Introduction
Chester Zoo staged ‘Hot Pink Flamingos’, an exhibition that explores the different effects of climate change and what we can do to mitigate against these. It was originally designed and shown by Monterey Bay Aquarium and in a major recycling operation the exhibition made its way across the Atlantic and was staged at Chester Zoo, with some modification to suit our space and animal collection. The bulk of the exhibition was erected in the zoo’s dedicated exhibit space, the Joseph Banks Room. During zoo opening hours there is always a member of the zoo’s education team manning this building, on-hand to actively engage with visitors and to answer any questions they might have. We implemented three methods of evaluating visitor engagement: a comments board, recording the incidence of meaningful visitor conversations and unobtrusive visitor observations. We hoped that this variety of data would allow us to triangulate findings and uncover a more valid assessment of the exhibition. All approaches to collecting visitor data were in accordance with the zoo’s research policy and ethical framework.

Content
In the Joseph Banks Room, the exhibition comprised conventional display panels and interactives, a kitchen complete with appliances and well-stocked cupboards and an audio visual presentation on a large screen. Exhibit themes included energy use, sources of alternative energy and recycling. Some additional elements of the exhibition formed a trail in the zoo grounds: to the penguin and flamingo exhibits and the aquarium, where issues associated with changing ocean currents, threats to mangrove habitats and pollution of the seas were presented.

Not all the exhibit content was suitable for the move from Monterey to Chester. A strong feature of the exhibition focused on empowering visitors to take both personal and community action. One exhibit element comprised a set of panels illustrating community action local to Monterey. For the Chester Zoo exhibition we contacted various local community groups and staged a display that featured our own ‘Hope Taking Root’ - a series of five panels, each featuring a local initiative to protect wildlife and the environment.
Evaluation

The exhibition ran for approximately two years and we planned for data collection for the purpose of evaluation during part of this period. In the Joseph Banks Room we had a comments’ board and education staff also recorded incidences of meaningful conversations. In the zoo grounds at ‘Hope Taking Root’ we conducted unobtrusive observations.

Before data collection began, a pilot exercise identified a series of ‘meaningful’ conversation categories in consultation with education team members experienced manning the exhibition. Staff kept a record of how many visitors they spoke to and into which categories these conversations fell. Conversations from 648 visitor groups were assessed in this manner.

For our unobtrusive observation we used systematic random sampling to select visitor groups. Once selected, the visitor group was observed moving past the area containing the interpretation. If a member of the group stopped at the one of the panels, it was recorded (attracting power), along with the duration of the stop (holding or viewing time).

Results: Comments Board

Visitor comments (n=264) were collected on a peg board in the exhibit. In terms of analysis, the comments were initially categorised with the assistance of SPSS Text Analytics software package (a linguistics-based text mining package). From this, we manually
‘split’ the data set into those comments that were exhibit-related (i.e. concerning the environment) and those that were not. 26% of the comments did not appear to be related to the exhibit content Figure 1 shows the number and proportion of comments by category.

The largest number of ‘exhibit’ related comments were found in the ‘Energy’ category (49 comments), and here we find a good standard of understanding into environmentally responsible behaviours (ERBs). Some respondents also made the link between ERBs and animals. For example: “Use less energy to save penguins homes” – “and bears too!”. Within this category, we also found a number of participants leaving comments that sought to influence the behaviour of others, for example: “Switch off the lights when you’re not in the room. Every little helps!”.

‘Walking’ was the second most populated exhibit-related category, followed by ‘Recycling’ and ‘Animals’. Some ‘Animal’ comments simply stated the participant’s own particular animal preference, but the majority actually linked species to the environment. “Climate change is bad for all of us even if we enjoy the sunny weather, especially for animals in the North and South Pole.”

Results: Meaningful Conversations

Education staff had meaningful conversations with 648 out of the 4594 visitor groups during the study period. This equates to 18% of visitor groups. The majority of these conversations covered more than one environmental or conservation topic (a mean of 2.36 conversation topics), demonstrating a wide range of interests in the sampled visitors. It is pleasing to see that ‘exhibit-related environmental issues’ and ‘climate change’ made up 20% and 12% of all conversations respectively. The proportion of conversations in each category is shown in figure 2.

Figure 2. Proportion of conversations in each conversational category (below)
Visitor Observations
Visitor groups (n=192) were observed at ‘Hope Taking Root’ and we found that 16% of visitor groups stopped at the interpretation, for a median of 14 seconds. The maximum viewing time recorded was 53 seconds. When we compare these to data collected at other, species-based, interpretation at Chester Zoo, we find very similar results. Namely, we have recorded an average attracting power of 12% at similar style interpretation (text and graphic), with an average viewing time of 17 seconds. This similarity in interpretation-use is positive since finding that visitors will stop and view interpretation that is not overtly species-based is extremely useful to know, given the shift in zoo education towards environmental behaviour change.

Conclusion
We did not expect that the content of the exhibition would have universal appeal to our entire zoo audience but we made the decision to stage it because of strategy fit. The content was designed for teenagers and adults. We are encouraged at the level of interest and engagement we observed. Overall, the findings suggest that those visitors that did choose to engage with the Hot Pink Flamingos exhibit did so positively and with a high level of interest. We feel this demonstrates the value of staging an exhibit with content that is rather abstract in nature, but carrying a strong environmental message.

Photo 5: Hope Taking Root panels