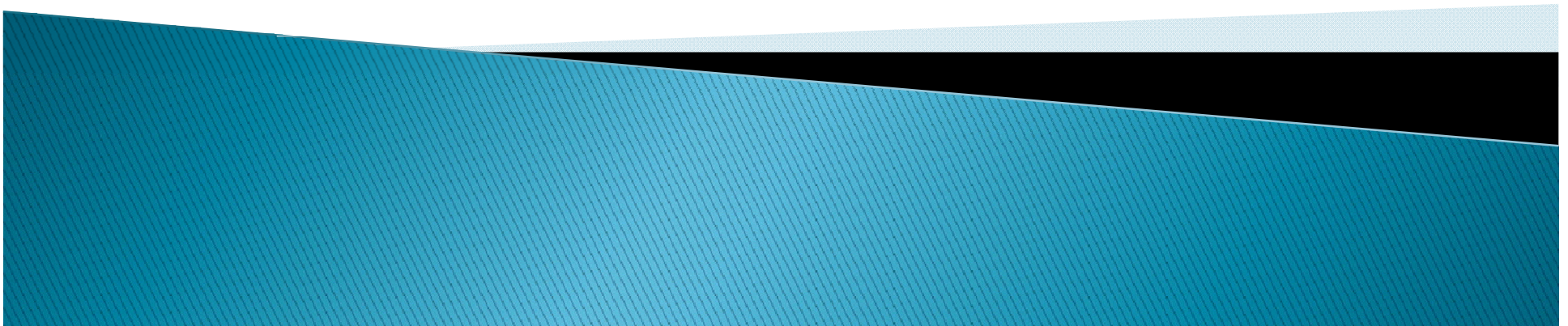


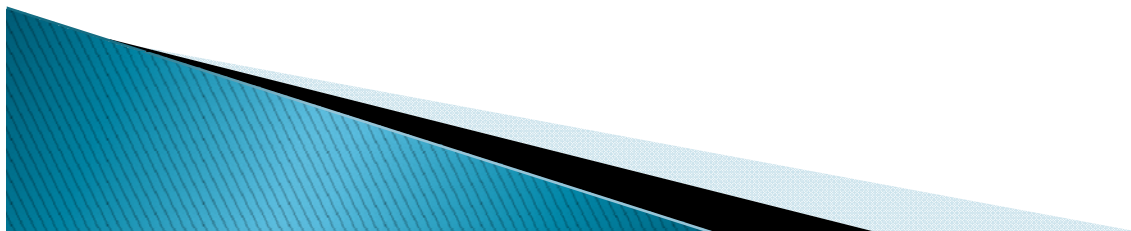
An investigation into the main causes of drainage problems in Commercial areas of Northern Ireland.

Claire McGrillen – April 2010 UUJ



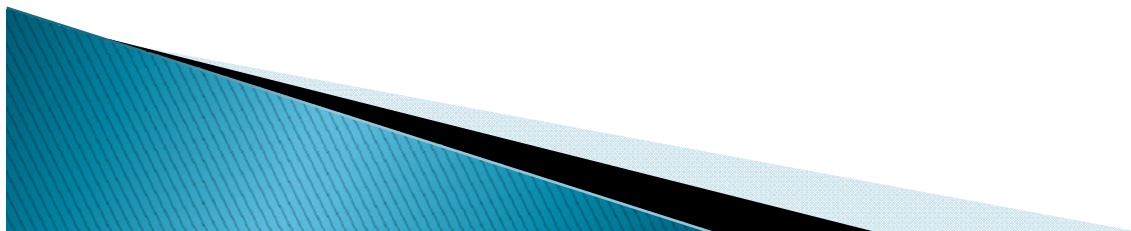
Topic Selection and Research Rationale

- ▶ Placement year provided an ideal opportunity to gather ideas for a possible research topic
- ▶ Environmental Health Manager of LCC put me in touch with NIW, as they were beginning a pilot study that may be of interest
- ▶ The pilot study aimed to explore the issues surrounding Flooding and Other Causes (FOC)



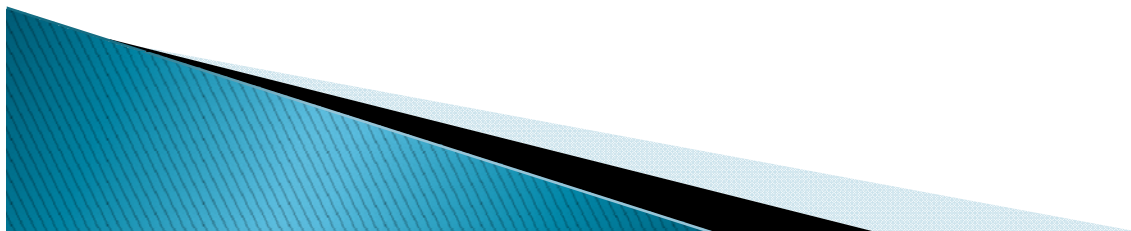
NIW Pilot Study

- ▶ The study would identify 3 key areas in NI where FOG has previously caused problems and try to tackle the issues
- ▶ Each catchment area would have the sewerage system cleaned and surveyed
- ▶ Issues regarding the cause of the problems would be identified and addressed
- ▶ The areas would then be continually monitored for the build-up of FOG (Fats Oil and Grease) and silt



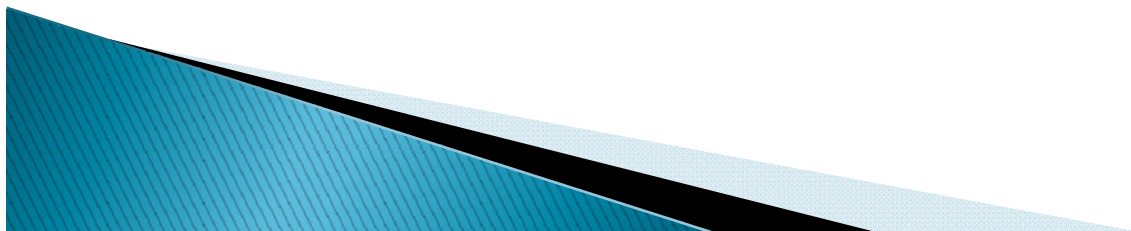
Research question

- ▶ After speaking with NIW I was very interested in the study
- ▶ There was a clear link with EH as during my placement I had shadowed EHPs dealing with complaints regarding drains and sewers
- ▶ NIW agreed that it would be useful to have a link with EH
- ▶ Therefore decided that I would base my research project on their pilot study

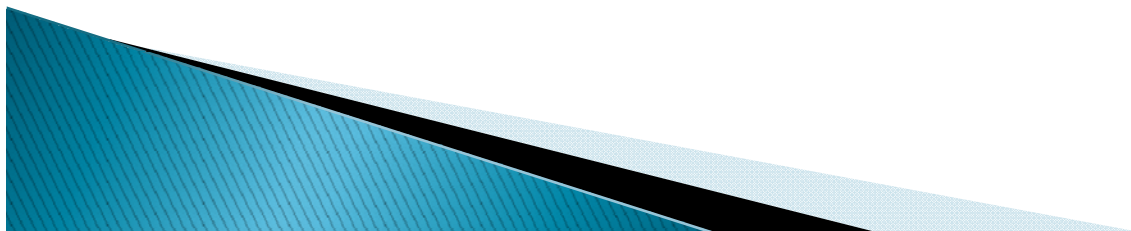


Gathering of literature

- ▶ Important to increase my understanding of the issue & probable associated causes
- ▶ NIW: Assumed main cause in commercial areas was FOG from commercial food premises
- ▶ Therefore I included literature that discussed the link between drainage problems & food premises and with the general public

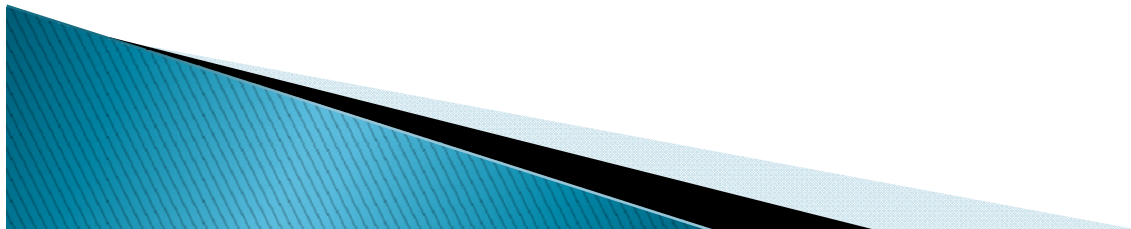


- ▶ Also looked at research that had been previously carried out in the UK & ROI and action that had been taken
- ▶ Literature review additionally looked at legislation surrounding the topic including general water pollution and the pollution of drinking water and waste water systems



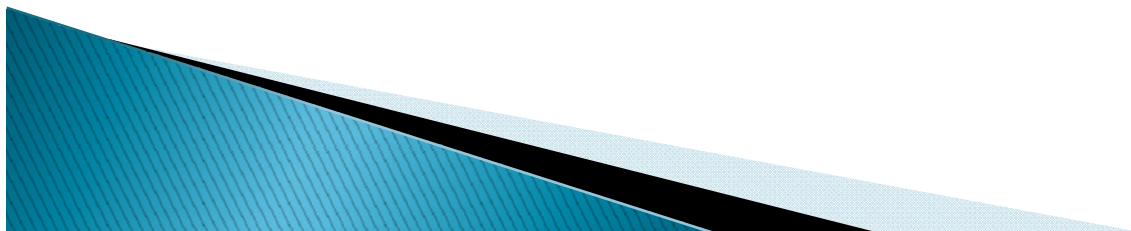
Research Sample

- ▶ Discussion with NIW and supervisor to choose ideal research sample
- ▶ Food officers from each of the 26 district councils EH departments – Would allow a picture of measures taken by food officers to control food businesses' waste disposal methods
- ▶ Additionally NIW would be used as a second research sample



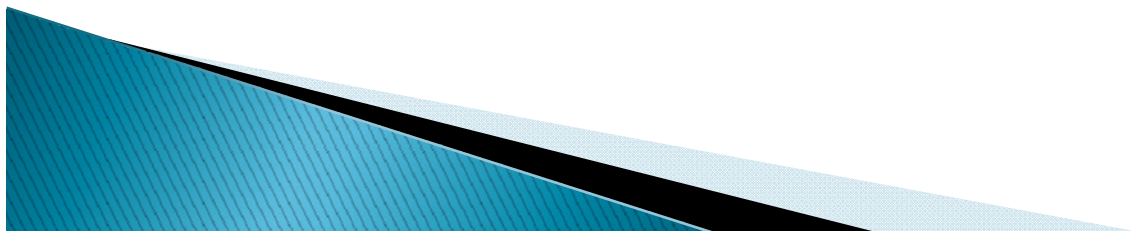
Research Method

- ▶ The sample groups had specific purposes therefore qualitative questionnaires chosen as this would allow open ended questions
- ▶ EHPs – 4 questions describing the different aspects of a food officers role that may be linked to the topic
- ▶ NIW – 5 questions that would allow an effective evaluation of the progress of the pilot study and the results obtained



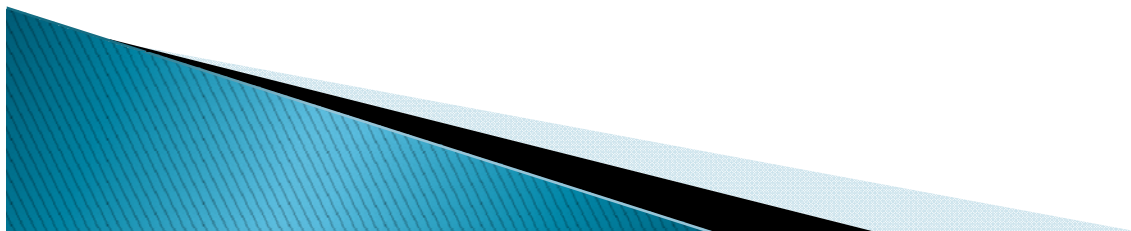
Results for food officers – Question 1

- 12 of the food officers were aware of drainage problems in their area that could be associated with food premises
- 5 food officers were not aware of any drainage issues relating to food premises
- 8 food officers admitted that they occasionally have issues regarding drain blockages in which food officers may become involved but that there were none ongoing at present.



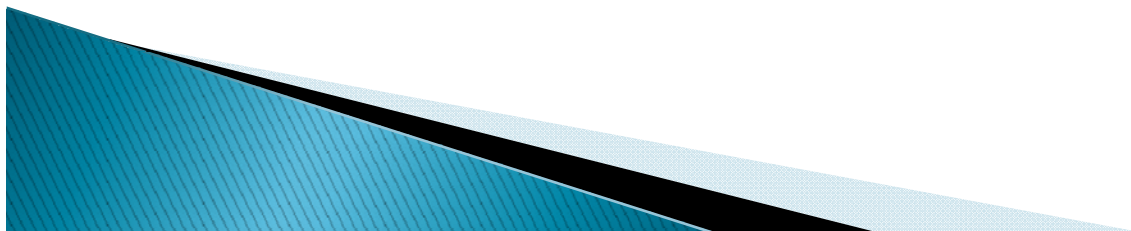
Question 2

- ▶ 20 out of the 25 councils who responded advised business owners of their responsibilities or offered guidance with regard to food waste disposal
- ▶ One of the councils who partook in the study admitted that they do not give any advice
- ▶ Remaining four food officers stated that they would offer advice and guidance on this topic if there was a new premise opening or if it was a premise that had a history of problems



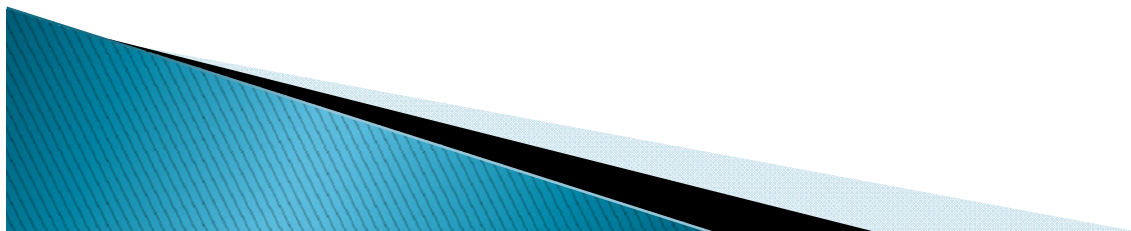
Question 3

- ▶ All the councils bar three carry out checks on businesses food waste disposal methods.
- ▶ Two of the food officers stated that they did not carry out any checks
- ▶ the remaining officer offered advice on occasion for example if there was a previous issue with the premise



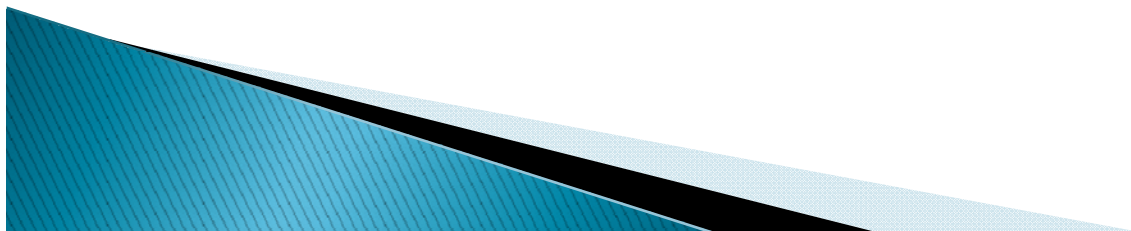
Question 4

- ▶ 23 of the 25 food officers questioned would be willing to take action if they found a food business was not disposing of their waste in an appropriate manner
- ▶ 2 of the food officers said that rather than taking action themselves they would refer the problem to another agency such as NIW or the DOE (Department of Environment).



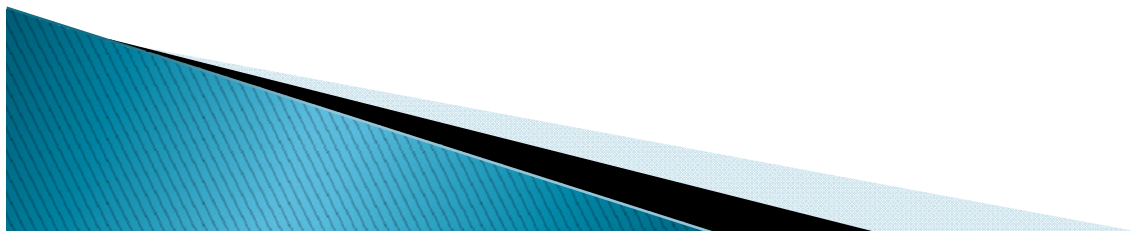
Results from NIW

- ▶ Aims included completing the study in terms of cost, compliance, costumers and staff
- ▶ Restrictions faced: Lack of clarity and clear responsibility of legal capabilities for all agencies involved
- ▶ Limited resources also meant slow progress with the study



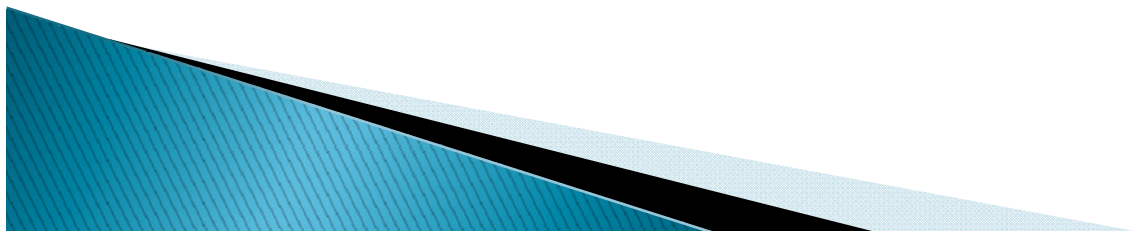
Discussion of research results

- ▶ This research study, along with NIW's pilot study, provided an insight into some of the causes and effects of drainage problems in mainly commercial areas, as well as an indication of some of the limitations faced by NIW when dealing with these issues and the role of the food officers from the environmental health departments within each district council in dealing with this.

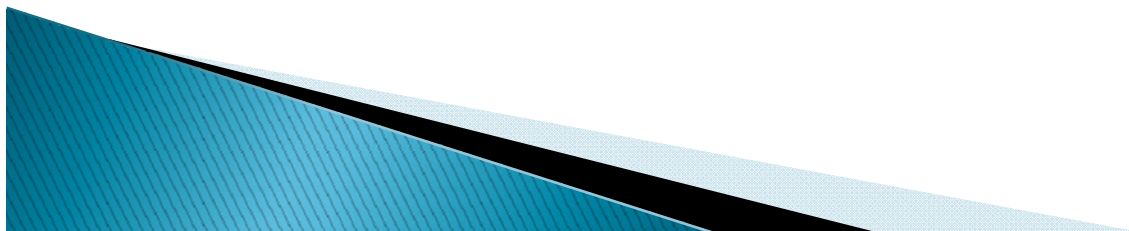


Causes of drain blockages

- ▶ 80% of the food officers recognised there were drainage problems in their area that could be associated with food premises
- ▶ NIW acknowledged that during their study the severity of FOG in sewers was higher than expected thus highlighting the problem further.

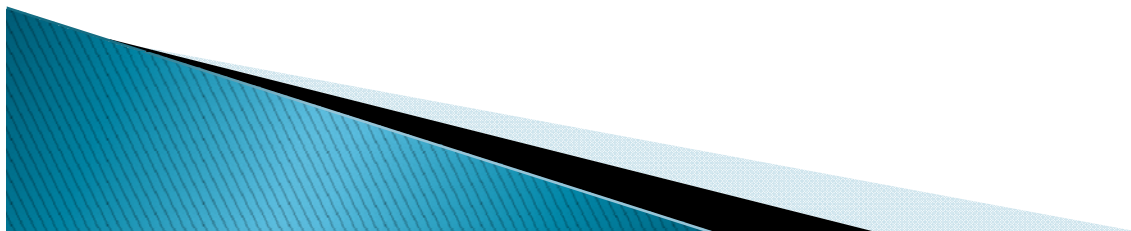


- ▶ There were significant problems with the actual maintenance of the sewer networks including poor performance from contractors that were being paid to maintain the networks
- ▶ Cost reduction through the prevention of drainage problems and reducing the number of out of sewer flooding events, sewer blockages and pollution incidents were two of the aims of the study

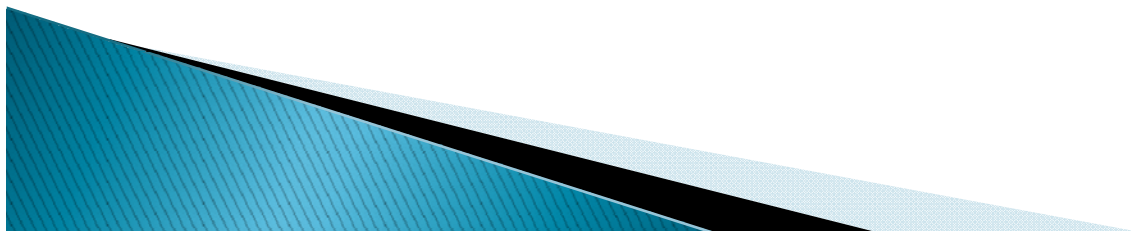


Role of food officers

- ▶ Role of food officers with regard to drainage problems associated with food premises varies greatly between each of the councils with no clear role across the board for Environmental health officers
- ▶ 80% of the food officers said that they would give advice regarding the correct disposal of waste when inspecting a food premise

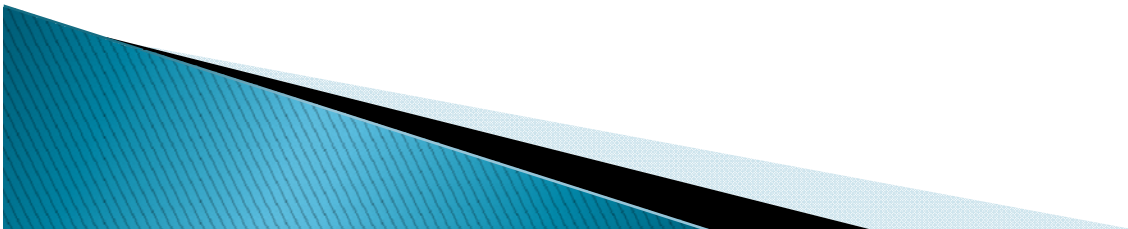


- ▶ 22 of the surveyed 25 checked businesses' food waste disposal methods during their routine inspections
- ▶ If a food premise was not disposing of their food waste in the proper manner 23 out of the 25 officer who took part said they would take action

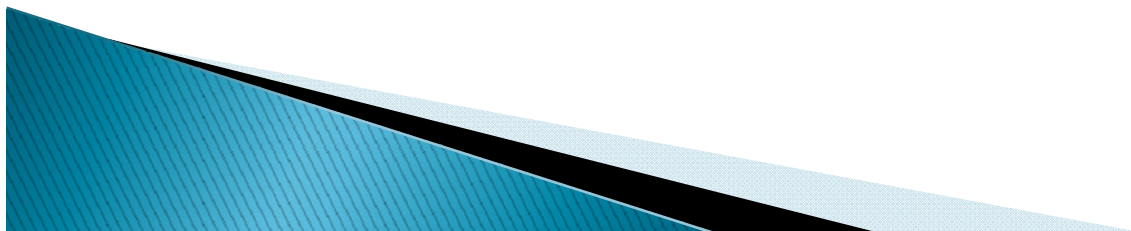


Limitations faced by NIW

- ▶ Major problem they encountered was the lack of clarity in terms of the responsibility of their legal capability
- ▶ NIW have limited powers of entry and cannot go in and inspect a premise' food waste disposal method this creates a grey area with respect to the action that can be taken and by whom

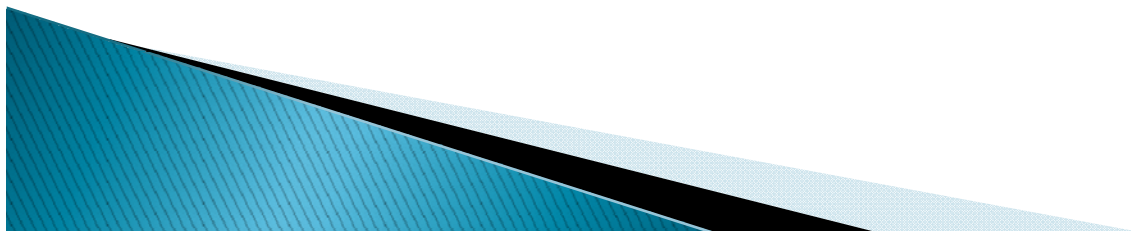


- ▶ Limited resources available meant there was slow progress in gaining information, these include time, staff and accessibility of the man holes
- ▶ Areas in the project were mainly town centres in order to lift manholes and access the sewers there was a need to close roads and cause traffic disruption.



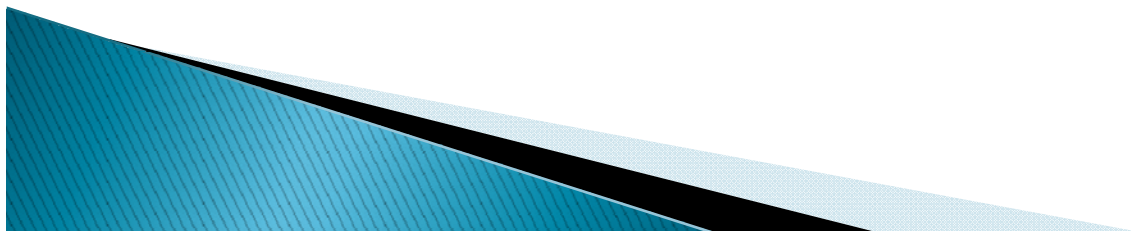
Action to be taken

- ▶ The results of this study have shown that education is a key way in which the causes of drain blockages can be tackled and therefore NIW's main action will be educating the public.
- ▶ Educate domestic households with a 'bag it and bin it' campaign
- ▶ produced a good catering guide which focuses on the food waste disposal methods that should be used by food businesses'

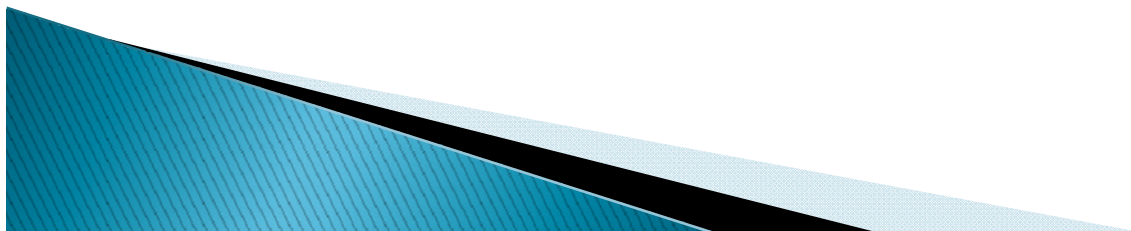


Conclusions & Recommendations

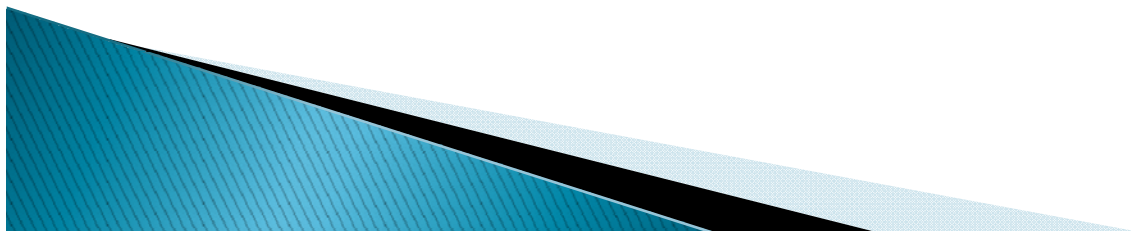
- ▶ FOG is a major cause of drainage problems within Northern Ireland and to a larger extent than was first thought
- ▶ NIW should review their system of management for drainage contractors – review the contracts they currently have and introduce performance indicators
- ▶ NIW have already begun education campaigns



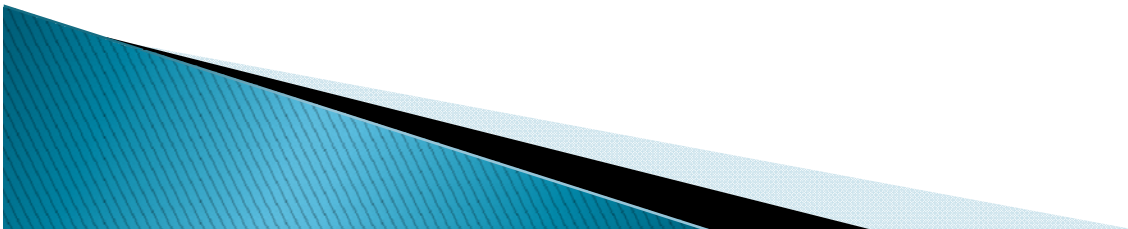
- ▶ Another way of approaching the problems of assisting catering establishments in disposing of their food waste properly would be to follow in the footsteps of Anglian Water, who have started a free scheme for catering premises where their waste oil is collected free of charge and then the waste oil is recycled to bio-diesel



- ▶ The uncertainty of who should take responsibility to take action is a major contributor
- ▶ In terms of the food officers in the district councils there was no set uniform role for them in dealing with the is issue and it was mainly down to officer perception of the problem and their responsibility.

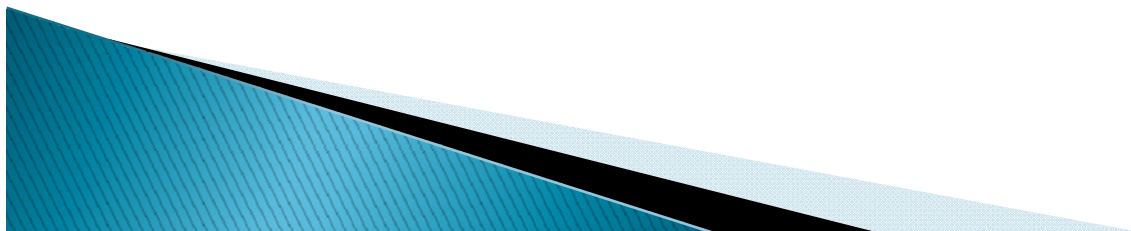


- ▶ May be an advantage to try to set up a committee that would include a number of different agencies that all have a role



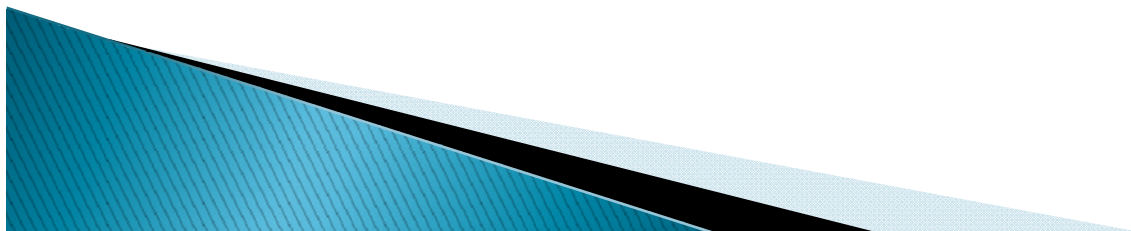
Benefit of the research paper

- ▶ The research paper has identified that the pilot study undertaken by NIW has considerable benefits. Although it was expressed in the questionnaire with the NIW that not all the objectives were fully met, the research study has provided a greater appreciation of the scale of the FOG problem as well as highlighting the limitations that NIW face however this in turn means that action can be taken now to tackle the limitations and therefore tackle the drainage problems.

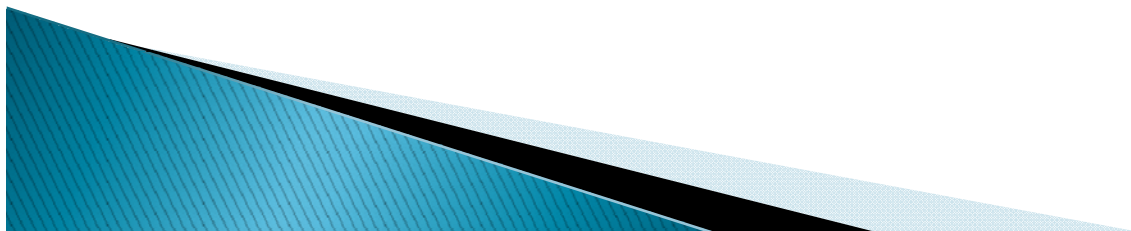


Limitations faced by researcher

- ▶ Due to the difficulties NIW faced with accessing man holes and the time constraints on the research paper the project was not as advanced at the final stages as it was assumed it would be
- ▶ Difficult to generalise the food officer's role as what one officer does in a particular council area could vary to what another food officer in the same area does if it is not on their pro-forma



- ▶ Food officer's awareness of their actual enforcement area has an effect on the results
- ▶ Given these limitations, if future research were to be carried out on this topic it may be more feasible to have a larger sample group of food officers with multiple number of officers from each council which may give results that would allow a clearer outline of the approach they take.



Thank you for listening.

Any Questions?

