

delivering benefits through evidence



Case study, survey, diary and interview
research on FCRM volunteering

Report – SC120013/R3

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We cannot do this alone. We work closely with a wide range of partners including government, business, local authorities, other agencies, civil society groups and the communities we serve.

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Evidence underpins the work of the Environment Agency. It provides an up-to-date understanding of the world about us, helps us to develop tools and techniques to monitor and manage our environment as efficiently and effectively as possible. It also helps us to understand how the environment is changing and to identify what the future pressures may be.

The work of the Environment Agency's Evidence Directorate is a key ingredient in the partnership between research, guidance and operations that enables the Environment Agency to protect and restore our environment.

This report was produced by the Scientific and Evidence Services team within Evidence. The team focuses on four main areas of activity:

- **Setting the agenda**, by providing the evidence for decisions;
- **Maintaining scientific credibility**, by ensuring that our programmes and projects are fit for purpose and executed according to international standards;
- **Carrying out research**, either by contracting it out to research organisations and consultancies or by doing it ourselves;
- **Delivering information, advice, tools and techniques**, by making appropriate products available.

Miranda Kavanagh
Director of Evidence

Executive summary

This is the third report from a research project on 'investigating and assessing the involvement of volunteers in flood and coastal risk management (FCRM) outcomes'. It presents the findings from primary data collected in England through four methods.

Online survey of FCRM volunteers

Around three-quarters of the 63 participants had experienced flooding since 2007. These were the volunteers most likely to put in more time per month to perform volunteering activities. Nearly half had volunteered for more than five years since the initial flooding incident and nearly half were willing or wanted to do more FCRM volunteering. FCRM volunteering made a significant difference to their understanding and ability to deal with flooding and flood risk. The majority of the volunteers were male (72%), aged over 54 (84%), retired (68%) and living in a rural area (63%).

The main motivations for volunteering included taking action to prevent flooding, helping the community, and taking on a leadership role in a community's response to flooding. Volunteering has human capital, social capital, individual well-being and natural capital benefits. Volunteers continued their involvement because they wanted to serve the community, and because they understood the need for continued risk mitigation and the ongoing need for preparedness.

The main activities carried out by flood wardens involved: monitoring river or tide levels; participating in a flood group or forum to work with others to develop flood plans, raise awareness and monitor water levels; passing on flood warnings to the community; helping develop a flood plan; and operating flood gates or pumps.

FCRM volunteer diaries

Diaries produced by 10 flood wardens and the activities from two flood groups provided more detail of the wide range of activities undertaken by FCRM volunteers. These included:

- campaign activities such as talking to local residents, attending meetings, helping to develop flood plans and giving presentations
- physical action such as clearing silt and debris from culverts and drains
- knowledge actions such as monitoring and inspecting water levels in rivers, culverts and so on
- virtual activities such as obtaining up-to-date information from the Environment Agency, Met Office or council websites and using Facebook and/or Twitter to contact the community

Value for money questions

The value for money questions posed in the online survey and interviews with volunteers looked at efficiency, effectiveness and relevance. Looking at the differences between the scores given for each governance type, the overall patterns do not suggest that any form of volunteer governance is significantly different from any other.

Case studies

The four case studies looked at different governance approaches to FCRM volunteering.

- The Lincolnshire Flood Warden Scheme was an example of 'direct management' by the Environment Agency.

- The Cornwall Community Flood Forum and associated local flood groups was an example of ‘partnership working’ and communities working ‘for themselves’.
- The River Stewardship Company in Sheffield was an example of the Environment Agency working ‘through others’.
- The Bodenham Flood Protection Group in Herefordshire was an example of communities working ‘for themselves’.

The detailed information from the case studies corroborated data from the survey and diary interviews on the motivations and benefits of FCRM volunteering. It also highlighted the dynamic multi-way flow of information between organisations and volunteers that helps to increase the knowledge of all these groups about flood risk and how to cope with it.

Challenges and issues

The four research methods highlighted the following challenges and issues facing volunteers, community flood groups and organisations managing volunteers:

- understanding the role of flood wardens before, during and after a flood event
- issues of risk, responsibility and insurance
- how to involve more young volunteers in groups where current volunteers are retired and aging
- maintaining the interest and involvement of communities after a flood event
- recognition and reimbursement of volunteers
- managing the expectations of volunteers and communities

Conclusions and recommendations

The research showed that the distinction between the concept of volunteering, community engagement and community action is not clearly delineated and is open to different interpretations by Environment Agency staff as well as others.

It is essential for the Environment Agency to understand the communities and stakeholders it is working with. Mapping those groups and considering how and when to engage them and by what methods is critical. Working in partnership can bring differing expertise to the Environment Agency and how it engages with volunteers. However, working in partnership requires effort and commitment.

Consideration needs to be given to how learning and insights can be cascaded through the Environment Agency from research it has commissioned on community engagement and volunteering and from the evaluation of projects it has set up in recent years to work ‘through others’.

Acknowledgements

We would like to very much thank all the FCRM volunteers who completed a survey, a volunteer diary or agreed to be involved in interviews in the case study research. Thanks are also due to:

- the Environment Agency staff who agreed to be interviewed or who gave us contacts and information for the case study work
- staff from organisations working in partnership with the Environment Agency in the case studies that agreed to be interviewed
- the Environment Agency project manager for her advice and support

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1 Introduction

This document describes Work Package 3 of the Environment Agency project, 'Investigating and appraising the involvement of volunteers in achieving FCRM outcomes', being carried out on its behalf by Forest Research. The work consisted of:

- case study research of flood and coastal risk management (FCRM) volunteering via interviews and analysis of background information
- a survey of FCRM volunteers
- volunteer diaries and interviews
- questions on the value for money of FCRM volunteering

It is important to note that this research was carried out before the winter 2013 to 2014 coastal and inland flooding.

The objectives of the overall research project were to:

1. Establish a common and up-to-date understanding of volunteer involvement in flood and coastal risk management (FCRM) activities. This baseline information will be used to identify FCRM activities delivered by volunteers.
2. Develop a consistent evaluation framework that enables the Environment Agency and others to consider the benefits of involving volunteers in the delivery of FCRM activities.
3. Understand why people are motivated to get involved in FCRM activities in their communities, the capabilities they need and their capacity to help deliver a range of FCRM outcomes. Using the evaluation framework developed to meet Objective 2, this analysis will include whether volunteers working on FCRM activities may be willing to help bring about other environmental outcomes.
4. Develop a strong evidence base (including case studies) that explores the effectiveness of involving others in the delivery of FCRM activities and assesses the efficiencies a range of approaches may realise. This includes whether working through other organisations would enable the Environment Agency to achieve more outcomes in communities at risk of flooding.
5. Enable the Environment Agency and other flood risk management authorities to take evidence based decisions on how and when to engage, develop and sustain volunteer participation in FCRM activities.
6. Inform the development of operational guidance that equips Environment Agency staff to target their efforts effectively and to maximise the benefits of involving volunteers in the delivery of FCRM outcomes.
7. Ensure both internal colleagues and external stakeholders are kept informed in an engaging way.

Figure 1.1 provides an overview of how these seven objectives sit together.

This report addresses objectives 3 and 4, and part of objective 5. Other reports available from this research include:

- Work Package 1 Report: FCRM volunteering baseline data and typology development.
With supporting resource spreadsheet: 'Environment Agency volunteer case studies baseline dataset – 97 examples'.

- Work Package 2 Report: Developing an FCRM evaluation framework
With two supporting resource spreadsheets: 'Environment Agency volunteer evaluation review' and 'Environment Agency evaluation framework criteria and indicators'
- Work Package 3 Report: Case study, survey, diary and interview research on FCRM volunteering
- Work Package 4 Report: Issues and options concerning FCRM volunteering
- 'Volunteers' contribution to flood resilience', Research Note by Forest Research for the Environment Agency, March 2014

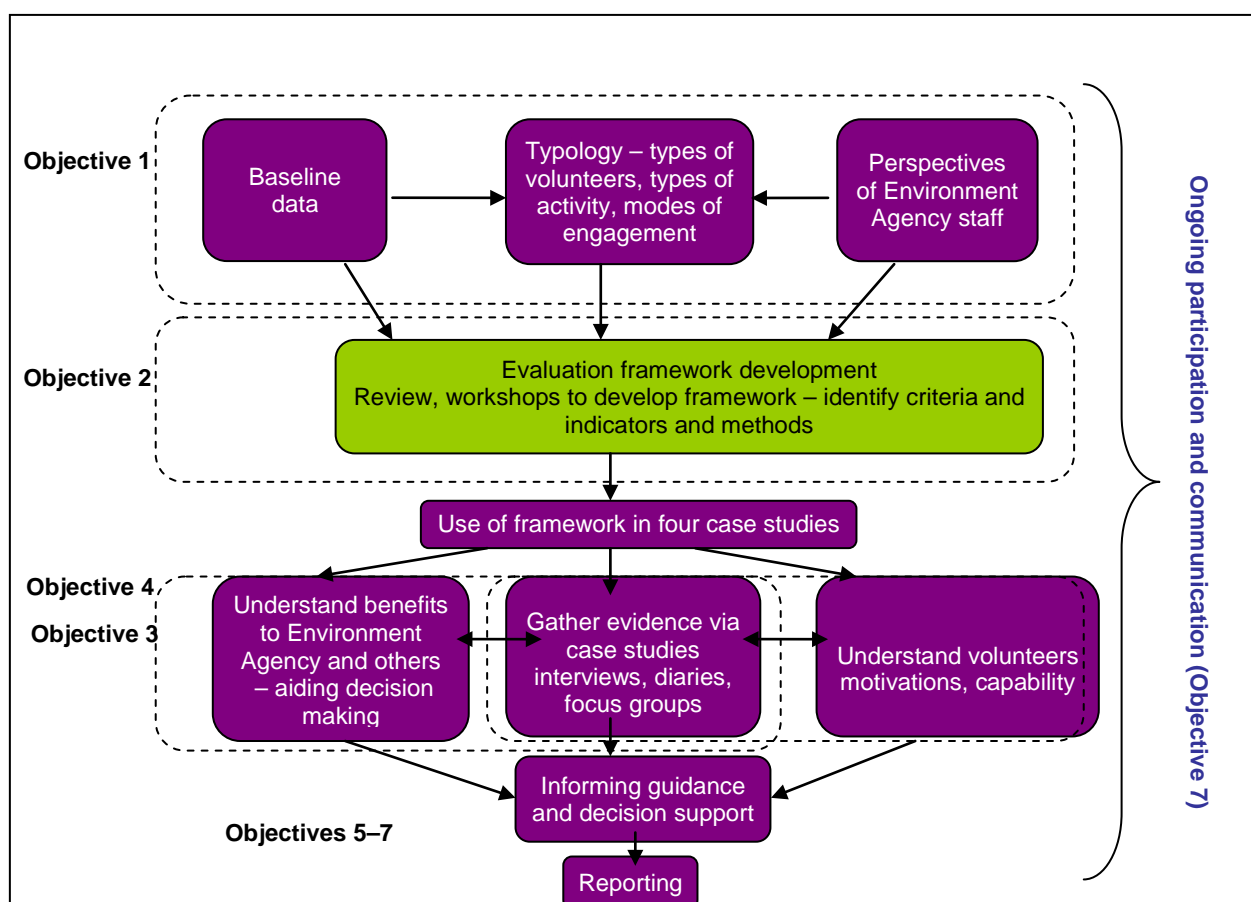


Figure 1.1 FCRM volunteering: research project process

2 Objectives

The objectives of Work Package (WP3) were to:

- explore why volunteers are motivated to get involved in FCRM activities in their communities, the benefits they gain from this, any guidance and support needs they have, and their capacity to deliver FCRM and wider environmental outcomes
- examine the effectiveness of Environment Agency working with partner organisations and communities to enable volunteers to deliver FCRM outcomes
- understand the value for money of FCRM volunteering
- use and reflect on the draft evaluation framework developed in Work Package 2 to guide the collection of data

This work represents an important step in gathering reliable evidence about FCRM volunteers and how the Environment Agency works with partner organisations and communities. This work package is closely linked to work packages 1 and 2, and will provide evidence for objective 4 (about decision making) and objective 6 (about informing operational guidance).

Work package 3 contributes to objectives 3, 4 and 5 (see Section 1). These include:

- using the evaluation framework developed in work package 2 to understand why people are motivated to get involved in FCRM activities in their communities
- developing a strong and reliable evidence base that explores the effectiveness of involving others in the delivery of FCRM activities
- enabling the Environment Agency to take evidence based decisions on how and when to engage and develop volunteer participation

The research questions guiding this work package were:

- What motivates volunteers to get involved in FCRM volunteering activities and what benefits do they gain from this?
- How is the Environment Agency working with partner organisations and communities in the identified case studies?
- How do different stakeholders (volunteers, Environment Agency staff, partner organisation staff) view the value for money of FCRM volunteering?
- What guidance and support do volunteers and Environment Agency staff identify they need to carry out their activities?
- What are the key challenges and issues raised by volunteers, Environment Agency and partner organisations?

The research team also reflected on the evaluation framework developed in Work Package 2 (Environment Agency 2015b).

3 Methods

The approach taken was a mixed methods one and included questions concerning the value for money of FCRM volunteering.

The protocols for the questionnaire, interviews and volunteer diary are given in Appendix A of the Work Package 2 report (Environment Agency 2015b).

3.1 Recruitment of volunteers

The procedure used to recruit volunteers for the research was designed to satisfy data protection requirements.

To gain access to FCRM volunteers willing to participate in the questionnaire survey, volunteer diaries and interviews, Forest Research asked Environment Agency FCRM staff to send out a letter of invitation to their volunteer contacts. The letter (Appendix A) outlined what the research project was about and asked the recipient if they would take part in the research. Because the Environment Agency staff sent the invitation letters to their volunteers, it was not necessary for them to give details of their volunteers to an external contractor.

Environment Agency staff sent the replies from those volunteers who agreed to become involved to the Environment Agency project manager for the research. She encrypted and password protected the spreadsheet file containing the names and addresses of these volunteers before sending it to Forest Research. Forest Research created a secure folder to contain this file that could only be accessed by the team working on the project and no one else.

Those volunteers who agreed to take part in the research were asked by Forest Research to indicate which research method they would like to get involved in, that is, the questionnaire survey, an interview or a diary. However, many expressed interest in participating in all three though it had been envisaged they would choose just one.

Through this process 87 volunteers agreed to take part in the research and 63 completed the full survey. See Table 3.1 at the end of Section 3 for the number of responses to the different methods used in the research.

3.1.1 Limitations

There is uncertainty about the total number of Environment Agency volunteers in England. Research during Work Package 1 using baseline data provided by Environment Agency staff identified that there might be 1,700–3,500 potential volunteers (Environment Agency 2015a). The findings in this report are not therefore representative of all FCRM volunteers.

One drawback of the approach adopted to meet data protection requirements was that it introduced a number of layers, making it less efficient as a means to recruit volunteers in terms of making quick progress.

The aim was to reach as many volunteers as possible through the online survey. But while Environment Agency staff were happy to send out the invitation letter to their volunteers, it became clear that not all staff had sent the letter to all the volunteers they had contact details for. Some staff commented that they had sent the letter to those volunteers they felt were most likely to reply. Although this is perhaps understandable,

it introduced an element of bias into the sample as not all volunteers were given the opportunity to agree or not agree to be involved in the research.

In addition, some Environment Agency staff did not send out the letter of invitation to volunteers at the time requested because they waited until they could send it with other information such as a newsletter. Although this meant delays in recruiting volunteers, not over-burdening volunteers with requests was also an important consideration.

3.2 Approach 1: Survey questionnaire with FCRM volunteers

The questionnaire was designed to capture primarily quantitative data on FCRM volunteering from the perspective of volunteers.

SmartSurvey™ was used as, unlike some other online survey instruments, the data produced from its survey are held within the UK. The survey was piloted to try to ensure respondents were clear about what to do. However, it became clear from emails received by Forest Research that a number of the volunteers were not sure if they had submitted the questionnaire correctly. For example, some people used the browser 'back key' rather than the survey 'back key' to go to an earlier section of the survey which led to data loss from nine potential additional respondents.¹ Although the instructions in the survey told people what to do, it became clear that not all the participants completed the survey as required. It is not possible to know why and how familiar these participants were with completing online surveys.

The figures showing data from the survey are presented in two different ways: using count data and using percentages. It is conventional to use count data (that is, numbers of people/responses) where the sample size is small, particularly where the data are disaggregated to analyse patterns **between** categories. However, percentage data often provide a clearer indication of the results, particularly when looking for patterns **within** categories. The sample size and category size is shown in each of the figures so that the analysis by percentage is not misleading.

Although the geographical location of those who completed the survey is known, this information is not used in the analysis. This is because the sampling strategy was not random and is a reflection of the location of those Environment Agency staff able to respond and their volunteer contacts, rather than a representation of the distribution of FCRM volunteers in England.

3.3 Approach 2: Volunteer diaries and interviews

The diary for volunteers to complete was designed to capture data on the story of their involvement in volunteering and to capture data on a busy month to understand what types of specific activities being carried out by volunteers.

The original idea had been to ask people to complete a diary in real time over a period of 1–2 months. But because the nature of flood warden activities is sometimes intense and at other times very little, it was decided that asking people to tell us about a busy

¹ An analysis of the IP addresses of the respondents to the survey showed that the 24 uncompleted surveys represented repeated attempts to finish the survey by six respondents (three of whom went on to complete the survey and are included in the 63 responses analysed), two people who landed on the page but did not move through the survey questions and four respondents who partially completed the survey. The data from these four respondents were considered in the qualitative analysis.

month would give more opportunity to understand what actions they take when they are active (see Appendix B). Although adopting this approach and providing an example of what to expect, volunteers found it quite confusing to know what to put in their diary.

Ten flood wardens completed a volunteer diary, of whom five were interviewed by phone to explore in more detail what they had outlined in their diary. We had one reply from a volunteer who said he could not fill the diary in as he had not undertaken any activity even though he became a flood volunteer in 2008.

Also included in this section are the flood warden activities of two flood groups – Bodenham Flood Protection Group and Tregrehan Flood Group – which provided some information of the types of actions they perform. In particular, the Bodenham Group sent reports of their schedule of works from the previous six years.

The flood wardens and two flood groups were from specific areas: Lincolnshire (n = 5), Yorkshire (n = 4), Herefordshire (n = 1), West Sussex (n = 1) and Cornwall (n = 1).

The flood wardens had experienced flooding as far back as 1967 or as recently as 2012, with four people stating that they got involved due to the floods in 2007.

3.4 Approach 3: Value for money questions

Cost-effectiveness – value for money (VfM) was explored via the questionnaire and interviews with volunteers, Environment Agency staff and partner organisation staff, and during meetings with the case study groups.

The value for money realised by projects is an important issue when evaluating public sector interventions and assessing future actions. However, cost-effectiveness is very difficult to assess in projects such as those involving volunteering. One reason for this is that there are multiple objectives. Another is the diverse range of achievement or outputs measures that could be monetary (for example, linked to physical environmental improvements) and non-monetary (for example, linked to social impact, risk reduction, individual volunteer and community benefits).

Ex post² cost-effectiveness analysis requires the collection and collation of data on:

- total public spend on supporting volunteer programmes
- costs of staff time facilitating volunteer programmes
- consumables, other inputs and overheads
- investment materials
- costs incurred by the volunteers and partner organisations including their time inputs and material inputs in the volunteer schemes and activities

These kind of data are then set against measures of impact and additionality to provide a cost per unit of output and outcome through simple division.

However, if the data do not exist as part of regular project and programme monitoring and accounting activity, collecting this additional evidence – particularly from volunteers and partners – is extremely time-consuming and costly. It also often relies on estimates rather than measured variables.

² 'Ex post' and 'ex ante' are terms used in evaluation (economic, commercial and so on). Ex ante refers to an assessment before a project/programme/intervention is carried out and ex post refers to an assessment after the project/programme has ended.

Furthermore, if the evidence requires the conversion of non-monetary benefits accrued to be expressed as financial values there is often disagreement among stakeholders about the validity of the approaches taken and how far these can be attributed against key outcomes.

The method that was used to assess value for money employed the widely accepted alternative qualitative method for cost-effectiveness approach called Programme Performance Assessment. This method uses the National Audit Office criteria of Value for Money – relevance, efficacy, efficiency – and generates a short list of programme variables (in the form of questions) under each criterion which are then ranked or scored by different stakeholder groups. This provides a holistic measure of value for money involving multiple criteria and stakeholder perspectives.

The variables used in this research differed slightly according to the stakeholder group concerned. The variables were expressed as statements that stakeholders scored using a Likert response scale. This is a psychometric scale commonly used in questionnaires where respondents are asked to agree or disagree with a number of statements on a seven- or five-point scale, for example, 1 = 'Strongly disagree', 2 = 'Disagree', 3 = 'Neither agree or disagree', 4 = 'Agree' and 5 = 'Strongly agree'.

The data from each of the stakeholder groups were combined. The Likert response scale was quantified using scores between +2 and -2 ('Strongly agree' = 2, 'Agree' = 1, 'Neither agree nor disagree' = 0, 'Disagree' = -1 and 'Strongly disagree' = -2) and average values generated for comparison across stakeholder groups and across volunteering governance types.

3.5 Approach 4: Case study research

Four case studies were made as part of the overall research project and primary data collection. The case study approach was used to gain a holistic view of a particular case from the perspectives of:

- volunteers
- Environment Agency staff
- staff of partner organisations the Environment Agency was working with

Important criteria for case study selection were identified during Work Package 2 (see Appendix C of this report). It was not possible to cover all the criteria for each case study. The four governance types (that is, working directly for Environment Agency, working in partnership, working with others, working for themselves) and the segment types (that is, individual, community, partnership) were therefore selected as key criteria in choosing case studies.

The methods used in each case study included:

- collation of background information from informants and web searches to provide an overview of volunteer efforts and stakeholder roles
- field visits and face-to-face interviews with key people from the volunteer groups and stakeholders identified
- telephone interviews with volunteers and stakeholders not available during field visits

The four case studies were:

- Cornwall Community Flood Forum and Local Flood Groups

- Lincolnshire Flood Warden Scheme
- River Stewardship Company, Sheffield
- Bodenham Flood Protection Group, Herefordshire

Table 3.1 Number of respondents for each method

Methods used	Number of responses			Total
	Environment Agency staff	Partner organisation staff	Volunteers	
Questionnaire survey of flood volunteers	NA	NA	63	63
Volunteer diary and interviews	NA	NA	10 diaries, 2 groups' records of activities and 5 interviews	17
Case study interviews: Lincolnshire Flood Warden Scheme	2	3	6	11
Case study: Cornwall Community Flood Warden (CCFF)	1	3 (via CCFF)	8 (2 telephone interviews and 2 mini- focus groups: Par and St Blazey; Mevagissey)	12
Case study interviews: Bodenham Flood Protection Group	1	2	34 in a Focus Group, two interviews	39
Case study interviews: River Stewardship Company, Sheffield	2	6	1	9
Value for money survey questions	Environment Agency local / Area staff in case studies: 4 Environment Agency FCRM managers (regional/ national): 9	Partners in case studies: 9	Questions on Vfm from volunteer survey: 63 From case studies: 26	111
Demographic information about volunteers	NA	NA	From volunteer survey: 67 From case studies: 22	89

Notes: NA = not applicable

4 Findings

4.1 Becoming a volunteer

4.1.1 Survey responses

Results from the volunteer survey showed that 49% of volunteers had been volunteering for >5 years and 18% for 2–5 years. A further 20% of the sample had started FCRM volunteering over the past year. The length of volunteering service disaggregated by volunteering governance types is shown in Figure 4.1. More of those volunteering for >5 years were volunteering directly for the Environment Agency.

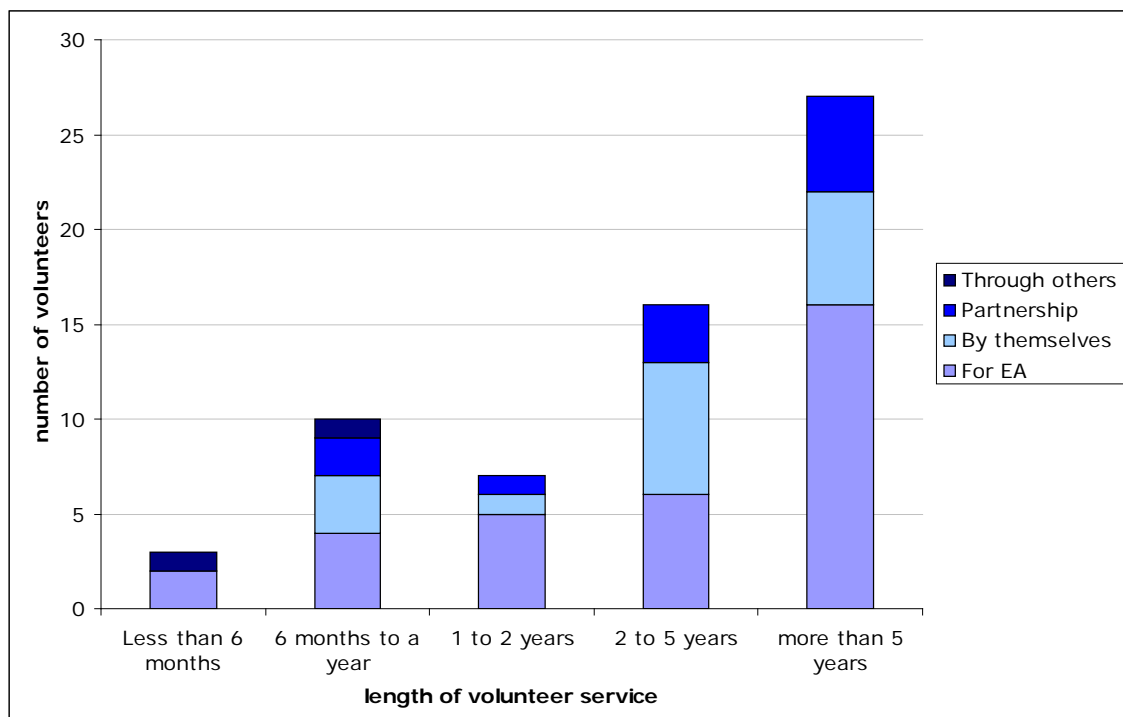


Figure 4.1 Length of volunteering by governance type (n = 63)

In answer to the question ‘when did you last experience flooding in your community’:

- eight respondents mentioned flooding that occurred before 2005
- 77% of respondents had experienced flooding in their community since 2007
- 33% of respondents were last flooded in 2007, 25% in 2013 and 17% in 2012

Note that percentages may not always add up to 100% as not everyone answered all the questions.

Of the respondents in the volunteer survey, 60% said they had homes at risk from flooding and 32% did not.

A summary of the time volunteers spend engaged in activities is shown in Figure 4.2. The majority of volunteers (64%) spent 1–5 hours per month volunteering and 24%

spent 6–10 hours. There was a significant proportion (9%) spending more than 20 hours a month on their volunteering work.

A cross-tabulation between hours spent volunteering and the last time the community was flooded showed that those volunteers living in areas most recently flooded in 2007, 2012 and 2013 were putting in the most time:

- 5–10% of those volunteers reported more than 20 hours volunteering per month
- 40–50% of those volunteers were doing more than 6 hours per month

A cross-tabulation between hours spent volunteering with whether a volunteer was at risk from flooding did not show any association, that is, those volunteers whose homes were at risk from flooding were not spending more time volunteering than those whose homes were not at risk of flooding but were part of a community at flood risk.

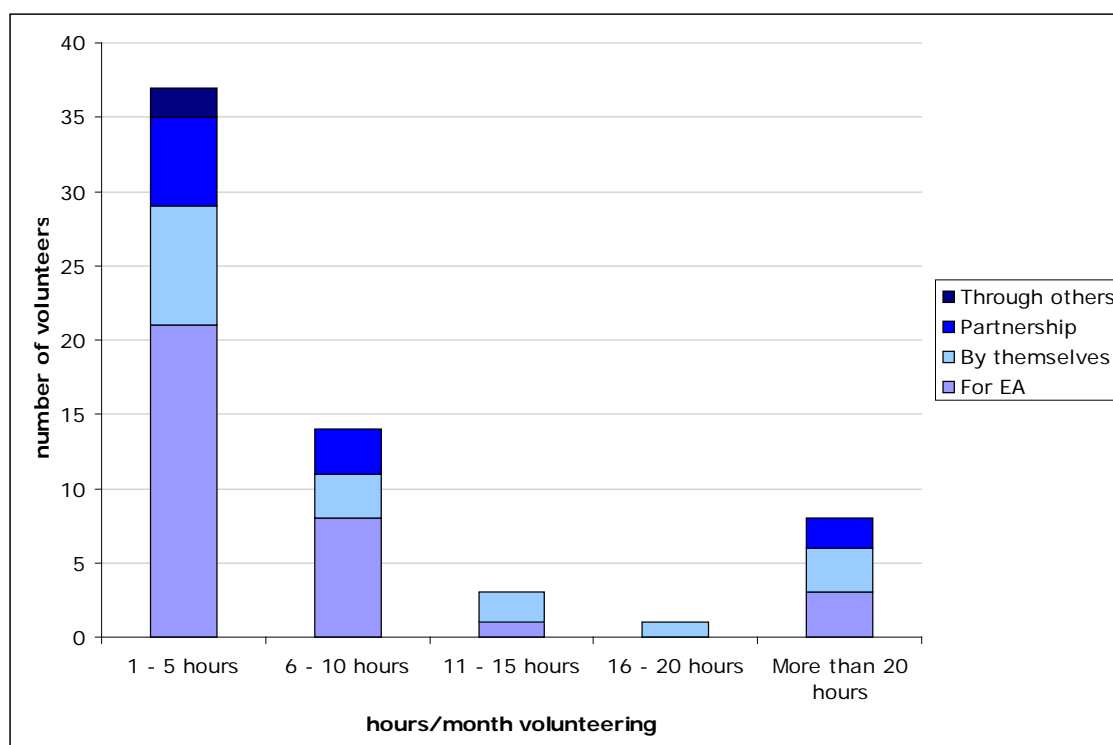


Figure 4.2 Hours per month spent volunteering (n = 63)

When asked if they wanted or could you do more volunteering, nearly half the respondents (48%) indicated they were willing or wanted to do more. However, a number of respondents commented that they felt they were already doing as much as they could as this was not the only volunteering role they had. As one respondent summarised it:

‘I have other voluntary activities besides flooding and I am probably operating at full stretch.’

When looking at which organisations respondents volunteer for, 35% said directly for the Environment Agency, 38% were working for community flood action groups and 13% for town and parish councils. The remainder were engaged with partnerships that involved the Environment Agency, or volunteered for charities such as a Wildlife Trust.

4.1.2 Diary responses

In a flood warden diary interview, one flood warden in North Yorkshire who had been a parish councillor for 28 years, was asked by the Environment Agency, with another person, to get involved in their area as flood wardens. He described attending a couple of seminars run by the Environment Agency when he started and looking at the Environment Agency website.

Two flood wardens in Hertfordshire, whose property was flooded in 1979, became flood wardens in 1994. Since then, in 2004, flood gates have been installed in their area and this has reduced the severity of flooding. They have less contact with the Environment Agency ('who have been super with us') now they have flood defences in place.

A flood warden in South Yorkshire became involved in 2007 when his house flooded and he had to live elsewhere for eight months. He described becoming very frustrated when trying to get support, outlining that organisations including the Environment Agency were unhelpful. However, he said the findings from the Pitt Review (Pitt 2007) helped a lot as it recommended the need to work with communities.

Most of the flood wardens interviewed about their diaries had been to one or more of the annual seminars the Environment Agency organises in some of its Areas to bring flood wardens together. Other organisations are usually represented at these seminars such as Internal Drainage Boards (IDBs), local authorities and the emergency services. The seminars provide an opportunity for the Environment Agency to provide information to flood wardens and sometimes show them an incident room. It is also a chance for flood wardens to talk to each other and about what they have been doing.

A couple of the flood wardens had been asked to give talks to other communities and advise on how to set up a flood group or to create a flood plan.

One flood warden talked about how his group have created:

'grab bags' for all the flood wardens in the group which includes wind-up chargers, waterproof cameras, wind-up phone, protective gloves, first aid kit, safety wellingtons'.

This was all funded from the South Yorkshire Flood Fund after flooding in 2007. Only one of the five flood warden diary interviewees who was from West Yorkshire had not experienced flooding. He explained that he was in a rapid response catchment but lived in a third floor flat. He became a flood warden in 2008; he put himself forward after working for the local authority and felt he had all the right contacts within the local authority and the Environment Agency. He received a pack from the Environment Agency when he started and finds it easier now there is only one emergency number he has to ring. He also spoke about getting assistance from the Environment Agency to write a community flood plan. After major flooding in 2012 he explained that the council set up weekly meetings attended by the Environment Agency and the emergency services to assess whether communities had the right cleaning materials and were getting on top of the recovery process. Infrastructure had now been put in place to reduce flood incidents in his village.

4.2 Who volunteers to be a flood warden?

The sociodemographic characteristics of the volunteers was investigated using data from the volunteer survey (n = 63) and from the volunteer returns to the VfM analysis collected during the case studies (n = 26). The sample size for this part of the analysis was therefore 89. The following patterns were revealed:

- **Gender** – 72% of respondents were male

- **Age** – >84% of the sample were older than 54 and >14% were over 75
- **Ethnicity** – 97% were White British (Black British and Jewish were also represented)
- **Employment status** – 68.25% were retired and 14% worked full time
- **Disability** – 11% said they considered themselves to have a disability (mostly mobility issues)
- **Location** – 63.5% were from rural areas and 36.5% from urban areas

The volunteer survey and the case studies revealed that a large proportion of volunteers have professional experience as engineers, civil engineers, landscape architects, Environment Agency/Defra and other agency staff, and members of the services and emergency services (Figure 4.3). FCRM appears to attract people skilled in this area who are able to apply their professional knowledge for community benefit. This is also evidenced by the reasons given as motivations for FCRM volunteering reported below.

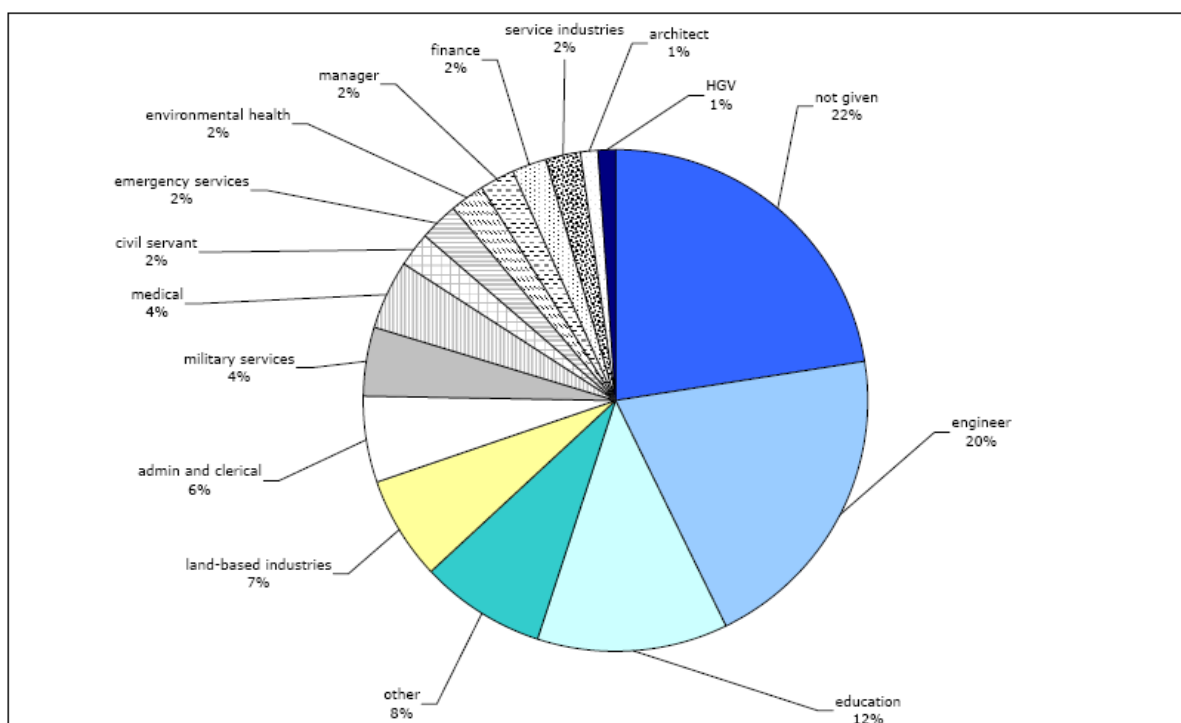


Figure 4.3 Occupation of volunteers involved in FCRM volunteering (n = 89)

Men were more likely than women to be engaged directly by the Environment Agency, whereas women were more likely to be working ‘through others’ or in ‘partnership’ arrangements (Figure 4.4).

Four out of the five flood wardens interviewed about their diaries were retired and four out of the five were men. The interviewees were based in west, north and south Yorkshire, Hertfordshire and Lincolnshire. No other specific demographic detail was collected on these five interviewees.

Based on the evidence from the survey, a typical FCRM volunteer can be characterised as an older (54–70), white British male, retired and with professional expertise in engineering (one in five chance) living in a rural area with a home or community at a high risk from flooding.

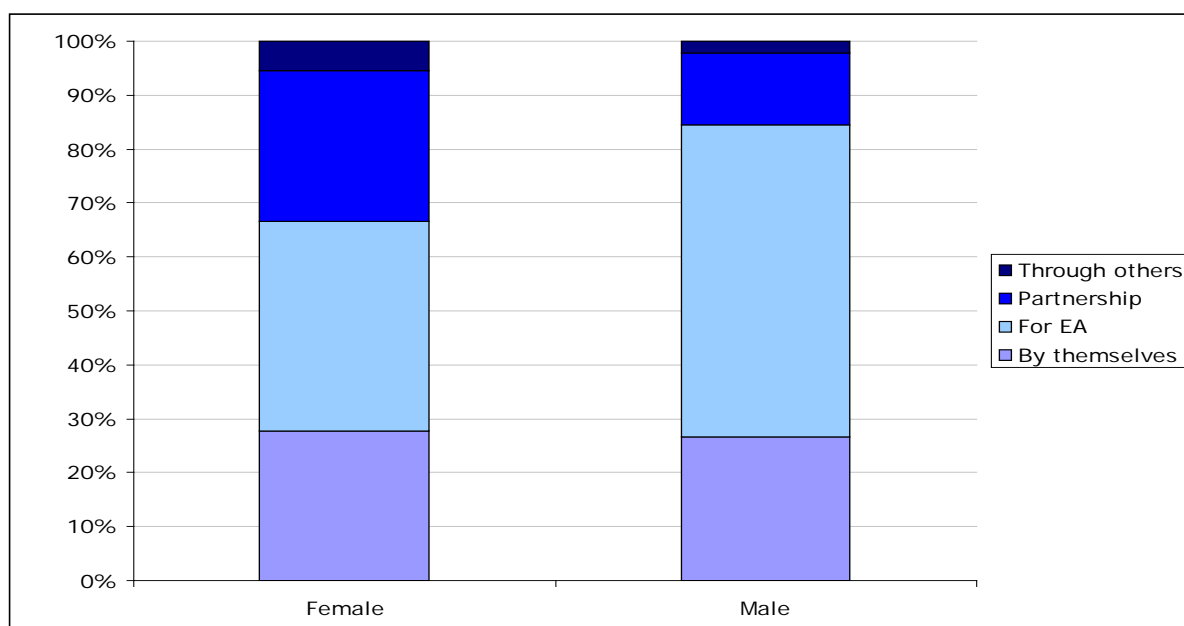


Figure 4.4 Gender differences in engagement with different volunteer governance types (n = 89)

4.3 What activities are volunteers doing?

The activity categories identified in Appendix B of the Work Package 1 report (Environment Agency 2015a) to discuss what actions flood wardens are getting involved in (Table 4.1).

Table 4.1 Different categories of activity undertaken by flood wardens

Category	Example activities
Knowledge	Surveying a river in a catchment walkover Checking river gauges Monitoring water quality Pollution monitoring Collecting data as part of a citizen science project
Campaign	Raising awareness of flooding Flood planning Education work with schools Promoting uptake of flood warning service
Physical	Embankment building Habitat management Opening and closing gates Clearing drainage ditches and watercourses
Virtual	Remote monitoring Web-related action such as documenting the group's activities and providing information on web pages

Volunteers were asked about the range of activities they were undertaking. More than 25 different kinds of activities were recorded. Most volunteers engaged in three or more activities. The full range of activities recorded is shown in Figure 4.5.

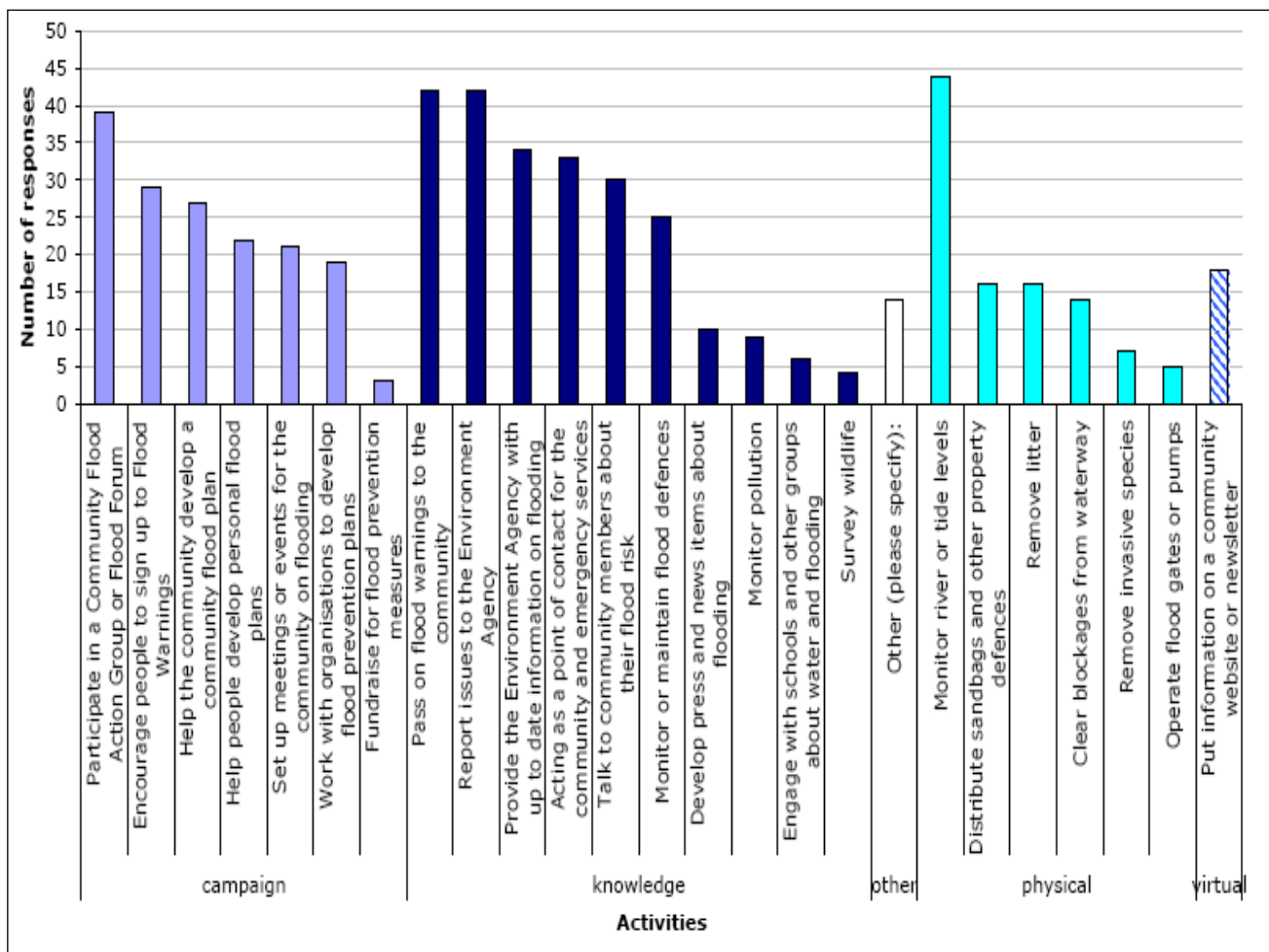


Figure 4.5 Volunteer activities (n = 63)

The data concerning the range of tasks do not provide a clear picture of which activities volunteers spend most of their time and efforts on. Volunteers were then asked 'What would you say is your MAIN volunteering activity – the one you spend the most amount of time on? Please select one activity'. These data are summarised in Figure 4.6.

Although these responses accounted for 47% of all the activities mentioned in terms of count data (that is, the numbers of volunteers engaged), they relate to a greater percentage of the total time spent on volunteering. Monitoring river and tide levels is the most common activity (knowledge activities), with participation in the work of community flood action groups and forums, and working to pass on flood warnings within the community also significant (campaign activities). Other activities volunteers are involved with were very varied and included:

- developing social media tools to alert community to flood risk in real time (one response)
- designing and constructing engineering solutions to flooding problems (two responses)
- taking an active part in the local planning system to ensure flooding issues are considered (one response)

- monitoring land management practices of landowners in the catchment and trying to engage them to reduce root causes of flooding problems (three responses)
- dealing with insurance companies and lobbying Association of British Insurers (two responses)

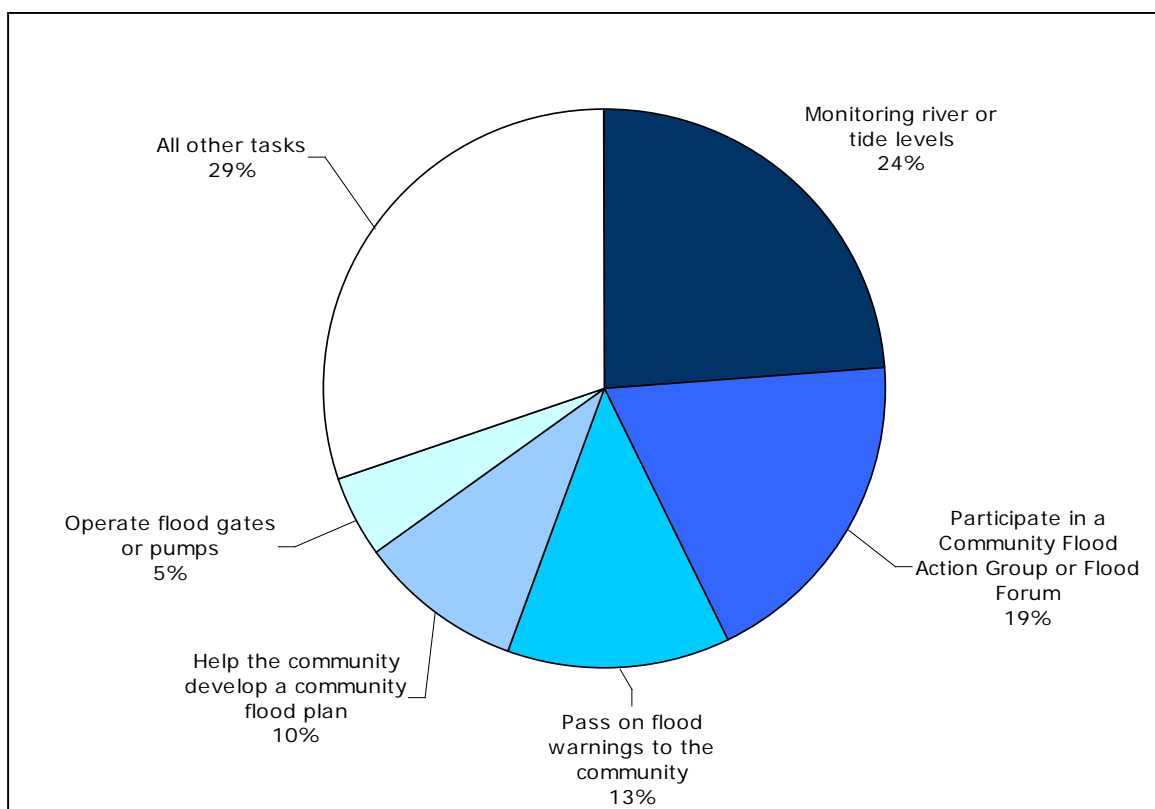


Figure 4.6 Top five volunteering activities (n = 63)

Figure 4.7 diagram uses the top five 'main activities' data to show the differences in activities carried out according to governance type. Those volunteers 'working through others' were not carrying out the types of activities identified as the top five activities.

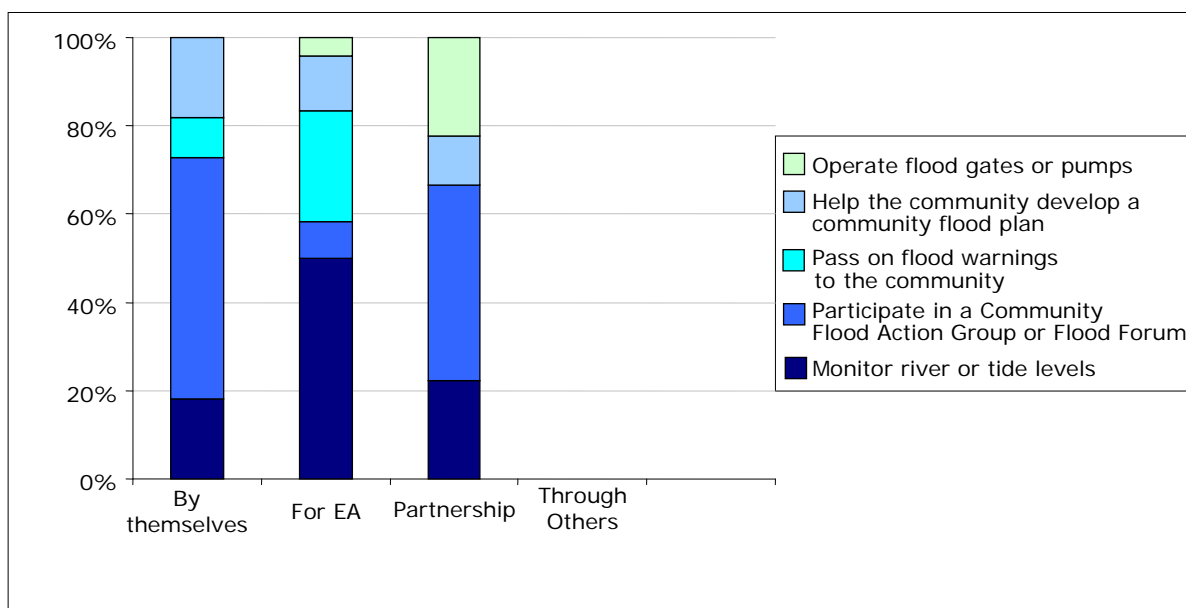


Figure 4.7 Volunteer activities disaggregated by governance type (n = 63)

The three most popular activities volunteers would take on in addition to those already performed were:

- working to develop a community flood and emergency plan (53%)
- monitoring river levels (47%)
- habitat management (36%)

4.3.1 Types of activities

The flood warden volunteer diaries provided greater detail of the types of activities that flood wardens were carrying out; see (Appendix C provides an example of a flood warden diary).

The types of activities carried out by flood wardens in relation to the activity categorisation flood wardens are described below.

Campaign activities

The volunteer diaries outlined three important areas of activity relating to raising awareness and flood planning:

- **Discussions with members of the local community.** These activities involved providing advice on insurance cover to new residents, reassuring residents during a flooding incident (particularly the elderly) and discussing flood issues with residents.
- **Attending meetings** of parish councils or open days or seminars, or annual meetings organised by the Environment Agency or local authority
- **Being particularly pro-active** by preparing reports on flooding incidents, developing flood plans, giving presentations to flood groups or the parish council, participating in a local TV slots on flooding (one flood warden gave six TV interviews in 2012 when his village faced flooding, including to Sky News and Look North), helping to arrange exhibitions or helping other flood groups to develop a flood plan

The development of flood plans by flood wardens, town and parish councils is a priority for the Environment Agency. However, volunteers can find this difficult and time-consuming – see comments from the Cornwall case study (Section 4.8.3).

Physical action

The majority of this activity was performed by the Bodenham Flood Protection Group. Only two other flood wardens in their diaries mentioned getting involved in physical action and this included placing sandbags and re-directing traffic away from flooded roads.

- **Clearance** – for example clearing silt, shrubbery, debris from culverts, drains, channels and the banks of rivers/brooks
- **Filling sandbags** and or placing them around key places in the community

Knowledge actions

These could be categorised into two main groups:

- **Monitoring.** Most of the flood wardens were undertaking monitoring on a regular basis. This included monitoring and inspecting river/brook levels, sea defences, state of drains, pipes, culverts, sea defences, the build-up of shrubbery/debris, weather and tidal information, and checking flood defences to ensure flood gates are shut and locked.
- **Research.** Three flood wardens had taken part in previous research. This included research by the Red Cross, research by Lancaster University and the Cabinet Office, and a four-year EU-funded research project called 'WeSenseIt' about citizen water observatories. This EU project is using Doncaster as a case study and citizens will be working with smart phones to provide data on flooding in their areas. A number of volunteers talked about researching the history of flooding in their area so that they had a better idea and understanding of what had led to the current flooding issues their communities faced.

Virtual activities

These could be categorised into three groups:

- **Using a computer** to access and assess up-to-date information from websites such as the Environment Agency, Met Office or the local authority. This activity was common among flood wardens.
- **Using Facebook and/or Twitter** to provide information to local people and as a means for local people to contact the flood warden. Only two of the flood wardens, both based in Lincolnshire, took this approach (the case studies in Section 4.8 show that others were being active using social media). In the case of Bodenham, this also includes sending flood warnings directly from the flood action group's telemetry systems via Twitter.
- **Using a computer** to lobby MPs, the Association of British Insurers, funding agencies, landowners and other stakeholders about local flooding issues and infrastructure or catchment management improvements

4.4 What motivates volunteers to get involved and what benefits do they gain?

4.4.1 Motivations

The most important reported reasons in the volunteer survey for beginning volunteering were associated with wanting to:

- do something to prevent flooding (40%)
- help the community as a consequence of flooding experiences (17.5%)
- take on some kind of leadership role in community response and awareness (21%)

The variety of reasons was most diverse among those volunteers engaging directly with the Environment Agency (Figure 4.8).

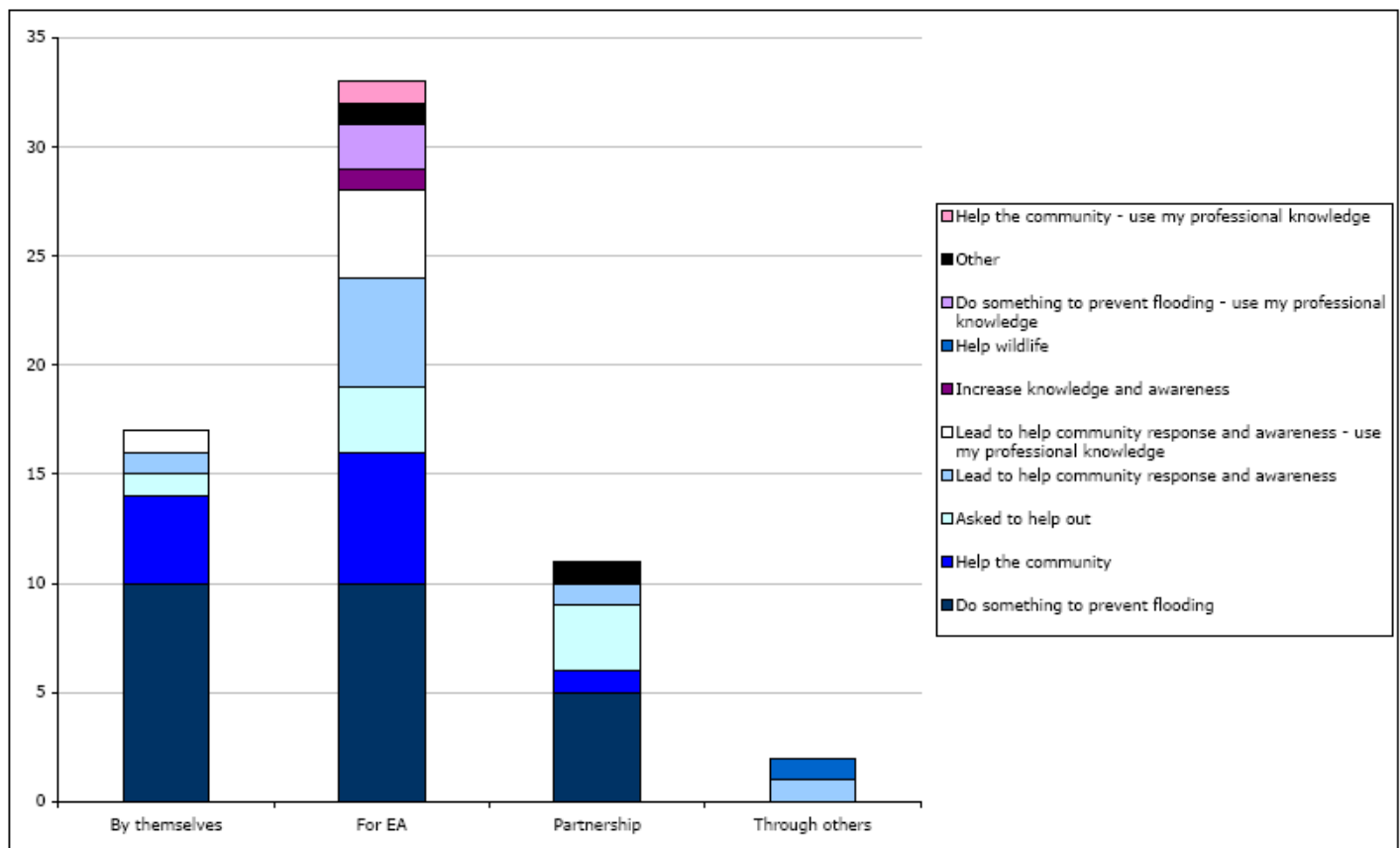


Figure 4.8 Reasons for starting volunteering disaggregated by governance type (n = 63)

When asked why they continued to volunteer, respondents mentioned the following as the three most important motivations (Figure 4.9):

- altruistic reasons related to serving their community (33%)
- the continuing need for risk mitigation through flooding infrastructure improvements and maintenance (30%)
- ongoing need to maintain community preparedness (19%)

The level of commitment to FCRM volunteering in the future was high with:

- 44% of volunteers expecting to carry on with their volunteering role beyond the next five years
- 42% of respondents expecting to carry on for 2–5 years

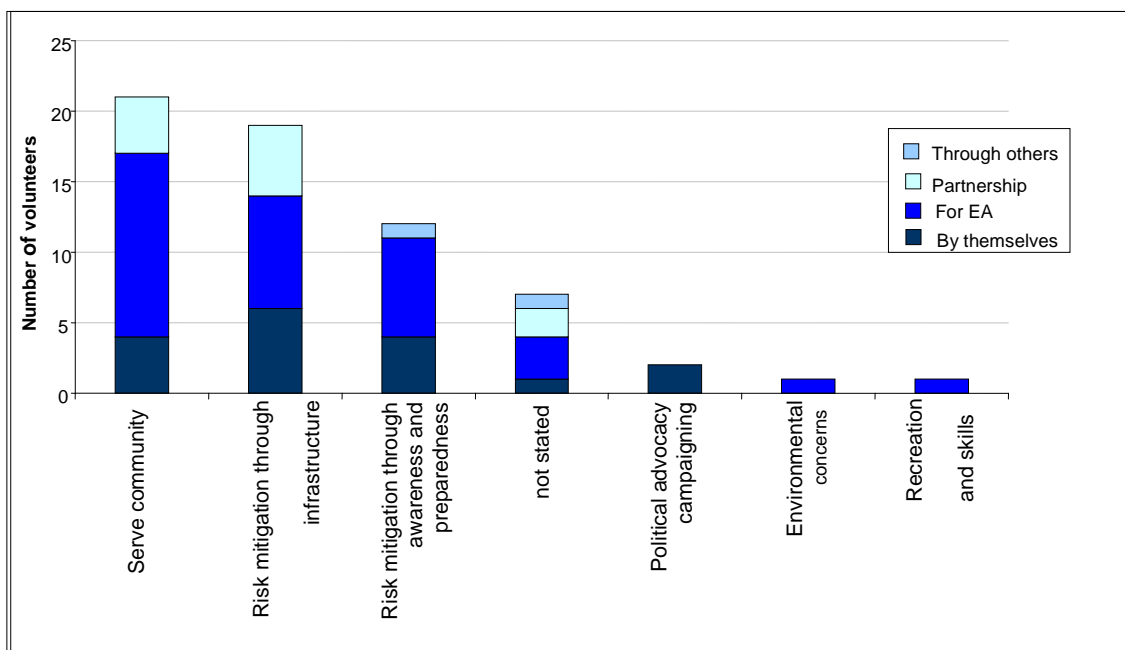


Figure 4.9 Reasons for continuing to volunteer disaggregated by governance (n = 63)

In the interviews with flood wardens who completed a volunteer diary, they talked about being primarily motivated to get involved because they want to help their local community and to care for the place they lived in. The majority had lived for many years in the areas they were flood wardens for, they knew the area well and sometimes the people. However, one volunteer in Lincolnshire used being a flood warden as a means to become active in an area she had recently moved to.

During the interviews it became clear that the flood wardens were active members of their local community, getting involved in other volunteering activities sometimes through the parish council. They tended to feel that they lived in communities that rallied together when faced with a problem such as a flood event. They wanted to make a contribution and were not looking for any specific reward or recognition.

The South Yorkshire flood warden was also motivated by trying to help people come to terms with flooding. He described getting involved with the council and local museum for a few months on a flood exhibition which was a way to:

‘help people with the trauma and the emotional strain and stress [of flooding]. It eased problems as it was a shared experience’.

He described some people as still being intimidated by heavy rainfall.

A flood warden in West Yorkshire talked about a woman who went into labour during a flood event in the middle of the night. As the flood warden, he was in contact with the emergency services and was able to inform the police who ordered a Sea King helicopter to winch her to safety, although an ambulance was eventually able to reach her by road. This is a story that illustrates very clearly the importance of the knowledge that flood wardens have of the people in their local area.

4.4.2 Benefits to the volunteer

Human capital

In general terms, FCRM volunteering makes a significant difference to people's understanding and ability to deal with flooding and flood risk. The impacts that their volunteering experience has had on individual volunteers in terms of their knowledge of flood risk and resilience to flooding is summarised in Figure 4.10.

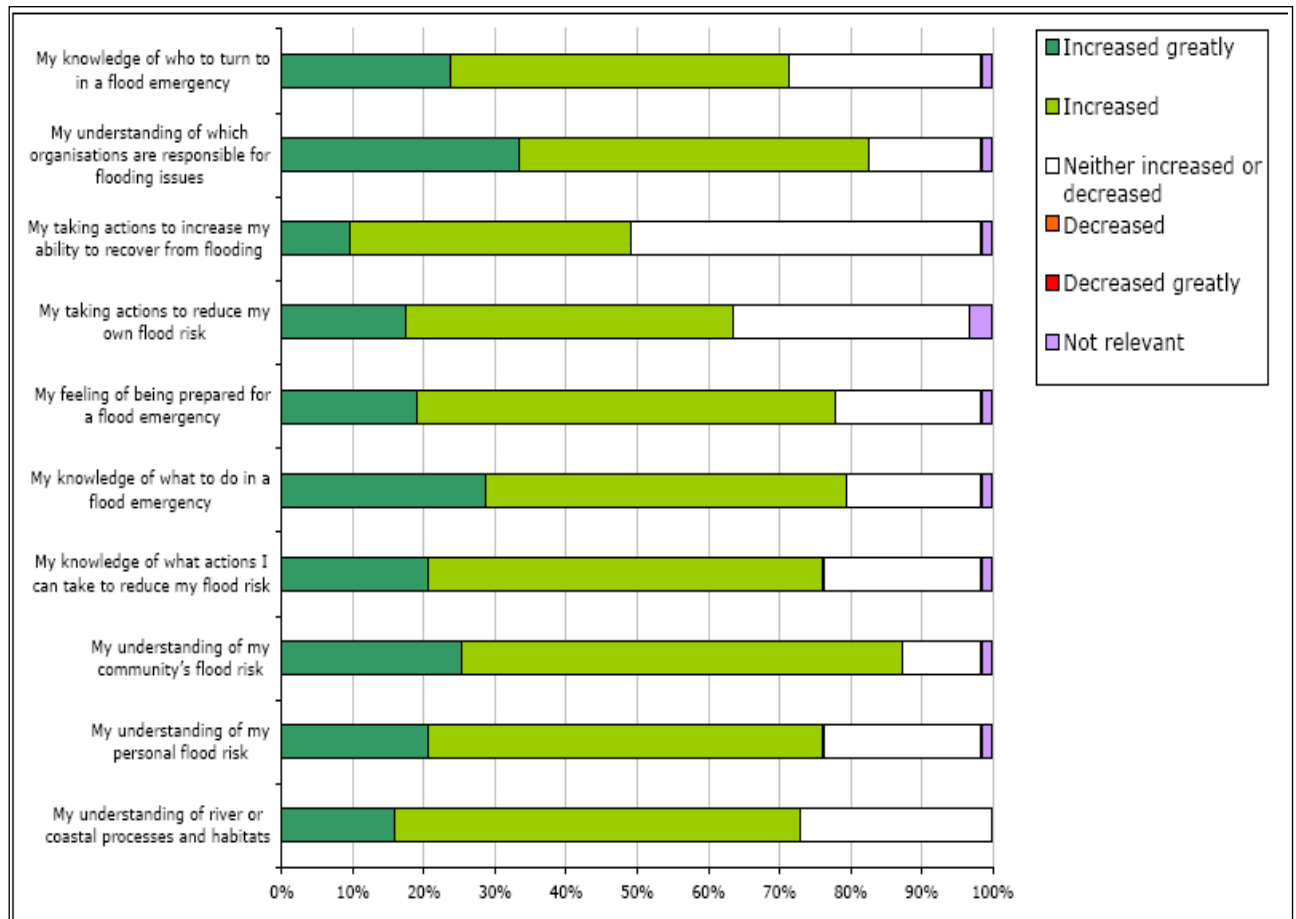


Figure 4.10 Changes to individual volunteer knowledge and resilience to flooding (n = 63)

Overall, respondents reported positive increases across all the measures of change. There were no negative comments on these measures. Notable are the reported 87% change in understanding of community flood risk and 82% change in individuals' knowledge of which agencies are responsible for flood risk issues. There is a reported change in volunteers understanding the level of their personal flood risk (75%), of what they can do to reduce their flood risk (63%), and what they can do to recover from flooding (59%).

The flood warden diary interviews described learning more about flooding and flood risk in their area and some took a very active approach to learning the history of flooding in their area to put the contemporary risk within a wider context.

Social capital

Figure 4.11 shows the most significant perceived impacts for volunteers in terms of social capital were:

- doing something useful in their community
- increasing sense of trust in the Environment Agency and similar agencies
- meeting new people in the community

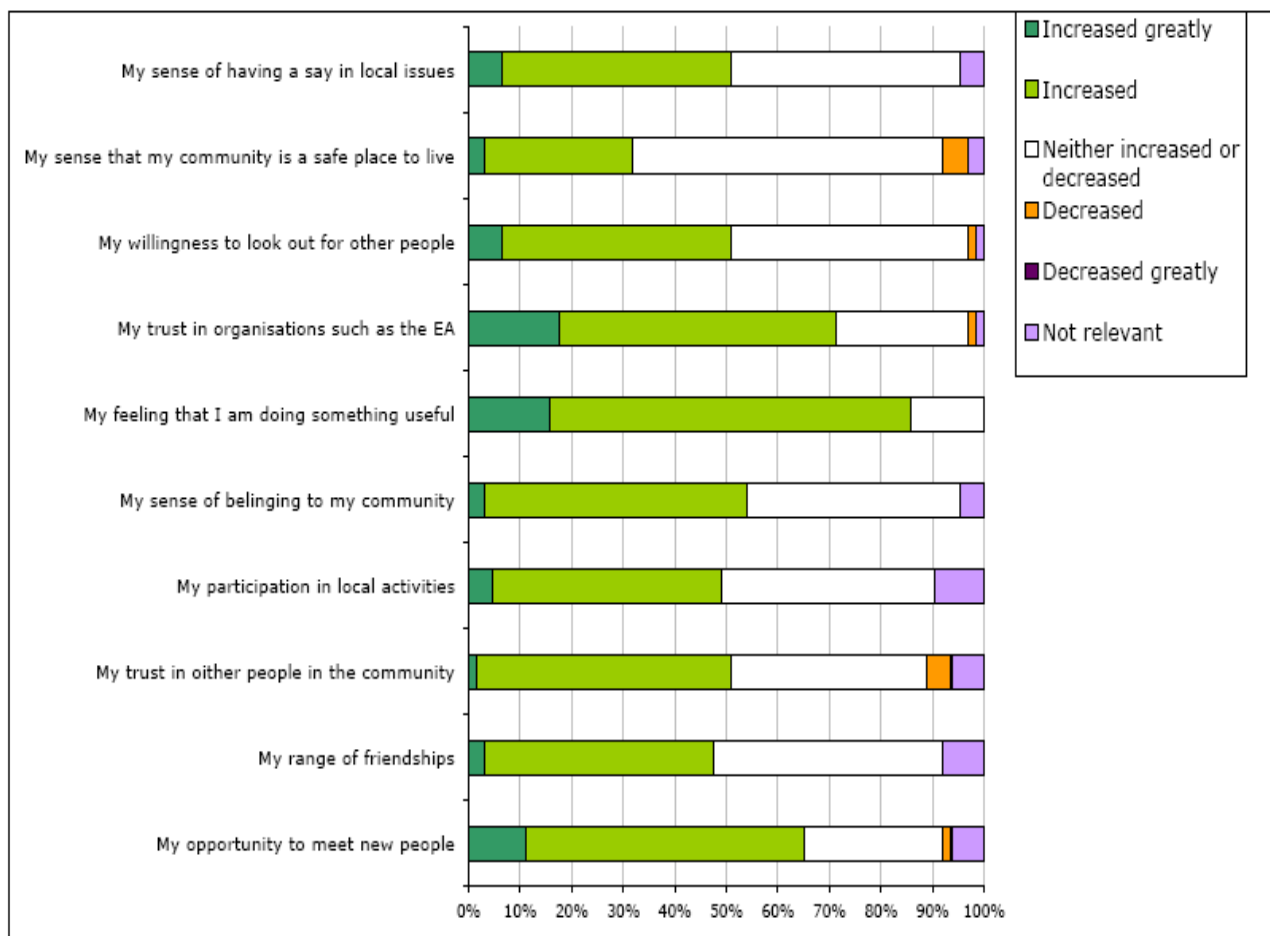


Figure 4.11 Social capital impacts of volunteering (n = 63)

Those interviewed about their volunteer diaries gained benefits from knowing they were helping their local community, and caring about the place they live in. They knew their area and were interested in being a visible presence when an incident was occurring.

Being part of a small core team was important to one flood warden.

For two flood wardens in Hertfordshire, knowing who to contact was important ('I do know that if I was worried I could always phone') as well as getting to know their neighbours by being a warden and knocking on doors. They talked to neighbours about insurance and the Environment Agency provided a letter for them to be given to insurance companies to reassure them about the level of risk for their properties.

Building trust and relationships with organisations such as the Environment Agency were also considered important.

'We have an excellent relationship with Environment Agency, no faults at all. Since the defence scheme went in we have been working with the Environment Agency trying to get the warning system better, looking at the monitoring and the alarm level. We've been feeding them information about levels. We worked with the Environment Agency to see what was causing the flooding, and now I am much happier that they have a better understanding of how the system works' (flood wardens, Hertfordshire).

Individual well-being

In terms of individual benefits and well-being, the volunteer survey showed that employability ranked low (unsurprising as the majority of the sample were retired) (Figure 4.12). The most significant areas of impact were improvements to:

- individual skills and knowledge (70%)
- sense of feeling they are making a positive difference to the local environment (68%)
- sense of connection to the local environment (63%)

However, there were also felt to be disadvantages to volunteering. In particular a small proportion of the sample (5%) felt that their physical health and fitness had decreased as a result of volunteering, and that their happiness and well-being had been negatively affected (4%).

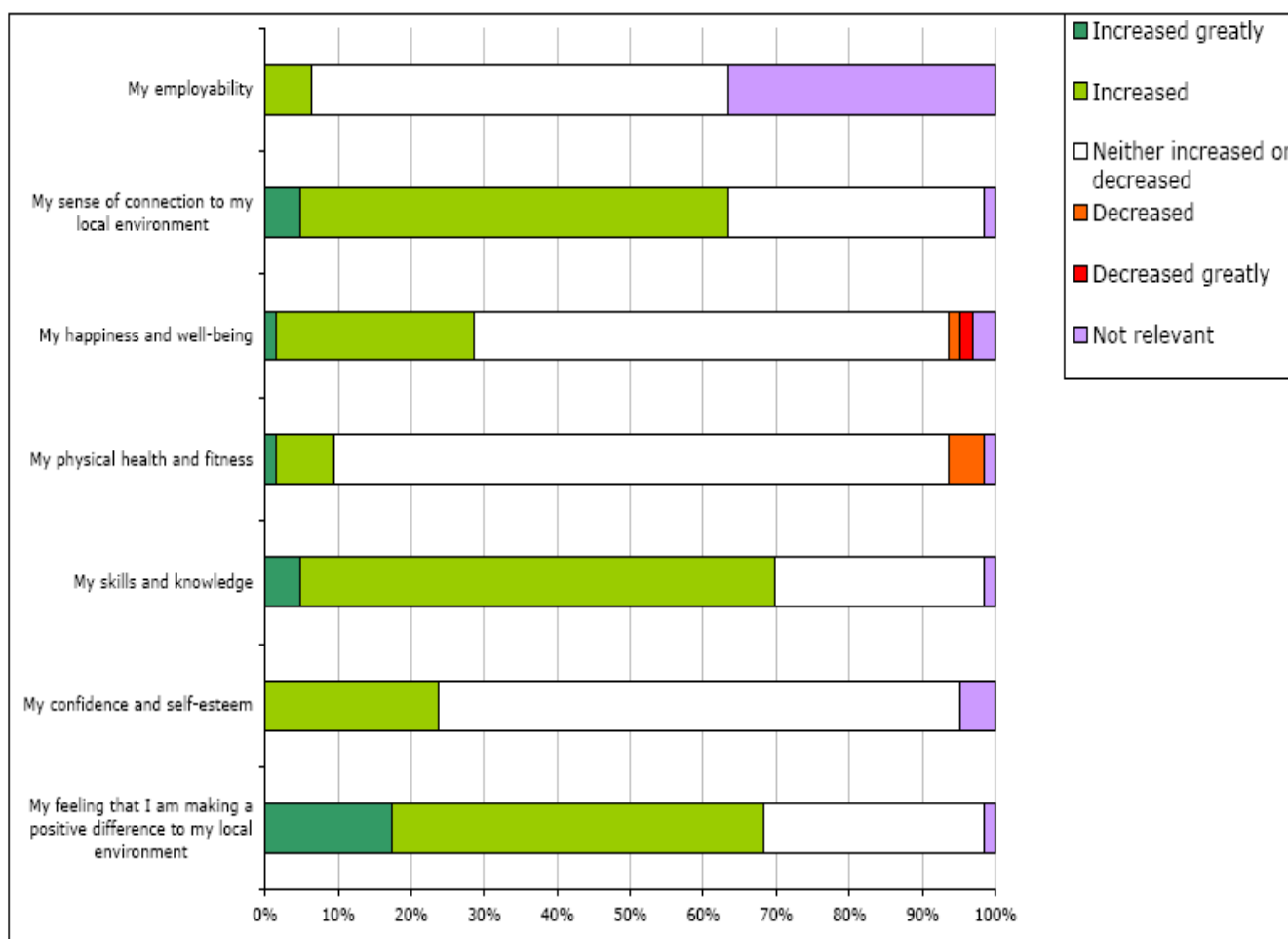


Figure 4.12 Perceived well-being benefits of volunteering (n = 63)

Volunteers' satisfaction with their volunteering was lower for those who volunteered for themselves and directly for the Environment Agency (Figure 4.13). However, the analysis of the 'through others' category needs to be treated with caution here as only two people answered these two questions (for Figure 4.13 and Figure 4.14).

Volunteers' sense of feeling that they were valued by the community was slightly greater for those volunteering 'for themselves' or in 'partnership' rather than for the Environment Agency directly (Figure 4.14).

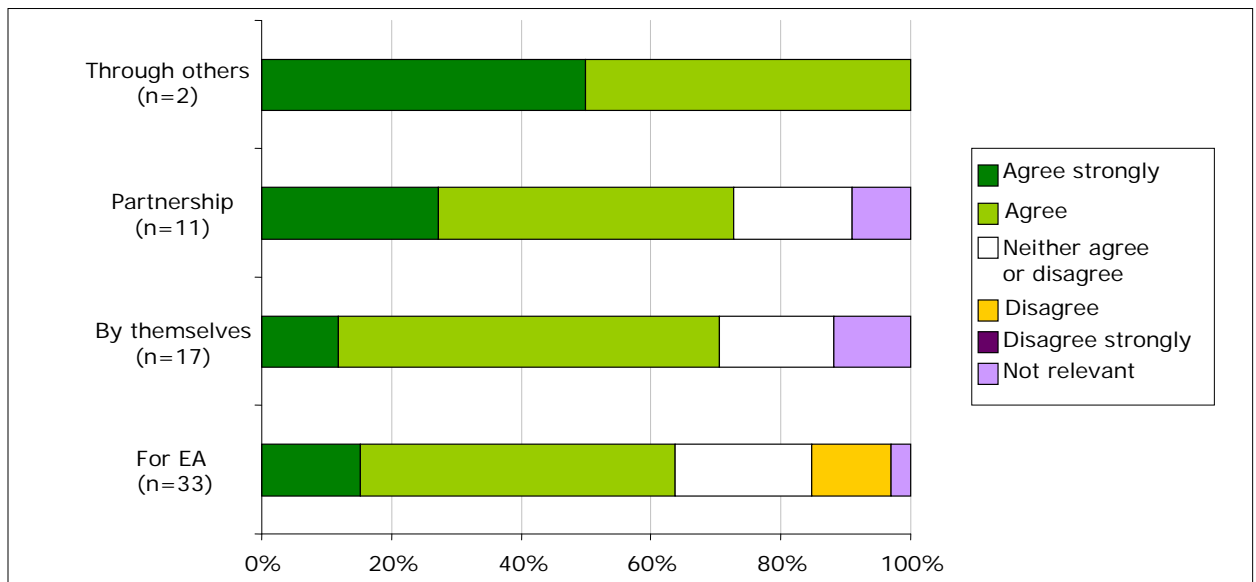


Figure 4.13 Are volunteers satisfied with their volunteering experience – comparison across governance types (n = 63)

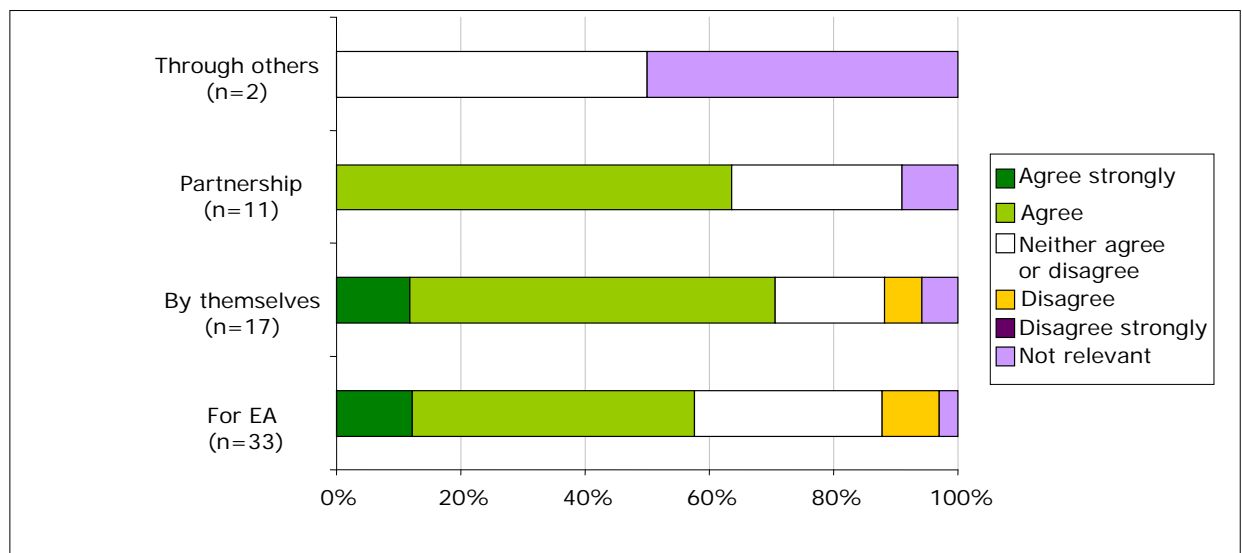


Figure 4.14 Do volunteers feel valued by their communities – comparison across governance types (n = 63)

Those who had been volunteering the longest were the most satisfied with what they were doing. Those new to volunteering included the widest variety of responses as they 'learnt' about the volunteering task and role (Figure 4.15).

The flood warden diary interviewees did not say anything explicit about gaining individual well-being benefits from their activities. However, there was a strong view about gaining personal satisfaction from helping their communities and neighbours.

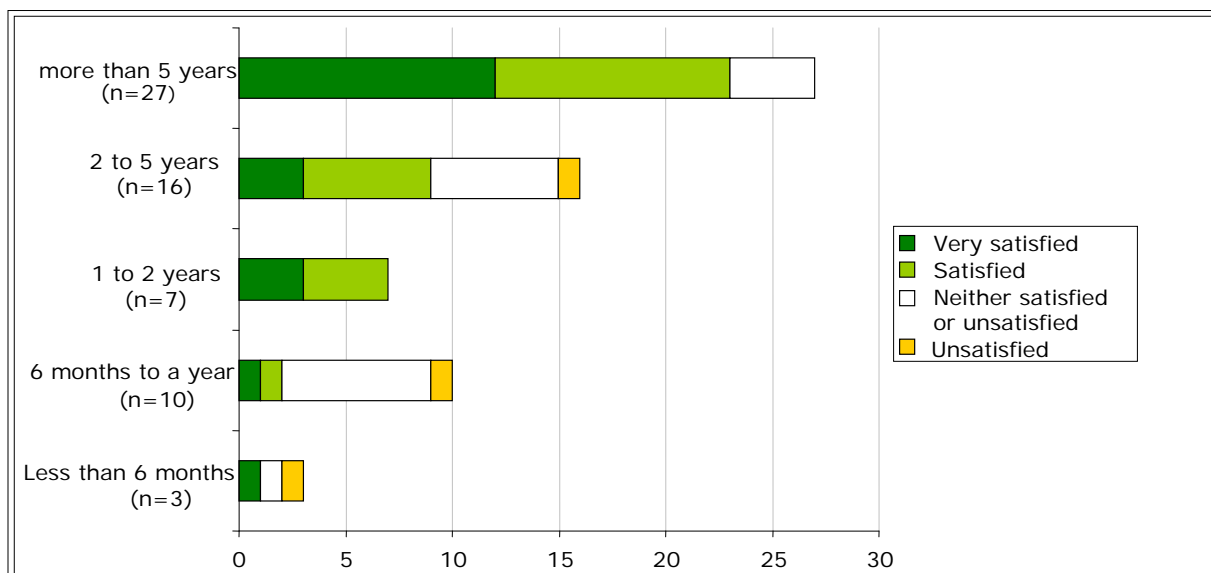


Figure 4.15 Are volunteers satisfied with their volunteering experience – compared by length of volunteering service (n = 63)

4.5 Guidance and support

The different kinds of support given to volunteers is summarised in Figure 4.16.

Nearly all volunteers had been provided with information and leaflets to enable them to carry out their role and provide more information about flood risk. However, nine volunteers (14%) mentioned that they had received no support at all.

After leaflets and information, equipment for flood risk management, flood warden activities and infrastructure improvement, along with help with organising annual events for volunteers and communities to maintain enthusiasm and commitment to FCRM work, and flood warden induction were the next most common forms of support.

Training given to volunteers varied from health and safety awareness, emergency protocols, emergency planning, visits to Environment Agency offices and incident rooms, operation of Environment Agency assets (for example, pumps, mobile pumps), and social learning through exchange visits with other community flood action groups.

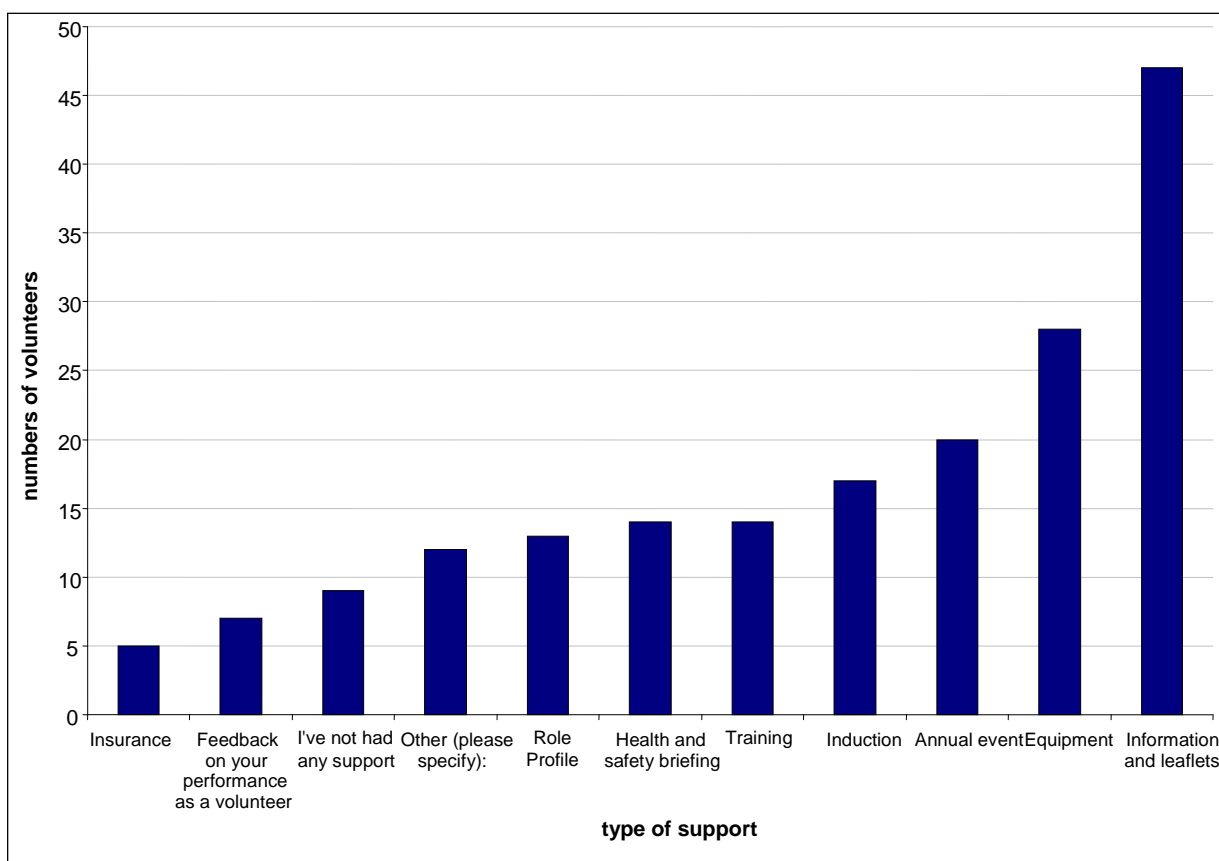


Figure 4.16 Types of support for FCRM volunteers (n = 63)

4.6 What is the value for money of FCRM volunteering (economic capital)?

The term 'economic capital' to denote the wide range of economic benefits that accrue from volunteering rather than the more limited set of financial benefits. While financial benefits relate to the money spent and outputs produced, economic benefits may be tangible and intangible, and relate to outputs and outcomes.

4.6.1 Value for money by governance type

A comparison of all the value for money measures between different types of volunteering by governance type is presented in Figure 4.17, Figure 4.18 and Figure 4.19 for relevance, effectiveness and efficiency respectively.

These data calculate the average scores assigned by each stakeholder group (Environment Agency staff and Environment Agency FCRM managers, partner organisations and volunteers) to each of the governance types. The 'FCRM managers' category included national and regional level FCRM roles, and one partnership development team representative. The 'Environment Agency staff' category focused on Area and local level staff.

The scale against which scores were assigned ran from -2 (Strongly disagree) to +2 (Strongly agree), with 'Neither agree nor disagree' being neutral.

The data are presented as mean values as the best way to account for unequal sample sizes between stakeholder and governance groups.

Questions were asked about meeting volunteering or organisational objectives. Where the results refer to national level objectives, these refer to the Environment Agency's objectives. In other cases the evidence refers to respondents' organisational or individual objectives.

The main points to be drawn from the analyses are summarised below.

Relevant measures

Volunteering 'for themselves' scored consistently higher for all measures compared with other governance styles, most particularly for achieving Environment Agency national level objectives (0.83) and meeting the shared objectives of partners and volunteers (1.67) (Figure 4.17).

Stakeholders felt that volunteering makes a significant positive contribution to flooding with 'for themselves' (1.45) and 'in partnership' (1.33) scoring highly, volunteering 'directly for the Environment Agency' (1.13) slightly lower, and the lowest score awarded for 'through others' (0.89).

Volunteering 'for themselves' (1.4) and 'through others' (1.36) both scored highly on achieving local level objectives.

Lower scores were awarded against the criteria 'meeting volunteer expectations' on all the volunteering types, although volunteering 'direct for the Environment Agency' (0.33) scored the lowest.

Volunteering 'direct for Environment Agency' had lower scores than other forms of volunteering against most relevance measures but did better in terms of adding value to the activities of the organisation (1.45).

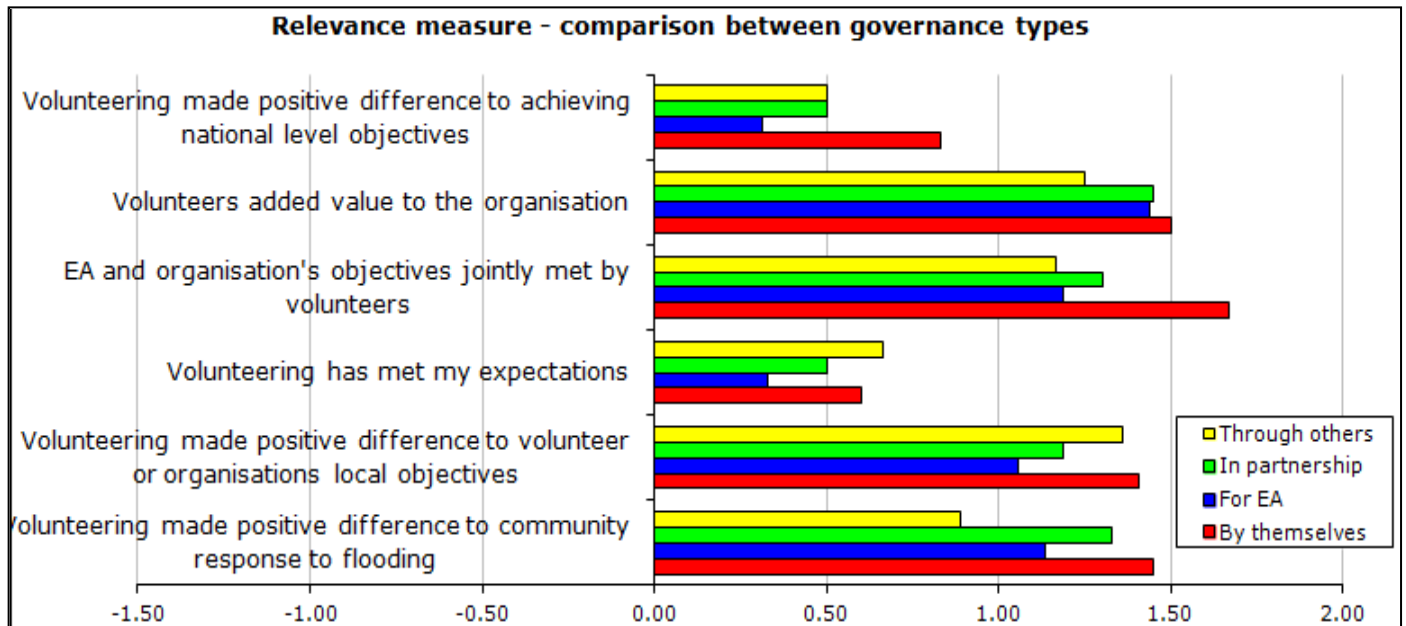


Figure 4.17 Average scores for relevance VfM measures between governance types(n = 111)

Effectiveness criteria

Volunteering 'for themselves' scored most highly for the range of effectiveness measures. The greatest positive difference compared with other forms of volunteering was for building community resilience (Figure 4.18).

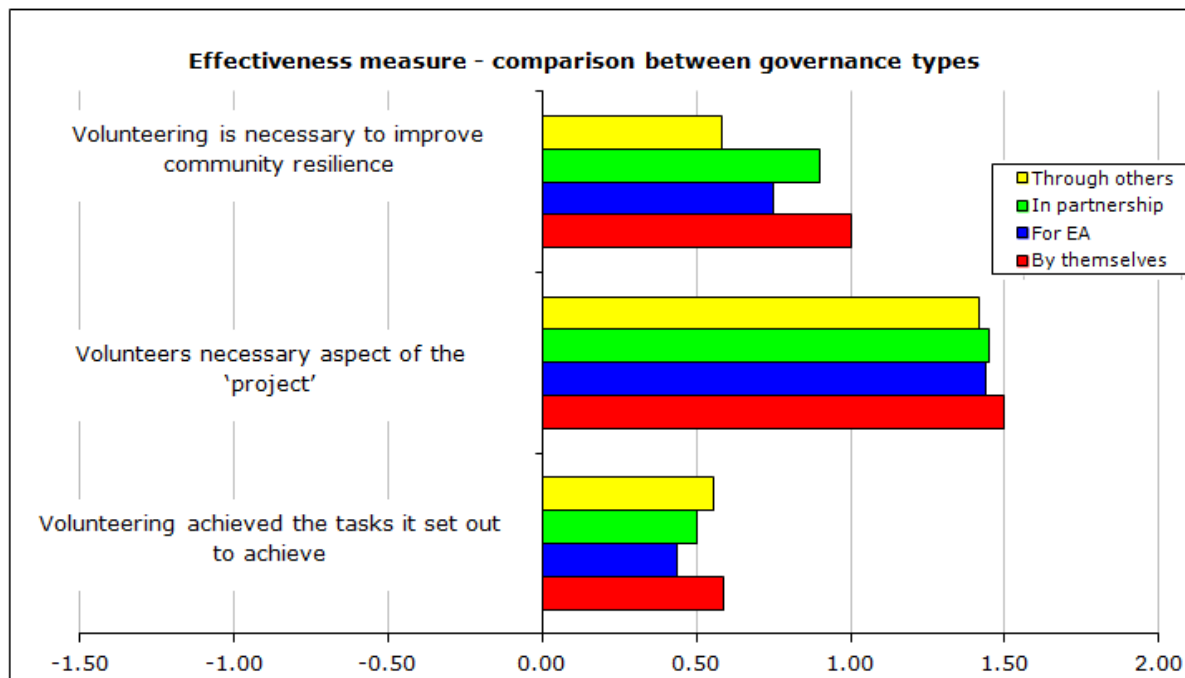


Figure 4.18 Average scores for effectiveness VfM measures between governance types (n = 111)

Efficiency criteria

In this case the results are more variable. Volunteering 'direct for Environment Agency' scored highly (1.36) against the criteria 'volunteering fits in with lifestyle and organisational working culture', with working 'through others' a close second (1.20). Working 'through others' achieved the highest scores for volunteer management (1.03) and recruitment (1.08) (Figure 4.19).

Looking at how well volunteering balanced inputs with outputs, there was little difference between the volunteering types, although 'in partnership' scored highest (1.10) closely followed by 'working through others' (1.03).

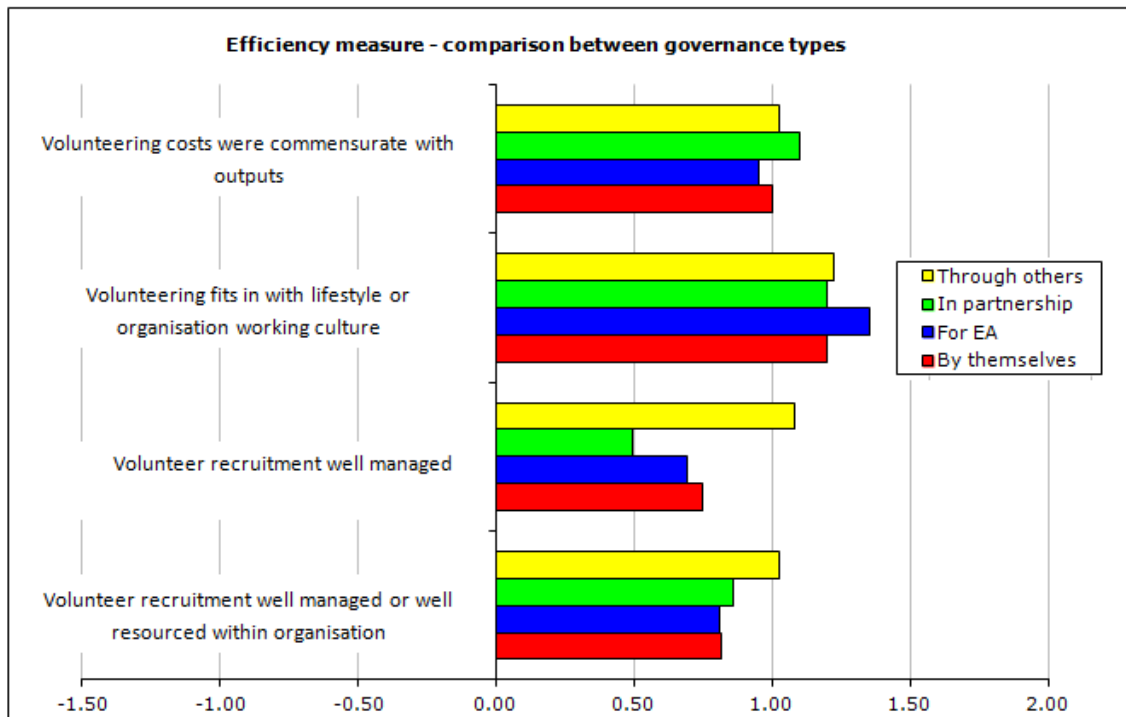


Figure 4.19 Average scores for efficiency VfM measures between governance types (n = 111)

Summary of VfM by governance type

Looking at the differences between the scores given for each governance type, the overall patterns do not suggest that any form of volunteer governance is significantly different from any other. On the whole:

- the relevance measure of value for money was best met by volunteering carried out 'for themselves'
- the effectiveness measure of value for money showed less variation between governance types, although volunteering 'through others' scored lowest against building community resilience to flooding
- the efficiency measure of value for money was best met by volunteering 'through others', although volunteering 'direct for Environment Agency' fitted in best with volunteers' lifestyles and organisation/agencies' working cultures

4.6.2 Perceptions of different stakeholders

Disaggregating the data to allow comparisons of the perceptions of different stakeholders (Environment Agency staff and FCRM managers, partner organisations and volunteers) provided a different analysis. This was done for two forms of volunteer governance: 'Direct for Environment Agency' and 'for themselves'. The analysis was limited to these two volunteering types because of the small sub-sample sizes associated with the data when they are arranged this way.

Volunteering 'directly for Environment Agency'

Looking at differences in perception around volunteering 'direct for Environment Agency' (n = 39) the following points emerge.

In terms of **relevance measures** (Figure 4.20):

- Partner organisations assigned a very much higher score (2.0) than others for the criteria 'volunteer and organisations' objectives jointly met by volunteering efforts'.
- Environment Agency staff and FCRM managers had similar perceptions of the value of volunteering 'meeting Environment Agency objectives' and 'adding value to the organisation'.
- Stakeholders had the most varied responses to the criteria 'volunteering builds community resilience to flooding' with the lowest scores given by volunteers (0.71) compared with Environment Agency staff (1.0) and partners and FCRM managers who (both scoring 1.5).

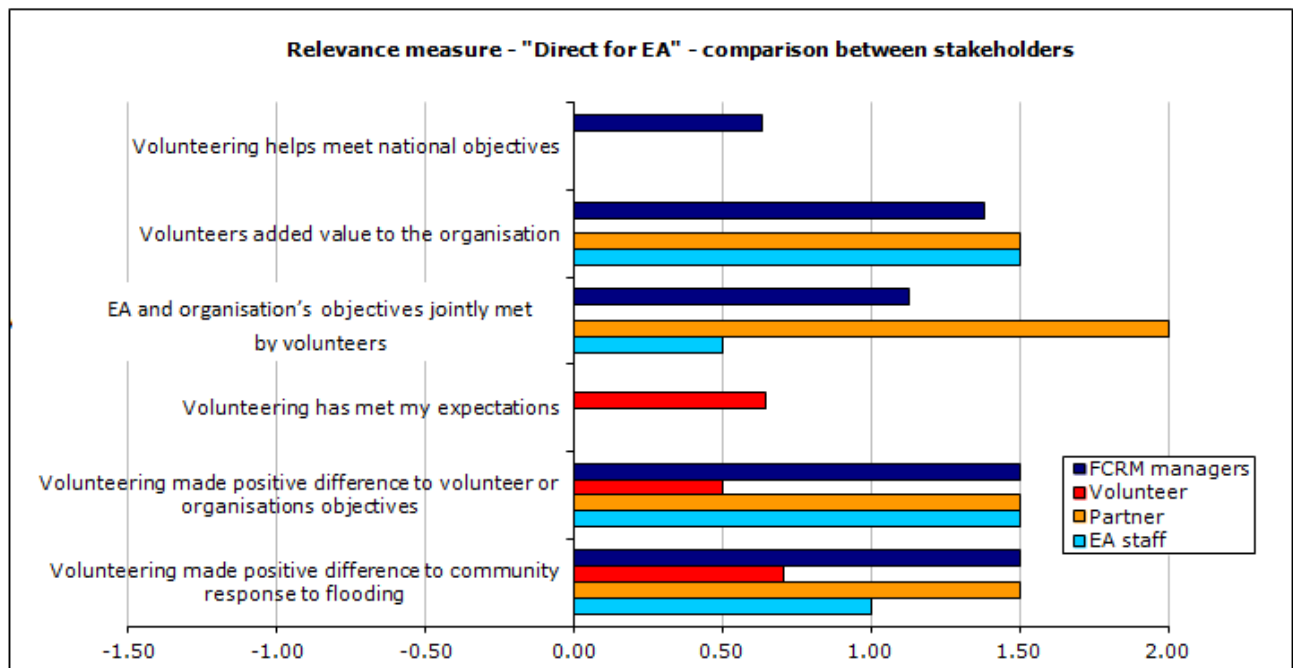


Figure 4.20 Average scores for relevance VfM measures assigned by stakeholders for 'direct for Environment Agency' volunteering (n = 39)

In terms of **effectiveness measures** (Figure 4.21):

- Partner organisations scored highest (2.0) against the criteria 'Volunteers necessary part of the project'.
- In judging how far volunteering 'achieved what is set out to achieve', all stakeholders scored lowest for this measure, with Environment Agency staff scoring (0.5) the lowest of all.

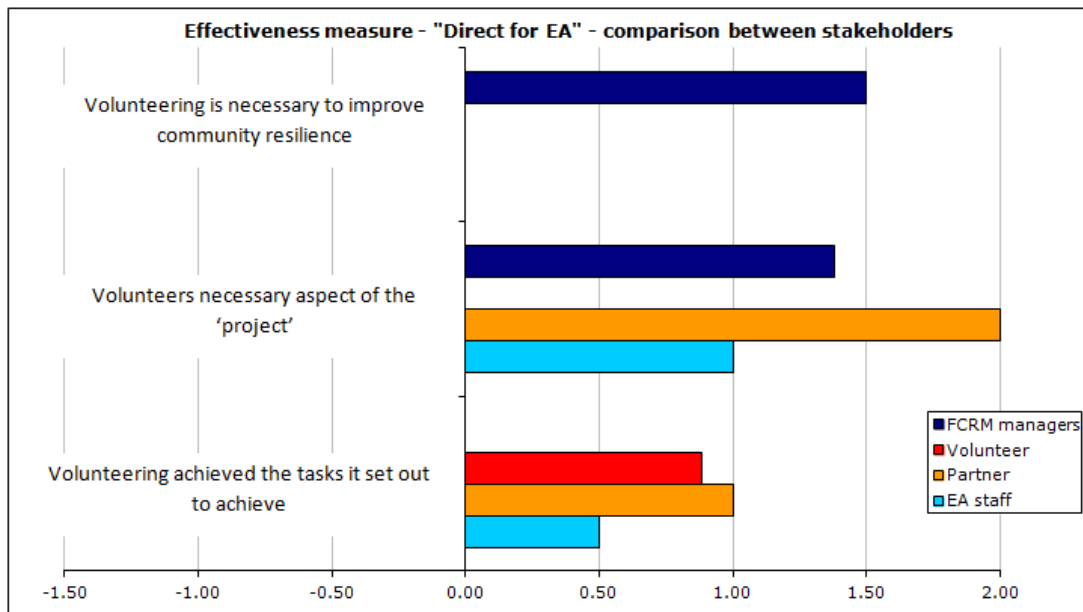


Figure 4.21 Average scores for effectiveness VfM measures assigned by stakeholders for 'direct for Environment Agency' volunteering (n = 39)

In terms of **efficiency criteria** (Figure 4.22):

- A negative score (-1.0) for resourcing of volunteering was given by Environment Agency area staff in contrast to the positive score given by Environment Agency FCRM managers (1.13).
- There were significant differences between the perceptions of Environment Agency Area staff and Environment Agency FCRM managers in the scores given to 'volunteer management' and 'volunteering inputs balanced with outputs'. Higher scores were given by FCRM managers and lower scores by Environment Agency Area staff.
- All stakeholders agreed this form of volunteering fits in well with volunteer lifestyles and the working culture of the organisation.

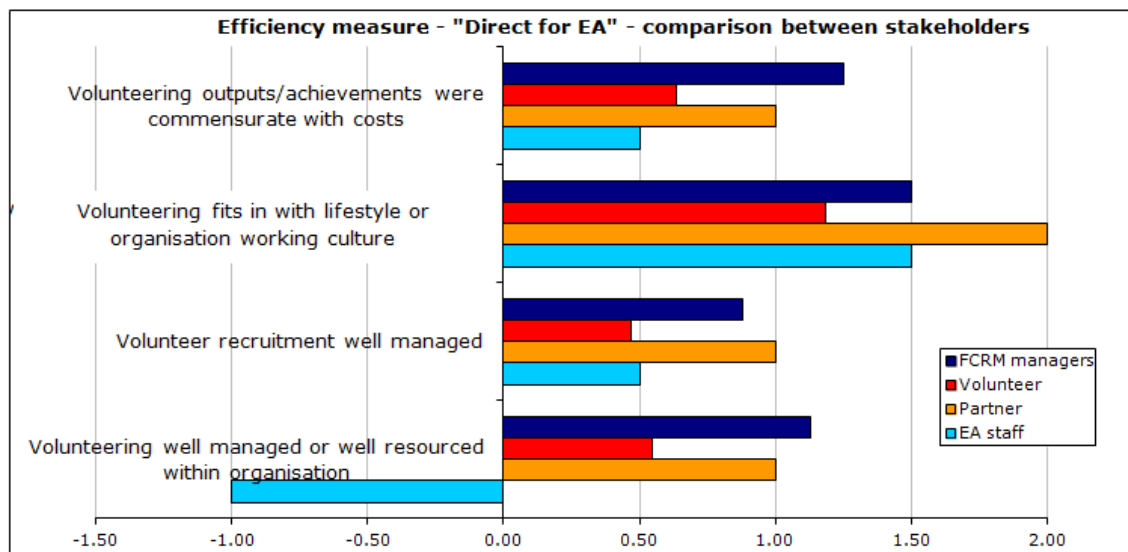


Figure 4.22 Average scores for efficiency VfM measures assigned by stakeholders for 'direct for Environment Agency' volunteering (n = 39)

The general pattern of difference in stakeholder perceptions is as follows.

- The relevance measures of value for money volunteering 'direct for Environment Agency' were given lower scores by volunteers. The greatest variation in perception between stakeholders was the degree to which this kind of volunteering meets stakeholder objectives and expectations
- The effectiveness measure of value for money volunteering 'direct for Environment Agency' was given higher scores by Environment Agency FCRM managers than by Environment Agency Area staff.
- The efficiency measure of value for money volunteering 'direct for Environment Agency' was consistently given higher scores by Environment Agency FCRM managers and lower scores by Environment Agency Area staff. Environment Agency staff scores were even lower than scores given by volunteers, including a strong negative score around management of volunteers.

Volunteering 'for themselves'

Looking at the differences in perception around volunteering 'for themselves' (n = 38) shown in Figure 4.23, Figure 4.24 and Figure 4.25, the following points emerge.

- Volunteering 'for themselves' was assigned high scores (over 1.0) on all relevance and effectiveness measures by all stakeholders.
- Environment Agency staff scored more highly on all measures compared with the average scores assigned by either managers or the volunteers themselves.

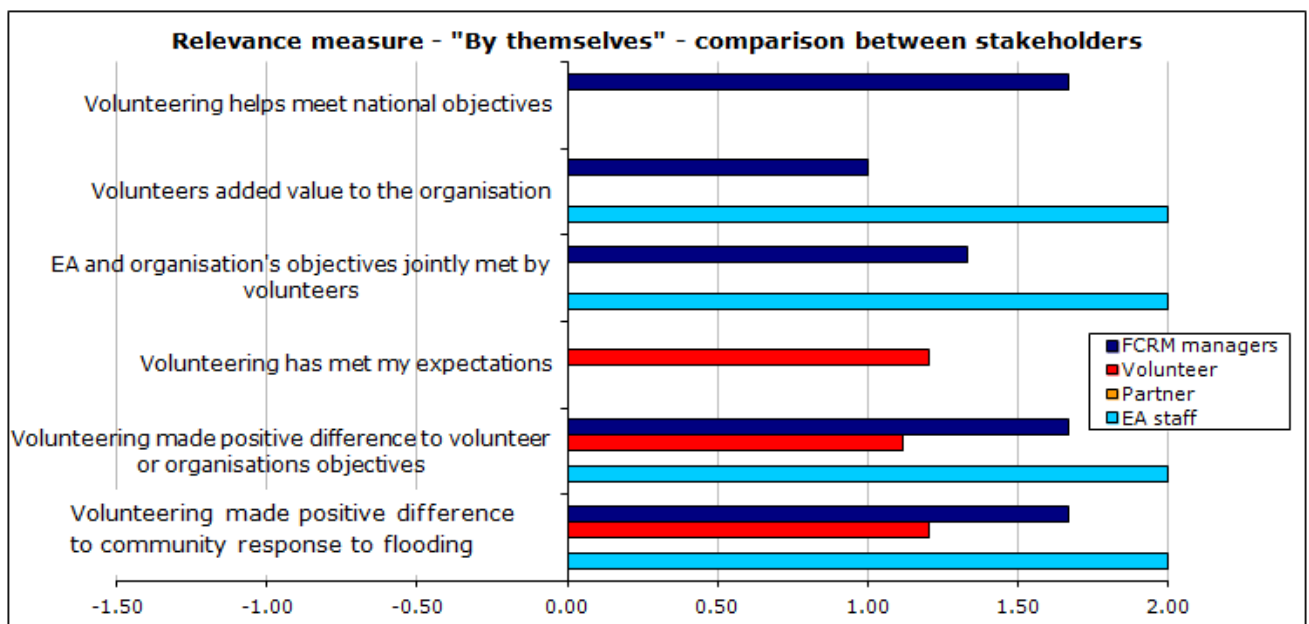


Figure 4.23 Average scores for relevance VfM measures assigned by stakeholders for 'for themselves' volunteering (n = 38)

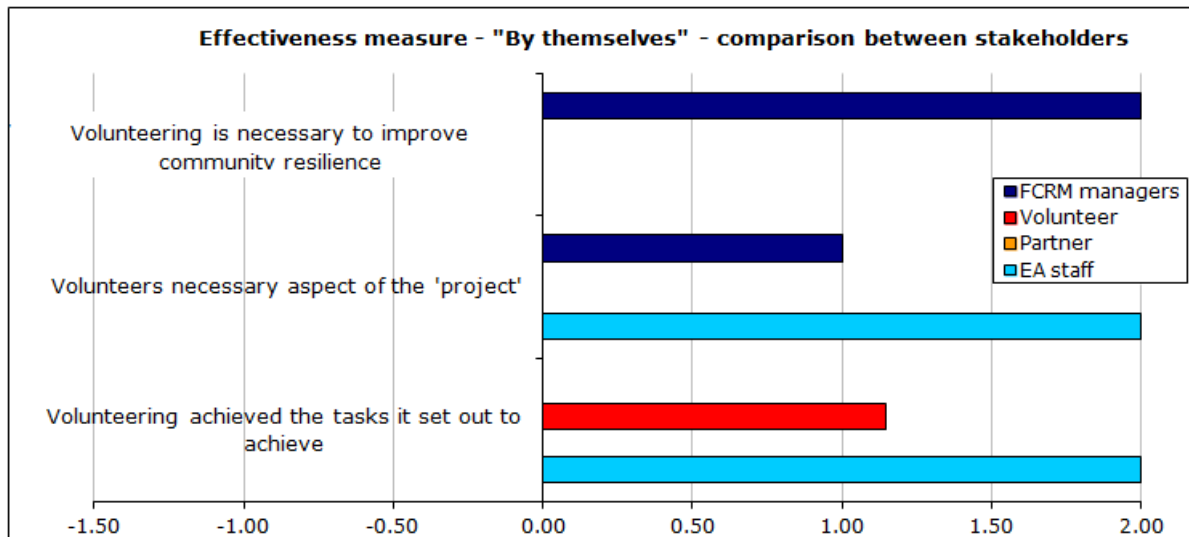


Figure 4.24 Average scores for effectiveness VfM measures assigned by stakeholders for 'for themselves' volunteering (n = 38)

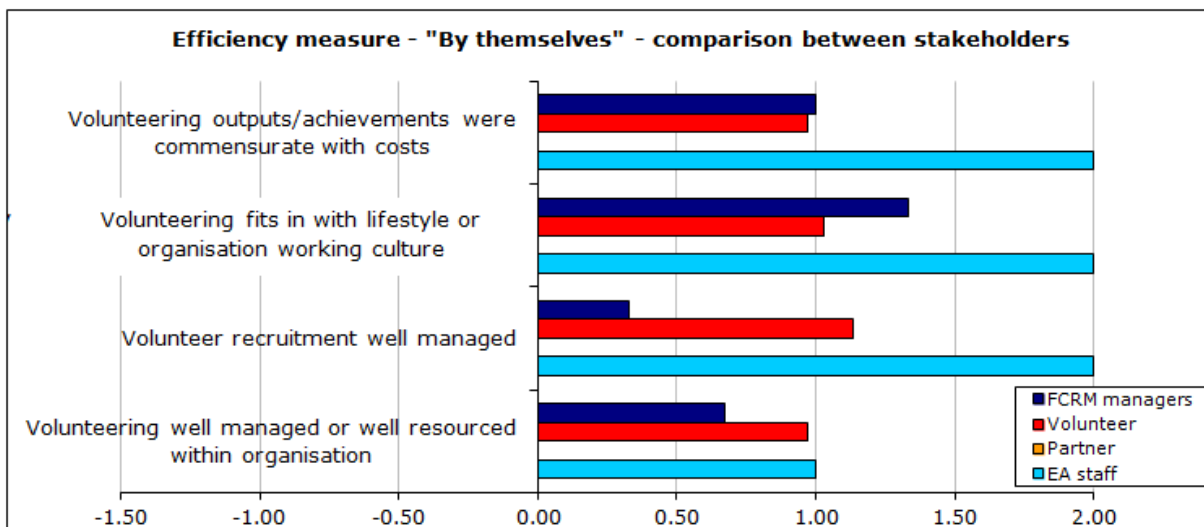


Figure 4.25 Average scores for efficiency VfM measures assigned by stakeholders for 'for themselves' volunteering (n = 38)

4.6.3 Summary

- In terms of relevance, volunteering 'for themselves' consistently scores higher for all measures compared with other governance styles, most particularly for achieving Environment Agency national level objectives and meeting the shared objectives of partners and volunteers.
- In terms of relevance, all stakeholders feel that volunteering makes a significant positive contribution to flooding.
- Volunteering 'for themselves' scores most highly for the range of effectiveness measures. The greatest positive difference compared with other forms of volunteering is for building community resilience.
- The efficiency measure of value for money is best met by volunteering 'through others', although volunteering 'direct for the Environment Agency' fits in best with volunteers' lifestyles and the working cultures of organisations and agencies.

4.7 Challenges and issues

The challenges and issues outlined in this section are those identified in the survey, diary and diary interviews as being experienced by volunteers. Further challenges were identified from the case studies (Section 4.8).

4.7.1 Expectations of communities and apathy

There was a strong narrative among a number of flood warden diary interviewees that when they spoke to people in their local communities there was an expectation among them people that the authorities (whether the county council, district council, Environment Agency and so on) should take action. A number of the flood wardens talked about this issue and the need for people within their communities to move on from this expectation and take ownership of the issue of flood risk and help themselves. This issue was also raised in the case studies (Section 4.8).

Participants in the survey and diaries also talked of community members forgetting about flood risk or not being interested even when they are at risk:

‘Out of over 100 houses flooded, only six of us do anything now, the others have forgotten the event saying it will not happen again’ (survey respondent).

4.7.2 Maintaining interest and the age of flood wardens

A couple of flood wardens in Hertfordshire spoke of their concern about the lack of interest in their community of maintaining a flood plan. They also highlighted that one of their flood wardens had died (the person was elderly) and no one had come forward as a replacement. They had got involved as flood wardens with three others and now they were the only two left. The South Yorkshire flood warden in a team of eight pointed out that he was the youngest flood warden and was 67 years old.

4.7.3 Engagement with various authorities

Staff changes within organisations can lead to frustrations as flood wardens lose what they feel may be a key contact with whom they have worked and built up trust.

For one survey respondent, ‘silo working’ of organisations was a problem.

‘All the local organisations are not really joining up to get a result’.

While another survey respondent recognised the limits some organisations face:

‘Although there is good support with advice and so on, it is much more difficult to translate this into practical action. I am lucky to be supported by an energetic unit in the county council, but they are prevented from instituting the action necessary by the limitations on their powers and a lack of funding’.

Support with understanding risk levels in real time was important for one flood warden, while another did not like top-down management:

‘It’s emotionally draining watching the weather reports all the time, particularly when the village panics. I don’t know. I find the whole thing very frustrating. I find the ‘top-down’ management of flood wardens and flood groups by the Environment Agency to be very patronising’ (survey respondent).

ID cards or other forms of identification which provide the volunteer with legitimacy were mentioned as a useful means for flood wardens to be taken note of within their communities.

4.7.4 Risk, responsibility and insurance

A recurring issue was about the role of the flood warden and what it entailed before, during and after flooding. Flood wardens were also interested in understanding more about the responsibilities of different organisations.

In West Yorkshire, a flood warden commented that the community was concerned by only the police being able to close roads in flood situations. He described how some residents in his community had blocked a road in 2013 during a flood and stopped traffic going down it; the community would like the power to close roads themselves in flood situations but only the police are allowed to do this. He said that some drivers do not slow down through flood waters and take no notice of the waves they create which may lap into people's houses.

In terms of insurance there are two concerns:

- Insurance of properties that may be at risk of flooding in terms of both being able to get insurance cover or the cost of insurance – this is strongly linked to arguments around the flood maps that insurance companies use to identify properties at risk.
- Insurance of people who become flood wardens – that is, are flood wardens covered by insurance and if so by whom?

Some had concerns about the cost of insuring properties. One flood warden stated that the premium was acceptable but the excess 'was astronomical and not affordable'.

Another flood warden, who had to move out of his house for eight months, said the insurers in the flood recovery phase were 'fantastic' but that he had to change the contractors who were restoring his property as they were trying to 'carry out the work on the cheap'.

Three of the flood wardens were insured in their flood warden role through their local parish or town council. However, two of the five flood wardens interviewed about their volunteer diaries said they were not covered by any insurance though they would be looking into this through the development of flood plans in their local community.

Risk was something the flood wardens talked about not putting themselves at. However, one flood warden had concerns about others in his area. He described young people coming to swim in flood waters in the town. He argued that people did not realise the dangers and outlined how one man got swept along in the flood water for a number of yards and how a manhole cover, which had lifted off, ripped the sump off a woman's car.

4.7.5 Recognition and reimbursement

Although many volunteers are carrying out their activities to help their communities, some response or recognition of what they do can be important.

'Getting no response at all from many people [in the local community] was a bit disheartening' (survey respondent).

In the survey, nearly 40% of volunteers incurred some costs in their volunteering activity. However, only 1.5% were reimbursed in full and 13% were partly reimbursed.

The flood warden diary interviewees were not getting reimbursed for any money they spent on their volunteering activities, mainly on telephone and petrol costs. A couple of flood wardens talked about funds that had been made available to communities after severe events that had allowed them to buy some equipment. One survey respondent felt help would be useful:

‘Help with administrative things like getting things printed or photocopied’.

4.7.6 New development

Two flood wardens expressed concern about applications for new housing and business developments that had not taken what they felt was enough account of flooding issues and would, they believed, lead to problems in the future.

‘... time involved, slowness of any progress. Feeling that ultimately little can be done to prevent flooding without massive input of money and the knowledge that this is in short supply, continued development in flood zone areas which add to the risk’ (survey respondent).

4.8 Case studies

The four case studies presented below represent one each of the four types of governance approaches identified in Work Package 1 (Environment Agency 2015a) and previous Environment Agency work. The length of the case studies varies due to differences in:

- the amount of activity taking place
- the range of groups/people involved
- extent to which there is evolution in how organisations and communities are working together in each area

4.8.1 Lincolnshire Flood Warden Scheme

This case study is used as an example of ‘direct management’ by the Environment Agency.

Background and context

Lincolnshire is the second largest of the English counties and the predominant land use is agriculture. The county consists of the Lincolnshire Fens, the Lincolnshire Wolds, the North Sea Coast, the Humber Estuary and the Lincolnshire Vales. The case study also includes some work in the unitary authority of Peterborough and Fenland area in Cambridgeshire as the Northern Area of the Environment Agency’s Anglian Region covers parts of Lincolnshire and Cambridgeshire.

The area suffers from fluvial flooding, coastal flooding, surface water flooding and has a rapid response catchment. Many of the urban areas in Lincolnshire such as Lincoln, Louth, Grantham and Gainsborough are at risk from flooding (Environment Agency 2002). According to the Environment Agency, large areas of its Anglian Region are at or below sea level and 20% of the region is within the flood zone map (Environment Agency, undated).

2013 was the 60th anniversary of the 1953 floods which were called ‘one of the worst peace time disasters in Britain’. The flood hit Lincolnshire badly on the east coast and

43 people were killed in the area (BBC 2003). Easter floods in 1998 also affected large parts of the area with stationary heavy rain and rivers such as the Nene that runs through Peterborough overflowed their banks (Met Office 2012). Severe floods occurred in June 2007 due to a combination of heavy rainfall at the time of the flood, but also because of wet preceding months leading to saturated ground. Flooding in July 2012 caused disruption to the East Coast train line, closed roads and flooded properties (BBC 2012).

The recent storm in October 2013, called 'St Jude', saw winds of 44 knots in Lincolnshire (ITV 2013). In December 2013, a tidal surge hit the east coast which has been called the most serious in 60 years. It led to flooding in places like Boston with over 200 hundred people being evacuated from their homes (BBC 2013). Further storms in December 2013 included heavy rain and strong winds in the area.

The Lincolnshire Flood Warden Scheme (LFWS) started approximately 20 years ago. This is presented here as a case study of direct management of volunteering by the Environment Agency. However, volunteers are not always recruited specifically to the scheme. The scheme started because members of the public came forward wanting to undertake some action and act as eyes and ears on the ground.

Who gets involved in the LFWS and works in partnership?

The Environment Agency's Flood Warning Service provides information for communities giving them advance notice of flooding from rivers and the sea via different media such as phone, text and email.

Ownership and administration of the LFWS rests mainly with the Environment Agency in partnership with local authorities. The Environment Agency works closely in the LFWS with the emergency planning departments at Lincolnshire County Council (LCC). They are in contact a couple of times a week and meet frequently. The Environment Agency also works with district councils such as Fenland District Council, though this is not on the same frequency as with LCC.

Objectives set out for flood wardens by Environment Agency and LCC are for them to:

- assist with the completion of the parish/town council community emergency and flood plan
- encourage households in the community to have personal emergency and flood plans in place and to sign up to Floodline

When someone approaches a parish council about becoming a flood warden, the Environment Agency sends out information and forms such as a health declaration form and potential volunteers are asked to indicate how many hours volunteering they can do. Coastal flood wardens come directly under LCC's banner and are sent different forms to complete. In the past, Criminal Record Bureau (now called the Disclosure and Barring Service) checks were also carried out.

The Environment Agency does not directly recruit flood wardens. If it is approached by individuals who want to get involved, they are referred them back to their parish council/town council. However, the Environment Agency undertakes to train flood wardens, in partnership with the local authorities, and provides a manual and toolkit. This highlights:

- what being a flood warden involves
- the types of activities they should consider/undertake as a flood warden after liaising with their parish/town council

- how they can find out more information

This information is sent out once someone has been appointed by their parish/town council as a flood warden.

Environment Agency staff would like to engage with parishes individually but there is not the staff capacity to be able to be more proactive at present. An Environment Agency Flood Resilience Officer (FRO) highlighted this issue:

‘Flood wardens are an excellent resource, but how can we encourage them more without greater capacity?’

The North Level Internal Drainage Board (IDB) and Welland IDB have both worked with the Environment Agency and lead local flood authorities on flooding awareness and education seminars/workshops. For example, they participated in a Flood Fair in Peterborough organised by Peterborough City Council (PCC) and two of the local flood wardens in the area, providing information about the role of IDBs and what they do. The IDBs do not work directly with volunteers, but they have talked about what they do at seminars attended by flood wardens. Understanding the roles of IDBs and which rivers and watercourses they are responsible for is important for flood wardens.

An LCC press release put in November 2013 contained a quote from the Ruskington flood warden on why he became a flood warden in order to encourage others to get involved to keep their communities safe from flooding.

The Lincolnshire Resilience Forum uses posters and coastal-specific flood awareness leaflets to encourage coastal communities to be prepared by creating a flood plan (Figure 4.26). The Forum is made up of organisations and agencies that have a role in an emergency situation including local authorities, the Environment Agency, health protection and emergency rescue (fire and police).



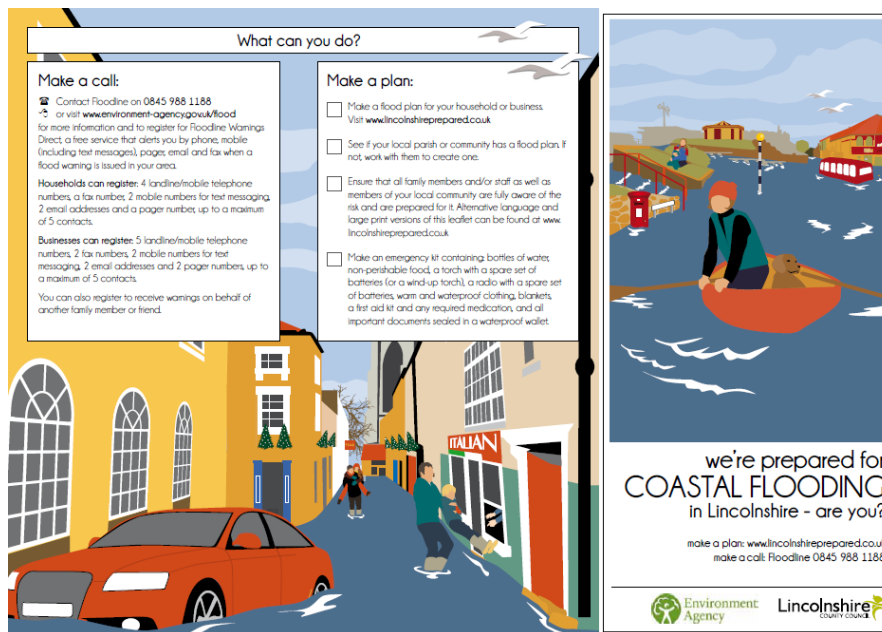


Figure 4.26 Flooding campaign materials leaflets available from the Lincolnshire's Resilience Forum web page

Source: <http://www.lincolnshire.gov.uk/lincolnshire-prepared/risks/were-prepared-for-coastal-flooding-are-you/117779.article>

The Fenland District Council interviewee described a recent flood group set up in Whittlesey; the person leading the group is very active and has recruited others to the group. He had gone out to talk to the group, the first time he had been involved in a flood group in his district.

A newsletter update on Whittlesey Washes South Barrier work was sent to flood wardens so they could tell others in their community about it. The Environment Agency continues to attend meetings and supply up-to-date information on the project and business partners update residents about it.

Profile of flood wardens interviewed

Of the six flood wardens interviewed, one was female and the rest male. All but one were retired; one flood warden was in his thirties and the rest were in their late fifties to mid-seventies. All classed themselves as White British and none had a disability.

All the interviews for the case study took place before the tidal surge and storms that affected Lincolnshire in December 2013. Three of the flood wardens were in a group with a small number of other flood wardens, while the rest were the sole flood warden in their village or town. The flood wardens interviewed were based in Louth, North Somercotes, Ruskington, Greatford and Peterborough.

Flooding in the area and getting involved

None of the six flood wardens interviewed had had their houses flooded, though three had experienced it 'lapping at the doorstep'.

The Greatford flood warden stated that the village had experienced flooding four times in the previous 30 years, with some flood water entering a few garages on two of these occasions. The village suffers from occasional fluvial flooding. However, the flood warden stated that no Flood Warning had ever been received (at November 2013) in

the village because the height of water in the nearby river to trigger consideration of a Flood Warning had been set too high (above the maximum height ever reached). This was rectified in February 2013 when a more realistic figure was set. When the previous flood warden wanted to step down, the interviewee said he was willing and interested in becoming involved. He reports to the parish council which ratified his appointment; he is covered by the parish council's indemnity insurance but is not a parish councillor. Because of the way in which flooding occurs and the shallow depth of any flood water, the flood warden does not think it is necessary or appropriate to develop a formal flood plan for the village. He has discussed and agreed this with the parish council and the Environment Agency.

The two flood wardens in Peterborough experienced flooding surrounding their houses in the 1998 floods when the River Nene reached its highest level. They woke to find water surrounding their houses. One of the flood wardens was working abroad at that time. The other worked with the police and the council to let residents know what was going on. A blocked culvert had been part of the problem and one of the flood wardens was involved in designing a new outlet which has helped the situation.

The flood warden in Louth explained that the town was unique in Lincolnshire as it is a rapid response catchment and 'can go from a normal state to a flood state in 2 hours'. The town experienced flooding in 2007 and has had some near misses since then.

Another flood warden interviewee was at greater risk of coastal flooding and talked about the 1953 floods which everyone in her community knew about.

Another flood warden, who is a parish councillor, became a flood warden with three others when flooding occurred in their village in 2011.

Activities of the flood wardens

The flood wardens have been involved in a range of activities. One flood warden in Louth was interviewed on TV when the St Jude storm was threatening the area in October 2013. This flood warden also uses Facebook and Twitter as a means to raise awareness and for people to be able to contact him. He said he had '600 followers on Facebook and 100 on Twitter'.

A crucial part of the activities of all the flood wardens who were interviewed was monitoring river/water levels in their local area. For one flood warden this involved taking numerous photographs and using these in reports he sent to the local parish council and the Environment Agency. Flood wardens are encouraged to acquire up-to-date information to ensure that information placed on Facebook and Twitter is current.

Tracking and calibrating water levels was considered crucial by the flood wardens in Peterborough who got to know the high water points at two Environment Agency monitoring stations from the 1998 flooding and through taking their own measurements accurately near to where they live. They now understand how long any flood water might take to reach them. One of these two flood wardens stated he was 'not as concerned as he used to be as he now understands what he needs to do and they have a complete profile [of the water] of their local area'. Now he knows 'when to get worried' and can pass that knowledge on to others.

Raising awareness was also considered an important activity and two flood wardens had been involved in helping to organise the Flood Fair in Peterborough for local residents in which Peterborough City Council, the Environment Agency and IDBs took part.

Another flood warden worked with the Environment Agency in revising down the height of the water needed to trigger a flood alert and flood warning in his village which has

never had a flood warning. He also worked with the Environment Agency in running a consultation in the village hall with local residents to raise awareness and to provide information to the local community.

The need to undertake activities can reduce over time. For example, one of the flood wardens described how his role was not as important as it was in the past as infrastructure that had been put in place was effectively reducing the chance of flooding.

Motivations of flood volunteering

One of the flood wardens, now retired, said that when he was working he would not have been able to be a flood warden as he would not have had the time. Another flood warden that who was still working felt that people who were flood wardens and who were also working were under an 'incredible amount of stress'. He wondered why others who were not working did not get involved; he thought apathy was widespread. He was motivated by two other flood wardens he worked with in his area. He argued that:

'when the pain goes away you don't treat the pain anymore you forget about it, so it [the flooding] doesn't always stay in people's minds'.

Motivations for getting involved included 'not wanting to get my feet wet'; another person had had water lapping at their doorstep and after being invited to a seminar on flooding he decided to get involved, while the female flood warden felt that she had the skills both organisational and practical from her work experience in the Army that she could apply to the role of flood warden.

All the flood wardens interviewed seemed to be motivated as well by an interest in understanding more about the technical details of flooding.

Benefits of flood volunteering

Individual benefits included a personal interest for those who were at risk from flooding in their properties. An increase in knowledge and understanding about flood issues in their areas and what water levels need to get to before they become concerned about the risk to their area was also important.

A retired female flood warden felt that getting involved helped to give her 'a sense of purpose and meaning'. She suggested that one of the dangers of getting older is 'feeling you don't matter anymore'; being a flood warden helps her fulfil a role that has meaning for her.

For the Greatford flood warden it is:

'Something that needs doing for the village. Technically it's interesting, and it is good to work with the Environment Agency. I have learnt a lot and feel that it is well worth doing while there is the opportunity to drive things forward and reduce the risk of future flood events'.

Another flood warden carries out some monitoring but also enjoys access to the latest thinking on flooding issues from the Environment Agency.

A flood warden in Peterborough talked about the social element of volunteering and getting to know people in his neighbourhood, talking to people he might not normally speak to. He also suggested that, through the actions of flood wardens, the public were more informed about the risks, know flooding is likely to happen at some point and have some idea of what to do in a flood event. Being a flood warden also provides

them with a voice into the Environment Agency where they feel they can have an influence.

Being prepared was also cited as a benefit and having a better understanding of risk and resilience. The Environment Agency felt that volunteers would gain benefit from an increased sense of ownership and responsibility, and an increased knowledge of how to protect themselves.

Parish councils can benefit by having someone identified as a key contact point for advice and information when a flooding problem occurs. Flood wardens also felt that the Environment Agency gained local information and knowledge on the ground that it would not otherwise get access to; Environment Agency staff also felt this was important for the organisation.

For Lincolnshire County Council, the benefits of volunteers are massive and 'outstrip the resources the council puts in place to inform people'.

The benefits to the Environment Agency are that volunteers act as 'eyes and ears' on the ground in local communities. If managed well, they can also increase the status of the Environment Agency.

One flood warden believes the parish council is taking the right approach:

'We don't have to worry people unduly but we can remind people there is a risk through the newsletter'.

Another felt the wider community benefited from having someone connected to the authorities and who could flag up problems as they arose.

Decision making

As part of the Lincolnshire Resilience Forum, LCC has a focus on community resilience. It has a risk register of about 80 risks and looks at nine enduring risks. The highest risk is pandemics and the second highest is coastal inundation.

Getting young people involved and interested in flooding issues is important for LCC. The 'Safe Haven' project, in which schools become shelters in an emergency situation, is running in Lincolnshire. LCC representatives talk to the pupils about the emotional impact of emergency events and preparedness, and also promote potential career paths and job opportunities. 'This is a valuable tool and might make a difference'. The pilot scheme ran until April 2014 and LCC hopes to run it out across the county. Working with younger people according to the LCC interviewee 'can have a significant effect on how communities engage with new ideas'.

The Environment Agency focuses on the high and medium risk areas as its needs to prioritise Northern Area staff resources. It is currently working on a five-year medium-term plan. The Environment Agency is looking at how to use flood wardens more, for example, in identifying care homes and caravan sites at risk, as evacuation plans may be needed. The Environment Agency also wants to engage with existing volunteer groups to explore how it can utilise what they do.

Questions from the Environment Agency were included in a recent questionnaire from 'First Contact' about when flooding worried older people; First Contact is an LCC scheme that offers people aged 60 and over advice and services to help them continue living independently. The First Contact coordinators go to Royal Voluntary Society meetings, disability meetings and clinics with leaflets that contain referral forms which people can tick a box to receive more information. This initiative is being piloted and the Environment Agency is getting a couple of these referrals a week. The Environment

Agency believes there is potential to train the coordinators within the scheme as flood wardens.

Flood Resilience Officers from across the Environment Agency who focus on community engagement hold monthly teleconferences which are important in outlining issues coming through the Environment Agency national office. One Environment Agency staff member felt that meeting face- to-face, particularly with others who faced similar flooding issues, would be most useful to gain insights. There was concern however, that such meetings would be less frequent in the future due to cuts in funding.

One Environment Agency FRO made the distinction between a flood warden who was described as specific to a particular community and a flood volunteer who covers more than one area or parish. The flood wardens interviewed in this case study were all focused on a particular community. The distinction between a flood warden and a flood volunteer is also made in Table 6.1 of the Work Package 1 report (Environment Agency 2015a)) where it is suggested that a flood volunteer was someone more than a flood warden, that is, they are someone getting involved in emergency responses, planning, river maintenance, bringing authorities together to raise funding, linked to flood groups, working with local landowners to look at long-term catchment issues and volunteering for different roles alongside other agencies.

Another Environment Agency staff member talked about working closely with the Environment Agency Partnership and Strategic Overview (PSO) teams which focus on flood alleviation. They work together to get messages out to communities. Volunteers need to be managed carefully to ensure the focus is on solutions that are practical and affordable; this is linked to ideas about managing expectations. As the staff member said:

‘It can be intensive to manage the volunteers. It can take up a lot of time and, once you start investing time in a community, you can’t always control what is going to happen. Some places spiral in the amount of time that needs to be spent on them’.

Flood wardens make decisions about:

- how much to do
- how they need to identify vulnerable people in their community
- how to ensure they do not put themselves at risk as they undertake their activities

Challenges and issues

A flood warden described the need to be sensitive and strike the right balance, not to scare people who may ‘get the wrong end of the stick’ and think they are more at risk from flooding than they actually are. Another talked about how members of the community had panicked or become hysterical when flooding occurred in 2012.

Having the right contacts and phone numbers was considered important in a flood event. One flood warden was concerned that, after volunteering and building trust with staff in the Environment Agency, when a flood incident happened he was passed to those who did not know him or his local situation. He felt annoyed about this as he thought he had spent enough time building trust and the key contacts he needed.

There was concern expressed by all the flood wardens that some in their town, city, village were not particularly inclined to get involved to help themselves or others; words such as ‘lethargy’ and ‘apathy’ were used to describe people’s attitudes. One example

was concerns that some riparian owners were not being active in clearing a watercourse bordering their property.

A couple of flood wardens also questioned the Environment Agency flood maps which some insurance companies use to check vulnerability of properties to flooding. They have spent about three years pursuing this with the Environment Agency trying to change the maps so that they show their properties are not at risk. They employed a surveyor and worked with an insurance company to reduce the cost of insurance by showing their houses were not at risk.

The provision of sandbags during a flood event was also a point of discussion for most of the flood wardens. Local authorities differ in whether they provide sandbags to residents or not. If they do provide sandbags, this is often directed at vulnerable groups. Ensuring flood wardens, and via them local communities, understand their local policy is important.

The flood warning system can be confusing for some people. One flood warden stated that he found the flood warning system 'unnecessarily complicated and potentially confusing for a layman to understand'. He therefore drafted a guide of what the system means for the local community. He asked the Environment Agency to comment on the draft and was grateful for the helpful and relevant advice he received.

An example was given of flood wardens who threatened to leave their roles as they felt they were not getting warnings in time. Eventually in discussion with the Environment Agency, they signed up to Flood Alerts as well as Flood Warnings, even though the Environment Agency generally recommends that people sign up to a Flood Warning, as this is when houses are likely to be affected. The Environment Agency staff member felt that it the differences between the terms and their meaning could be confusing for people.

Lincolnshire has one of the largest areas of static caravans in Europe, some housing migrant workers. LCC is involved in sharing information about caravan sites and trying to get caravan owners to sign up to flood warnings and get flood plans in place. A joint LCC and Lincolnshire Resilience Forum seminar was held on 20 January 2014 to help caravan owners understand the importance of having evacuation plans in place to ensure the safety of their residents before, during and after a flood.

For Fenland District Council:

'The challenge is keeping people engaged and keeping them involved and not waiting for 12 months till they get a call about a flood risk'.

Its council representative liked to meet flood wardens face-to-face once a year and thought newsletters can be helpful in disseminating information.

Reward and recognition

There are awards around the county for volunteers and flood wardens can be put forward for one. One flood warden did receive an award for his services in a flood.

In terms of organisational recognition, LCC said it can give volunteers a voice so they can be heard and taken seriously. LCC has a scheme in place to reimburse reasonable costs incurred by flood wardens in an emergency but they do not have anything in place for the everyday activities of flood wardens. The Environment Agency, LCC and Fenland District Council do not provide any specific rewards to flood wardens for their efforts.

None of the flood wardens mentioned that they got reimbursed for any costs they faced as flood wardens, which was mainly petrol or phone calls. One stated that he was

going to start claiming expenses from the residents association he is director of. Another had been keen to attend a flood warden drop-in session organised by the Environment Agency and LCC, but she had to decline because she could not afford the petrol money on her low income. Although being reimbursed did not seem crucial to most of the volunteers, they would probably welcome being offered the opportunity for reimbursement as it is part of a recognition of what they do.

Guidance and support

In 2011 the Environment Agency's Anglian Region produced the Anglian Warden Toolkit which consists of three Microsoft® PowerPoint presentations. The first focuses on 'engaging the community in flood risk management' and is aimed at Environment Agency staff, emergency responders and experienced flood wardens. The second and third presentations are aimed at flood wardens. Presentation 2 on 'who does what during a flood?' outlines the role of flood wardens, flood plans and flood warnings. Presentation 3 is about 'how to access Flood Warnings Direct web pages'. There is also the Anglian Flood Warden Guide (Environment Agency 2002), a guide for voluntary flood wardens on how to set up a flood warden scheme.

The Environment Agency FRO felt that guidance for Environment Agency staff needed updating to recognise that any national guidance needs to highlight that councils across the country have different insurance policies.

An annual event for flood wardens is organised by the Environment Agency with input from those they work closely with. These events are an opportunity for flood wardens to meet each other, meet Environment Agency staff and partner organisation staff, and to exchange knowledge and information. It is also an opportunity for organisations to thank the flood wardens for their efforts and actions. The FRO felt that meeting on a quarterly basis would be more beneficial as it would allow flood wardens to stay better connected, build rapport and find out what each is doing. It is not clear if current Environment Agency funding would stretch to this.

LCC works with the Environment Agency to put on training for flood wardens so that they know the difference between a Flood Alert and a Flood Warning. They run workshops and seminars with volunteers, and go out to meet volunteers face-to-face. LCC and the Environment Agency are also interested in how the flood wardens could meet more regularly to exchange information and 'reinforce their commitment'.

Some of the communities were 'fed up' with different templates for developing a flood plan, so LCC has developed a one plan template with the Environment Agency.

LCC is going to revamp its web pages so that it can deliver e-training.

LCC runs an annual campaign focused on coastal flooding called 'We're Ready for Flooding: Are You?' (Figure 4.26).

Some of the volunteers felt they would have benefited from a clearer steer of what the role of a flood warden is when they started.

'...being told what being a flood warden entails and what it involved is important. I did not get any manual of what the role entailed. We made it up as we went along and were probably too ambitious and too helpful' (flood warden volunteer).

Evidence

Separate to the survey as part of this research, Environment Agency staff sent out a questionnaire to flood wardens in 2013 to gain feedback on what the flood wardens

were doing and if they had flood plans in place for their communities. Staff in the Region will be using this information to inform its future contact with flood wardens.

The Environment Agency FRO took part in the research by Langridge Countryside Consulting (2009) on how to involve communities through volunteering. Following interviews with Environment Agency staff and case studies in the Environment Agency Anglian Region, recommendations were made to the Environment Agency on how to develop volunteering within the organisation.

LCC collects evidence on the production of emergency community plans. With the 'Safe Haven' project, the council is considering how to best evaluate and test whether the project has been effective.

Summary

Flooding is high on the agenda in Lincolnshire with recent incidents and the large tidal surge and storms in December 2013.

The LFWS involves the Environment Agency in partnership working particularly with LCC, so although this case study is supposed to be about 'direct management' by Environment Agency, it does include other organisations rather than just the Environment Agency.

The Environment Agency Anglian Region is active in terms of the use of flood wardens. However, there was some concern about how to involve more people in becoming flood wardens, with apathy being seen as a barrier to engagement. There was some confusion about the role of a flood warden and what it involved, and also concern that the flood warning system was not easy for all to understand.

The Environment Agency has worked with consultants on a number of projects to create a manual and toolkit for flood wardens.

There is a sense of frustration that not as much is being made of the flood warden resource due to capacity issues and staff reductions in organisations such as the Environment Agency and local authorities.

4.8.2 Cornwall Community Flood Forum and Local Community Flood Groups

This case study is used as an illustration of the Environment Agency 'working in partnership' through the Cornwall Community Flood Forum (CCFF) and of communities acting 'for themselves' via local community flood groups

Background context

Cornwall has a very strong cultural identity. The county consists of moorland and a large coastal area, and has one of the mildest and sunniest climates in the UK. The importance of the Cornish landscape is illustrated by its six national character areas (Natural England 2014). Tourism contributes strongly to its economy, though Cornwall is one of the poorer areas of the UK.

Cornwall suffers from fluvial, pluvial and coastal flooding, and has a number of rapid response catchments. Flooding in Boscastle (a rapid response catchment) in 2004 was severe and made the national news. It led to six houses and 100 cars being washed away and 75 people being rescued by helicopter (Cornwall Community Flood Forum website). Widespread flooding occurred throughout Cornwall in November 2010 (Figure 4.26). The flooding affected areas such as Lostwithiel, St Blazey, Megavissey,

Tregrehan and others. The area received much attention after the 2010 flooding including a visit from the Prime Minister, the Prince of Wales and representatives of the Cabinet Office

Four months after the flooding in 2010, two flood recovery groups were created to oversee recovery from the flooding in response to requests from the communities affected. These two groups fed information through to a strategic steering group which included the Environment Agency, South West Water and Cornwall Council. During this period significant improvements were made to flood infrastructure in parts of Cornwall. It was thought that the two recovery groups should not be disbanded and a new association called the Cornwall Community Flood Forum was set up from them in 2011.

CCFF is led by a partnership brought about by the concerns of communities to support communities, businesses and households that are at risk from flooding. Its aims are to:

- support communities in becoming better prepared
- raise flood awareness within Cornwall
- promote a partnership approach to flood risk management and community engagement

CCFF contributes to the aims that came out of the Pitt Review of the 2007 floods concerning greater responsibility for communities and partnership working in flood risk management.



Figure 4.27 Photographs of flooding in 2010

Source: Presentation by C. Richards on floods in mid-Cornwall

Who gets involved in CCFF?

CCFF is an association of flood risk management authorities, businesses, community groups, and town and parish councils as well as individuals. Its first annual conference was held in October 2012 and the second in October 2013. The management board is made up of representatives of Cornwall Council, town councils, the Environment Agency, community flood groups, South West Water, Volunteer Cornwall, Climate Vision and the Eden Project. Any town and parish council, business, community or individual in Cornwall can become a CCFF member – membership is free. At present 47 town and parish councils are members, which is about a quarter of all town and parish councils in Cornwall.

CCFF has attracted funding of £238,000 from Defra through a Flood Resilience Community Pathfinder³ project. This funding is administered via Cornwall Council which employs a project manager to organise projects to help communities and businesses that are at risk from flooding. The project manager does not sit on the management board but keeps it informed about the Pathfinder project. CCFF also successfully bid for £9,750 of Lottery funding from Awards For All England and has received a total of £6,600 as donations from South West Water, UK Flood Barriers and Cornwall Council.

The Cornwall Community Resilience Network (CCRN) supports communities in being better prepared for an emergency incident. It was set up by a partnership of CCFF and Cornwall Council. The CCRN and CCFF websites are hosted by Cornwall Council. Much of the information and text on these websites was written by a CCFF volunteer who is the treasurer of its management board, and chair of the Par and St Blazey Community Flood Group.

Who gets involved in the local community flood groups?

The research team spoke to eight flood wardens in the Par and St Blazey (PSB) Community Flood Group, Lostwithiel Flood Watch Group, Mevagissey Flood Watch Group and Tregrehan Flood Group; four of the interviewees were chairs of these groups.

The chair of Lostwithiel Flood Watch Group, who is also a trustee of the National Flood Forum, got involved after the 2010 floods. As he was already a member of Lostwithiel Town Council, he was 'pushed up to the top of the pile' and was happy to contribute after experiencing flooding first hand. He outlined that things happened quickly after the flood. The Environment Agency got in touch about developing a flood plan and was able to gain some grant-aided funding for flood resilience measures such as flood doors. In order to get the funding, the community had to develop a flood plan, which put pressure on them to do so.

The chair of Lostwithiel Flood Watch Group described working closely with the PSB Community Flood Group as this community was also developing a flood plan. He had had his house flooded and talked about 'the adrenalin and shock of what happened, your house has been invaded'. He felt there were two types of people: those who have been flooded and those who have not. The PSB chair agreed with this view, highlighting that those who have been flooded have a vested interest in protecting their property and these people are 'naturally selected based on where they live, so you get a mix of age, gender, cultural background'. Others volunteer because they want to help out within the community and the PSB chair thought these people tended to be older.

³ Pathfinder focuses on communities at significant risk of flooding to help them work with key partners including local authorities.

Another flood warden talked about the river coming down through his village and how that was 'a bit horrific'.

The Plymouth Brethren (a religious group) supported the Tregrehan Flood Group in 2010 by donating sandbags to the village. The Tregrehan Flood Group was established after the 2010 floods; the chair talked about keeping things simple, that is, the group do not have many meetings; they have a short simple five-point flood plan and they communicate mainly via email. They created and sent out a newsletter to the village about their activities and progress.

Flooding on the A390 in 2010 affected the family business (a garage) of the chair of the PSB Community Flood Group. He took the decision to close the garage and allow cars travelling on the road to detour behind it to avoid the worst of the flooding – helping to keep the traffic flowing. After the event members of the council and Environment Agency encouraged him to set up a flood group. The PSB group includes members from the local town and parish councils and reports regularly to both. The chair of the group is extremely proactive and the group has grown considerably. It now has about 80 flood wardens, five of whom are flood warden co-ordinators. The Environment Agency has the contact details for these five people so it can operate a pilot flood alert scheme which is administered by its team at Bodmin, though currently all contact passes through the group's chair.

The Mevagissey Flood Watch Group was also created after the 2010 floods. The chair described 'having four foot of water in the house ... I was out of the house for seven months. He was approached by the Environment Agency to start a flood group. He worked with the PSB group and then also the Lostwithiel group to develop a flood plan. He pointed out that, although the plans of the three groups are somewhat similar, the principles and practices are different due to differing circumstances. For Mevagissey, three main factors affect flooding – heavy rainfall, if the tide is in and strong easterly winds. When these factors combine they tend to get flooding. There is also a small group in Mevagissey that acts as a pressure group and which wants the authorities to take more action on flooding; however, this pressure group is separate from the Flood Watch Group. The Mevagissey Flood Watch Group is not connected specifically to the parish council, but it does provide reports for the council and is covered by the parish council's insurance.

Activities of CCFF

The funding obtained from the Big Lottery, the Environment Agency, South West Water, UK Flood Barriers and Cornwall Council after the 2010 flooding was used to develop a community resilience toolkit that provides information to communities on how to:

- set up a community group
- write a flood plan
- address issues such as risk, liability and insurance for volunteers

In late 2013 CCFF, Cornwall Council and the Environment Agency ran seven events across Cornwall on community emergency planning linked to the agenda of community resilience. Flooding was used as an example at these events of a community emergency which is high on the list of emergencies facing the county. Sixty community groups were represented at the seven events.

The Defra Pathfinder started in mid-2013 and will run until the end of March 2015. The Community Network Manager of Cornwall Council and the chair of the PSB Community Flood Group put together the bid that was submitted to Defra. The steering group set

up to oversee the Pathfinder project consists of six people, four of whom also sit on the management board of CCFF. The two-year pilot project aims to trial a range of low-cost initiatives to support households, businesses and communities that are at greatest risk of flooding and help them to become better prepared and more resilient. There are eight work packages – three are county wide and five cover on specific communities (Table 4.2). Responsibility for delivery of Pathfinder rests with Cornwall Council, though CCFF is an important partner in their implementation.

Table 4.2 Pathfinder project work packages

Work package	Description
Supporting community resilience	The main theme of this work package is the training by Volunteer Cornwall of flood wardens that leads to AQA accreditation. The work package is led by a volunteer – the chair of PSB Community Flood Group.
Developing the CCFF	This is the largest of the work packages and funds the Pathfinder project manager employed by Cornwall Council. CCFF is working with masters students at Exeter University on how it might develop sustainably over the next few years.
Raising flood awareness	This is a light touch approach involving a postal and media campaign aimed at the 8,000 homes and businesses in Cornwall considered to be at a 1% or greater chance of an annual risk of flooding.
Household resilience plan and property insurance	This work package concentrates on two communities and those most at risk within them to help people create household level action plans.
Business and town centre resilience	This work package will be developed and delivered by Cornwall Council's town centre management team. It will offer a package of support to two town centres often affected by flooding.
Catchment management	This work package focuses on farmers and involves working with two small communities where farming or land use is contributing to flooding.
Monitoring rainfall	Telemetered rain gauges will be used to provide real time online data to communities.
Leaf litter clearing	Debris will be cleared from the drains of two communities liable to flooding. The work will be carried out by offenders serving community sentences.

Notes: ¹ AQA is an education charity that is a provider of academic qualifications and support to teachers and students in England, Wales and Northern Ireland.

Activities of flood wardens in local community flood groups

Lostwithiel Flood Watch Group

The chair talked about raising awareness in his community following the 2010 floods. He knows what being flooded is like and 'the stress and trauma is great' and said that 'during rain there is a twitchiness in the area'. However, he also said that people forget about it and the reason that it is still high in people's minds is that there have been a number of flooding incidents in the area since 2010.

The chair took part in the production of a DVD, 'Preparing for a Flood: the Lostwithiel Story', whose purpose was to get useful messages across. The DVD has been shown

to other communities and the CCFF. Its creation was one of the products for the rapid response catchments and it is now available on 'You Tube'⁴.

Lostwithiel's community flood plan is currently being updated following consultation with CCFF and use of the community toolkit. All the flood warden chairs talked about the flood plans as being 'live' documents that need to be reviewed at least once a year.

Par and St Blazey Community Flood Group

The chair carried out a survey of the 55 households and businesses affected by the 2010 flood in his area to understand how they had been impacted and what support they needed. This helped him to build relationships with 'local people and gave the community one point of contact'.

The PSB group (specifically the chair) are active in communicating via newspapers, community magazines, presentations to the town and parish councils, the group's Facebook page⁵ and by email. The main aims of this communication are to update the local community and reassure them that action is being taken.

The group has developed a comprehensive flood plan which has been endorsed by Cornwall Council and the Environment Agency.

The group also made a leaflet drop to 600 households, though this resulted in only one phone call enquiring about getting involved as a flood warden.

The group has hosted the South West Regional Flood and Coastal Committee at the local football club. The chair of the Environment Agency, Lord Chris Smith, as well as the Cabinet Office Civil Contingencies Secretariat, has also visited the group.

The PSB chair wrote a presentation for South West Water on the impact of the floods. This was submitted to Ofwat and led to the reallocation of substantial funding (£1.8 million) for infrastructure improvements in the area. The PSB chair has also given presentations at Defra, the Department for Communities and Local Government (DCLG) and Cabinet Office Community resilience workshops held in May 2013. The PSB Community Flood Group and the Mevagissey Flood Watch Group⁶ are being used as a case study by the Cabinet Office of communities using Facebook to build community resilience.

The group has links with other community groups in its area such as the Plymouth Brethren, Friends of Par beach and Par Community Association (PCA). The PCA produces a newsletter to which the flood group contributes.

The PSB chair spends a considerable amount of time on the group and as treasurer of the CCFF management board. He has cancelled social events and trips away to make sure he is available during flood alerts. He is now working towards restructuring the PSB group so that the co-ordinators take more responsibility and to split the flood wardens into specific groups based on location. This is because, when flooding occurs, parts of the community can be cut off from other parts.

Mevagissey Flood Watch Group

The group has grown to about 20 flood wardens who will help out in an emergency. However, there is a small core of flood wardens who are more active in being prepared. The chair described how there had been 50 flood warnings for the community in the previous year and that they want to ensure that 'people don't panic', so part of their role is to reassure the community.

⁴ <http://www.youtube.com/watch?v=5oLXbgB08C4&noredirect=1>

⁵ <https://www.facebook.com/pages/Par-and-St-Blazey-Community-Flood-Group/217055685009564>

⁶ <https://www.facebook.com/pages/Mevagissey-Flood-Watch/144832092264487>

The group's objectives are to protect and help the community to respond to flooding. Now that the group has a flood plan, it does not meet or spend time discussing the plan but takes action when necessary. The flood plan is comprehensive and, like the PSB plan, has been endorsed by Cornwall Council and the Environment Agency.

Tregrehan Flood Group

The group started in 2011 after the village had problems with surface water flooding and pooling in fields. At present the chair is trying to understand where the water is coming from and would like more assistance in this from the Environment Agency.

Joint action by flood groups

PSB and Mevagissey flood groups are both participating in a pilot flood alert scheme established by the Environment Agency. Alerts are issued via the chairs if certain water levels are reached. A three-level system is in place and, if level 3 is reached, the community may only have a couple of hours warning of an imminent flood. The pilot is giving the groups more confidence and enables direct conversation with the Environment Agency:

'We have the right telephone numbers and if we are in trouble can ring the flood warning duty officer. Since the pilot started we have gone through all the three levels. The thing we are grappling with is the number of alerts. We try to manage the situation so they don't over burden members of the public and raise levels of concern and don't get it to a point where we are crying wolf and people become complacent' (PSB Community Flood Group chair).

Alerts received from the pilot alert scheme are issued through PSB's Facebook page which, at the time of writing, had more than 650 'likes'. The actual Facebook audience is much greater than this and, when a severe flood warning was issued via the PSB Facebook page on 3 January 2013, it was viewed by 9,400 people locally. In addition, the PSB chair has the contact numbers of 100 local residents stored on his phone who do not use social media and prefer to receive the localised flood alerts as text messages.

PSB, Lostwithiel and Mevagissey flood groups all launched their flood plans at the same time to publicise what they had done and to mark the first anniversary of the 2010 flooding. One flood warden described how there was a lot of people from the press at the anniversary and there was pressure on the groups to get their flood plans ready in time, although it did provide a focus for them.

Motivations of volunteering

Motivations included not wanting to let the community or your neighbours down. One flood warden chair talked about 'feeling as though I couldn't not get involved ... you can't turn your back on it'. He also suggested that, because his group is a member of the CCFF, this is a good way to motivate communities that are at risk. When they developed a plan and got funding for defences that was also a motivation. He also described the 'busy-ness' carrying on after 2010 as Cornwall had further flood incidents and this has also motivated continuation of voluntary action. Another flood warden has a similar view 'I wouldn't be comfortable not doing something'.

Valuing the village or town where they live was also a strong motivation to get involved. For others using skills they had from their working life could also mean they felt comfortable getting involved, though some of the very active flood wardens did not realise how much time would be needed such as '6-8 months of solid work' to create a community flood plan. For one flood warden being analytical and using these skills was a motivation.

CCFF is clear that people can get involved in volunteering in a variety of ways and that being a flood warden is not the only role. Some people might agree to take in those who have been flooded, while others will agree to take care of people's pets. Some felt that use of social media could assist in motivation by connecting people:

'People tend to listen to and trust people they know. They have network of people we know and they influence us far more than government officials. That is how social media works, you get connected with like-minded people. That's how we work as social creatures' (Volunteer Cornwall).

Benefits of volunteering

Benefits to the individual

Benefits identified included social capital benefits of working in a team and discussing issues with like-minded people. One flood warden chair talked about gaining benefits from other people putting forward ideas and bringing different skills to the group. Another described the benefits of living in a close knit community and how, after getting flooded and with a kitchen out of action, being invited by others in the community for dinner for many weeks.

Benefits to the community

Benefits to the community were described by flood wardens as people becoming more aware of the risks and understanding that flooding will occur again in the future. Members of communities can also become better informed by flood wardens encouraging them to sign up for flood warnings and by flood wardens managing expectations. For example, one flood warden described how people had rung him up for sandbags but have stopped now they realise that is not something that the town council supplies.

The chair of the PSB Community Flood Group talked about the importance of being a trusted source of information and support within the community:

'In our community we have a lot of people who are less mobile and do not have family or friends living nearby. It is really useful to them to be able to come to me and ask whatever they want. I have been asked about problems with rising insurance costs, how to receive flood warnings, what they can do to protect property, where to get sandbags, blocked drains and problems with flooding from private land. After the floods I was asked by some people to be at meetings with their insurers and builders to make sure things were done right. I even get calls from people looking to move to the area wanting to know if the property they are looking at is likely to flood. I may not always have the answer, but I always know who to put them in touch with'.

The PSB chair described the community receiving thousands of pounds in investment to upgrade pumps, replace or upgrade culverts and drains. The community is experiencing less impact of flooding due to this investment.

The skills and knowledge gained by the flood wardens in the past few years give them a much greater understanding of when flooding might be a problem in their local area. This can be invaluable in reassuring community members and helping to maintain calm. As one flood warden put it:

'In 2010 we had no idea it was going to happen, it was catastrophic' (Mevagissey Flood Watch Group).

Another flood warden illustrated how they can help the emergency services:

'In the last flood we had there was only 4–5 of us [flood wardens] here. The rest were away and the police were under pressure as well and all their vehicles were down at Truro. So they came into the village and said: "do you need any help, you look like you have it under control". We said: "if we need you, we will give you a call". So they could go off and do what they needed elsewhere, knowing they had someone on the ground to report' (Mevagissey Flood Watch Group).

The PSB chair added:

'In November and December of 2012 we had extensive flooding across Cornwall after prolonged rainfall. I received calls direct from Silver Command in the middle of the night asking what the situation was like on the ground. I was able to roll out of bed, drive around the area and call back to say everything was clear, no flooding. It meant Cornwall Council and the emergency services could allocate resources to where they were really needed. They trusted my information and I was their eyes and ears'.

CCFF can also provide benefit to communities:

'The great thing about the CCFF is that they give continuity to community plans, as they are part of a bigger whole working with people and updating people and giving advice and that support keeps the plans live' (Environment Agency).

The Property Level Protection Grant Scheme funded by Defra from 2009 to 2011 provided over £500,000 to Cornwall to protect individual houses. Communities had to produce flood plans to gain access to the funding, but benefited from this investment.

'Flood wardens, and the chairs of the individual flood groups in particular, played a key role during the grant process by acting as a link between Cornwall Council and the individual householders. Volunteers used their local knowledge to help to distribute letters and contact home owners directly on behalf of the council and to also feedback any issues or concerns. This all helped to speed up the process and get information to those who needed it' (PSB chair).

For the Environment Agency having active flood wardens embedded in a community is vital:

'If the other people in your community accept that there is a flood risk and are saying we are going to do something about it and we want to help you, you also then get a better understanding of the flood risk and realise that your community is doing something about it around you. You may then either want to get involved or realise there is a support structure within your community as well' (Environment Agency).

Benefits to the flood groups

The pilot flood alert scheme in which PSB and Mevagissey flood groups are participating has given them greater confidence in warning their communities about flooding. Since the flooding in 2010 the flood wardens described the authorities such as Cornwall Council and Environment Agency as becoming much more proactive. The PSB chair is now working with South West Water and a hydrometric company to install a tipping bucket rain gauge and to do some modelling to provide even more information to the group and wider community.

The flood groups working together, sharing knowledge, information and support was seen as beneficial, as well as the efforts of some key people who are particularly active. Speaking of PSB chair, Lostwithiel Flood Watch Group said:

'He is brilliant. If it wasn't for him they [Lostwithiel flood watch group] would not have got as far as they have. He [PSB chair] wasn't flooded in 2010, yet he puts in all this time and doesn't get paid and also runs his own business'.

The floods of 2012 acted as a test for some of the community flood plans that had been created. For example, Lostwithiel Flood Watch Group was able to test its plan in these floods and has since changed what it does; it has also helped to clarify the role of the flood warden. CCFF can help provide advice and support, to provide continuity to community flood plans and to ensure groups keep flood plans live.

Benefits to organisations

CCFF has brought together organisations that were not as connected as they could have been:

'The linkage between the statutory organisations and the town and parish councils and the people in the community who are key – I would single this out as the one thing the forum has done that was not happening before' (Pathfinder project manager).

Sharing lessons across Cornwall was also seen as a major benefit of CCFF:

'But there has been a willingness to engage and to look at different ways of doing things and to learn together' (Volunteer Cornwall).

The Environment Agency can also bring a national perspective to CCFF as a national body.

The Environment Agency can gain much benefit from what a community can offer in terms of reducing flood risk as flood wardens can get messages out to people and can empower them.

'The community can provide real time live information ... and flood wardens in the community can help people to accept flood risk and identify what they are going to do about it' (Environment Agency).

Not only do the proactive flood wardens act as the 'eyes and ears' on the ground for the Environment Agency and other organisations:

'There is a network of experts taking notice. It's a bit more than the eyes and ears of the community – there's a lot more understanding and reasoning going on. You know some rainfall events will have more of an impact than others. We know our catchments much better now and I think that is spreading out to other people as well' (PSB Community Flood Group).

The ability to listen to others and learn was considered important by the Environment Agency:

'I am able to advise on issues relating to flood risk management; but I'm also there to listen as well and that is one of the key things for me with the forum and it's also an opportunity for us to have a communication route with all the various parties who are involved in community flood resilience and to learn as well' (Environment Agency).

Decision making

Day-to-day decisions are made by the treasurer (volunteer chair of PSB Community Flood Group) and secretary (member of Cornwall Council) of CCFF. Important issues

are discussed by the management board with the CCFF chair having a casting vote. So far there have been no critical divergent issues and the management board resolves things through discussion.

Cornwall Council wanted the CCFF chair to be an elected councillor rather than one of its employees. A council representative suggested it was better if the Council was not seen as the figurehead:

'CCFF facilitates dialogue between the community and the partners. It makes things personal as they all are on first name terms, have exchanged phone numbers and so on. The unity across the members has given the forum power and the employment of the project manager through pathfinder has given new impetus to the forum' (Cornwall Council representative).

He suggested that CCFF is a useful way of facilitating dialogue between the community and partner organisations. The Pathfinder project has also given it new impetus. The project steering group includes four CCFF members and so the link between the two is very strong.

CCFF is considering whether others need to be included on the management board such as:

- South West Regional Flood and Coastal Committee
- Devon and Cornwall Police
- more proactive volunteers from different community flood groups who could be given a specific role, for example managing the website

Masters students from Exeter University are looking at this for CCFF (see Evidence section below). CCFF is also debating whether it should focus exclusively on flooding or whether it should also look at wider community emergency planning.

According to Tuckman (1965), groups move through different stages of development from 'forming', 'storming', 'norming' to 'performing'. CCFF has moved through the 'forming' stage during which team building and the formation of the team takes place. It is now at a 'storming' stage where different ideas compete for consideration as CCFF develops. The 'norming' stage will be when it has decided on its main goals and direction, while the 'performing' stage is characterised by high performance and motivated and knowledgeable members. The Pathfinder project was won just as CCFF was finding its feet and deciding on its governance structure.

Although the Environment Agency would like to engage with all communities in Cornwall, capacity dictates that it focuses its efforts on high risk areas within the county and uses a community priority approach. There are 200 communities at high risk and Environment Agency decides whether to:

- send in a member of staff to work with a community and help them develop a flood plan
- point a community to information and advice and suggest it joins CCFF and links in with other communities.

The Environment Agency is interested in the creation of community hubs where a town with an active town council could act as a hub, and support and work with those from nearby villages to share information and expertise.

The role of the flood warden

There seems to be agreement that further clarity is needed on the role of the flood warden before, during and after a flood event. This will be a crucial part of the training being developed as part of the Pathfinder project. Resolving this uncertainty about what is expected of a flood warden is important if further volunteers are to be recruited. The boundary of the role can potentially be difficult to clarify, as those with little time can carry out minimal activities while those who want to do more can grow their role – as illustrated by the example of the chair of the PSB Community Flood Group.

Flood wardens mentioned that developing the flood plans had given them confidence. However, when they started developing flood plans they described feeling 'quite exposed' and not really being aware of what was needed and what they had let themselves in for in terms of both the time and effort that would be needed to create a plan. This feeling originally prompted the creation of CCFF so that communities could learn from others without 're-inventing the wheel' (PSB chair).

Engagement with key organisations

All the flood wardens and their groups felt that engagement with flood risk authorities was essential. The PSB chair outlined how Environment Agency community engagement staff had given them a 'huge amount of input and support', as well as some of the Cornwall Council staff, in providing flood maps and guidance on the risks of flooding. He felt that it was vital that communities created their own flood plans rather than these being imposed on them. However, it was important to have a key person in the community to take this forward and to get support from organisations to do this.

Getting community members involved

The Mevagissey flood wardens talked about apathy within the community to take action and a strong feeling from some community members that institutions and organisations should take control and action. One flood warden described how people in the community said 'they' (meaning the authorities) should do something such as providing sandbags. There is also the tension that some have lived with flooding for decades ('it's a way of life').

Insurance, risk and responsibility

Insurance cover for flood wardens is an issue. Lostwithiel Flood Watch group encountered a problem when the town council's insurance company requested some proof of the competency of flood wardens. The company would not insure the flood wardens and so the town council could not enact the community flood plan. CCFF has worked closely with the insurer to develop the community toolkit and a package of training. Training will be delivered by Volunteer Cornwall supported by the Environment Agency and Devon and Cornwall Constabulary (via the Pathfinder and Awards For All projects) to satisfy these types of requirements from insurers.

Insurance is an issue of much discussion for CCFF as other community flood groups do not seem to have been refused insurance in the same way as Lostwithiel. Tregrehan flood wardens do not seem to be covered by insurance; the chair there calls the group a 'self help' group.

The chair of PSB Community Flood Group has worked with another leading municipal insurer to help develop an insurance policy dedicated to community flood groups.

Community volunteers are covered for public liability through a separate standalone policy without the need to go through the town or parish council's insurance. This solution is attractive to councils that do not want volunteers on their policy but are happy to pay for separate cover. This is another example of an initiative being developed in one community and shared with others through CCFF.

One flood warden chair talked about managing flood wardens so that risks were not taken. However, this does lead to pressure for chairs who sometimes worry:

'if people are supplied with flood jackets they might take too many risks'
(Lostwithiel Flood Watch Group).

All the chairs of the flood watch groups had concerns about flood wardens potentially putting themselves at risk, remarking that some people seemed to have a 'gung-ho' attitude and would want to jump into the water to rescue anyone in trouble. Managing this is not an easy task, as some people seem to think the role of the flood warden is to save others.

Understanding the flood problem and flood warnings

Tregrehan Flood Group has had a problem with surface water flooding and the ponding of water in fields. The chair said there was uncertainty about where the water is coming from. He feels that more assistance from the Environment Agency would be useful to understand this, as he feels that his organisation should have more knowledge of what is happening in the catchment – though the Environment Agency has resolved a blocked culvert.

For some there can be confusion about what the different levels of flood alerts and warnings mean. This was not an issue for the flood wardens interviewed but it was acknowledged by some in CCFF that the system could confuse some people. It can take time to understand this:

'When I started three years ago, I had no idea what a flood alert or warning was and how the Environment Agency structure works. Then we had the pilot alert system and that gave us better understanding of the catchment. Now we are looking at a project with South West Water for £20,000 to get our own rain and river level gauges so we can look at information in real time and get that out to the community' (PSB Community Flood Group).

Openness and transparency

One flood warden talked about wanting the Environment Agency to be open and honest about when it does not have the budget or capacity to help a community.

One challenge is to maintain motivation and engagement of flood wardens:

'If the problem goes away people forget about it and it's 'only because the town had other flood incidents that kept it high on the list' (Lostwithiel Flood Watch Group).

Maintaining and managing the flow of people who become flood wardens within a community group and then move on to others things with someone else potentially taking their place can be challenging. One flood warden who was chair of a community flood group was concerned that people in the community would get bored, so he tried to actively keep the flow of information and updates going. He outlined that his keenness to motivate the flood wardens in the group and involve them in decision making so that they could feel 'empowered and competent'.

One flood warden described having the community flood group through the town council was both 'a curse and a blessing'. Although the group was able to gain insurance through the town council, the group had to follow certain procedures and he felt did not have as much freedom as if it was independent.

Recognition and reimbursement

Volunteer Cornwall runs annual awards for volunteers. CCFF may consider having a volunteer award in the future. Members of the management board have also suggested that town or parish councils might want to recognise their volunteers in a formal way. At present there is informal recognition of flood wardens, but it is not clear to what extent the flood wardens who were not chairs of their group feel they gain acknowledgment of the efforts they put in to their volunteering.

Reimbursement for out-of-pocket expenses does not appear to be common. Volunteer Cornwall stated that good practice in volunteering means people should not be out of pocket. Some flood wardens are not spending anything as they can walk rather than drive to monitor their local water levels.

There is potential for flood groups to gain some funds from CCFF for printing leaflets.

Guidance and support

Training for flood wardens is being developed through the Pathfinder project with close input from CCFF. Training will involve two three-hour sessions and will be provided by Volunteer Cornwall. The course will be AQA accredited for those want to gain a qualification; others can undertake the training but not take a test if they do not feel the need for accreditation. This is seen as very important in terms of:

- enabling flood wardens to gain insurance and to manage responsibility and risk
- promote health and safety
- highlight the role of the flood warden before, during and after a flood event

The training package was piloted in selected communities in Cornwall, Devon and Somerset throughout January and February 2014.

A modular approach was adopted for the training to allow other emergencies to be included if needed, as some of the issues are generic across emergencies. There will be opportunities for those who want to do more such as flood warden co-ordinators to take on more responsibility and training to fulfil these roles.

In Cornwall, modules were taught by Volunteer Cornwall, Devon and Cornwall Police, and the Environment Agency. Volunteer Cornwall is also working with town and parish councils within Cornwall to understand how they can better work with local people.

In Devon and Somerset, the training sessions were led by Devon and Somerset Fire and Rescue Service instead of Volunteer Cornwall.

CCFF is keen to encourage people with the right skills to get involved. It was thought that providing training could encourage younger people to get involved as they would have something to add to their CV.

The county now has a joint template for community emergency plans and flood plans, with the flood plan forming an appendix of the emergency plan. The integration of the two plans is to try to assist communities and to simplify processes.

Evidence

The University of Exeter has been studying the CCFF through one of its masters courses on social enterprise. A survey has been made of parish councils involved in CCFF and those who are not. The study looked at how CCFF manages risk and meets the needs of the people who have joined it and how it should be marketed as it goes forward. The students also considered whether the CCFF should focus on flooding exclusively or wider community emergency planning and whether it should become a charity or a company limited by guarantee.

Summary

The flood wardens and organisation representatives were united in considering Cornwall as a place with good community networks and where there is a willingness from many people to pull together in times of trouble. However, the majority also suggested that culture and attitudes needed to change away from people expecting 'somebody should do something' to recognising that everyone needs to also take action within their community.

CCFF members see it as a transferable model that could potentially work elsewhere across the country, that is, the most important people and agencies coming together in a forum to support local communities and flood groups. There is considerable interest in CCFF from different parts of the country; one London borough is interested in how it can help to build community in the urban environment as well as interest from authorities in Essex, Kent, Yorkshire, Cheshire and Wales. The Red Cross has expressed interest in whether the model would work internationally for emergency planning. The sharing of practice and knowledge can help community flood groups tap into wider expertise and understand how other communities are tackling flood issues.

The Pathfinder project has been a catalyst for action as it provides funding and a paid project manager. However, the funding ends in March 2015 and CCFF is considering what its role should be in the future.

4.8.3 River Stewardship Company

This case study is provided as an example of the Environment Agency working 'through others'.

Background and context

The River Stewardship Company (RSC) is a social enterprise which works to improve the waterways in Sheffield for people and for wildlife. Its logo is shown in Figure 4.28.

The idea for this organisation came from a partnership of stakeholder organisations with interests in river management in the city.⁷ This partnership, the Sheffield Waterways Strategy Group, brings together a wide range of agencies, voluntary groups and academics to co-ordinate actions around the city's waterways. It includes:

- Groundwork Sheffield
- Sheffield Wildlife Trust

⁷ The development of the RSC is remembered slightly differently by the various partners involved. This account picks up the key points common across most recollections. A full set of minutes recording the development phase is available but their analysis was outside the scope of this research.

- Environment Agency
- Sheffield City Council
- Five Weirs Walks Trust

One of the Strategy Group's tasks was to develop a model for river management in the city. It proposed a new organisation, which became the RSC. One of the Strategy Group members came from a funding background and quickly identified that grant funding would not support the sustainable development of the organisation in the long term and so a social enterprise model was developed. This combines incomes sources from commercial contracts, public sector contracts and some grant funding.

The RSC addresses the vacuum of responsibility which exists on most urban rivers where riparian ownership is split between multiple land owners and tenants, most of whom are at best unequipped and at worst unaware of their legal responsibilities to look after the river channel and banks. The commercial challenge is how to persuade landowners to take on this responsibility and pay for a service. Most assume that this is the responsibility of others – the council, the Environment Agency, Canal and River Trust and so on.



Figure 4.28 RSC logo

Source: RSC website (www.the-rsc.co.uk)

The partnership

The company was officially formed in 2007. According to the RSC, as well as enabling the organisation to deliver commercial contracts, the legal structure helps with the relationships between the partners, providing a clear role in the organisation and a neutral space for discussions. The RSC fills 'a genuine gap' – although river stewardship was part of the remit and interests of all of the stakeholders initially involved, river stewardship was not a core objective for any of them. A new organisation was needed as a solution to fill this gap.

The partnership which supports the RSC is seen as a successful enterprise by all those interviewed. The RSC believes that the continued involvement of all the original organisations and their staff is a sign that the partnership is meeting their needs. A representative of Sheffield City Council suggested that, as with many partnerships, there was a stage of 'group storming' before settling down to real working, caused in part by the competition that can exist between voluntary sector organisations, but that once the group had got through this, they have worked well together.

The RSC works with each partner organisation in different ways. Some organisations are formally linked to the RSC through membership of the board and so there is interaction through board meetings. Sheffield Wildlife Trust, Sheffield County Council and Groundwork are ex officio 'founder members' of the board and the Environment Agency is an advisory board member. These partners may also be consulted and involved in decision making at a project level, along with organisations that have less formal relationships, for example, the Yorkshire Wildlife Trust which attends meetings with the RSC and sometimes shares volunteers.

Three of the organisations interviewed and involved in the partnership identified what they thought they brought to the collaboration:

- **Sheffield City Council** – initially helped set up the governance and strategic direction of the RSC. It continues to help provide a strategic overview of the bigger picture, which can be helpful to the voluntary sector. It also encourages the RSC to look at how it could roll out its approach linked to flood protection or to other areas.
- **Yorkshire/Sheffield Wildlife Trust** – track record with funders, reputation and public relation channels, volunteer labour and experience of working with volunteers on environment projects.
- **Environment Agency** – strategic direction of the RSC and detailed understanding of river dynamics, so can direct where volunteer effort can be used to bring about FCRM impact.

Who gets involved with volunteering?

The RSC is a company limited by guarantee, run on a day-to-day basis by the manager and governed by the board of trustees. The board is made up of representatives from the founding partners. They are company directors and hold voting rights on the governance of the company. The Environment Agency sits on this board as a special advisor but does not hold voting rights to ensure there is no conflict of interest with its roles as regulator of river management. The company employs:

- a manager
- three river stewards with individual responsibilities for managing the landscape team, community team and on-site work
- a site assistant

The company also works with volunteers in two distinct ways.

First there is a team of voluntary river stewards, who volunteer with the RSC on a long-term basis, usually for nine months and for 2–3 days per week. There are currently five voluntary river stewards.

The second group of volunteers operates on a more informal basis, volunteering to take part in work days which take place every Wednesday and on some Fridays and Saturdays. The RSC has a pool of approximately 60 casual volunteers and it is usual for around 10 to take part in each work day.

Voluntary river stewards

Voluntary river stewards work on the commercial contracts the RSC delivers (Figure 4.29). These include work for flood resilience, but also habitat and access improvements. The tasks involve a wide range of activities including:

- clearing storm drains
- clearing the channel
- encouraging native species
- removing invasive species (for example, buddleia)
- tree cutting to clear the channel and prevent flooding
- habitat management
- surveying
- some educational work with schools and community groups

They also get experience of office-based tasks. Some voluntary river stewards develop their skills in other areas too – leading tasks on-site and liaising with clients.

Each voluntary river steward has a training budget they can use to access appropriate training, and a training plan which is developed in supervision sessions. The voluntary stewards have access to a wide range of training including:

- NVQ level 2 in environmental management
- accreditation for specific machinery such as chain saws and brush cutters
- health and safety and working in water training
- development of management skills

The voluntary river stewards are provided with personal protective equipment (PPE) and have access to expenses for travel and subsistence.



Figure 4.29 Voluntary river stewards take part in fulfilling a contract maintaining waterways for a local business client

Source: RSC website (www.the-rsc.co.uk)

Recruitment is through adverts on Environment Jobs and the Countryside Jobs Service (both specialist countryside management recruitment sites), plus through promotion through the RSC's network of organisations and contacts. Candidates are interviewed both to allow the RSC to see if they are suitable and to enable the candidate to find out more about what they would be taking on. The RSC says it gets a good mix of ages, skills and backgrounds. It tries to ensure it is not just providing experience for graduates, but also those coming from manual labour backgrounds.

The voluntary river stewards are managed by the landscape team manager and the site manager. They have supervision every 5–6 weeks where the RSC provides feedback on their performance and ask for feedback on how the volunteers feel they are getting on. The voluntary river stewards also participate in the monthly RSC team meetings. This approach of providing regular feedback and engaging the long-term volunteers in the organisation is an intentional strategy by the RSC to help maintain the momentum and enthusiasm of the volunteers.

The RSC finds it best to only have a small number of voluntary river stewards at any one time so that it can:

- manage the quality of the output of the volunteers
- offer the volunteers a high quality experience

Casual volunteers

The casual volunteers are managed by the community team manager. They take part in different projects and programmes with which RSC is involved including:

- **Blue Loop** – a community-based project providing eight miles of upgraded and maintained continuous loop of waterways and riverside walkways in the heart of Sheffield, made up of the River Don and Tinsley Canal
- **Riverlution** – a River Friends Network designed to bring people together into a network of individuals, groups and organisations that can support each other and share ideas and resources to make rivers and waterways the best they can be across Sheffield – includes improving the aesthetic and recreational value of the waterways as well as reducing and managing flood risk

A wide range of different people are involved. Volunteers come to the RSC through several recruitment routes including social networks, email contacts through the webpages, word of mouth, Voluntary Action Sheffield and NHS referrals (for example, through the brain injury clinic). There is also interest from specific groups wanting to find routes to integrate with the local community such as housing associations and a Burmese refugee group. Some volunteers are also recruited through face-to-face contact with the volunteer groups while they are working, so a community of interest forms part of the volunteer base. There is a wide diversity of people within the casual volunteer base from college and university students, through to retired people.

The numbers of casual volunteers that can be recruited is limited by the tools and PPE (for example, lifejackets) available and the staff capacity for supervision. There are no active retention activities, other than looking for funding to maintain volunteers. Resource limitations mitigate against this, and even though there is turnover of casual volunteers, there is no perceived problem with recruitment. The main reasons for volunteers leaving include:

- getting work
- life becoming too complicated for them to continue

- poor health
- the volunteering offer not appealing
- students moving on or having too much university work to do

Relationship between the Environment Agency and RSC

The Environment Agency has been involved with and supportive of the RSC throughout its development. It was through delivering contracts and a three-year partnership project for the Environment Agency that the RSC was able to establish itself as a company. The three-year project came from habitat restoration work needed after the Environment Agency carried out flood alleviation work in the channel following the 2007 floods. The Environment Agency parcelled up all the work (both physical and engagement) needed and allocated a budget. The RSC has been carrying out this work on its behalf.

The RSC works with the Environment Agency in four different ways.

- The RSC performs commissioned projects for the Environment Agency.
- The RSC delivers the three-year partnership project.
- The Environment Agency acts as a special advisor on the RSC board.
- The RSC acts as a commercial contractor for the Environment Agency through public service contracting.

The contact and communication with the Environment Agency is close and regular, and involves engagement with different parts of the Environment Agency. The RSC community engagement team, for example, has monthly meetings with Environment Agency staff involved in work associated with implementation of the Water Framework Directive to direct tasks that the casual volunteers can tackle in the work parties. The RSC's landscape team works together in discussion with the Environment Agency's FRCM team to help to direct the contracted work.

The RSC and Environment Agency are also working together to see how the RSC model and contracting can be applied in other catchments. The Environment Agency innovation team is looking at ways to propagate the social enterprise stewardship model through to other parts of the business. It has also organised meetings within the Environment Agency to show other parts of the business how this model of social enterprise and volunteering works, what social and environmental benefits accrue, and how they might be able to adopt aspects of the partnership arrangement themselves.

Motivations and benefits to RSC

Although volunteering is not explicitly a core objective of the RSC, it is an essential part of its way of working. For example, a representative of Sheffield City Council views volunteering as being 'at the core' of the RSC because the organisation developed from the work of other voluntary organisations such as the Five Weirs Walks Trust and the wider environmental volunteering movement in Sheffield.

The weekly volunteering sessions began almost from the start of the RSC as a way to involve local people in their rivers and is seen by the RSC as an effective way to meet its social aim. The long-term voluntary river stewards are essential to the commercial river management contracts, both economically and as a way of demonstrating social responsibility and value added.

The involvement of long-term volunteers and the nurturing of their development over time is seen by the RSC as:

‘a good culture to work in [...] it is just good for everybody’.

Benefits to the Environment Agency

The Environment Agency gains benefits through the contracting of river stewardship tasks, either directly by the Environment Agency or through contracts with other riverside land owners such as Sheffield Forgemasters. The volunteers, and Friends of the Blue Loop which has grown out of that project, act as an extra set of eyes and ears on the river. This forms an early warning system for particular problems – those associated with flood risk, as well as those connected with other responsibilities such as problems with fish gates and ladders, and issues of river poaching.

New projects such as Riverlution have a more specific focus on building community resilience with an aspiration to involve local people and build their sense of ownership of the river and the maintenance tasks rather than relying on casual volunteer work parties. As one person said, what RSC was working to achieve is to:

‘to get good engagement, ownership I suppose, not the volunteering where you go out at a set time every week to do set stuff. We need to move to the sort of continuous volunteering the more flexible forms of volunteering that’s more innovative and perhaps more useful better engagement that’s where the time banking idea comes in really’.

Many of the volunteer tasks carried out through the contracting and through projects such as Blue Loop and Riverlution are linked with overcoming failures to meet Water Framework Directive objectives and the associated flood risk.

Motivations and benefits to partners

Sheffield City Council identified the following of its strategic objectives as being met through working with the RSC:

- doing more with less
- increasing flood protection
- increasing habitat and access provision

Motivation and benefits to voluntary river stewards

The RSC suggested that most voluntary river stewards are looking to develop a career in countryside management. They are therefore volunteering to:

- add to their formal qualifications and range of experience
- gain informal experience of working within a team
- meet different types of people from the public through to clients and contractors
- make new contacts and find routes into networks of green organisations
- get to know and access opportunities in other organisations

The landscape team manager said

'If there is something we can't offer them it might be that we can signpost them to another organisation, increase their breadth of experience.'

One of the voluntary river stewards described the opportunity to volunteer with the RSC as 'unique' because volunteers are working in a commercial environment rather than just on purely grant-funded initiatives. This, combined with the range of contracts and the opportunity to work in the office, means the volunteering offer from the RSC is much more professional and the experience better for those wanting to get paid work in the sector.

Motivation and benefits to casual volunteers

The casual volunteers fall into a number of different categories, many come to build up their CVs and are looking to upskill or change their careers. There are also volunteers who come through health services on referral, through the Youth Justice service, or because they have particular social needs that volunteering can help them with. For example, the volunteers supporting the community team manager include:

- a 22 year-old man with autism looking for an organised structured set of activities
- a mid-40s man who has lived overseas for many years and is looking for skills to build his CV
- a retired man who was a care worker with young people wanting to carry on using his professional skills and involvement with giving back to the community in some way

Other volunteers who take part in the Friends of Blue Loop group or the regular work parties may be volunteering their time and involvement in activities reflecting their personal interests. For example, there are fishermen in the Friends of Blue Loop Group as well as regular walkers and nearby residents.

Challenges

The key challenges of working with volunteers were identified as:

- managing the mix of casual and long term volunteers
- behavioural issues associated with some volunteers
- health and safety issues involved working with volunteers in a water environment
- high staff costs associated with managing outdoor volunteers not just during the volunteering event but also the communication, co-ordination, recording, monitoring, cleaning tools and so on; a three-hour volunteer session probably represents a whole day of staff effort with outdoor volunteers
- staff costs associated with managing office-based volunteers can be high
- dealing with the relatively high turnover as they tend to be looking for work and leave after relatively short periods

Guidance

All the RSC staff have either come up through the volunteering pathway or worked with long-term trainee volunteers before and so all are quite experienced in this field. The most regularly used guidance is around health and safety; otherwise staff tend to discuss issues between themselves.

Evidence of impact and outcomes

RSC collects some information about their volunteers, but it tends to be limited to volunteer demographics and volunteer hours, and is collected where it is a necessary part of reporting back to funders. It is considered to be a time-consuming process, particularly as the RSC does not use the information it collects for its own purposes.

The future

The main challenge facing the RSC is maintaining a flow of income that does not rely on grants or public contracting. The social enterprise model relies on generating income from customers wider than public sector clients, because even public sector funds which are seemingly committed can be insecure and pulled out without notice. As one respondent put it:

‘They [RSC] could then get an awful lot further more quickly ... it’s just very uncertain for them even where they think finance has been secured. Local authorities are pulling out at the last minute ... ‘sorry we don’t have the funds anymore’”.

There is hope that more work can be found contracting for local businesses situated close to the river and with larger organisations such as the Canal and Rivers Trust.

Probably the biggest opportunity is for the RSC to win a contract soon to be advertised to maintain the Don channel as part of a new flood protection scheme for the Lower Don Valley. This is to be funded by an innovative ‘Business Improvement District’ which allows the council, supported by the Chamber of Commerce, to collect a levy from all benefiting businesses. This model, if successful, would create a sustainable mechanism to support river stewardship in the long term.

It is hoped that Riverlution is a project that will begin to increase partnership working with an even wider group of stakeholders in the River Don and adjoining catchments. It is also hoped that Riverlution can begin to find new and innovative ways to engage communities in Sheffield to take up more ‘ownership’ of their rivers and look to build community interest and resilience around them.

From the Environment Agency’s perspective, there is interest in applying the RSC model in other catchments. However, it is uncertain how great the potential is for elements of this model to be copied elsewhere, as it feels very specific to the local context. The financial and tangible value of the stewardship model has not yet been formally evaluated and demonstrated in quantitative terms. Uptake of new ideas and models like this one can also be slow.

4.8.4 Bodenham Flood Protection Group

This case study is provided as an example of communities acting ‘for themselves’.

Background and context

Bodenham is a small village situated eight miles north of Hereford and seven miles south of Leominster. The 2011 census records a village population of just under 1,000. The village is divided by the River Lugg, and distinct areas of the village are recognised by the villagers as having slightly different social characteristics and sense of community.

The village is located in the flood plain of the River Lugg, which runs between the old part of Bodenham to the west and the newer development of Bodenham Moor to the east. A number of small brooks drain into the Lugg within the parish of Bodenham and there is a major culverted and canalised brook running through the village which discharges into the River Lugg. This brook runs south of the main A417 through Bodenham Moor down to the River Lugg just upstream of Bodenham Bridge.

Bodenham Flood Protection Group (BFPG) was formed in response to major flooding in July 2007. The flooding was caused by significant surface water run-off from the surrounding hills and main road flowing into the brook, but impeded from reaching the River Lugg because of blockages and debris along the channel and in the culverts. More than 35 properties, mainly in the Moor area, were flooded (Figure 4.30). The historic St Michael's Church was also affected.

The villagers were deeply affected by the flood as a community and realised they were unprepared for coping with these kinds of unexpected and serious events. There was a strong feeling that something needed to be done about the causes of the flooding as well as co-ordinating the community response to emergency events and providing support to flooded households. An important motivation for this was the significant elderly population in the village, including those living in the Siward James sheltered housing complex. The villagers felt a sense of duty towards this part of their community.



Figure 4.30 Flooding along the road and field margins running through to the Moor

Source: BFPG web pages (www.bodenhamparish.org.uk)

The first step in the group's formation was a post-flooding parish meeting involving other agencies including Herefordshire County Council, the River Lugg Internal

Drainage Board and the Environment Agency. This meeting provided an opportunity to discuss flooding causes and potential solutions, as well as to provide more information about the responsibilities of the various stakeholders. The villagers understood from the meeting that responsibility for maintenance of the infrastructure lay in part with local landowners as well as householders, and that the ability of other agencies to manage their flood risk was relatively limited. At that time the Environment Agency's responsibility lay with the Welsh Government as this part of Herefordshire lay in the Welsh River Wye catchment. It is now different with English and Welsh political boundaries along the rivers Wye and Severn rather than a strict catchment focus.

By February 2008 the group had formed itself as a sub-committee of the parish council. Being part of the parish council was important as it provided adequate public liability and other insurance for the group and conferred legal means to undertake flood risk and management activities within the community. There is general agreement that the new members (recent incomers) to the community were particularly important in motivating the village to take action and pushing through new solutions for the community to deal with its problems. As one person commented 'the community spirit led by some people translated to everybody else'. The most important factors in the successful establishment of the group included:

- strong personalities willing and able to provide the time and enthusiasm to build the group
- connections with local and regional agencies and organisations

Activities

From an initial membership of about 12 households in 2008, the group has grown to include upwards of 40 members from across the community. Its aims are written into its constitution and include action to mitigate flood risks, as well as planning and action to help vulnerable members of the community pre- and post-flooding.

There is a strong social capital element and building of community cohesion through the social interaction provided by the group's regular work parties and social events. Activities the group has involved itself in include:

- conducting a survey of flooded households
- bringing together landowners and households to discuss better land, drainage and brookside management
- working in partnership with the River Lugg Internal Drainage Board to support construction of an overflow channel
- applying for and managing a Defra grant for property level protection (PLP)
- organising two trips for local residents to UK Flood Barriers Ltd, Droitwich, to understand more about PLP
- lobbying insurance companies, the Association of British Insurers (ABI), and providing support to households' management of insurance premiums
- organising fortnightly volunteer work groups in the summer months to clear culverts, manage bankside vegetation, clear drainage channels and so on
- raising money and other resources to support volunteer activities – this includes hand tools (for example, mattocks, buckets, high viz jackets), but also equipment such as sandbags, mobile pumps trimmers and hedgecutters

- organising a flood protection awareness exhibition and seminar, with Environment Agency and Herefordshire Council support, for the village and people from across the county
- responding to requests from other parishes to tell them more about the benefits of a flood protection group and how to go about setting one up

Who gets involved?

It is notable that the majority of BFPG members are retired (Figure 4.31). Many of the volunteers come from the part of the village most affected by the flooding, that is, the Moor. People living in other parts of the village community are not so involved.

Members of the BFPG contribute skills and resources in different ways. Some have some technical expertise which has been used to assess flood risk, and to design and construct mitigation measures. Other members are supportive through the donation of funds or, for example, by providing tea and coffee at the group's social and fund-raising events.

There has also been considerable support from some other members of the community who are not part of the group, but have specific skills and resources they are able to donate. For example, a local resident, who is the director of a hydrological firm, arranged for the donation to the village of an early warning telemetry system which monitors the water level in the brook and sends automatic alerts to BFPG members when this rises significantly.

It is also important to note the involvement of business in this case study. UK Flood Barriers Ltd provided the property level protection, but were also happy to engage with BFPG by hosting visits to its offices and development facility, explaining available solutions, and providing them with support during and after PLP installation.



Figure 4.31 Members of BFPG with secretary and honorary treasurer, Babs Mitcheson, in the foreground

Source: BFPG web pages (<http://www.bodenhamparish.org.uk>)

Decision making

The immediate action following the 2007 flood was taken before the formation of the BFPG. This was by local residents who gave the River Lugg Internal Drainage Board permission to construct a diversion channel across their land to take excess water during periods of heavy rain. The BFPG then conducted an assessment of flood risk factors and potential mitigation measures in 2009, which was followed by the county council assessment in 2010 which also presented a list of remedial actions.

Both these studies identified as the prime concern the need to replace the badly designed and inadequately sized twin culverts taking the brook under the C1121/ Ketch Lane junction. Decisions about what the group should do to mitigate further flood risk were based on these plans with the long-term focus on securing the replacement of these culverts.

Decision making within the group is based on deliberative discussion and agreement seeking among members, based on the knowledge and proposals brought to them in the most part by the 'founders' of the group.

Fund-raising plays an important part in the decision making and implementation of actions. BFPG have also sought funds from the county council through the parish council to reinstate the role of 'lengthsman' to a value of £3,000 for three years. This role involves maintaining roadside ditches and drains, while the BFPG concentrates on the main watercourses. The BFPG has also helped to fund a group member through the training courses necessary to qualify him in the use of herbicides as part of the maintenance work it undertakes.

The group continues to evolve and has moved from community flood planning to discussing the development of a parish emergency plan. Some members take an active role in the neighbourhood planning group. Members also sit on local forums connected with flood risk management such as the River Lugg Internal Drainage Board and have been invited to attend Defra meetings.

The BFPG currently organises its members into area representatives (flood wardens) by street, so that the entire community is covered by an active contact who knows what to do in the case of emergency.

Relationship between the Environment Agency and BFPG

The relationship with the Environment Agency has grown over the years and changed in form and scope. The Environment Agency office in Tewkesbury was not fully involved until 2011. This is due to the previous management structure which placed Bodenham in a region managed through the Environment Agency based in Cardiff at the Welsh Assembly Government.

The current relationship with Environment Agency staff began in 2010 to 2011 through the Defra flood resilience grants for 'active measures' in communities. These grants were aimed at communities that could provide active support around the provision and use of PLP. The grant was not only provided for the purchase and installation of PLP, but for the group to commit to helping vulnerable households raise their flood barriers, ensure PLP was properly looked after and maintained and so on.

Environment Agency community engagement staff were instrumental in helping to work up the proposal for Defra. These Environment Agency community engagement posts were themselves funded by an initiative called Floodwise, which sought to change the role of the Environment Agency within communities towards providing support to build community resilience. The Environment Agency staff member took on liaison with Bodenham as part of this work.

Success with the Defra proposal saw funding of £144,500 supplemented with an additional £16,000 from the Environment Agency to include more homes in the PLP installation. It was through this work that the relationship with the Environment Agency was built.

After the PLP project was completed, continued work with the BFPG has involved working together to develop the community level flood plan, and holding flood awareness groups in the wider area.

The most important ingredients contributing to the successful relationship between BFPG and Environment Agency have been:

- proactive involvement by the Environment Agency facilitated by their prioritisation of engagement concentrating on working with a smaller number of communities in greater depth to ensure the communities are supported to take on tasks themselves
- BFPG understanding how best to work with the Environment Agency and the limits of their responsibilities and capacities; key here was understanding by the BFPG that the Environment Agency no longer has the same level of government funding to perform maintenance work as previously and that some actions can be taken on by the community themselves
- the monitoring and intelligence function of BFPG in letting Environment Agency know about potential flood risk problems such as debris in watercourses and trees in the River Lugg
- the community's knowledge and expertise of the local circumstances and flood risk management dynamics which were shared with the Environment Agency in finding solutions

Despite the generally good relationship with the Environment Agency, the BFPG acknowledged some frustrations. For example, it was felt that although it had an excellent working relationship with the community engagement officer in Tewkesbury, working with other parts of the organisation is not easy and finding ways of working present particular challenges. There is also a general sense of frustration about the lack of capacity within the Environment Agency to get more things done in the local area. In addition, there was a perception that some of those involved in decision making at county council level (formerly Amey Highways and Structures, now Balfour Beatty) seemed unwilling to listen and accept local knowledge with regard to local flooding issues and perhaps had little real knowledge and expertise around the technical aspects of flooding in a way that makes a really substantive contribution to managing local issues.

Motivations and benefits

The main community motivations that led to the establishment of BFPG were:

- a desire to mitigate flooding risk to protect lives and property
- a sense of frustration that nobody else would do it unless they themselves did
- a building sense of community to effect collective action of mutual benefit

'Because we've all been affected by it one way or another, by the flood water, directly or indirectly, I mean. The roads around here ... were flooded so we had to walk virtually all the way from the pub up to our knees in water

just to get home. So we may not have been affected directly in our homes, but indirectly we all suffer'.

Volunteering continues through BFPG motivated by a continuing fear of flooding, as the group said:

'There's always the risk of flooding. You just don't know what's going to happen next'.

'We do it because of the fear of it happening again ... Everything clogging up again, getting flooded, and eventually we won't get insured'.

'The point is the Environment Agency and their attitudes to the river, and it clogging up ... there have been five trees at one stage clogging up the river and they didn't want to do anything about it. If they're not prepared to do anything about the river, then what's the likelihood of them looking after the infrastructure ... that's why we are looking after the tributaries'.

'It's self preservation'.

But the perceived benefits are not only linked to property protection or environmental protection, they are also linked to human well-being and social capital. For many BFPG members taking part in work parties:

'It's fun'.

'We treat it to a degree socially ... there are lots of times after we have done the jobs, the work we want to do when we stop for a few drinks and nibbles and such afterwards ... its social ... it's not all work'.

Challenges

The main challenges identified by the group related to the sustainability of the volunteer base. The majority of the volunteers are elderly and there is less of an engagement with younger members of the community because of the latter's work commitments. Group members are aware of the group's demography and the need to recruit new members. There is a sense that some parts of the Bodenham village community do not contribute fully to the work of the BFPG, even though they benefit from PLP or the improvements to flood risk brought about by the group's work.

The key role of the initial founders of the group who continue to show leadership in FCRM issues was also noted as crucial to group running. Loss of these community leaders would have a significant impact on the BFPG.

Other than that, the group felt strongly that they were so well established, and gained so many social benefits from membership and community action, that the challenges ahead were relatively minor and concerned more with volunteer recruitment, funding and continued working with key stakeholders.

The future

The BFPG believes it will continue regardless of the challenges because it has become an important institution within the village. Key lessons for continuing to build productive partnership relationships with the Environment Agency and other agencies centre on partners listening to the community's local knowledge of FCRM issues, and the Environment Agency continuing to work through a single point of contact so that the community knows who to turn to when advice and support is required.

4.8.5 Summary

The detailed information from the case studies corroborates data from the survey and diary interviews on the motivations and benefits of FCRM volunteering. It also highlights that there is a dynamic multi-way flow of information between organisations, authorities and volunteers that helps to increase the knowledge of all of these groups about flood risk and how to cope with it. Decisions are being made at a local level within a local context that is relevant to the different areas, local opportunities and the flood risks each case study faces.

The reason for volunteers getting involved was primarily a flood event that acted as a catalyst to galvanise people into action. The Pitt Review after the 2007 flooding and the community resilience focus have forced the Environment Agency and emergency flood responders to work more closely with communities and to encourage people to get involved in volunteering.

The main element in the success for the Bodenham and local flood groups in Cornwall is the leadership shown by a small number of local community members to get groups off the ground and take action. For CCFF, taking a multi-agency approach and forging effective relationships between key organisations and community groups is vital. In Lincolnshire, motivated individuals have stepped forward – often after a flood event – and have been successfully supported by the Environment Agency in partnership with others. In Sheffield, the River Stewardship Company is drawing on a range of funding to deliver its work through a mix of long-term and casual volunteers.

In all the case studies, volunteers were able to increase their knowledge in relation to flood risk, mitigation and response. This increased their sense of control and understanding of how to interpret when they and their community would be most at risk.

Barriers to getting involved in volunteering include a lack of understanding of what the role and task of an FCRM volunteer is. A lack of appropriate information given at the right time to volunteers, and a lack of understanding of the role of different organisations and their responsibilities also acted as a barrier for some volunteers.

5 Discussion

5.1 Reflection on results across all data collected

It is clear from the primary data collected in this study that flood warden volunteers gain a lot from their involvement in FCRM volunteering in terms of feeling that they are managing risk, up-skilling in terms of how to deal with and understand the risks they face, and building a sense of community resilience. For the majority of volunteers in this study, flooding and flood risk are of vital importance and are what drives and motivates them to get involved and stay involved. While for other volunteers such as those in the River Stewardship Company example flooding (Section 4.8.3) is not the central focus, rather it is gaining skills to improve employability that is important.

The main determinants of FCRM volunteering are outlined in Figure 5.1. The values and attitudes of volunteers are important; for example, many valued their community and wanted to help not only themselves but also the wider community in which they lived. The degree of flood risk in the community was important and flood events often acted as a catalyst to action. Also important was the extent to which a person or people they knew were specifically at risk in their own households. Many were interested in the technical issue of flooding and the route to getting involved in volunteering, if clear, made it easier for people to engage.

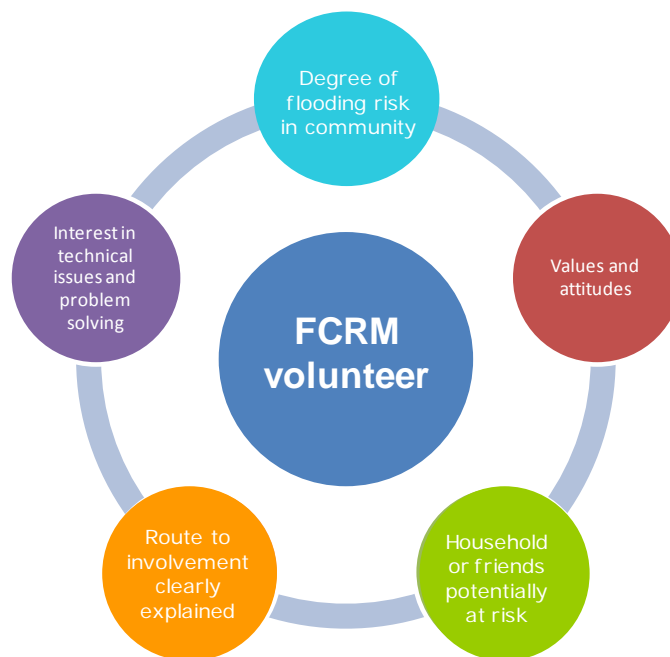


Figure 5.1 Main determinants of FCRM volunteering

A potential way to represent volunteering is presented in Figure 5.2 with a matrix from 'light touch' volunteering to 'proactive community action', along with 'light touch' engagement from the Environment Agency through to 'strong engagement' by the Environment Agency.

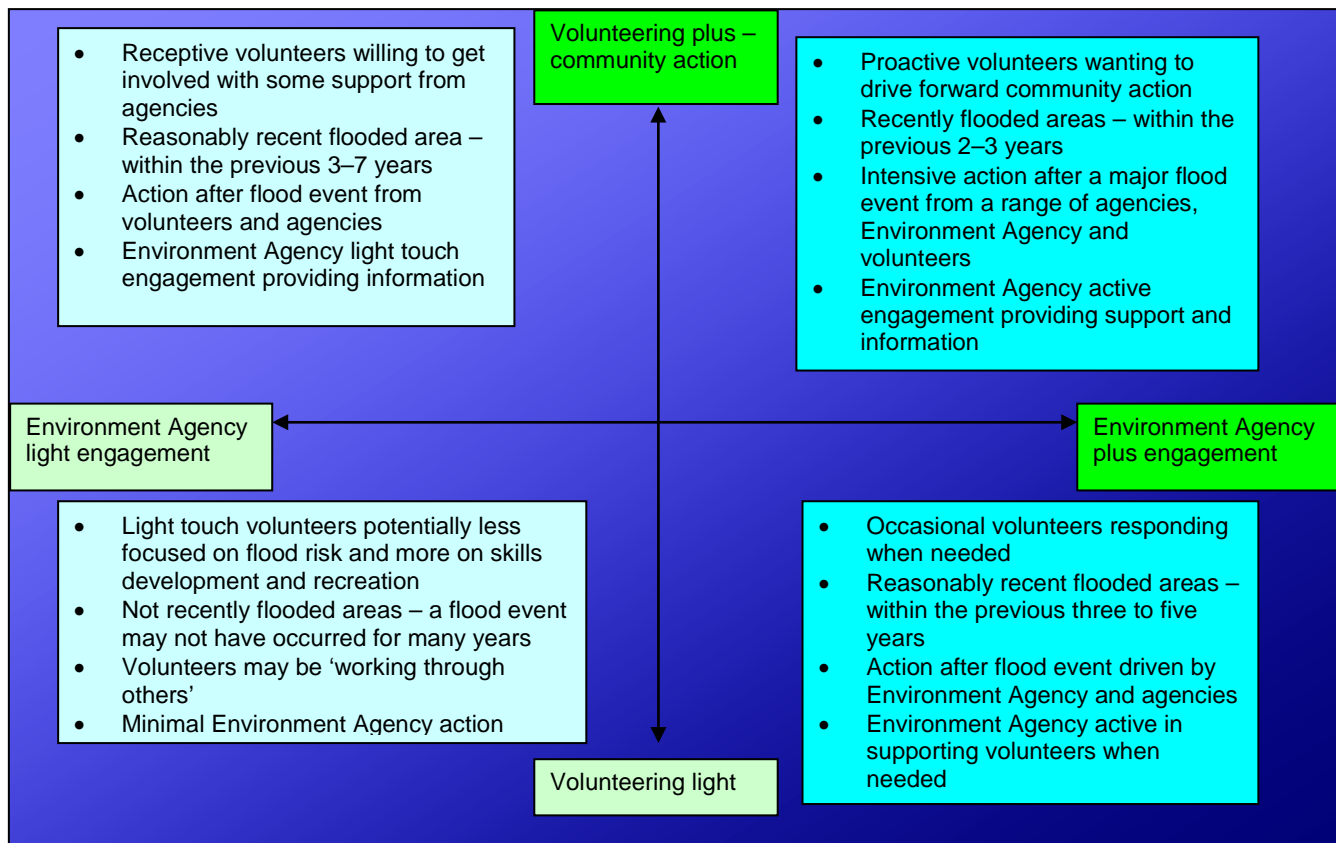


Figure 5.2 FCRM volunteer and Environment Agency engagement matrix

Comparing the primary empirical data with the evidence from the documents collated in the Work Package 1 report (Environment Agency 2015a), it is clear that the dimensions of volunteering identified there are upheld. However, these dimensions exist along a spectrum of volunteering. Central to this spectrum are what we identified as 'volunteer segments' identified in the Work Package 1 report, that is, 'community', 'partnership' and 'individual' (Environment Agency 2015a). These segments relate to the motivations and benefits of the volunteers getting involved, with community focused benefits at one end of the spectrum and individual benefits at the other. Motivations and values at the community end of the spectrum relate to protection of property, human life and community security, while motivations and values at the individual end relate to issues such as skills development as expressed by the RSC volunteers.

Volunteering governance types map onto this spectrum as shown in Figure 5.3. 'For themselves' sits at the community end and volunteering 'through others' sits at the opposite end of the spectrum, alongside the greater level of individual motivations and benefits. It is interesting to note that working 'directly for the Environment Agency' is a governance option that exists along the spectrum involving community focused volunteering as well as some more individual volunteers.

There is also a link between volunteering segment and the sociodemographic characteristics of volunteers. The empirical data suggested older, retired people who are more able to give their time sit at the community end of the spectrum, whereas at the individual side, there is a more varied and somewhat younger demographic profile where volunteering helps to develop CVs, open up networking opportunities and serves volunteers looking for employment opportunities. There is some suggestion in the empirical evidence that people with skills and technical knowledge of relevance to FRCM volunteering are more likely to be involved in volunteering at the community end of the spectrum.

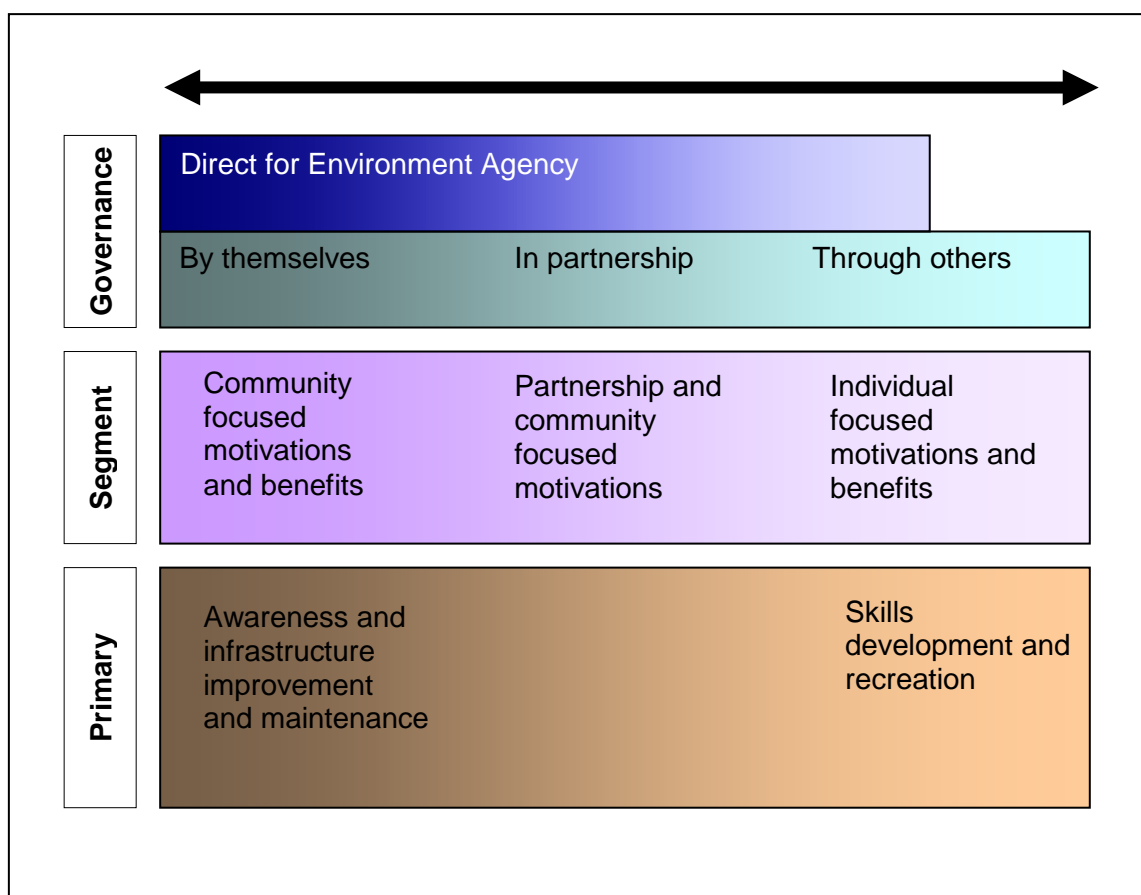


Figure 5.3 Spectrum of volunteering showing three overlapping dimensions – governance, segment and primary activity

This study has mainly focused on rural or peri-urban areas. The challenges faced in larger urban areas will differ and the mode of engagement by the Environment Agency may need to be adapted for these areas.

5.2 Wider context

5.2.1 Community resilience

The flood volunteering examined in this report is set within a wider context of community resilience and community emergency planning (Cabinet Office 2011a). The Strategic National Framework on Community Resilience (Cabinet Office 2011b) provides a national statement for how individual and community resilience can work.

Community resilience is defined as:

‘the capacity of an individual, community or system to adapt in order to sustain an acceptable level of function, structure and identity’.

And also as:

‘Communities and individuals harnessing local resources and expertise to help themselves in an emergency, in a way that complements the response of the emergency services’.

The Civil Contingencies Act 2004 requires the publication of all or part of a risk assessment for local communities by local category 1 responders such as local

authorities, emergency services and the Environment Agency. The Lincolnshire, Bodenham and Cornwall case studies all talk about wider community resilience and emergency planning, with flooding being one of the most important risks that many of these communities face. There is some discussion as to what extent flood wardens could or would volunteer for other community emergencies.

5.2.2 Existing and past projects and research – learning lessons

The national Floodwise campaign that focused on flood engagement activities, and which ran from 2009 to 2012, reflects a strategic shift within the Environment Agency to a greater community based approach with the employment of community engagement staff. A range of projects have been created such as:

- Boro Becks in Middlesbrough (Groundwork North East 2012)
- a project led by the Source Partnership in the Todmorden catchment in which the Environment Agency is providing two years of funding for a programme of activities (2012 to 2014) (Groundwork North East 2013a)

The Living Waterways project has been evaluated by Groundwork based on an Environment Agency three-year funded programme of activities with local communities (Groundwork North East 2013b).

These are examples of Environment Agency ‘working through others’.

Research has been undertaken by TNS (2013) on community engagement and on ‘involving the community through volunteering’ by Langridge Countryside Consulting (2009) and on ‘developing the flood warden network’ (Glen and Langridge 2012).

It is not clear to what extent community engagement staff and Area and national staff in the Environment Agency who are making decisions about volunteering are aware of all this research and its findings. Are learning and insights from what has been studied so far being cascaded through the organisation? This is a key issue as the Environment Agency has commissioned a range of research in recent years applicable to community engagement and volunteering.

5.2.3 Statistics on volunteering

Data from the 2008 to 2009 DCLG citizenship survey in England⁸ shows that:

- 42% of those undertaking formal volunteering (that is, undertaking unpaid work through a group, club or organisation) were female and 38% male
- 42% of formal volunteers were white adults and 34% from minority ethnic groups
- the 35–49 age group is most likely to volunteer as are those of higher socioeconomic status

These national statistics differ from the results identified in this study. For example, those in this study were more likely to be male, older and less ethnically diverse. However, 60% of flood wardens in this survey were rural based and this will tend to have an impact on the age and ethnic diversity of volunteers.

⁸ <http://www.ivr.org.uk/ivr-volunteering-stats#other> [accessed 1 December 2013]

5.2.4 Community and stakeholder mapping

Understanding communities and stakeholders is very important when trying to engage them in FCRM volunteering or working in partnership to facilitate volunteering. It is important to start this process by mapping the communities, interest groups and stakeholders associated with a particular place (for example, a flood risk area) or those associated with a particular interest/issue (for example, those who want to develop skills on flood issues to aid them in future employment).

Mapping can be done through a brainstorming exercise in which Environment Agency staff can begin to identify local community, public agencies, landowners, businesses, non-governmental organisations and so on. Once communities and stakeholders have been identified, it is important to consider how and when to involve them and this should be based on the objectives of engagement for the Environment Agency and any partner organisations it is working with.

The method of engagement is also crucial as well as the issue of signposting communities and stakeholders to relevant information and support they may need before they decide to engage with FCRM volunteering.

The Environment Agency has guidance on building trust with others and working with others to assist staff with approaches to stakeholder engagement planning.

5.3 Prototype evaluation framework

A prototype evaluation framework was developed during Work Package 2 of this project (Environment Agency 2015b). The framework consists of a set of evaluation criteria and associated indicators (input, output, outcome and process), and a set of evaluation methods and protocols. The framework is intended as a resource that can be used by the Environment Agency to evaluate FCRM volunteering initiatives and to identify success factors and areas for potential improvement.

The primary data collection phase of the project reported here provided an opportunity to apply, test and provide a reflective commentary on the prototype evaluation framework. As stated above, the framework is intended as a resource which can be selected from and used to structure evaluations of specific FCRM volunteering initiatives. As a resource, it is purposefully broad in scope, and is designed to be relevant to a potentially wide range of governance and delivery approaches and to a wide range of potential outcomes. It is unlikely that all the evaluation criteria and indicators identified would be relevant for a given initiative. The logic informing both the design and the application of the framework is to start with the objectives of an initiative as a basis for selecting relevant evaluation criteria and indicators. This then enables the selection of appropriate data collection methods.

In terms of the case studies presented in this report, it was difficult to tailor the application of the framework to each case precisely because a clear and comprehensive statement of objectives was lacking. While the general objectives of community protection from flood risk and building community preparedness and resilience were clear – and indeed are likely to be relevant to most, if not all, FCRM volunteering initiatives – the case study work highlighted the problem that specific objectives may not always be clearly articulated. This is problematic in terms of evaluation because it restricts the ability to tailor evaluation design effectively, but it is also potentially limiting in terms of the design of initiatives because needs and desired outcomes are not made explicit and therefore cannot be used to inform the design process. This highlights an opportunity for the Environment Agency to be more strategic about what it is trying to achieve through FCRM volunteering and to work proactively with communities and stakeholders to understand their needs and goals. A

more strategic and proactive approach will also help to inform initiative design and make sure that the collection of evaluative evidence is targeted and therefore more useful to the organisation.

Specific reflections on the evaluation criteria and indicators, and on the evaluation methods set out in the framework, are outlined in Sections 5.3.1 and 5.3.2 respectively.

5.3.1 Outcome categories, criteria and indicators

The prototype evaluation framework is structured around a number of so-called outcome categories under which evaluation criteria (expressed as questions) and indicators are grouped. These are: social capital, natural capital, human capital, economic capital, individual well-being, inequalities, behaviour change, retention and reduced flood risk. The primary data collection reported here was structured around these categories, and related criteria and indicators. Data collection and the analysis of evidence gathered for each of the categories provides an opportunity to reflect critically on their utility and relevance that can help to inform discussions about any future evaluations of FCRM volunteering initiatives.

Social capital

This proved to be a highly relevant evaluation category. Respondents recognised the value of their activities in terms of:

- doing something useful in their community
- increasing sense of trust in the Environment Agency and other agencies
- forging closer ties and bonds within communities
- fostering a sense of pride and care in their area

Natural capital

Despite a reasonably high proportion of respondents indicating they were involved in work to improve the physical environment (36% of survey respondents were involved in habitat management), the data collection and analysis indicates that this outcome category was less talked about by volunteers as a benefit than the social outcome categories.

Human capital

This proved to be a highly relevant evaluation category. Respondents saw a clear link between their involvement in FCRM volunteering and having the knowledge and experience to deal with flooding and flood risk and to support their communities to be more resilient to risk and prepared for flooding events.

Economic capital

The value for money questions provided a useful opportunity to assess the relevance, efficiency and effectiveness of FCRM volunteering from the perspectives of different groups.

Individual well-being

This proved to be relevant. Respondents readily perceived linkages between their volunteering and a number of well-being outcomes. They also identified a number of disadvantages that it will be useful for evaluations to make explicit.

Evaluating levels of satisfaction derived from volunteering also revealed important differences across governance types and illustrated how satisfaction levels can change over time.

Inequalities

Data collection related to inequalities enabled the production of a profile of a typical FCRM volunteer which could be used to assess the adequate representation of different social groups among volunteers. Furthermore, at case study level, volunteers were able to make assessments of their ability to offer adequate support to vulnerable sections of the community.

Behaviour change

Questions related to behaviour change generated useful insights about the range of voluntary activities of many volunteers, in addition to evidence of volunteers' motivations to do more voluntary work – both for the Environment Agency and other organisations.

Retention

Questions related to volunteer retention highlighted the importance of volunteers' altruistic motivations to protect their communities through management activities for flood risk mitigation and supporting community preparedness.

Reduced flood risk

This proved to be a highly relevant evaluation category. Data collection reveals that volunteers are clearly adding value in terms of building community resilience and preparedness, and the delivery of flood warnings – all of which are helping to reduce communities' reliance on the Environment Agency. Questioning in this area also highlighted a number of issues and challenges that can prevent or obstruct volunteers in carrying out some duties and tasks (see Section 4.7).

5.3.2 Methods

Data collection involved the employment of a number of methods in line with the protocols set out in the prototype evaluation framework (see Work Package 2 report; Environment Agency 2015b). This multi-methods approach facilitated the gathering of both quantitative and qualitative data to address a range of evaluation questions put forward in the framework.

The methods protocols provided in the Work Package 2 report provide a useful resource for any future evaluations of FCRM volunteering initiatives or wider volunteering connected to the Environment Agency. These can be adapted, if necessary, depending on the aims of any future research. Although no revisions to the methods set out in the evaluation framework are proposed, the primary data collection phase of the project has revealed a number of points worthy of reflection.

The framework does not at present set out a method for capturing the views directly from wider community members about the efficacy of volunteering initiatives. Instead, evidence of community impact is derived through methods which capture the opinions and perceptions from volunteers themselves and staff from the Environment Agency and partner organisations. If assessing community impacts of volunteering is seen as a priority by the Environment Agency, it might be useful to adapt the methods so that they can be used to gather views directly from communities where volunteers are operating.

Some difficulties were experienced in recruiting volunteer respondents to carry out the data collection. A particular issue stemmed from data protection requirements which meant Environment Agency staff had to act as gatekeepers to set up initial contact with their volunteers and to seek permission for them to get involved in the research. This indirect approach was particularly problematic in terms of recruiting respondents to carry out the survey, volunteer diaries and interviews. In the case study areas, it was possible to approach Environment Agency staff more directly and make contact with volunteers more easily. If evaluating volunteering initiatives is to be a priority going forwards, the Environment Agency will need to consider how best to facilitate contact between evaluators and volunteers.

Some of the flood wardens experienced difficulties in completing the diaries in terms of knowing what to include, even when provided with an example. However, the data received have been useful in understanding what activities flood wardens and flood groups get involved in, and particularly useful in proving volunteers with a means to highlight some of the issues and challenges they face.

5.4 Research note

A research note was prepared for Environment Agency use following a workshop with the project steering group to discuss the insights it should highlight (O'Brien et al. 2014). The document provides a short background to the research and a précis of the results outlined in this report. It discusses strategic decision making within the Environment Agency concerning FCRM volunteering and highlights key operational issues that have arisen from the research.

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Appendix A: Standard letter

A.1 Letter sent to FCRM volunteers by Environment Agency staff to invite them to participate in the research

Dear

Thank you for all the volunteering work that you do associated with flooding issues by getting involved in flood plans, information provision, assisting others and so on. These are very important activities that help communities to reduce risk and respond better during flooding incidents.

Because of the importance of volunteers and volunteering, the Environment Agency has asked Forest Research to undertake a study so that we can get a better understanding of what motivates people like you to get involved in flood related issues and what they get out of this involvement. We want to do this so that we can encourage more people to get involved and manage volunteering effectively ourselves or in partnership with other organisations.

To be able to do this work, we would like Forest Research to contact volunteers on our behalf and include them in the study. This would involve participating in one of the following: a questionnaire survey; an interview; or keeping a short diary over a small number of weeks. This is an opportunity for you to be able to tell your story in your own words of how you got involved in volunteering and why you do it.

This will be a very important part of the research and we would like to ask would you be willing to be included? If the answer is 'yes' we will pass on your details to Forest Research and they will get in touch with you to let you know more about how you can be involved.

We do hope that you will contribute to this very useful and important study. Please read the 'How we will use your information' section on the attached for more information. Your name will not be used in any reports and you will remain anonymous.

Please can you let me know if you are happy to get involved by completing the details on the slip below and returning this to us in the postage paid envelope by [insert date].

Yours faithfully,

Your name here

Your title here

Your contact number here

Address of Environment Agency office here

Enc: Postage paid envelope

Thank you very much

[insert name] will contact you in the next few weeks.

If you have any queries please contact [insert name].

Appendix B: Example Flood Warden Diary

Below is the diary of a flood warden from the Lincolnshire area which is provided as an example of the responses gained from those who completed a flood warden diary.

Please provide 'Your Volunteering Timeline' below.

The beginning



Jun/Jul 2007	Extensive flooding in XXX on two occasions within a month caused by significant rainfall; my property barely escapes being flooded
Oct 2007	Public meeting held to give community opportunity to raise concerns following events of the summer; first mention made of need for 'someone to check river levels' at times of flooding
Jan 2008	Flood Warning issued for XXX area
Jun 2008	Flood Alert issued for XXX area
Oct 2008	Further public held to explain progress made since previous summer; initial contact with Town Clerk when appeal made for volunteer flood wardens for the town
Dec 2008	Flood Alert issued for XXX area
Apr 2009	First attendance at River Lud Liaison Group meeting organised by Town Council
Nov 2009	First attendance at Flood Warden seminar held by Environment Agency in Lincoln; initial contact with members of its Flood Incident Management team
Feb 2010	Attended Town Council meeting to introduce myself and my role to elected members and to take questions
Mar 2010	First press articles to 'introduce' me and my role to the community
May 2010	Information leaflet drop takes place in areas most significantly affected by 2007 flooding
May 2010	Launched a Facebook page as an alternative means of distributing information quickly and widely to a large section of the population in the area
Jun 2010	Involved in community safety event held in town to help raise awareness of flooding issues
Jul 2010	Featured on BBC Look North to mark three-year anniversary of summer 2007 floods
Jan 2011	Working with Town Clerk to begin completion of community flood plan for the town (ongoing meetings and revisions since)
Apr 2012	Flood Alert issued for XXX area; report of my activities given to Town Council
Jul 2012	Flood Alert issued for XXX area

Nov 2012	Flood Alert issued for XXX area
Dec 2012	Flood Alert issued for XXX area on two separate occasions
Jan 2013	Flood Warning issued for River Lud in XXX and Flood Alert for XXX area; highest levels since summer 2007 though no properties affected on this occasion – liaised with emergency services to give advice about locations most likely to be affected, talked to town and district councils regarding response, and appeared on BBC Look North and BBC Radio Lincolnshire twice to provide information during incident; report of my activities given to Town Council
Feb 2013	Flood Alert issued for XXX area
Mar 2013	Launched a Twitter page as an alternative means of distributing information quickly and widely to a large section of the population in the area at the request of members of the community following the success of the Facebook page
Apr 2013	Invited to lead workshops during Environment Agency flood warden seminar on use of social media as a means of distributing flood-related information
Aug 2013	Flood Alert issued for area
Oct 2013	Appeared on BBC Look North and BBC Radio XXXX to discuss preparations ahead of anticipated storms

Today

‘Your busy month volunteering’ (please fill in with your details) **OCTOBER 2013**

Week 1

Day	Activity – what did you do and who else was involved	Time taken
Every day	Checked Facebook and Twitter accounts and responded to messages received and post flood-related information that may be of interest to the community, at least twice per day.	Up to 10 minutes per check
Tuesday	Discussed with a member an invitation to attend a Rotary Club meeting to give a presentation about my role and what it involves.	30 minutes
Thursday	Discussed with a former colleague my availability and the content of a visit a local school to speak with a class about flooding in general terms and what my role is when an incident occurs.	1 hour

Week 2

Day	Activity – what did you do and who else was involved	Time taken
Every day	Checked Facebook and Twitter accounts and responded to messages received and post flood-related information that may be of interest to the community, at least twice per day.	Up to 10 minutes per check
Wednesday	Discussed with a resident their concerns about recent rainfall and its impact on river levels; also giving details about the town's planned flood attenuation scheme.	30 minutes
Saturday/ Sunday	Visually monitoring levels on the River Lud on several occasions during heavy and prolonged rainfall. Nothing of concern found.	Up to 10 minutes per check

Week 3

Day	Activity – what did you do and who else was involved	Time taken
Every day	Checked Facebook and Twitter accounts and responded to messages received and post flood-related information that may be of interest to the community, at least twice per day.	Up to 10 minutes per check
Monday	Began collecting information for local press for an upcoming article about being prepared over the winter months should there be a repeat of the number of Flood Alerts issued last winter.	Up to 10 minutes per check
Friday	Visually monitoring levels on the River Lud on several occasions during heavy and prolonged rainfall. Nothing of concern found.	1 hour
Sunday	Met with Town Clerk and town councillor to discuss preparations ahead of expected storms forecast to affect the area over the weekend. Took part in filming for local TV broadcast on preparations being made in the area due to forecasted storm weather.	1 hour

Week 4

Day	Activity – what did you do and who else was involved	Time taken
Every day	Checked Facebook and Twitter accounts and responded to messages received and post flood-related information that may be of interest to the community, at least twice per day.	Up to 10 minutes per check
Monday	Visually monitoring levels on the River Lud in XXX and updating on surface water issues around the town from early morning throughout the day during stormy weather. No concerns regarding river levels but some surface water issues. Consulted Town Clerk and made preparations to place triangular warning signs at affected locations. Took part in interview on local radio.	7–8 hours
Tuesday	Met Town Clerk to discuss updates to town's community flood plan and possibility of training opportunities previously discussed.	1 hour

Appendix C: Case study selection

The following criteria were identified as potentially important for choosing the four case studies to research in more detail. However, given the length of this list it was not possible to choose four cases that cover all of the criteria. It was therefore decided that the key criteria should include governance type and segment.

Criteria

- Volunteering type/role – river flood wardens, coastal flood wardens, flood alleviation, flood volunteers
- Activity of volunteers – operating assets, community flood planning, monitoring levels and trash screens – or use physical, knowledge, campaign and virtual
- Prevention, response, emergency
- Volunteering segment – individual, community, partnership
- Governance – for Environment Agency, in partnership, through others, for themselves
- Rural/urban
- Dealing with challenging issues
- Recently/not recently flooded
- Flood risk level – high, medium, low
- Geographical spread (by Environment Agency region)
- Funding – externally funded, Environment Agency funded
- Recently established, long established projects
- Area of Environment Agency business

See Appendix B of the Work Package 1 report (Environment Agency 2015a) for definitions of volunteer type, governance, segment and activity type.

Table C.1 Case studies chosen to represent each governance type and each segment type

	Cornwall (Community Flood Forum and community flood groups)	River Stewardship Company, Sheffield	Bodenham Flood Protection Group	Lincolnshire Flood Warden Scheme
Description	Cornwall has many community flood action groups that are members of the forum, which is an umbrella support organisation	Company limited by guarantee, set up by partners including the Environment Agency, manages rivers on behalf of riparian owners Volunteers deliver much of the work	Community flood action group	Parish council flood warden scheme started in Lincolnshire and being extended to Northamptonshire, Peterborough and Humberside
Volunteering type/role	Flood volunteers (flood action groups)	Habitat management Catchment management	Flood volunteers	Flood wardens
Activity of volunteers	Multiple	Physical – clearing habitats	Multiple including physical such as clearing habitats	Campaign and knowledge
Segment	Community/partnership	Individual/partnership	Community	Individual
Governance	Forum = partnership Groups = for themselves	Through others	For themselves	Direct Environment Agency management
Rural/Urban	Rural	Urban	Rural	Rural and urban
Recently/not recently flooded	Recent – 2010 and 2012	2007	2007	2012
Flood risk level	High	High	Medium	High
Geographical spread	Cornwall	Yorkshire and north-east England	Herefordshire	Part of Lincolnshire/ Cambridgeshire – Environment Agency Anglian Northern Area
Funding	Environment Agency, parish councils and local authorities, Defra Pathfinder project	Environment Agency plus variety of other organisations	Defra Pathfinder project	Environment Agency, county council, district council
Area of Environment Agency business	FCRM	FCRM and maintenance	FCRM	FCRM

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