

## Overview

A case study analysis of the effectiveness of two community direct action self-help (DASH) groups: a river conveyance management group and a sea wall management group. DASH groups are found to be motivated by the need to deal with increasing flood risk in the face of reduced public funding, alongside sense of stewardship and community solidarity.

Channel maintenance work by a DASH group can be effective and efficient at reducing some aspects of local fluvial flood risk for lower order flood events. Maintenance of existing sea walls by a DASH group may be less efficient because of the need for significant expenditure on materials and only efficacious if the engineering is quality controlled; its longer term effectiveness is also limited by sea level rise.

DASH groups require nurture to be sustainable but can deliver community benefits. Professional FCRM coordination and support of DASH activity was examined using a case study of an Environment Agency (EA) area coordinator and comparisons with alternative approaches. Support of DASH groups by FCRM professionals was found to be essential to avoid unwise activities and involves not only controlling consents, but also in providing

advice on the nature and extent to which DASH activity might be appropriate and in arranging practical support and seed-corn funding. The most effective form of DASH facilitation requires a quality and quantity of involvement that cannot readily be supplied by dispersed arrangements from a number of individuals.

## Conceptual model of DASH groups

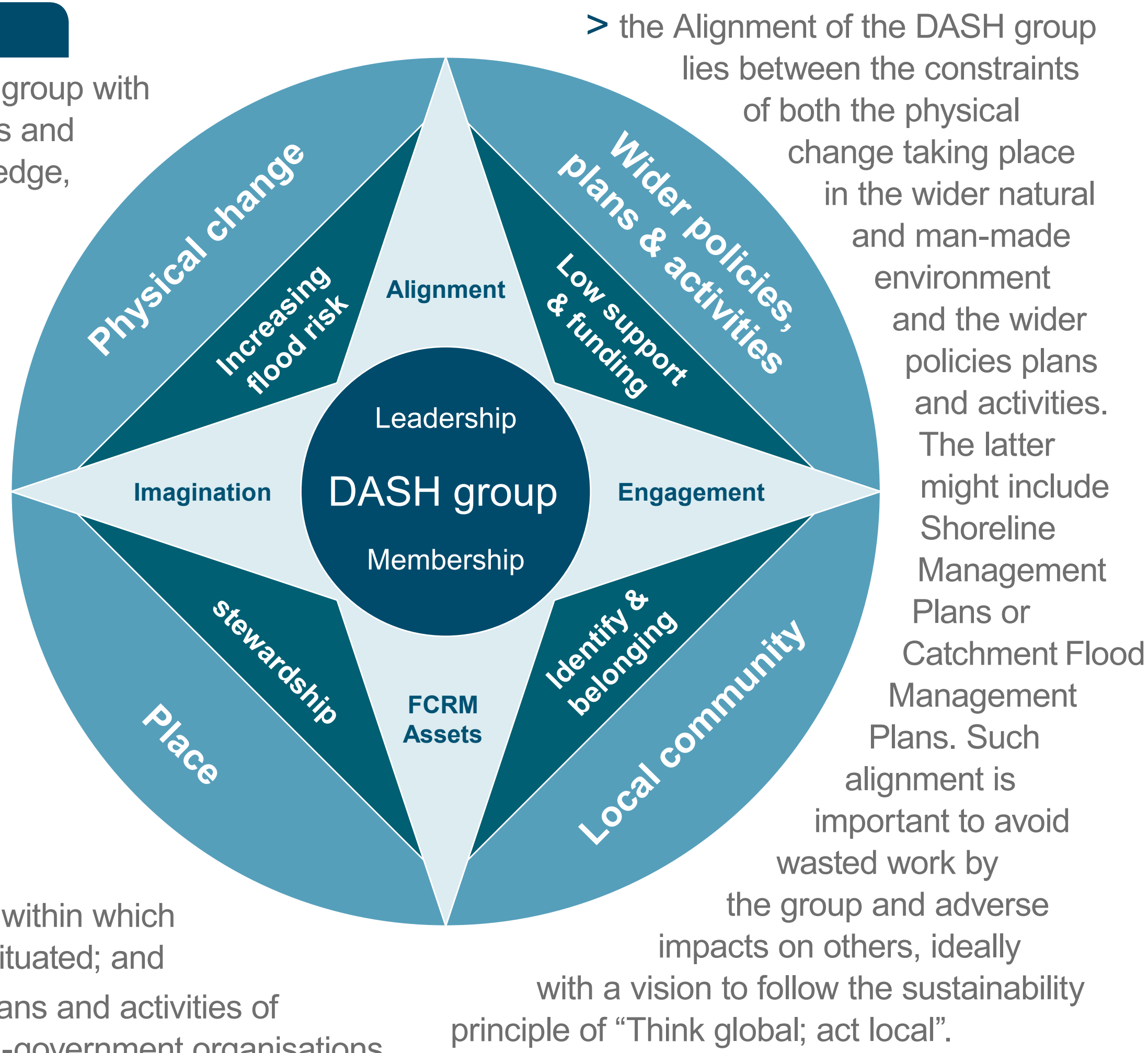
### Central circle

The developing DASH group with its leader and members and their associated knowledge, skills and expertise.

### Outer circle

The context within which the DASH group is situated including the following aspects:

- > a world of physical change in which flood risk may be increasing;
- > the place within which the DASH group is situated;
- > the local community within which the DASH group is situated; and
- > the wider policies, plans and activities of government and non-government organisations both professional and voluntary.



### Points of the star

- The dimensions of the DASH group (ideas developed from literature). Each dimension of the DASH group is located near to the contextual aspects with it is most closely associated:
- > the FCRM assets lie as a feature of the place and local community and form one part of the community spaces and structures;
  - > the Imagination of the DASH group, which is going to be about the past and the future, and about possibilities arising with and without direct action, lies within the context of both the local community vision for their place and the challenges of future physical change including climate change (e.g. sea level rise), morphological change and asset deterioration;
  - > the Engagement of the DASH group, representing its relationships, interactions, practices and shared histories of learning lies within the tensions of the aspirations of the local community and a broad range of wider policies plans and activities and the individuals and organisations involved, including landowners and FCRM professionals;

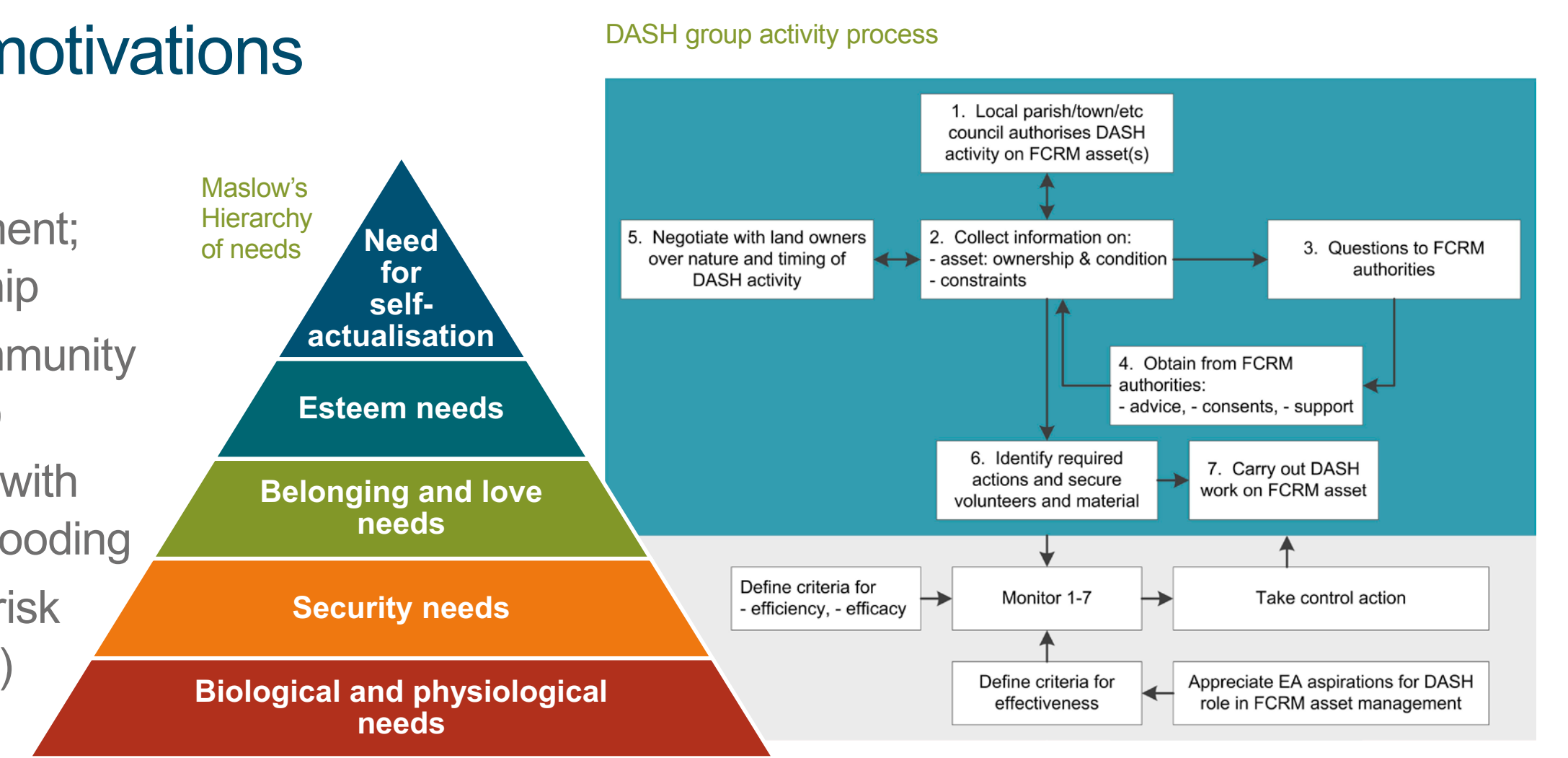
### Wide blue triangles

The motivations for action stimulated by the contextual aspects.

- > Limited availability of public support and funding. This is a part of the wider policies plans and activities of government organisations involved in FCRM. This can be viewed in two ways:
  - negatively, in that the lack of conventional full public funding for FCRM works may motivate DASH activity to commence,
  - positively, in that advice and seed-corn funding from public (or other) sources may help to trigger commencement of DASH activity.
- > Physical change and increasing flood risk is a directly understood motivator, particularly after catalytic flood events;
- > Desire for identity and belonging is linked to the local community;
- > Geography and environment of the place offers DASH group members a motivation for stewardship not just of the physical FCRM assets but also of the environment in which they are situated.

## DASH group motivations and activities

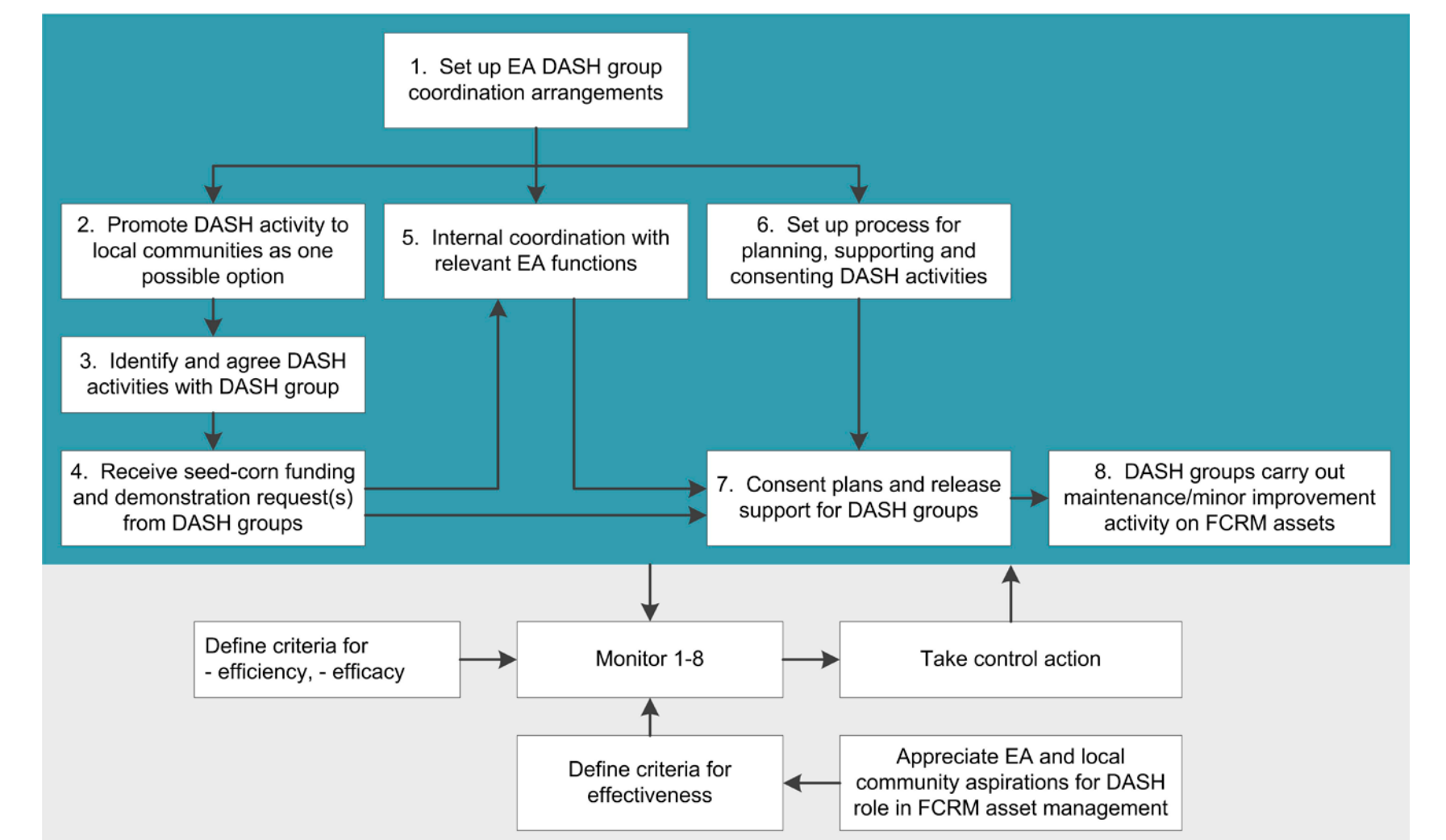
- > Altruism; self-fulfilment; sense of stewardship
- > Desire to build community ('active citizenship')
- > Sense of solidarity with those affected by flooding
- > Reduce 'my' flood risk (lower order events)



## Support required by DASH groups

The needs and aspirations of DASH groups relate to their goals. Other than reducing flood risk, their embedment in their local community means that they are also interested in:

- > providing improved understanding of local flooding mechanisms to their local community;
  - > receiving practical support in the development of flood management strategies and the skills to deliver them;
  - > receiving consent for their activities to proceed;
  - > financial support of seed-corn funding for materials and equipment.
- They may also be interested in developing emergency flood plans and generating improvements to the local environment. The Environment Agency has an interest in ensuring all these things take place too, given their national policy target to "work with people and communities to create better places" (Environment Agency, 2011).



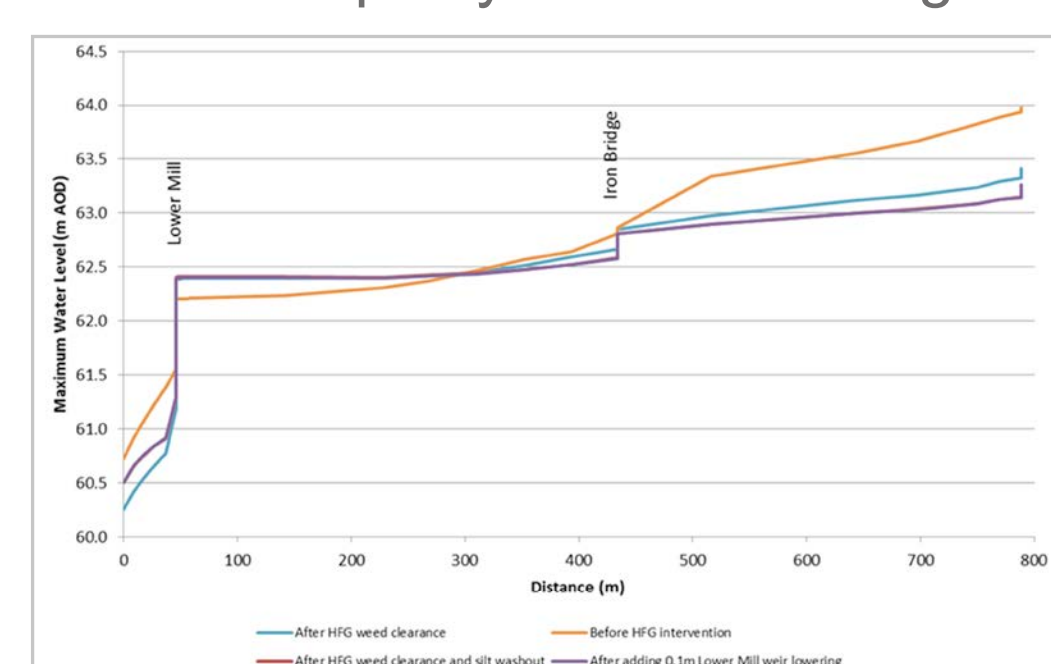
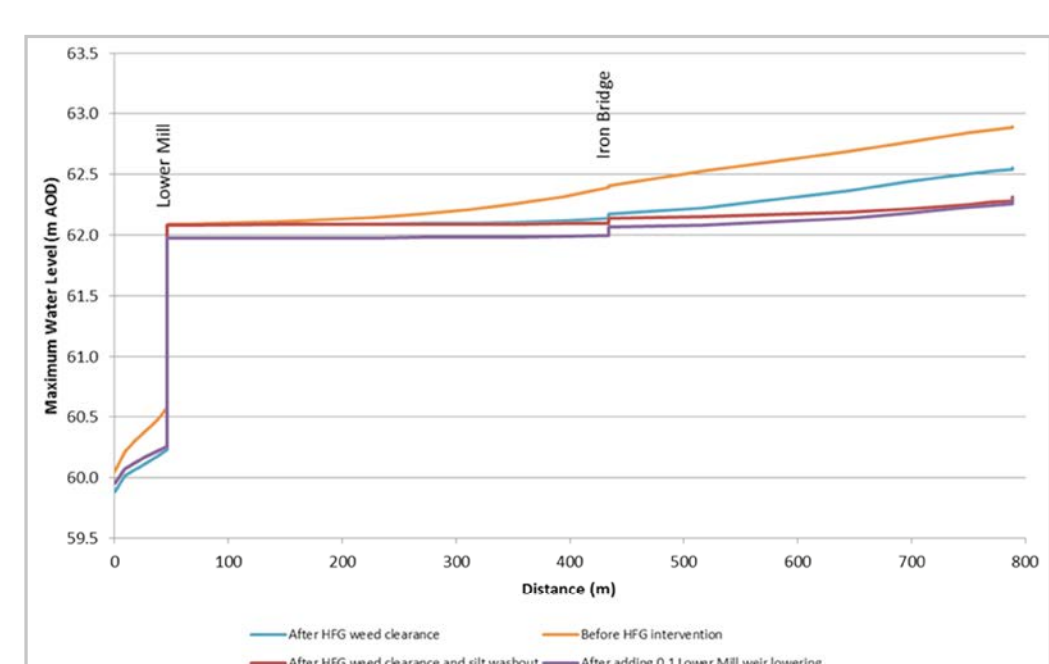
Aspect of role	Effectiveness of a DASH group coordinator role	Effectiveness of new PSO/APT arrangements within EA
Point of contact for DASH groups	Effective and appreciated by DASH groups	EA do not believe Single Point of Contact (SPC) is needed and have provided different arrangements. DASH groups would still like SPC
Experience exchange between DASH groups	Experience sharing is part of role of DASH champion. Meeting exchanges can be encouraged and organised	Neither PSO or APT teams are organising exchange of information or exchange meetings
Proactive community contact	Limited. It is difficult to make contacts without some kind of lead	Limited. Communities at highest risk are prioritised
Identifying options for community action	Carrying out role on a permanent basis allows sufficient time to explain to communities the range of available options (including DASH) and to support the initiation of subsequent action	PSO team meet communities and explain range of options available but do not have as much time to do so
Sharing experiences to assist DASH group start-up and activity and managing expectations	Key principles of channel and defence management can be shared and expounded. Experience sharing can be proactive	Principles shared by PSO team in initial meetings, but time is limited. APT provide detailed advice on hands-on aspects like channel maintenance techniques. Proactive experience-sharing is missing
Resourcing, funding and in-kind support	Hands-on support can be provided for: modelling and designs, utility searches, liaison with conservation officers. Block funding can be sought and joint arrangements made with EA maintenance workforce	Provision of resourcing present but fragmented. DASH groups have to proactively obtain any resources and support from the EA themselves. Joint arrangements with EA workforce are made
Coordination with professional colleagues	Balanced single point of contact approach allows the positive aspects of DASH activity to come through without ignoring the problems	Role split between PSO and APT, there is no single internal champion for DASH activity
Organising consents including conservation issues	Simplified consenting procedure set up. Emphasises value of hand working in reducing habitat/biodiversity damage	Simplified consenting procedure continues. PSO team happy with way it is operating. DASH groups feel less supported
Support to DASH groups during action	Arranging and conducting site visits during work, preparing material for community magazines; arranging advice of EA maintenance workforce	Advice and demonstrations from EA maintenance workforce are given. Other during action support is patchy

## Case study - Letcombe Brook, Oxfordshire

- > River channel maintenance work by DASH groups can be efficacious in reducing flood water levels although an effect of channel maintenance may be to slightly raise water levels close to control structures.
- > Economic analysis of case study data indicates that the reduced out-of-pocket costs of DASH group work can deliver

flood risk reduction associated with rivers efficiently and to an acceptable benefit-to cost ratio in comparison with conventionally funded work. However, accurate estimates of avoided flood risk are problematic without a full modelling which may not be justified at a local level.

- > DASH groups can be effective in delivering long-term localised control of flood risk, but cannot control all elements of flood risk partly due to a heritage of



pre-existing infrastructure such as river weirs and drainage systems and partly because channel management has a progressively reducing effect as the magnitude of storms increases.

- > Improvements in flood risk by DASH channel management do not necessarily deliver reduced insurance costs and may contrast unfavourably with insurance reactions to individual flood resilience actions.



## Case study - NE Hayling Island coast

- > Good quality repair work is required if DASH activity is to be contemplated as an efficacious solution.
- > Materials costs associated with sea wall repairs can be significant, especially if the work has to be repeated or extended on a regular basis and therefore that repairs cannot necessarily be justified on grounds of efficiency, even though they may be cheaper than equivalent professional interventions.
- > Sea level rise poses significant challenges to the long-term effectiveness of existing sea defences; maintenance of such defences without raising and strengthening and even relocating the defence line may only be attractive to local communities looking for short-term benefit.

