

WP8.5 – Evaluation of the data collected in the community surveys

Introduction

As a key aim for the project was the involvement of the wider community in project work, it was felt to be important that some form of evaluation of the community's response to the project should be included. Accordingly, five surveys were undertaken during the life of the project – one in the Ythan catchment area at the beginning of the project, a comparison survey in two other catchments part way through the project and a final survey in the Ythan catchment at the end of the project which was accompanied by a shorter version for the surrounding northeast Scotland area.

The surveys took the form of questionnaires, with different sets of questions being prepared for farmers and the wider community. Copies of all questionnaires used are attached at the end of this report. Recipients in the wider community were selected by stratified random sampling of Ordnance Survey Addresspoint data. This was subdivided to reflect distance from the main water body / river and also to take account of the mix of urban, rural and village populations in the catchments to ensure they were proportionately represented. Farmers were selected through the use of the farmer listings in the Yellow Pages (no mailing list of all registered farm units was available from the Scottish Executive due to data protection issues).

Numbers of questionnaires sent and returned for all surveys are listed below:

	Householders	Farmers
Ythan – 1st survey (Mar 02)	792 161 returned	208 (70 in catchment & 138 in area immediately outside catchment) 56 returned
Ythan – 2nd survey (Dec 04)	785 138 returned	209 38 returned
Loch Leven (Jan 03)	978 169 returned	32 1 returned
Ugie (Jan 03)	905 164 returned	95 27 returned
Northeast Scotland transect survey (Dec 04)	2014 181 returned	N/A

Results:

Figure listing:

Figure	Survey	Title
1	Y1	Awareness and support for the project in the first Ythan survey
2	Y1	Awareness of the project in the general population in the first Ythan survey
3	Y1	Support for a whole river / whole community approach in the general population in the first Ythan survey
4	Y1	Interest in getting involved in the project in the first Ythan survey
5	Y1	Proportion of those having a private water supply who are concerned as to its quality
6	Y1	Use of eco-friendly detergents in the first Ythan survey
7	Y1	Support for the project from those who had previously heard and had not previously heard of the project in the first Ythan survey

8	Y1 / F1	Awareness, support and action response from farmers and the general population in the first Ythan survey
9	Y2	Preferred approaches to river environment protection from those who had and had not previously heard of the project in the second Ythan survey
10	F3	Preferred approaches to river environment protection in different farm types in the second Ythan survey (Awareness nearly 100% therefore not enough for statistically significant results as to views of those not aware)
11	F2	Preferred approaches to river environment protection in farmers surveyed in the interim survey in the Ugie & Loch Leven catchments
12	Y1, Y2 NE1	Awareness of the Ythan Project in responses from the two Ythan catchment surveys and the northeast transect survey
13	F1, F2, F3	Awareness of the Ythan Project from farmers in the two Ythan catchment surveys (survey 2 also split by those farmers with and without land in the catchment area)
14	Y1, U1, L1,	Awareness of the Ythan Project in urban and rural areas in the first Ythan survey and the Ugie and Loch Leven surveys
15		Map of distance bands
16	NE1	Awareness of the Ythan Project by distance from the catchment in the northeast transect survey
17	NE1	Proportion of Responses from Within a Press & Journal Distribution Area Per 10km Distance Band

Surveys:

Y1 – First Ythan Survey (Population)

F1 – First Ythan Survey (Farmers)

U1 – Ugie Survey (Population)

L1 – Loch Leven Survey (Population)

F2 – Ugie/Leven Farmers

Y2 – Second Ythan Survey (Population)

NE1 – Second Ythan Survey (Transect Population)

F3 - Second Ythan Survey (Farmers)

First Ythan survey

The questions used aimed to assess two main points – firstly the level of the respondent's knowledge about the project and secondly how people related to / interacted with the water resources around them.

Constraints:

There is a likelihood that certain socio-economic groups of people are more likely to respond to a questionnaire like this and therefore the results may not reflect the population as a whole.

Key findings:

Ythan – householders

- Knowledge of the project was relatively high (see Figure 1), although lower in the villages than Ellon or rural areas (see Figure 2)
- Support for a whole river / whole community approach was high, although slightly lower in rural areas, who returned a higher level of 'unsure' responses (see Figure 3)

- Interest in getting involved with the project was higher in villages and rural areas, although this may be bolstered by lower return rates from these areas (see Figure 4)
- Approximately half of those with private water supplies stated they were concerned about the quality of the supply and were therefore aware that water quality is an issue of personal significance (see Figure 5)
- Rural areas showed the highest use of environmentally friendly detergents. Although more common in rural areas, statistical analysis suggests that septic tank ownership was not a strong explanatory factor for this (see Figure 6).

Ythan Farmers

- Awareness of the project was high (approximately 85% - see Figure 1)
- Awareness of additional RSS points through the project was approximately 20%
- Limited interest in RSS
- Additional points wouldn't influence a farmer's decision to apply
- Experience of nutrient budgeting is around 35%, and livestock farmers were more interested in training in nutrient budgeting than mixed or arable farmers.

Ugie and Loch Leven surveys

For the Ugie and Leven householders some questions from the Ythan questionnaires were repeated, but additional questions were added, which aimed to assess people's attitudes to protection of the river environment. These questions attracted a high response rate.

Constraints:

In figures 9 – 11 the individual values are those in favour (as opposed to “unsure” or “no”) of each option, but these were not asked independently of each other. This provides a useful method for respondents to prioritise and summarise their views – one option in conjunction with/versus another - and therefore a good overall balance of opinion. However it means a single error statistic is inappropriate and the potential diversity in the *patterns* of opinion that could make up that overall balance should be borne in mind.

Key findings:

Ugie householders

- Awareness of the project rates are variable, and fall in the main town
- Use of the river for recreation appears more common amongst urban communities than rural.
- Usage of environmentally friendly detergents is lower in the urban area, but, in common with the Ythan, usage was not clearly linked with private drainage or water supply
- Apparent trends in the response to the attitudinal questions suggested that urban areas felt that protection through individual responsibility would be least successful, whilst rural areas had higher support for individual actions.
- Most areas agreed on some type of organised action being required, with varying degrees of state aid or compulsion, with state intervention being favoured in the villages and main town.

Leven householders

- Awareness of the project is low
- Higher usage of the water for recreation in urban areas than rural
- Villages showed a strong preference for local government services for protection of the river environment
- There is preference for organised action for environmental protection, with varying degrees of state aid, but there is no clear urban or rural preference of the different options

Ugie & Leven farmers

Response rates from farmers were low with 27 returns from the Ugie area and only 1 from the Leven area. Therefore the results have been pooled together, but obviously primarily reflect opinion in the Ugie.

- High awareness of the Ythan project
- Less than 50% of farmers currently undertook nutrient budgeting.
- Recreational use of the river is low
- Higher interest in applications to RSS than in the Ythan catchment
- Livestock farmers had greater concern over the quality of water supply than mixed or arable farmers
- Less state intervention is preferred for environmental protection with central government legislation incurring the strongest negative response and local government services the strongest unsure response

Second Ythan survey and northeast transect survey

Constraints:

In the northeast transect survey response rates are lower and the confidence level therefore correspondingly lower as indicated.

Key findings:

- Increased awareness of the project
- Increased support for private and voluntary river environment protection from those who were previously aware of the project
- Around 25% awareness of the project in the wider northeast area
- Probable decreasing awareness of the project with distance from the catchment, except for an increase around the Montrose basin area
- No relationship between awareness of the project and whether or not the respondent was in the circulation area for the local newspaper

Discussion of all surveys:

In the first Ythan survey previous awareness of the project was not a significant factor in determining whether a respondent from the general population considered the project to be “a good idea” or not (see Figure 7).

Awareness was much higher among farmers than the population in general but fewer farmers felt it was a good idea (most who did not stated they were unsure rather than that it was definitely not a good idea.)

However farmers were more likely to say they would accept volunteers onto their land than respondents to the general population survey were to say they would be interested in volunteering (see Figure 8).

The first survey had focussed on identifying those who supported (and would be interested in working with) the Ythan Project. In the later surveys these questions were replaced with a more detailed one which was not specific to the Ythan catchment and which was designed to allow people to express more complexity in their opinion, including contradictory feelings if they wished:

Do you believe that protection of the environment of your local river will be best achieved by (select one or more)?

- 1) Private individual responsibility*
- 2) Voluntary actions that involve both local farmers/land holders and local householders*
- 3) Local government organising waste collection, river management etc.*
- 4) Central government legislation to require individuals and businesses to limit their impact on the river.*

Since the respondents could reply “yes”, “no” and/or “unsure” to as many or few of these options as they wished, they could build up a pattern representing the spectrum of their opinions. Although quite a complex task to summarise one’s opinions in this way, it would appear that most respondents appreciated the format and the question achieved a 97% answer rate. However, it is difficult to establish a single numeric error statistic for this, since one is aggregating opinion, not opinion per respondent, and since not answering “yes” does not imply “no”. However the good response and answer rate gives confidence that the overall pattern is representative.

From figure 9, it would seem clear that those who had previously heard about the project were more likely to support private and voluntary methods. There may be a bias here, in that people having those views may be more likely to have heard of the project. However, the result of the first survey, when the project had been operating for only a limited time, showed prior awareness did not co-relate with increased support. It is reasonable to suggest then, that the work undertaken is the reason for the greater support observed, amongst those who were aware of the project, for the methods, which it promoted.

In the case of the Ythan catchment, farmers’ awareness by the end of the project is near 100%, meaning statistically significant patterns of opinion for those unaware of the project can not be calculated due to the small sample size in the unaware category.

The catchments of Ugie and Leven were chosen for the interim survey as being comparable in terms of farming. However only one reply was received from Leven, suggesting that the issues were not as relevant as hoped to farmers in that catchment. Most replies were therefore from the Ugie catchment. Since the Ugie is adjacent to the Ythan, and had its own river protection scheme in the ‘Ugie Wetland Project’ during the late 1990s, it is unsurprising that awareness of the Ythan Project was only slightly lower numerically, at around 92%. However, qualitatively, level of

awareness could be expected to be quite different, as the farmers were not specifically targeted as part of the Ythan Project work. The two groups therefore represent similar degrees of awareness of the issues in general, but different levels of contact with the project itself.

Both groups of farmers show greater preference towards private and voluntary actions (and away from local or central government involvement) than do the responses from the respective general populations (see Figures 10 and 11). However the farmers in the Ythan placed considerably more emphasis on private and individual responsibility, but didn't give any lower significance to the other three options.

Figure 12 shows that during the course of the Ythan Project there has been a statistically significant increase in awareness among the general population of the Ythan catchment from around 55% to 65% over the course of the project. This compares with around 25% for the wider northeast area.

Farmer awareness was high from the outset at around 85%, but this has also seen a statistically significant increase to around 97% (see Figure 13). More revealing is that 100% of those farmers stating they had land in the catchment were also aware of the project compared to around 88% of those with only land outside the catchment.¹

In the first survey awareness of the project in urban areas and rural areas was comparable (see Figure 14). When this was then compared with the results from the adjacent Ugie and the distant Leven catchments in the interim survey, it was seen that awareness levels in urban and rural areas was again similar in Leven (being much lower in both cases) but were markedly different in Ugie. This suggested that rural areas may have greater linkages in relation to farming and environmental issues which would sustain awareness over shorter distances but not nationally and that, but for this effect, a standard decay function might apply.

With this in mind the non-Ythan catchment section of the final survey was developed along a transect running south from the Ythan, excluding areas of dissimilar land based on their Land Capability for Agriculture (LCA) categorisation (Bibby et al. 1980) (i.e. the surveys were sent to people living on agricultural land of similar quality to the Ythan catchment land). Samples were taken within 10km distance bands from the Ythan catchment boundary (see Figure 15).

Figure 16 shows awareness rates within each 10km distance band. Although large potential variance is predicted for each item, the pattern appears to be a smooth trend, or rather two smooth trends. It is suggested that the second peak, around 60-70km from the Ythan catchment, is due to the presence of the Montrose basin and nature reserve. This was not anticipated as no specific work had been undertaken by the Project in this area. However the Montrose basin does face similar problems of eutrophication (MacGarvin, 2000) and the effect may be being emphasised by the fact that the area of comparable farmland is limited in these distance bands, meaning most of those surveyed in the 60-70km distance bands would have been living on the farmland close to the Montrose basin, rather than further inland.

¹ A caveat must be inserted here, to avoid "survey fatigue" those outside the catchment were not re-surveyed where as those within had received the survey three years previously. However farmers were also asked how they had heard about the project, and mostly stated sources such as local media or the NFU, so it is not believed this was a significant biasing factor.

The link must be considered tentative given the potential error in the figures. However, two factors give reason to believe this trend to be plausible. The first is that the means of the error estimates support the observed trend. The second is that awareness rates within the “dip” in trend for figure 16 and the furthest band, are close to both each other and that found by the larger samples from the Leven catchment, suggesting a similar background level of awareness for such LCA areas nationally.²

The general principle suggested by figures 14 and 16 is that personal and or local relevance may be the key characteristic of whether or not people were aware of the project, and this is lent further support by figure 17. All surveys were coded as to whether or not the recipient lived within the distribution area of the Press & Journal (Aberdeen and Grampian Edition) newspaper, as this was where much of the publicity about the project was placed.

While there was anecdotal evidence from respondents saying they had heard of the Ythan Project through the local press, and even from the Press & Journal in particular, no statistical relationship was found³. Of course, with mobile populations distribution area does not necessarily define access to the information, but if access to the information in the media were a key characteristic affecting awareness, one would expect at least a smaller increase within and close to the distribution areas. Rather it appears to be the local relevance of the issues which has made people aware or not of the project, be that through the information available in their area or the note taken of information distributed more widely.

References

- Bibby, J.S., Heslop, R., Hartrup, R., 1980, Land Capability Classification for Agriculture, Soil Survey of Scotland, Macaulay Land Use Research Institute, Aberdeen, Scotland.
- MacGarvin, M., 2000, Scotland's Secret? Aquaculture, nutrient pollution eutrophication and toxic blooms, Annex 1 in Out of Sight Out of Mind – Marine Eutrophication in the UK, World Wildlife Fund.
<http://www.wwf.org.uk/filelibrary/pdf/nutrientoverview.pdf>

² The original intention had been to take the transect as far as Leven however this proved too costly if a strong sample rate was to be achieved. The awareness rate at 90km suggests that, despite the unanticipated effect of the Montrose basin, the original conjecture that 9 distance bands would reach the national background level of awareness (in comparable areas) was sufficient. None the less the possible role of the Montrose basin, highlights the general principle followed in all three surveys - namely that discreet effects of circumstances should where possible be anticipated and built into the survey design so their impact or otherwise can be determined with more certainty.

³ One caveat that should be taken into account is that several respondents stated that they had heard about the project from information on the television, but as far as project staff are aware there has been very limited television coverage of the project. It may be that respondents are confusing the project itself with the wider issues of eutrophication at the estuary and the very public debate about the impact of an NVZ designation on both farmers and the estuary. It is not possible to reliably separate out these two items and so some of the awareness of the project may actually be awareness of the wider issues faced by the Ythan.

