memory and spatial orientation. When consuming high-aspartame diets, participants had more irritable mood, exhibited more depression, and performed worse on spatial orientation tests. Aspartame consumption did not influence working memory. Given that the higher intake level tested here was well below the maximum acceptable daily intake level of 40-50 mg/kg body weight/day, careful consideration is warranted when consuming food products that may affect neurobehavioral health.</td>
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<tr>
<td>2</td>
<td>The carcinogenic effects of aspartame: The urgent need for regulatory re-evaluation</td>
<td>Soffritti M, Padovani M, Tibaldi E, Falcioni L, Manservisi F, Belpoggi F. (¹ Cesare Maltoni Cancer Research Center, Ramazzini Institute, Bologna, Italy)</td>
<td>Am J Ind Med. 2014 Apr;57(4):383-97 (April 2014)</td>
<td>Aspartame (APM) is an artificial sweetener used since the 1980s, now present in &gt;6,000 products, including over 500 pharmaceuticals. Since its discovery in 1965, and its first approval by the US Food and Drugs Administration (FDA) in 1981, the safety of APM, and in particular its carcinogenicity potential, has been controversial. The present commentary reviews the adequacy of the design and conduct of carcinogenicity bioassays on rodents submitted by G.D. Searle, in the 1970s, to the FDA for market approval. We also review how experimental and epidemiological data on the carcinogenic risks of APM, that became available in 2005 motivated the European Commission (EC) to call the European Food and Safety Authority (EFSA) for urgent re-examination of the available scientific documentation (including the Searle studies). The EC has further requested that, if the results of the evaluation should suggest carcinogenicity, major changes must be made to the current APM specific regulations. Taken together, the studies performed by G.D. Searle in the 1970s and other chronic bioassays do not provide adequate scientific support for APM safety. In contrast, recent results of life-span carcinogenicity bioassays on rats and mice published in peer-reviewed journals, and a prospective epidemiological study, provide consistent evidence of APM's carcinogenic potential. On the basis of the evidence of the potential carcinogenic effects of APM herein reported, a re-evaluation of the current position of international regulatory agencies must be considered an urgent matter of public health.</td>
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<td>3</td>
<td>A review of the genotoxic and carcinogenic effects of aspartame: does it safe or not?</td>
<td>Yilmaz S, Uçar A. (¹ Department of Midwifery, Faculty of Health Sciences, Ankara University, Turkey)</td>
<td>Cytotechnology. 2014 Feb 8.</td>
<td>The objective of this article is to review genotoxicologic and carcinogenic profile of the artificial sweetener aspartame. Aspartame is a synthetic dipeptide, nearly 180-200 times sweeter than sucrose. It is the most widely used artificial sweetener especially in carbonated and powdered soft drinks, beverages, drugs and hygiene products. There is a discussion ongoing for many years whether aspartame posses genotoxic and carcinogenic risk for humans. This question led to many studies to specify the adverse effects of aspartame. Therefore, we aimed to review the oldest to latest works published in major indices to gather information within this article. With respect to published data, genotoxicity and carcinogenicity of aspartame is still confusing. So, consumers should be aware of the potential side effects of aspartame before they consume it.</td>
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<td>4</td>
<td>Cognitive and biochemical effects of monosodium glutamate and aspartame, administered individually and in combination in male albino mice</td>
<td>Abu-Taweel GM&lt;sup&gt;1&lt;/sup&gt;, AzM&lt;sup&gt;1&lt;/sup&gt;, Ajarem JS&lt;sup&gt;2&lt;/sup&gt;, Ahmad M&lt;sup&gt;3&lt;/sup&gt;. ('&lt;sup&gt;1&lt;/sup&gt; Damman University, Saudi Arabia; '&lt;sup&gt;2&lt;/sup&gt; College of Science, King Saud University, Saudi Arabia; '&lt;sup&gt;3&lt;/sup&gt; College of Nursing, King Saud University, Saudi Arabia)</td>
<td>Neurotoxicol Teratol. 2014 Feb 18;42C:60-67 (February 2014)</td>
<td>The present study was designed to investigate the in vivo effects of monosodium glutamate (MSG) and aspartame (ASM) individually and in combination on the cognitive behaviour and biochemical parameters like neurotransmitters and oxidative stress indices in the brain tissue of mice. Forty male Swiss albino mice were randomly divided into four groups of ten each and were exposed to MSG and ASM through drinking water for one month. Group I was the control and was given normal tap water. Groups II and III received MSG (8mg/kg) and ASM (32mg/kg) respectively dissolved in tap water. Group IV received MSG and ASM together in the same doses. After the exposure period, the animals were subjected to cognitive behavioral tests in a shuttle box and a water maze. Thereafter, the animals were sacrificed and the neurotransmitters and oxidative stress indices were estimated in their forebrain tissue. Both MSG and ASM individually as well as in combination had significant disruptive effects on the cognitive responses, memory retention and learning capabilities of the mice in the order (MSG+ASM)&gt;ASM&gt;MSG. Furthermore, while MSG and ASM individually were unable to alter the brain neurotransmitters and the oxidative stress indices, their combination dose (MSG+ASM) decreased significantly the levels of neurotransmitters (dopamine and serotonin) and it also caused oxidative stress by increasing the lipid peroxides measured in the form of thiobarbituric acid-reactive substances (TBARS) and decreasing the level of total glutathione (GSH). Further studies are required to evaluate the synergistic effects of MSG and ASM on the neurotransmitters and oxidative stress indices and their involvement in cognitive dysfunctions.</td>
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<td>5</td>
<td>Aspartame-induced apoptosis in PC12 cells</td>
<td>Horio, Y., Sun, Y., Liu C., Saito T., Kurasaki M. (Authors from Hokkaido University, Sapporo, Japan)</td>
<td>Environ Toxicol Pharmacol. 2014 Jan;37(1):158-65 (January 2014)</td>
<td>Aspartame is an artificial sweetener added to many low-calorie foods. The safety of aspartame remains controversial even though there are many studies on its risks. In this study, to understand the physiological effects of trace amounts of artificial sweeteners on cells, the effects of aspartame on apoptosis were investigated using a PC12 cell system. In addition, the mechanism of apoptosis induced by aspartame in PC12 cells and effects on apoptotic factors such as cytochrome c, apoptosis-inducing factor, and caspase family proteins were studied by Western blotting and RT-PCR. Aspartame-induced apoptosis in PC12 cells in a dose-dependent manner. In addition, aspartame exposure increased the expressions of caspases 8 and 9, and cytochrome c. These results indicate that aspartame induces apoptosis mainly via mitochondrial pathway involved in apoptosis due to oxygen toxicity.</td>
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| 6  | The in vitro effects of artificial and natural sweeteners on the immune system using whole blood culture assays | Rahman F<sup>1</sup>, Pool EJ. ('<sup>1</sup> Department of Medical Bioscience, University of the Western Cape, Bellville, Republic of South Africa) | J Immunoassay Immunochem. 2014;35(1):26-36 | This article investigates the effects of commercially available artificial (aspartame, saccharin, sucralose) and natural sweeteners (brown sugar, white sugar, molasses) on the immune system. Human whole blood cultures were incubated with various sweeteners and stimulated in vitro with either phytohemagglutinin or endotoxin. Harvested supernatants were screened for cytotoxicity and cytokine release. Results showed that none of the artificial or natural sweeteners proved to be cytotoxic, indicating that no cell death was induced in vitro. The natural sweetener, sugar cane molasses (10 ug/mL), enhanced levels of the inflammatory biomarker IL-6 while all artificial sweeteners (10 ug/mL) revealed a suppressive effect on IL-6 secretion (P < 0.001). Exposure of blood cells to sucralose-containing sweeteners under stimulatory conditions reduced levels of the biomarker of humoral immunity, Interleukin-10 (P < 0.001). The cumulative suppression of Interleukin-6 and Interleukin-10 levels induced by sucralose may contribute to the inability in
mounting an effective humoral response when posed with an exogenous threat.

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<td>7</td>
<td>Risk assessment of additives through soft drinks and nectars consumption on Portuguese population: a 2010 survey</td>
<td>Diogo JS¹, Silva LS, Pena A, Lino CM. (¹ Centre of Pharmaceutical Studies, Faculty of Pharmacy, University of Coimbra, Portugal)</td>
<td>Food Chem Toxicol. 2013 Dec;62:548-53 (December 2013)</td>
<td>This study investigated whether the Portuguese population is at risk of exceeding ADI levels for acesulfame-K, saccharin, aspartame, caffeine, benzoic and sorbic acid through an assessment of dietary intake of additives and specific consumption of four types of beverages, traditional soft drinks and soft drinks based on mineral waters, energetic drinks, and nectars. The highest mean levels of additives were found for caffeine in energetic drinks, 293.5mg/L, for saccharin in traditional soft drinks, 18.4 mg/L, for acesulfame-K and aspartame in nectars, with 88.2 and 97.8 mg/L, respectively, for benzoic acid in traditional soft drinks, 125.7 mg/L, and for sorbic acid in soft drinks based on mineral water, 166.5 mg/L. Traditional soft drinks presented the highest acceptable daily intake percentages (ADIs%) for acesulfame-K, aspartame, benzoic and sorbic acid and similar value for saccharin (0.5%) when compared with soft drinks based on mineral water, 0.7%, 0.08%, 7.3%, and 1.92% versus 0.2%, 0.053%, 0.6%, and 0.28%, respectively. However for saccharin the highest percentage of ADI was obtained for nectars, 0.9%, in comparison with both types of soft drinks, 0.5%. Therefore, it is concluded that the Portuguese population is not at risk of exceeding the established ADIs for the studied additives.</td>
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<td>8</td>
<td>Estimation of the dietary intake of 13 priority additives in France, Italy, the UK and Ireland as part of the FACET project</td>
<td>Vin K¹, Connolly A, McCaffrey T, McKevitt A, O'Mahony C, Prieto M, Tennant D, Hearty A, Volatier JL (¹ Risk Assessment Directorate - French Agency for Food, Environmental and Occupational Health Safety)</td>
<td>Food Addit Contam Part A. 2013;30(12):2050-80 (December 2013)</td>
<td>The aim of this study was to assess the dietary exposure of 13 priority additives in four European countries (France, Italy, the UK and Ireland) using the Flavourings, Additives and Contact Materials Exposure Task (FACET) software. The studied additives were benzoates (E210-213), nitrates (E249-250) and sulphites (E220-228), butylated hydroxytoluene (E321), polysorbates (E432-436), sucroses esters and sucroglycerides (E473-474), polyglycerol esters of fatty acids (E475), stearoyl-lactylates (E481-482), sorbitan esters (E493-494 and E491-495), phosphates (E338-343/E450-452), aspartame (E951) and acesulfame (E950). A conservative approach (based on individual consumption data combined with maximum permitted levels (Tier 2)) was compared with more refined estimates (using a fitted distribution of concentrations based on data provided by the food industry (Tier 3)). These calculations demonstrated that the estimated intake is below the acceptable daily intake (ADI) for nine of the studied additives. However, there was a potential theoretical exceedance of the ADI observed for four additives at Tier 3 for high consumers (97.5th percentile) among children: E220-228 in the UK and Ireland, E432-436 and E481-482 in Ireland, Italy and the UK, and E493-494 in all countries. The mean intake of E493-494 could potentially exceed the ADI for one age group of children (aged 1-4 years) in the UK. For adults, high consumers only in all countries had a potential intake higher than the ADI for E493-494 at Tier 3 (an additive mainly found in bakery wares). All other additives examined had an intake below the ADI. Further refined exposure assessments may be warranted to provide a more in-depth investigation for those additives that exceeded the ADIs in this paper. This refinement may be undertaken by the introduction of additive occurrence data, which take into account the actual presence of these additives in the different food groups.</td>
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9  Effects of artificial sweeteners on the AhR- and GR-dependent CYP1A1 expression in primary human hepatocytes and human cancer cells  
Kamenickova A¹, Pecova M, Bachleda P, Dvorak Z.  
(¹ Dept of Cell Biology & Genetics, Faculty of Science, Palacky University, Czech Republic)  
Toxicol In Vitro. 2013 Dec;27(8):2283-8  
(December 2013)  
Food constituents may cause a phenomenon of food-drug interactions. In the current study, we examined the effects of artificial sweeteners (aspartame, acesulfame, cyclamate, saccharin) on the aryl hydrocarbon receptor (AhR) and glucocorticoid receptor (GR)-dependent expression of CYP1A1 in human hepatocytes, hepatic HepG2 and intestinal LS174T cancer cell lines. Sweeteners were tested in concentrations up to those occurring in non-alcoholic beverages. Basal and ligand-inducible AhR- and GR-dependent reporter gene activation in stably transfected HepG2 and HeLa cells, respectively, were not affected by either of the sweeteners tested after 24h of incubation. The expression of CYP1A1 mRNA and protein in primary cultures of human hepatocytes and in LS174T and HepG2 cells was not induced by any of the tested sweeteners. Overall, aspartame, acesulfame, saccharin and cyclamate had no effects on CYP1A1 expression and transcriptional activities of AhR and GR. These data imply the safety of artificial sweeteners in terms of interference with AhR, GR and CYP1A1.

10  Non-nutritive sweeteners: Review and update  
Shankar, P.¹, Ahuja, S., Sriram, K.  
(¹ Department of Health and Kinesiology, Georgia Southern University, Statesboro, GA, USA.)  
Nutrition 29 (2013) 1293–1299  
(Nov / Dec 2013)  
Obesity has become an epidemic, not just in the United States, but also across the globe. Obesity is a result of many factors including poor dietary habits, inadequate physical activity, hormonal issues, and sedentary lifestyle, as well as many psychological issues. Direct and indirect costs associated with obesity-related morbidity and mortality have been estimated to be in the billions of dollars. Of the many avenues for treatment, dietary interventions are the most common. Numerous diets have been popularized in the media, with most being fads having little to no scientific evidence to validate their effectiveness. Amidst this rise of weight loss diets, there has been a surge of individual products advertised as assuring quick weight loss; one such product group is non-nutritive sweeteners (NNS). Sugar, a common component of our diet, is also a major contributing factor to a number of health problems, including obesity and increased dental diseases both in adults and children. Most foods marketed towards children are sugar-laden. Obesity-related health issues, such as type 2 diabetes mellitus, cardiovascular diseases, and hypertension, once only commonly seen in older adults, are increasing in youth. Manufacturers of NNS are using this as an opportunity to promote their products, and are marketing them as safe for all ages. A systematic review of several databases and reliable websites on the internet was conducted to identify literature related to NNS. Keywords that were used individually or in combination included, but were not limited to, artificial sweeteners, non-nutritive sweeteners, non-caloric sweeteners, obesity, sugar substitutes, diabetes, and cardiometabolic indicators. The clinical and epidemiologic data available at present are insufficient to make definitive conclusions regarding the benefits of NNS in displacing caloric sweeteners as related to energy balance, maintenance or decrease in body weight, and other cardiometabolic risk factors. Although the FDA and most published (especially industry-funded) studies endorse the safety of these additives, there is a lack of conclusive evidence-based research to discourage or to encourage their use on a regular basis. While moderate use of NNS may be useful as a dietary aid for someone with diabetes or on a weight loss regimen, for
optimal health it is recommended that only minimal amounts of both sugar and NNS be consumed.

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(¹ Dept of Pharmacological and Biomolecular Sciences, Università degli Studi di Milano, Milan, Italy) | Food Chem Toxicol. 2013 Oct;60:109-15  
(October 2013) | Aspartame is a synthetic sweetener that has been used safely in food for more than 30 years. Its safety has been evaluated by various regulatory agencies in accordance with procedures internationally recognized, and decisions have been revised and updated regularly. The present review summarizes the most relevant conclusions of epidemiological studies concerning the use of low-calorie sweeteners (mainly aspartame), published between January 1990 and November 2012. In the Nurses’ Health study and the Health Professionals Followup study some excess risk of Hodgkin lymphoma and multiple myeloma was found in men but not in women; no association was found with leukemia. In the NIH-AARP Diet and Health Study, there was no association between aspartame and haematopoietic neoplasms. US case-control studies of brain and haematopoietic neoplasms also showed no association. The NIH-AARP Diet and Health Study and case-control studies from California showed no association with pancreatic cancer, and a case-control study from Denmark found no relation with breast cancer risk. Italian case-control studies conducted in 1991-2008 reported no consistent association for cancers of the upper aerodigestive tract, digestive tract, breast, endometrium, ovary, prostate, and kidney. Low calorie sweeteners were not consistently related to vascular events and preterm deliveries. |
| 12 | Cariogenic potential of commercial sweeteners in an experimental biofilm caries model on enamel | Giacaman RA1, Campos P, Muñoz-Sandoval C, Castro RJ.  
(¹ Cariology Unit, Department of Oral Rehabilitation, University of Talca, Talca, Chile) | Arch Oral Biol. 2013 Sep;58(9):1116-22  
(September 2013) | OBJECTIVE: Scarce evidence is available on the cariogenic potential of the widely used commercial sweeteners. The aim of this study was to evaluate the effect of several sweeteners on enamel demineralisation and on the cariogenic properties of Streptococcus mutans biofilms in an artificial caries model.  
METHODS: S. mutans-UA159 biofilms were cultured on bovine enamel slabs and exposed to one of the following commercial sweeteners in tablet or powder form: stevia, sucralose, saccharin, aspartame or fructose. Ten percent sucrose and 0.9% NaCl were used as caries-positive and caries-negative controls, respectively. Slabs/biofilms were exposed to the sweeteners three times per day for 5min each time. After 5 days, biofilms were recovered to determine: biomass, bacterial counts and intra- and extracellular polysaccharides. Surface microhardness was measured before and after the experiment to assess enamel demineralisation, expressed as percentage of surface hardness loss (%SHL). Data were analysed using analysis of variance (ANOVA) and Bonferroni (p<0.05).  
RESULTS: All tested commercial sweeteners, except fructose, showed less enamel demineralisation than sucrose (p<0.05). Only saccharine showed less biomass and intracellular polysaccharides than the rest of the groups (p<0.05). Stevia, sucralose and saccharine reduced the number of viable cells when compared with sucrose (p<0.05). All sugar alternatives reduced extracellular polysaccharide formation when compared with sucrose (p<0.05).  
CONCLUSIONS: Most commercial sweeteners appear to be less cariogenic than sucrose, but still retaining some enamel demineralisation potential. Products containing stevia, sucralose and saccharine showed antibacterial properties and seem to interfere with bacterial metabolism. Further studies are necessary to deepen these findings. |
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<td>13</td>
<td>Artificial sweeteners produce the counterintuitive effect of inducing metabolic derangements</td>
<td>Swithers SE. (Department of Psychological Sciences, Purdue University, USA)</td>
<td>Trends Endocrinol Metab. 2013 Sep;24(9):431-41 (September 2013)</td>
<td>The negative impact of consuming sugar-sweetened beverages on weight and other health outcomes has been increasingly recognized; therefore, many people have turned to high-intensity sweeteners like aspartame, sucralose, and saccharin as a way to reduce the risk of these consequences. However, accumulating evidence suggests that frequent consumers of these sugar substitutes may also be at increased risk of excessive weight gain, metabolic syndrome, type 2 diabetes, and cardiovascular disease. This paper discusses these findings and considers the hypothesis that consuming sweet-tasting but noncaloric or reduced-calorie food and beverages interferes with learned responses that normally contribute to glucose and energy homeostasis. Because of this interference, frequent consumption of high-intensity sweeteners may have the counterintuitive effect of inducing metabolic derangements.</td>
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<td>14</td>
<td>Prediabetic changes in gene expression induced by aspartame and monosodium glutamate in Trans fat-fed C57Bl/6 J mice</td>
<td>Collison KS, Makhoul NJ, Zaidi MZ, Inglis A, Andres BL, Ubungen R, Saleh S, Al-Mohanna FA (No author information)</td>
<td>Nutr Metab (Lond). 2013 Jun 19;10(1):44 (June 2013)</td>
<td>BACKGROUND: The human diet has altered markedly during the past four decades, with the introduction of Trans hydrogenated fat, which extended the shelf-life of dietary oils and promoted a dramatic increase in elaidic acid (Trans-18:1) consumption. Food additives such as monosodium glutamate (MSG) and aspartame (ASP) were introduced to increase food palatability and reduce caloric intake. Nutrigenomics studies in small-animal models are an established platform for analyzing the interactions between various macro- and micronutrients. We therefore investigated the effects of changes in hepatic and adipose tissue gene expression induced by the food additives ASP, MSG or a combination of both additives in C57Bl/6 J mice fed a Trans fat-enriched diet. METHODS: Hepatic and adipose tissue gene expression profiles, together with body characteristics, glucose parameters, serum hormone and lipid profiles were examined in C57Bl/6 J mice consuming one of the following four dietary regimens, commencing in utero via the mother's diet: [A] Trans fat (TFA) diet; [B] MSG + TFA diet; [C] ASP + TFA diet; [D] ASP + MSG + TFA diet. RESULTS: Whilst dietary MSG significantly increased hepatic triglyceride and serum leptin levels in TFA-fed mice, the combination of ASP + MSG promoted the highest increase in visceral adipose tissue deposition, serum free fatty acids, fasting blood glucose, HOMA-IR, total cholesterol and TNFalpha levels. Microarray analysis of significant differentially expressed genes (DEGs) showed a reduction in hepatic and adipose tissue PPARGC1a expression concomitant with changes in PPARGC1a-related functional networks including PPARalpha, delta and gamma. We identified 73 DEGs common to both adipose and liver which were upregulated by ASP + MSG in Trans fat-fed mice; and an additional 51 common DEGs which were down regulated. CONCLUSION: The combination of ASP and MSG may significantly alter adiposity, glucose homeostasis, hepatic and adipose tissue gene expression in TFA-fed C57Bl/6 J mice.</td>
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<td>15</td>
<td>Monosodium glutamate and aspartame in perceived pain in fibromyalgia</td>
<td>Vellisca MY¹, Latorre JI. (¹ Department of Psychology and Sociology, Zaragoza University, Spain)</td>
<td>Rheumatol Int. 2013 Jun 14 (June 2013)</td>
<td>Our aim was to assess the effect of dietary elimination of monosodium glutamate (MSG) and aspartame on perceived pain in fibromyalgia. A total of 72 female patients with fibromyalgia were randomized to discontinuation of dietary MSG and aspartame (n = 36) or waiting list (n = 36). Patients were requested to rate their pain using a seven-point scale. Comparisons between both groups showed no significant differences on pain referred during the baseline or after the elimination of dietary MSG and aspartame. The discontinuation of dietary MSG and aspartame did not improve the symptoms of fibromyalgia.</td>
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<td>16</td>
<td>In vitro DNA binding studies of Aspartame, an artificial sweetener</td>
<td>Kashanian S1, Khodaei MM, Khoeirdoosh F. (Sensor and Biosensing Research Center &amp; Nanoscience and Nanotechnology Research Center, Razi University, Iran)</td>
<td>J Photochem Photobiol B. 2013 Mar 5;120:104-10 (March 2013)</td>
<td>A number of small molecules bind directly and selectively to DNA, by inhibiting replication, transcription or topoisomerase activity. In this work the interaction of native calf thymus DNA (CT-DNA) with Aspartame (APM), an artificial sweetener was studied at physiological pH. DNA binding study of APM is useful to understand APM-DNA interaction mechanism and to provide guidance for the application and design of new and safer artificial sweeteners. The interaction was investigated using spectrophotometric, spectrofluorometric competition experiment and circular dichroism (CD). Hypochromism and red shift are shown in UV absorption band of APM. A strong fluorescence quenching reaction of DNA to APM was observed and the binding constants (Kf) of DNA with APM and corresponding number of binding sites (n) were calculated at different temperatures. Thermodynamic parameters, enthalpy changes (ΔH) and entropy changes (ΔS) were calculated to be +181kJmol(-1) and +681Jmol(-1)K(-1) according to Van't Hoff equation, which indicated that reaction is predominantly entropically driven. Moreover, spectrofluorometric competition experiment and circular dichroism (CD) results are indicative of non-intercalative DNA binding nature of APM. We suggest that APM interacts with calf thymus DNA via groove binding mode with an intrinsic binding constant of 5×10(+4)M(-1).</td>
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<td>17</td>
<td>Saccharin and aspartame, compared with sucrose, induce greater weight gain in adult Wistar rats, at similar total caloric intake levels</td>
<td>Feijó Fde M¹, Ballard CR, Foleto KC, Neves AM, Ribeiro MF, Bertoluci MC (¹Faculdade de Medicina da Universidade Federal do Rio Grande do Sul, Brazil)</td>
<td>Appetite. 2013 Jan;60(1):203-7 (January 2013)</td>
<td>It has been suggested that the use of nonnutritive sweeteners (NNSs) can lead to weight gain, but evidence regarding their real effect in body weight and satiety is still inconclusive. Using a rat model, the present study compares the effect of saccharin and aspartame to sucrose in body weight gain and in caloric intake. Twenty-nine male Wistar rats received plain yogurt sweetened with 20% sucrose, 0.3% sodium saccharin or 0.4% aspartame, in addition to chow and water ad libitum, while physical activity was restrained. Measurements of cumulative body weight gain, total caloric intake, caloric intake of chow and caloric intake of sweetened yogurt were performed weekly for 12 weeks. Results showed that addition of either saccharin or aspartame to yogurt resulted in increased weight gain compared to addition of sucrose, however total caloric intake was similar among groups. In conclusion, greater weight gain was promoted by the use of saccharin or aspartame, compared with sucrose, and this weight gain was unrelated to caloric intake. We speculate that a decrease in energy expenditure or increase in fluid retention might be involved.</td>
</tr>
<tr>
<td>18</td>
<td>Assessment of Korean consumer exposure to sodium saccharin, aspartame and stevioside</td>
<td>Ha MS1, Ha SD, Choi SH, Bae DH. (Department of Bioscience and Biotechnology, Konkuk University, Seoul, Republic of Korea)</td>
<td>Food Addit Contam Part A. 2013;30(7):1238-47</td>
<td>The dietary intakes of sodium saccharin, aspartame and stevioside were estimated on the basis of food consumption data of the Korean consumer and the concentration of sweeteners in processed foods. Results were compared with the acceptable daily intake (ADI) of sweeteners. Among the 28 food categories for which the application of sodium saccharin, aspartame and stevioside is permitted in Korea, they were detected in 5, 12 and 13 categories, respectively. The estimated daily intake (EDI) of sodium saccharin and aspartame were high in infants and children, whereas the EDI of stevioside was high in adolescents and adults. The most highly consumed sweeter was aspartame, and the highest EDI/ADI ratio was found for sodium saccharin. The main food categories contributing to sweeter consumption were beverages, including alcoholic beverages. For most Korean consumers, the EDIs were no greater than 20% of their corresponding ADI; however, the EDI of sodium saccharin for conservative consumers aged 1-2 years reached 60% of their ADI.</td>
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<td>19</td>
<td>Effects of aspartame metabolites on astrocytes and neurons</td>
<td>Rycerz K1, Jaworska-Adamu JE. (1 Department of Animal Anatomy and Histology, Faculty of Veterinary Medicine, University of Life Sciences, Lublin, Poland)</td>
<td>Folia Neuropathol. 2013;51(1):10-7</td>
<td>Aspartame, a widespread sweetener used in many food products, is considered as a highly hazardous compound. Aspartame was discovered in 1965 and raises a lot of controversy up to date. Astrocytes are glial cells, the presence and functions of which are closely connected with the central nervous system (CNS). The aim of this article is to demonstrate the direct and indirect role of astrocytes participating in the harmful effects of aspartame metabolites on neurons. The artificial sweetener is broken down into phenylalanine (50%), aspartic acid (40%) and methanol (10%) during metabolism in the body. The excess of phenylalanine blocks the transport of important amino acids to the brain contributing to reduced levels of dopamine and serotonin. Astrocytes directly affect the transport of this amino acid and also indirectly by modulation of carriers in the endothelium. Aspartic acid at high concentrations is a toxin that causes hyperexcitability of neurons and is also a precursor of other excitatory amino acid - glutamates. Their excess in quantity and lack of astrocytic uptake induces excitotoxicity and leads to the degeneration of astrocytes and neurons. The methanol metabolites cause CNS depression, vision disorders and other symptoms leading ultimately to metabolic acidosis and coma. Astrocytes do not play asignificant role in methanol poisoning due to a permanent consumption of large amounts of aspartame. Despite intense speculations about the carcinogenicity of aspartame, the latest studies show that its metabolite - diketopiperazine – is cancirogenic in the CNS. It contributes to the formation of tumors in the CNS such as gliomas, medulloblastomas and meningiomas. Glial cells are the main source of tumors, which can be caused inter alia by the sweetener in the brain. On the one hand the action of astrocytes during aspartame poisoning may be advantageous for neuro-protection while on the other it may intensify the destruction of neurons. The role of the glia in the pathogenesis of many CNS diseases is crucial.</td>
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### APPENDIX 2: CURRENT STATUS OF ASPARTAME AMONGST SEVERAL WORLD REGULATORS

<table>
<thead>
<tr>
<th>Country</th>
<th>Regulator</th>
<th>Date</th>
<th>Guidance</th>
<th>Future actions on Aspartame</th>
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</table>
| Australia / New Zealand | Food Standards Australia New Zealand (FSANZ) | 2010 | - Overview of current guidance, noting reviews undertaken by the body and its predecessor bodies in 1994 and 2003.  
- The ADI for aspartame is 40 milligrams per kilogram of body weight per day.  
- Has concluded that aspartame is safe.  

The body updated its web page on aspartame in January 2014 to take account of the EFSA opinion on the safety of Aspartame.  
Replied to request for additional information on 26 March 2014.  
Stated that, at this stage, FSANZ will not be publishing any additional advice and/or opinions on the safety of aspartame. However, it does keep a watching brief on any new studies/reviews that are published on aspartame and will update its advice if needed. |
| Canada               | Health Canada                          | 2005 | Current Guidance states:  
- Aspartame, a low-calorie artificial sweetener, has been permitted for use as a food additive in Canada since 1981.  
- An acceptable daily intake (ADI) of 40 milligrams/kilogram of body weight/day was established by scientists in the Food Directorate of Health Canada.  
- Discusses why it refutes a number of “allegations” about aspartame, including that concerning methanol.  
|                       |                                        |      | Replied to request for additional information on 4 April 2014.  
Highlighted current guidance, and stated:  
“Health Canada has continued to evaluate new literature regarding the safety of aspartame, since aspartame was approved for food use. However, the scientific literature has not provided any relevant safety information which would warrant a change in our position. If any such information does come forward, then Health Canada will reconsider its position.” |
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<th>Country</th>
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<th>Guidance</th>
<th>Future actions on Aspartame</th>
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| France  | Agence Francaise De Securite Sanitaire Des Aliments (AFSSA) Now ANSES - French Agency for Food, Environmental and Occupational Health & Safety | 2002 | English translation of summary and conclusion:  
- The result of a two year study by the French Expert Committee on Flavourings, Food Additives and Processing Aids.  
- Acceptable Daily Intake has been calculated at 40 mg/kg/day for aspartame.  
- Considers evidence on a causal link between aspartame and a number of conditions. Does mention methanol within this.  
- Concluded that that current scientific data do not make it possible to establish a link between exposure to aspartame and brain tumours either in humans or in animals.  

In February 2011, ANSES produced an update on aspartame and made specific note of two studies. The first was an Italian study in mice considering the link between aspartame and the incidence of certain tumours in these animals. The second was a Danish study on the association between the consumption of sweetened soft drinks and a risk of induced preterm delivery. The updated stated that whilst a preliminary examination of the two new studies did not provide a sufficient basis for modifying the recommendations for consuming sweeteners, it suggested that further studies be undertaken to update the risk assessment for these substances. In March 2011, ANES published its formal opinion on both the Italian and Danish study. It found a number of methodological problems with the Italian study, which cast doubt on the conclusions reached. As regards the Danish study, it found that no causal relationship had been demonstrated and noted the authors’ own statements that it was necessary to carry out more research to negate or confirm their results. Overall, ANES concluded that the studies did not provide a sufficient scientific basis to justify a revision of the established ADI for aspartame (40 mg/kg body weight/day). | Still awaiting response to email request for information on any future consideration of Aspartame. |
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<th>Country</th>
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| Norway  | Norwegian Scientific Committee for Food Safety (VKM) | 2013 | Only guidance that could be found in English:  
  - The Norwegian Food Safety Authority asked the Scientific Committee for Food Safety to conduct a risk assessment of the intense sweeteners aspartame, acesulfame K and sucralose and the preservative benzoic acid from soft drinks, “saft”, nectar and flavoured water.  
  - The ADI of aspartame used as the basis of the review was 40 mg/kg/day.  
  - Concludes that for all age groups in all scenarios the intake of sweeteners is well below the established ADI values, thus, there is no concern related to the intake of the sweeteners aspartame, acesulfame K or sucralose. | Replied to request for additional information on 1 April 2014.  
  Confirmed that the most recent Norwegian risk assessment of aspartame is the one referred to in the preceding columns. Noted that it showed that the exposure levels of aspartame from soft drinks etc. were well below the ADI. Amongst the highest consumers it was found to be 25% of ADI. The conclusion was that there was no reason for concern for any age group (average or high consumers).  
  Stated that there were no plans for future guidance document or opinion on aspartame in the near future. |
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<th>Country</th>
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<th>Guidance</th>
<th>Future actions on Aspartame</th>
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<tr>
<td>United States of America</td>
<td>Food and Drug Agency (FDA)</td>
<td>1981</td>
<td>Original guidance not available online.</td>
<td>Replied to request for additional information on 25 March 2014.</td>
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<td></td>
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<td>Aspartame was first approved in the United States in 1981. The guidance</td>
<td>The FDA confirmed that what is presented in the preceding columns is the most up-to-date</td>
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<td></td>
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<td>itself is not available online. The current guidance on the use of</td>
<td>position on Aspartame.</td>
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<td>Aspartame in food is provided for in to Title 21 of Code of Federal</td>
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<td>Regulations Section 172.804 (21CFR172.804).</td>
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<td>The FDA has not published any update, though it did consider the 2005</td>
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<td>study by the European Ramazzini Foundation. These findings were of a</td>
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<td>long-term feeding study on aspartame conducted in rats. Scientists from</td>
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<td>ERF concluded from their study that aspartame causes cancer and that</td>
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<td>current uses and consumption of the sweetener should be re-evaluated.</td>
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<td>The FDA published its opinion on the research in April 2007, and found</td>
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<td>there to be a number of methodological problems with the research and</td>
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<td>with how the results had been interpreted. Taking into account other</td>
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<td>studies, the FDA concluded that there was no reason to alter its</td>
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<td></td>
<td>previous conclusion that aspartame is safe as a general purpose sweetener</td>
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Public Petitions Committee

9th Meeting, 2015 (Session 4), Tuesday 28 April 2015

PE1537 on proposed energy park at Cockenzie

Note by the Clerk

PE1537 – Lodged 6 November 2014
Petition by Shona Brash on behalf of Coastal Regeneration Alliance calling on the Scottish Parliament to urge the Scottish Government to abandon the proposal for the development of an Energy Park at Cockenzie, and ensure that any future proposals are subject to full public consultation and do not extend beyond the existing footprint of the former power station.

Link to petition webpage

Purpose

1. The Committee last considered this petition at its meeting on 03 March 2015. At that meeting, the Committee agreed to write to Scottish Enterprise, Scottish Power and East Lothian Council. Responses from Scottish Enterprise and East Lothian Council have been received. The Committee is invited to consider what action it wishes to take.

Committee Consideration

2. Scottish Enterprise advises in its submission dated 02 April 2015 that it will not proceed with the consenting process for a marine energy park at Cockenzie. Scottish Enterprise says that the time is not right to move forward with this proposal due to changes in the market and industry, as well as a lack of community support.

3. East Lothian Council’s submission dated 02 April 2015 addressed a number of issues raised by the petitioner noting where the application was in the planning process and what future public consultation was planned.

4. The Petitioner’s letter of 20 April 2015 requests that investigation into the lack of public consultation should continue and that the Public Petitions Committee should continue to investigate the future plans for the Cockenzie site.

Action

5. The Committee is invited to close the petition on the basis that Scottish Enterprise has advised that the plans for the proposed energy park at Cockenzie will no longer proceed and, in doing so, to Committee may wish to bring the Petitioner’s most recent submission to the attention of the Scottish Government, Scottish Enterprise and East Lothian Council and the Economy, Energy and Tourism Committee for any future consideration of the future of the Cockenzie site.
Public Petitions Committee

9th Meeting, 2015 (Session 4), Tuesday 28 April 2015

PE1540 on a permanent solution for the A83

Note by the Clerk

PE1540 – Lodged 1 December 2014

Petition by Douglas Philand calling on the Scottish Parliament to urge the Scottish Government to ensure that a permanent solution for the A83 at Rest and be thankful ensuring the vital lifeline route is not closed because of landslides.

Link to petition webpage

Purpose

1. This petition was first considered by the Committee at its meeting on 17 February 2015. The Committee agreed to seek views from the Scottish Government/Transport Scotland, Argyll and Bute Council and the local Chamber of Commerce. Submissions have been received and the Committee is invited to consider them and agree what action to take on the petition.

Background – the following information is taken from the SPICe briefing

2. The A83 is a 98 mile long trunk road linking Tarbet and Campbeltown. Trunk roads are owned by Scottish Ministers and managed by Transport Scotland. The day to day maintenance of each trunk road is carried out by a Trunk Road Operating Company, in the case of the A83 by BEAR Scotland.

3. The Rest and be Thankful is the summit of the pass on the A83 trunk road between Arrochar and Inveraray, an area particularly prone to landslips. The A83 has been closed at the Rest and be Thankful due to landslips in November 2014, March 2014, November 2012, June 2012, February 2012, December 2011, September 2009 and October 2007. Prior to 2013, and the provision of a diversionary route, the closure of the A83 at the Rest and be Thankful required a lengthy diversion. Transport Scotland advises that this diversion adds 25 miles to each trip, typically adding an extra 31 minutes to the journey time.

Previous Scottish Government / Transport Scotland Action

4. Transport Scotland commissioned transport consultants Jacobs to undertake the A83 Route Study, the final report of which was published in February 2013. A key element of this study (Part A) was the development of six options for reducing the incidence and impact of landslides on the operation of the A83. Jacobs recommended that Transport Scotland proceed with the “red option”, which it describes as “…an additional 440m of debris flow barriers…measures to improve the hillside drainage adjacent to and under the road. The planting of vegetation may also help contribute to this strategy through the beneficial effects of vegetation would be realised during a period of 15 to 35 years after planting”
5. Transport Scotland accepted this recommendation and all debris netting and upgraded drainage is now in place, with hillside planting in the planning stage.

6. In addition to action to reduce the incidence and impact of landslides, Transport Scotland also upgraded the Old Military Road at the Rest and be Thankful. This provides a diversionary route that can be used when the main A83 is closed at the Rest and be Thankful, although it may not always be suitable depending on the location of any landslip. While the diversion has limited capacity, with vehicles operating in one-way convoys, it substantially reduces the impact of a closure of the A83 at this point. The Old Military Road was used in closure of the A83 at the Rest and be Thankful in November 2014. While the debris netting was overwhelmed by the size of that landslip, between 1000 and 1200 tonnes of debris were held back – including many boulders, some the size of small cars.

Previous Scottish Parliament Action

7. The Public Petitions Committee previously considered petition PE1428 regarding improvements to the A83, including at the Rest and be Thankful. The petition was closed in September 2013 on the basis that the Scottish Government was taking action on all points raised in that petition, including the upgrades to the A83 at the Rest and be Thankful and Old Military Road.

Committee consideration

8. Written views have now been received from Scottish Government/Transport Scotland, the local Chamber of Commerce and the Council. Transport Scotland notes that the Minister is committed to improving the OMR, reviewing current arrangements, taking forward arrangements for planting and revisiting options to provide continuity of access to Argyll. The review of the current debris flow netting is underway and will report to the Taskforce in June. The responses from the Chamber of Commerce and the Council highlight the need for a permanent solution to be found.

Action

9. The Committee is invited to consider what action it wishes to take in relation to the petition. It is suggested that the Committee may wish to await the outcome of the Taskforce meeting in June and consider the petition again in light of that.
Public Petitions Committee
9th Meeting, 2015 (Session 4), Tuesday 28 April 2015

PE1544 on increasing the maximum sentence for convictions under the Animal Health and Welfare (Scotland) Act

Note by the Clerk

PE1544 – Lodged 19 December 2014
Petition by Olivia Robertson calling on the Scottish Parliament to urge the Scottish Government to increase the maximum sentence for those convicted under the Animal Health and Welfare (Scotland) Act 2006.

Link to petition webpage

Purpose

1. The Committee last considered this petition at its meeting on 17 February 2015. At that meeting, the Committee agreed to write to the Scottish Government and to the Scottish SPCA. Both responses have been received and the Committee is invited to consider what action it wishes to take on the petition.

Committee Consideration

2. In its submission of 27 March 2015, the Scottish Government advises it is satisfied with the current penalty arrangements, which it argues offer the courts discretion in conviction and sentencing.

3. In terms of increasing the maximum penalty, the view of the Scottish Government is that the current levels are proportionate and adequate. It noted that the courts have yet to use the maximum penalties already in place. However, it did suggest that penalties for any offences should be periodically reviewed.

4. In terms of welfare education, the Scottish Government commended the work of the Scottish SPCA in this area. It noted that animal welfare is a key part of the Scottish Higher in Biology and independent research has been commissioned into promoting the duty of care in young people.

5. Addressing the petitioner’s concerns about the link between violence towards people and animals, the Scottish Government acknowledged the increasing evidence base to support this view. However, it stated that tackling such issues is not straightforward because many instances of animal abuse are non-violent, such as those caused by ignorance or neglect.

6. The Scottish Government provided updated figures on prosecutions and convictions for animal welfare offences. It noted that it was not possible to break the figures down into domestic and non-domestic cases.
7. The Scottish SPCA’s submission dated 13 March 2015 noted that its inspectors are authorised to enforce the welfare provisions of the Animal Health and Welfare (Scotland) Act 2006.

8. The Scottish SPCA stated that in principle it supported higher penalties. However, it noted that the deterrence value of increased penalties has not been tested. As an alternative approach, the Scottish SPCA said it would recommend courts consider imposing a ban on ownership or custody of animals be imposed on anyone found guilty of a cruelty offence and a term of imprisonment for anyone who breaks a court deprivation or banning order.

9. The Scottish SPCA noted that it is important that the courts maintain their discretion over sentencing and punishment but that it does have some concern about lack of consistency in sentencing.

10. The Scottish SPCA annexed a report of the number of cases reported in 2013 and 2014 showing a slight increase in the number of telephone calls received and the number of cases lodged with the Procurator Fiscal. The greatest increase shown was in the number of case results obtained in cases involving domestic animals (140 in 2014, up from 86 in 2013).

11. The Petitioner’s response dated 20 April 2015 was supportive of the Scottish SPCA’s submission. She argued that the law should be strengthened to act as a deterrent to crime and agreed with the Scottish SPCA’s recommendation that anyone found guilty of a cruelty offence should be automatically banned from ownership or custody of animals. The Petitioner also noted that ignorance should not be a mitigating factor in the punishment of a person found guilty of animal cruelty offence, or a reason for not increasing the punishment for these offences, because ignorance is not a defence for other criminal matters.

Action

12. The Committee is invited to consider what action to take on the petition. Options include –

(i) To write to the Scottish Government asking how frequently it plans to review the penalties in place under the Animal Health and Welfare (Scotland) Act 2006 and whether it will consult with key agencies, such as the Scottish SPCA, in that process;

(ii) Take any other action the Committee considers appropriate.
Public Petitions Committee

9th Meeting, 2015 (Session 4), Tuesday 28 April 2015

PE1553 on rendering industry regulations

Note by the Clerk

PE1553 – Lodged 20 February 2015
Petition by Councillor Andrew S Wood calling on the Scottish Parliament to urge the Scottish Government to review the regulations that meat rendering plants must comply with to operate in Scotland.

Purpose

1. The Committee first considered this petition and heard from the petitioner and representatives of Dundas Chemical Company at its meeting in Dumfries on 23 February 2015. At that meeting the Committee agreed to seek views from SEPA, the UK Government and the Scottish Government. The Committee has received responses and is invited to consider what steps to now take on the petition.

Background

2. The petitioner’s concern is that the regulations regarding red meat rendering plants are interpreted differently in England, where they are regulated by local authorities, and Scotland, where the industry is regulated by SEPA.

What is animal rendering?

3. As set out by the UK Renderers Association, rendering involves the processing of those parts of meat animals that are not used for human consumption. Processing involves the crushing or grinding of the raw material, followed by heat treatment. The resulting material is used for products such as fuel, pet food, soap and glue. Two animal rendering plants operate in Scotland.

European Regulations for animal rendering plants

4. The Industrial Emissions Directive (IED) aims to minimise pollution from various industrial activities throughout the European Union. Operators of certain industrial installations that are covered by the directive are required to obtain an environmental permit from the authorities in EU countries.

Regulations for animal rendering plants in Scotland

5. In Scotland the IED has been brought into effect by the Pollution Prevention and Control (Scotland) Regulations 2012, otherwise known as ‘PPC’. The Scottish Environment Protection Agency (SEPA) is the designated regulator responsible for enforcing the regime within Scotland. Operators are required to demonstrate to SEPA that they will adhere to the general principles of PPC which include:
Using "Best Available Techniques", which balance the benefits to the environment against the costs to the operator, to prevent or minimise pollution
- Minimising waste produced by the process, and recycling waste where possible
- Reducing the amount of energy used
- Using less hazardous substances, and taking account of the nature, effects and volume of emissions from the facility
- Preventing accidents
- Restoring the site once operations cease
- Minimising heat and noise emissions.

Regulations for animal rendering plants in England and Wales
6. In England and Wales the IED is implemented by Environmental Permitting (England and Wales) Regulations 2010. These regulations refer to two types of installations.

- A1 installations which tend to be larger and are regulated by the Environment Agency, and
- A2 installations which tend to be smaller and are regulated by Local Authorities.

Guidance for regulating animal rendering activity

8. The guidance sets out the Best Available Techniques (BAT) for the processing of animal remains and by-products. To support the implementation of the BAT approach information referred to as ‘BAT reference documents’ (BREFs) are drawn up at an EU level for particular sectors based on an exchange of information between member states and industries. The BREFs describe applied techniques, emissions, BAT conclusions and emerging technologies and are designed to provide information for regulators to consider when determining permit conditions.

9. The process of writing a BREF for the Animal Rendering Industry will begin later this year, led by the European IPPC Bureau and will take a number of years to complete. Once complete this will be used in both England and Wales and Scotland. In the meantime Note IPPC SG 8 remains the guidance followed.

Scottish Government Action
10. The Scottish Government consulted in late 2012 on a new set of Regulations to implement the Industrial Emissions Directive. A partial Business & Regulatory Impact Assessment was produced. Revised draft Regulations were approved by
the Scottish Parliament and came into force from 7 January 2013 as the *Pollution Prevention and Control (Scotland) Regulations 2012*.

**Committee consideration**

11. The Committee heard from the petitioner on **23 February 2015**. The petitioner does not dispute how SEPA interprets the regulations, but is looking for consistent interpretation across the UK. The petitioners identified the forthcoming drafting of a new BREF as an opportunity to ensure consistency of interpretation.

12. Dundas Chemical Company said its concerns arose because the regulatory burden is greater in Scotland than similar plants operating in England resulting in higher fees, more and potentially costlier monitoring of emissions; and different metrics for measuring emissions.

13. SEPA’s submission outlines the role it will play in drafting the new BREF documents and that it has invited a representative of Dundas Chemical Company to attend a UK group meeting.

14. Dan Rogerson Parliamentary Under Secretary of State for water, forestry, rural affairs and resource management wrote to the Committee on 24 March 2015. He noted that devolution may mean that regulations are differently applied, for example through the levying of different fees. However, he stated that DEFRA was not aware of any substantial difference to how regulations are applied in different parts of the UK. He stressed the importance of the new BREF documents, a unified UK position and common understanding of the regulations.

15. In her submission, the Minister for Environment, Climate Change and Land Reform agreed that regulations should ideally be applied consistently across the UK and indeed the EU.

16. The petitioner has not formally submitted any further views however in an email to the clerks he stated that he wished to “encourage positive and constructive dialogue with SEPA and DEFRA when interpretation of the new legislation is brought into play for the UK”.

**Action**

17. The Committee is invited to consider what action it wishes to take in relation to the petition. The submissions suggest that there is support, at both the UK and Scottish level, for the petitioner’s view that there should be consistent application of the regulations across the UK market. Dundas Chemical Company has been invited to directly contribute to the process of agreeing the UK position on the new BREF documents. In light of these factors, the Committee may consider that it has succeeded in raising this issue on behalf of the petitioner and that matters should now be left with SEPA and the Scottish Government to take forward in the context of development of the new BREFs. Therefore the Committee may wish to close the petition.
Public Petitions Committee

9th Meeting, 2014 (Session 4), Tuesday 28 April 2015

PE1557 on no Scottish Government funding for the Whitesands flood scheme

Note by the Clerk

PE1557 – Lodged 20 February 2015
Petition by David R Slater calling on the Scottish Parliament to urge the Scottish Government to rule out additional grant funding for Dumfries and Galloway Council for their proposed flood prevention scheme on the Whitesands river frontage in Dumfries that will obscure our important river views forever and take away important safe car parking.
Link to petition webpage

Purpose

1. The Committee considered this petition for the first time at its meeting in Dumfries on 23 February 2015. The Committee agreed to write to Dumfries and Galloway Council. The Council has responded to the Committee and the Committee is invited to agree the next steps it wishes to take on the petition.

2. The Committee has a policy of not becoming involved in the operational decisions of local authorities. For the purposes of consideration by this Committee, the petition’s focus is on funding available from the Scottish Government for the Whitesands flood prevention scheme.

Background

3. Dumfries and Galloway Council is proposing a scheme to protect the Whitesands area in Dumfries from flooding. The Council’s A Draft Whitesands Masterplan is available here.

Scottish Government Action

4. The Flood Risk Management (Scotland) Act 2009 creates a general duty for Scottish Ministers, SEPA and responsible authorities to exercise their functions with a view to reducing overall flood risk. Responsible authorities include local authorities, Scottish Water and other public bodies designated by Scottish Ministers. The SPICe Briefing Flooding Frequently Asked Questions sets out key aspects of flooding responsibilities, as does SEPA’s webpage on Flood Risk Management Planning.

5. For individual projects, it is up to the local authority to apply for, and agree to a funding package with the Scottish Government, depending on eligibility. PQ S4W-20986 confirmed that the Whitesands Project was not successful in securing funding from the Scottish Government, and this decision is the subject of an ongoing appeal.
Committee consideration

6. The Committee considered the petition for the first time on 23 February 2015 when it heard from the petitioner. Whilst the Committee agreed to write to the Council Members were of the view that the substance of the petition was a local one best dealt with by local representatives.

7. Dumfries and Galloway Council have now written to the Committee giving more details on the project, the role of elected-members in the Council, and the consultation process the Council has undertaken. The Council is looking again at the proposals as a result of feedback from public engagement. The Council encourages those with an interest in the project to contact the design team at Dumfries and Galloway Council.

8. The petitioner argues that the Council’s engagement process is flawed because only one option was proposed and states that that a request for a formal meeting with council officials has been declined.

Action

9. Dumfries and Galloway Council has clarified that it is still working on plans for a flood prevention scheme for Whitesands. The Committee may therefore consider it premature to consider a petition on any potential request for Scottish Government funding for such a scheme. On this basis, the Committee may wish to close the petition; however, in doing so, the Committee may wish to again urge the Council to engage directly with the petitioner.
Public Petitions Committee
9th Meeting, 2015 (Session 4), Tuesday 28 April 2015

PE1558 on American Signal Crayfish

Note by the Clerk

PE1558 – Lodged 20 February 2015
Petition by John Thom on behalf of RNBCC Crayfish Committee, Ken Dee Catchment, calling on the Scottish Parliament to urge the Scottish Government to amend the existing licencing regime to allow for the commercial trapping of American Signal Crayfish in Scotland.

Link to petition webpage

Purpose

1. The Committee last considered this petition at its meeting on 23 February 2015 and the written evidence received from SEPA and SNH. It agreed to seek the Scottish Government’s view. A response has been received and the Committee is invited to consider what action it wishes to take.

Committee Consideration

2. In a joint submission dated 16 February 2015, SEPA and SNH stated they do not support the view that signal crayfish in Loch Ken can be controlled by establishing a commercial fishery and do not believe that trapping is an appropriate method for controlling this invasive species. Instead, SEPA and SNH believe the best way to stop the further spread of crayfish population is by raising public awareness.

3. The Scottish Government’s submission dated 25 March 2015 notes that it does not support establishing a commercial fishery for American Signal Crayfish because of the danger that such activity would lead to the further spread of the population of the fish.

4. The Scottish Government also outlined the measures it is taking to address the problem; including a citizen’s science approach using catch data submitted by anglers, a project to ‘examine options to eradicate or contain a new population of signal crayfish in a reservoir near Dalbeattie’; and an educational campaign entitled ‘Check, Clean, Dry’. The Scottish Government advises that the Dalbeattie project is currently being costed and assessed.

5. The Petitioner’s response dated 12 April 2015 argues that progress on the Dalbeattie proposal has been too slow and questions the effectiveness of the ‘Check, Clean, Dry’ campaign. In this regard, he argued in this submission and his earlier submission of 17 February 2015 that the cost of funding scientific study programmes appears to be a barrier for SNH or SEPA. In his view, the non-profit model he proposes would remove the monetary incentive for
deliberate spreading, boost the local economy and provide the funds needed to run scientific studies.

**Action**

6. The Committee is invited to consider what action to take on the petition. Options include –

(i) To write to the Scottish Government asking what timeframe has been set for the assessment and costing of the Dalbeattie project; whether the cost of such a project is a barrier to it moving forward; and whether any assessment has been made of the impact and effectiveness of the ‘Check, Clean, Dry’ campaign and the citizen’s science approach;

(ii) To invite the Scottish Natural Heritage and the Scottish Environment Protection Agency to give oral evidence at a future meeting;

(iii) To refer the petition to the Rural Affairs, Climate Change and Environment Committee;

(iv) Take any other action the Committee considers appropriate.