

Reducing *E. coli* O157 Risk in Rural Communities RELU Risk Workshop 3rd-4th Nov 2010

Individual experiences and risk meanings





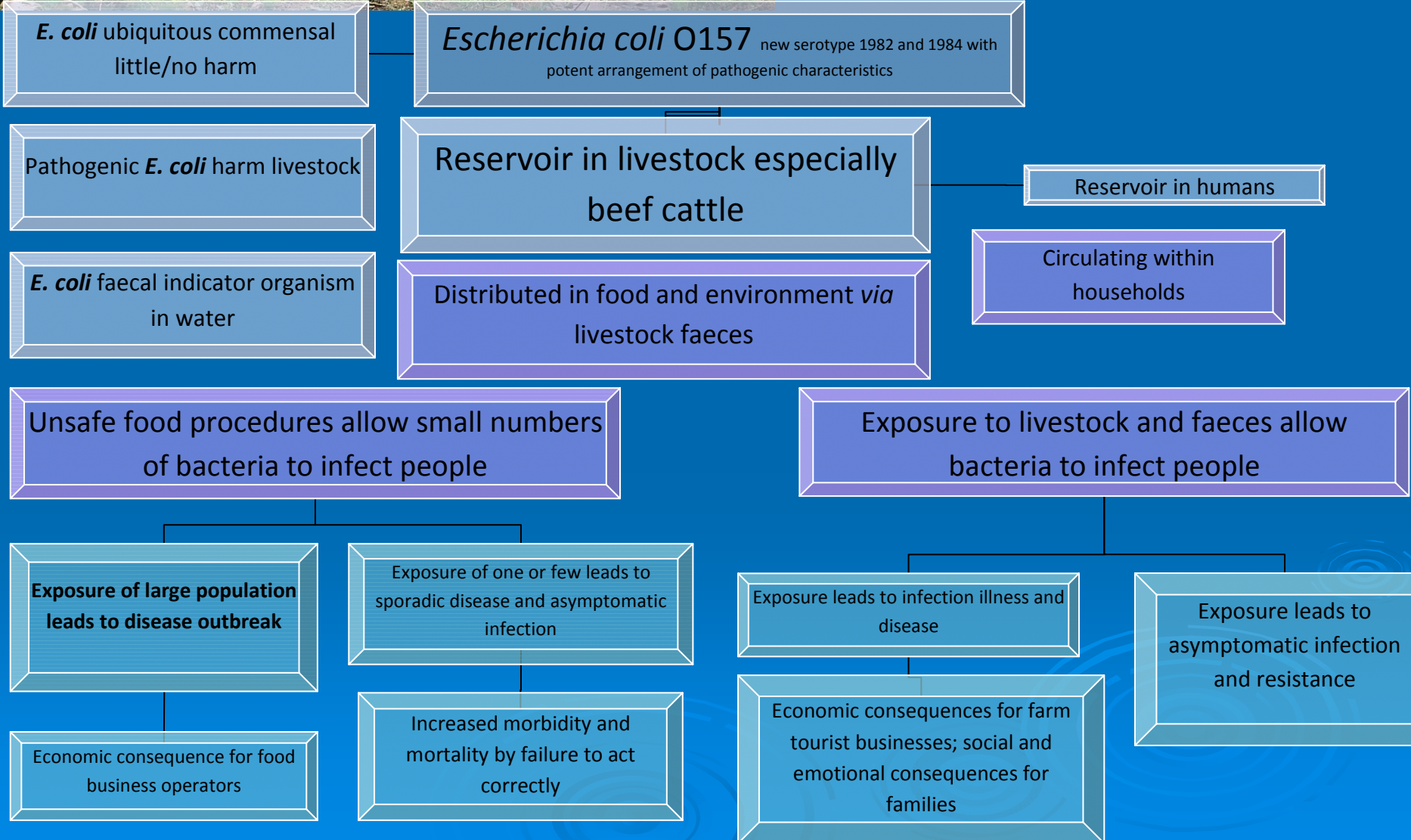
Overview

- Survey by questionnaire: 2031 respondents
- 2 study areas: Grampian and North Wales
- 4 groups: farmers, residents, visitors, abattoir
- 53 interviews with stakeholders

<http://www.abdn.ac.uk/reluecoliproject>



Content synopsis



Semi-structured Interview

Please describe your job and risks that most concern you?

Does *E. coli* O157 matter, and if so how does it matter?

What is your and your organisation's role in managing *E. coli* O157 risk?



Potentially lethal bug strikes at Westhill settlement – with 15 people affected

FOCUS ON PRIVATE WATER SUPPLY, WHICH SERVES THE EIGHT-HOUSE DEVELOPMENT, AS POSSIBLE SOURCE OF OUTBREAK

BY GILLIAN BELL AND RYAN CRIGHTON

At least 15 people, including several children, may be suffering from a potentially lethal bug after an outbreak in a small settlement near Aberdeen.

Seven residents at the Beechmar Grange development at Auchinclech, near Westhill, have already tested positive for e.coli 0157, and another eight are showing symptoms of the infection.

All share a private water

supply which serves the eight-house development.

Two people were treated in Aberdeen Royal Infirmary but have since been discharged. The rest have been treated by GPs.

All have suffered from ei-



Farmer Charles Marshall, left, discusses the outbreak with workers in a field overlooking the development

ther stomach cramps, sickness or diarrhoea, or a combination of the three.

A spokesman for NHS Grampian said none is currently causing concern.

A small percentage of people who contract E.coli 0157 later develop haemolytic uremic syndrome (HUS), which can lead to kidney failure and even death.

The health board has launched a joint investigation with Aberdeenshire Council into the circumstances surrounding the outbreak.

Residents have been told cattle faeces may have contaminated their water supply. Health bosses have told locals to boil their water until tests show it is clear of the bacteria.

Charles Marshall sen, of Marshall Farms, owns the development and its local water supply. Yesterday afternoon he said he was working with environmental health officers to purify a supply tank.

Beechmar Grange resident Stephen Taylor, 40, said his six-year-old daughter Olivia first became unwell about two weeks ago.

He said: "I tested positive

and two of my daughters tested positive for it. We're still waiting on the results of my three-and-a-half-year-old son Cameron.

"Olivia's infection started about two weeks ago with diarrhoea but she came OK again. My other daughter, Sophie, has been sick for four days."

Last night, leading north-east microbiologist Hugh Pennington said the wet summer may have washed manure from neighbouring fields into the private water supply.

He said: "I would put the heavy rain high on my list of possible factors because it washes manure off the fields and into private water supplies. There might not have been anything fundamentally wrong with the filtration system but the water could have been contaminated heavily with sheep and cow manure."

Health Secretary and Deputy First Minister Nicola Sturgeon has asked to be kept informed of the circumstances surrounding the outbreak. She said: "It is too early to pinpoint a definitive cause, but it is hugely important that NHS Grampian, with other agencies, finds the cause and that the correct steps are put in place to prevent infection."

The 0157 bug, a mutant form of e.coli, lives in the intestines of some cattle, sheep and goats but is not naturally found in humans.

People can become infected



OUTBREAK: South Auchinclech, near Westhill, where an e.coli 0157 outbreak is being investigated. Photographs: Colin Rennie

by contaminated water or foods, inadequately-cooked meat and dairy products, direct contact with animals and by person-to-person spread.

It produces toxins which can be fatal when ingested,

even in small amounts – a person can develop symptoms with as few as 10 e.coli 0157 organisms, yet up to 1 million salmonella organisms can be ingested before symptoms appear.

Some people suffer mild diarrhoea or no symptoms at all, but others include more severe diarrhoea, sickness, fever and stomach cramps.

Antibiotics are not used to treat the infection, and suf-

ferers usually recover without specific treatment in five to 10 days.

People who develop complications such as HUS do, however, require hospital treatment.

Communicating risk: *E. coli* O157

10 The Press and Journal NEWS Friday August 23 2008 www.greendournal.co.uk

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BY GILLIAN BELL AND RYAN CRIGHTON their stomach cramps, sick – and two of my daughters

Who do you think should be responsible for managing *E. coli* O157 in the countryside?

A Bloody stupid question, how can you manage a bug we cannot see with-out a microscope.!

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Last Updated: Thursday, 27 July 2006, 15:54 GMT 16:54 UK

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Child dies from E.coli infection

A two-year-old child has died after contracting the E.coli O157 infection.

The girl, from Ballantrae, in South Ayrshire, died at the weekend after being taken to the Royal Hospital for Sick Children in Glasgow.

The girl who died had been



Wishaw 1996
New Deer 2000

VIRULENCE
Toxin genes - *vt1*, *vt2*
Attaching genes *eae*
Non O157 VTEC

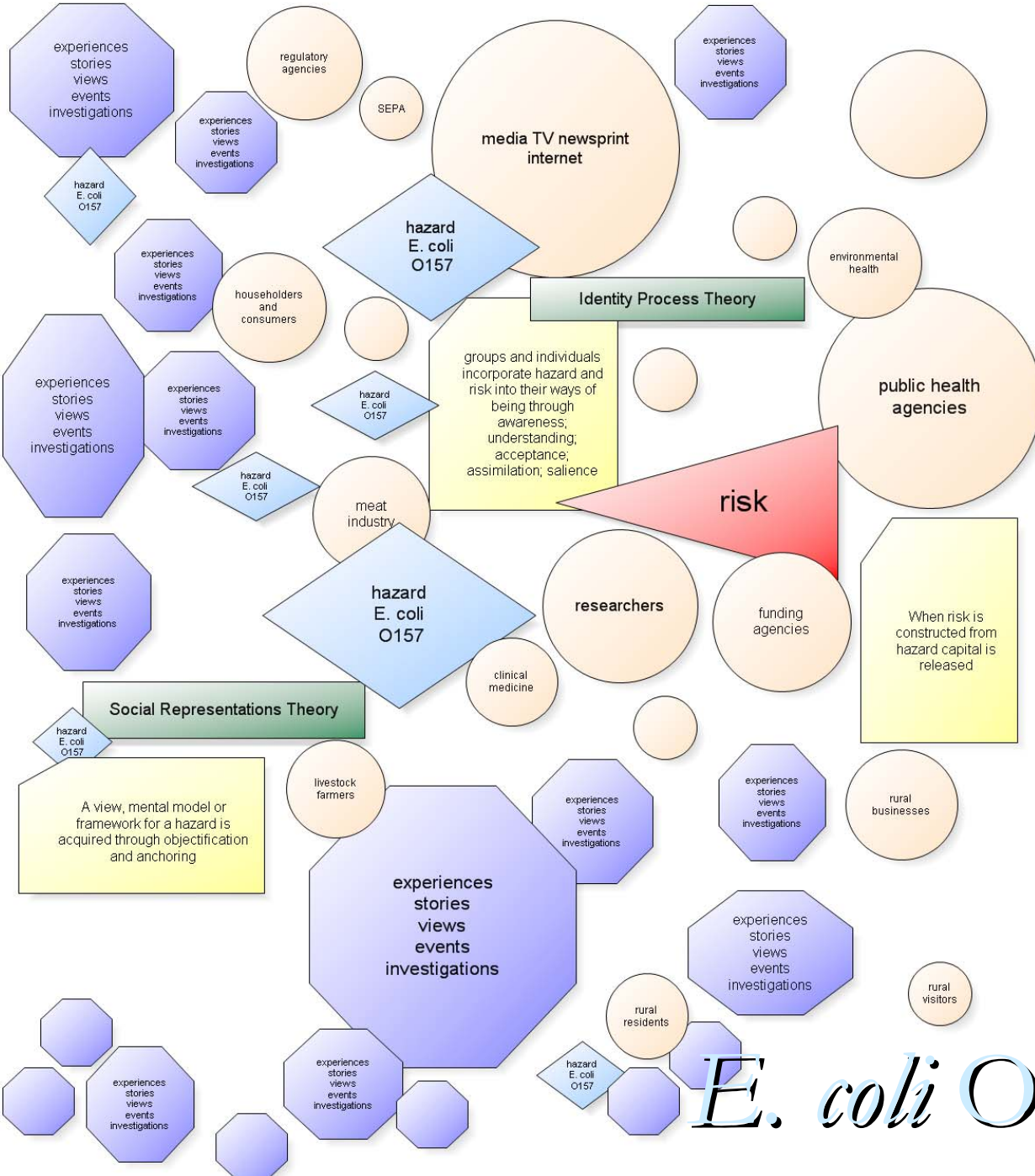
MORPHOLOGY
Rod shaped bacterium
One or more polar flagella
Gram negative
Facultative anaerobe

SOUTH WALES E.COLI OUTBREAK

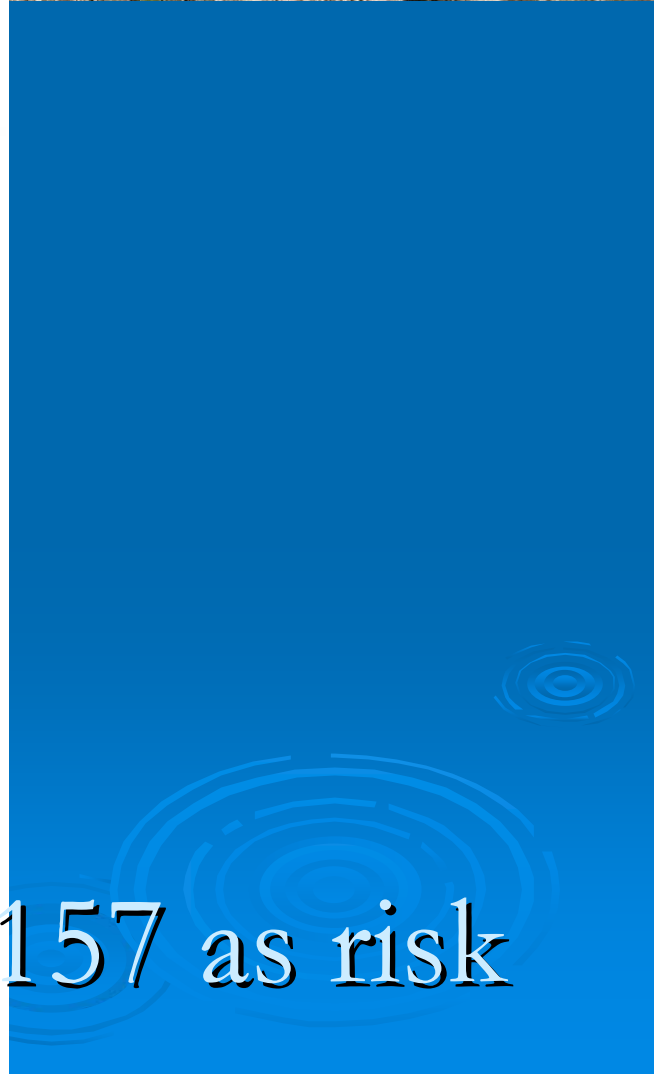
Guilty plea 'long overdue'
Mother of victim welcomes butcher's guilty pleas

LATEST
▶ Meat butcher pleads guilty
▶ No prosecution over death



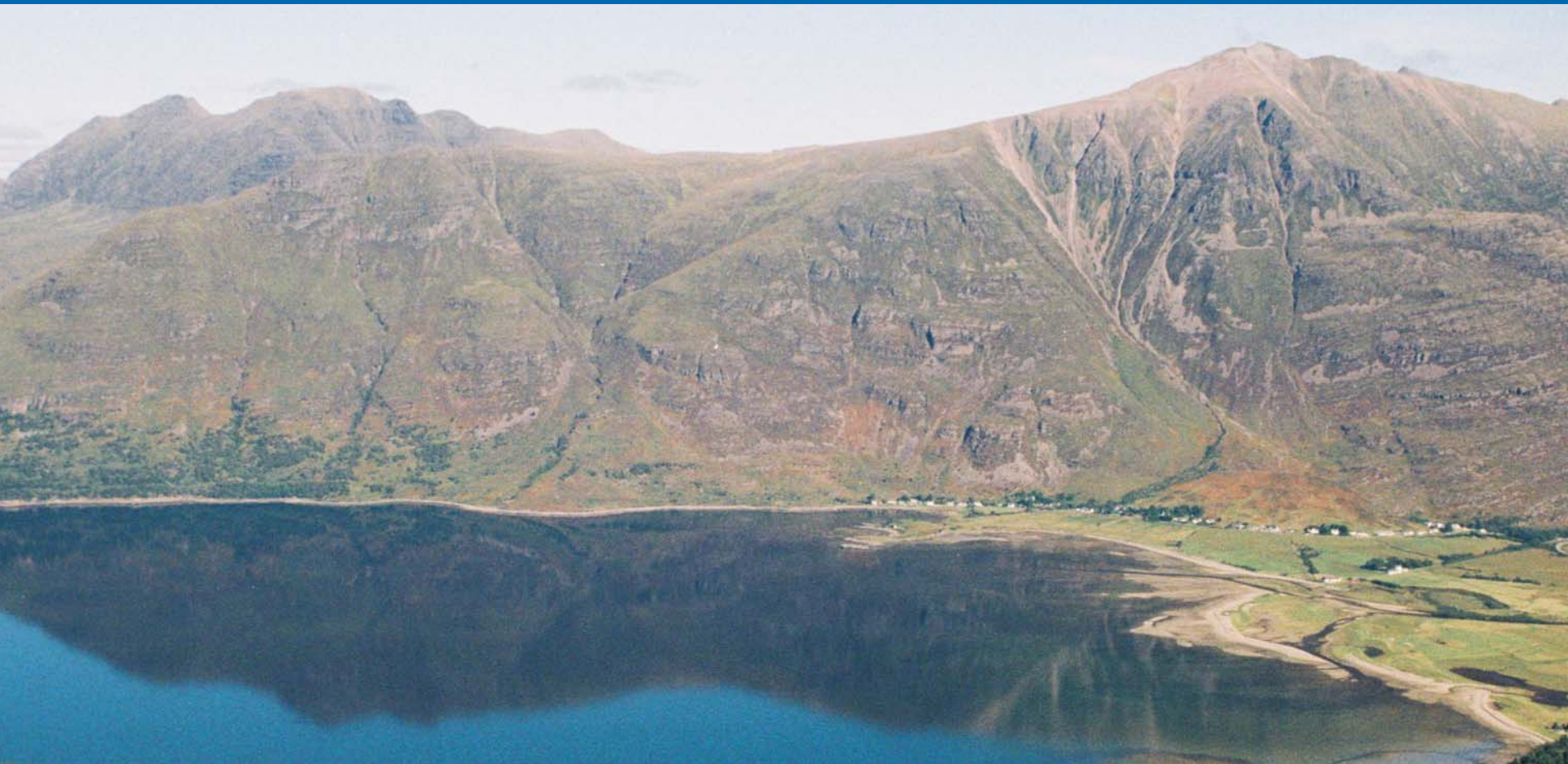


E. coli O157 as risk



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Reflection