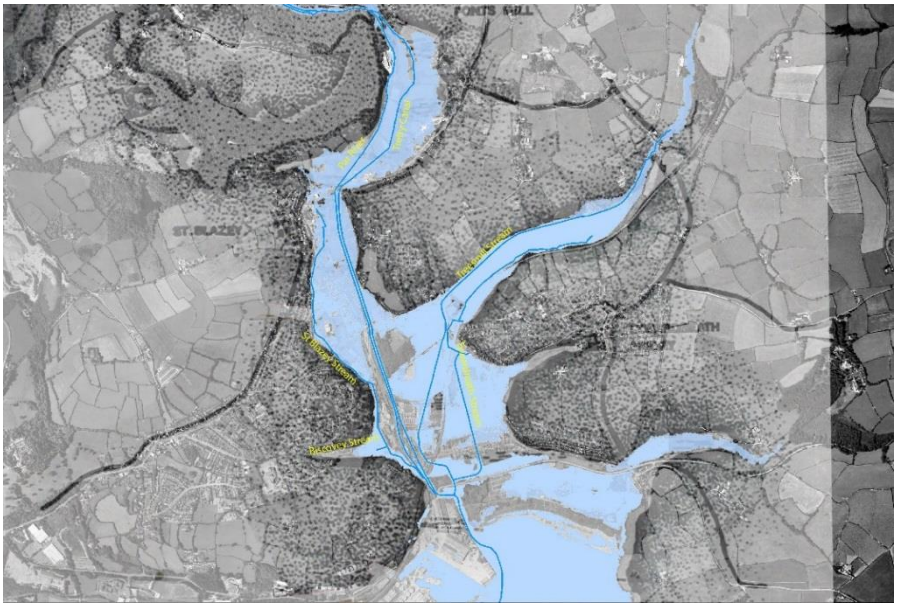
Case study 8. St Austell Bay Resilient Regeneration Project (StARR),Cornwall

Authors: James Burke, Tom Fletcher

Main drivers: flood risk, habitat creation, regeneration of communities

Project stage: feasibility phase, early landowner consultation, design and costing of options



Map 1: Historic map of the area showing the extent of the former estuary

Project summary:

The St Austell Bay Resilient Regeneration Project (StARR) project on the south coast of Cornwall (Photo 1 and Map 1) is in developmental stages. It is relying on European Structural Investment Funds (ESIF) and Flood Defence Grant in Aid along with Defra Natural Flood Management (NFM) budget to deliver all aspects of the project.

Classic flood defences are no longer the sole solution for protection of properties in this catchment. The project team is investigating catchment interventions such as:

- floodplain connection
- slope interception by tree planting and hedgerow construction
- potential storage in disused quarries

In town options include:

- blue–green infrastructure
- overland flow routes
- sustainable urban drainage (SUDS)
- removal of historic infill
- reconnection of floodplains

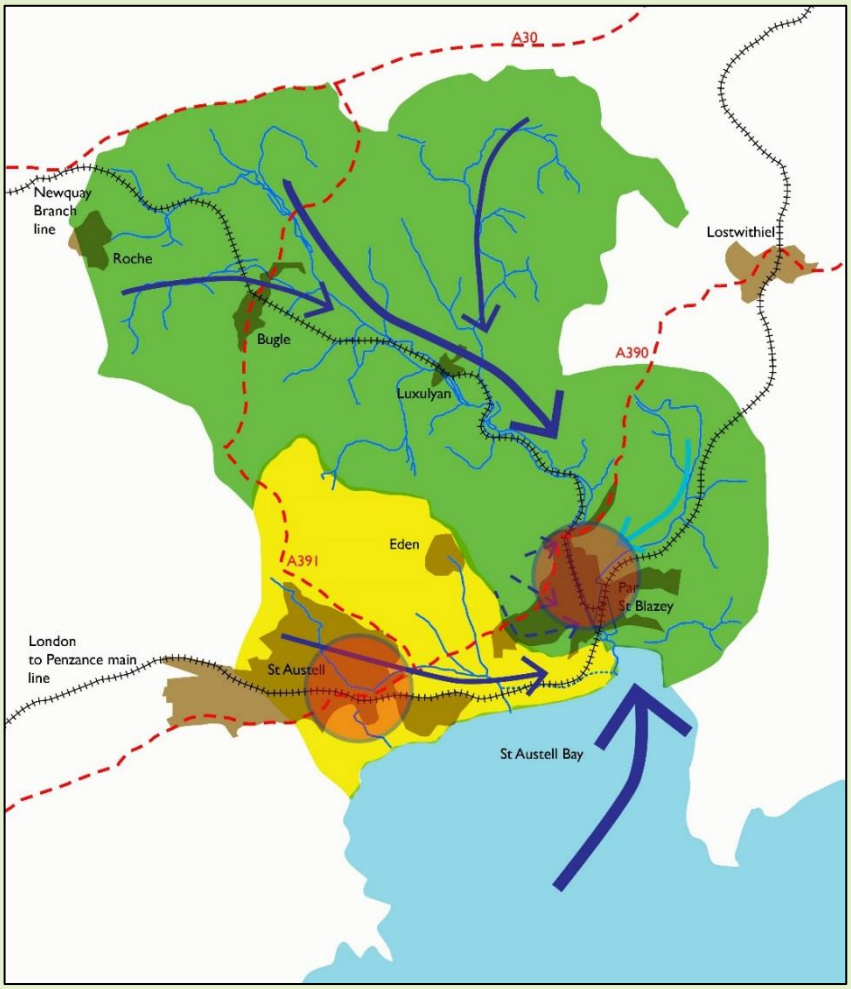
Key facts:

The project aims to provide property and business flood protection through:

- 7km of river restoration
- 30ha of habitat creation and restoration
- storage in the catchment equivalent to 400 Olympic-sized swimming pools
- regeneration of the community through landscape scale restoration and links to the tourist industry

Links to existing environmental and social projects are ongoing and planned in the catchment such as:

- Heritage Lottery Fund Wet Grassland bid
- Luxulyan World Heritage Site improvement project
- protection of historic buildings 'at risk'



Map 1: StARR project area – defined by catchments of the River Par, St Blazey Stream and the Sandy River

1. Contact details

Contact details	
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2. Location and catchment description

Catchment summary	
National Grid Reference:	SX0725754223
Town, County, Country:	St Austell and Par, Cornwall, UK
Regional Flood and Coastal Committee (RFCC) region:	South West
Catchment name(s) and size (km^2):	Par- 32km2 (upper) 11km2 (lower) Sandy River - catchment size not provided
River name(s) and typology:	Par Sandy River
Water Framework Directive water body reference:	GB108048002290, GB108048001330
Land use, soil type, geology, mean annual rainfall:	Farmland, Towns, slate/silt stone/sand stone,

3. Background summary of the catchment

The project area is within the county of Cornwall, one of the poorest areas of the UK. While Cornwall historically has generated huge wealth from its mining industry, this is no longer the case and the economy today relies heavily on highly seasonal tourism and other low paid sectors. As a result, the county is eligible for a number of structural and economic regeneration funding sources, principally from the European Regional Development Fund.

The potential to take advantage of these structural investment funds is extremely important in guiding the development of the project, particularly where more traditional sources of partnership funding (such as Developer funding) are not so easy to come by. Although this is an advantage to any flood risk management project in Cornwall, these structural investment funds come with strict conditions attached which require any project to deliver a number of specific outcomes. These outcomes will be primarily in relation to economic regeneration, but will also include a whole host of ‘cross-cutting’ themes covering, for example, habitat enhancement, reduction of social exclusion, and community engagement in the development of the project.

The rest of the project area’s economy outside the urban areas is generally dominated by agriculture and so there is opportunity to work with farmers to implement Natural Flood Management (NFM)

techniques. There is also tourism in the area, although like much of the rest of Cornwall, it tends to be focused in the coastal area, the Cornish Mining World Heritage Site (which in the project area is represented by the Luxulyan Valley) or in relation to specific visitor attractions, such as the nearby Eden Project, which do not necessarily benefit the local economy.

There is great potential for the tourism product to be boosted by this project, particular where any NFM measures are implemented near any existing tourism, recreation and access infrastructure such as footpaths, cycleways and nature reserves. All of which will have a positive knock-on effect on the local economy. There is also the added (and very important) benefit that such improvements will also benefit local residents.

Socioeconomic/historic context

The communities of Par, St Blazey and St Austell are affected by flood events on average every 2 years. The last major event occurred in November 2010, when flooding affected 55 residential properties, the road network (including the A390) and a number of businesses. The Environment Agency estimates that such events can cost in the region of £20 million in damage to homes, businesses and infrastructure with extreme flood events likely to cost in excess of £100 million.

Flood risk problem(s)

There were a series of floods in the 1950s, 1960s and 1970s which eventually resulted in a major flood defence scheme being constructed in the late 1970s. More recent flood events have shown the defences are now close to capacity. This has been backed by hydraulic modelling, which shows the standard of flood protection is lower than the 1 in 5 year return period. Moreover, future climatic change suggests that flood risk and severity will increase, leading to serious consequences for the local communities. Surface water, highway and sewerage flooding appears to be increasing and the proposed project is therefore needed to achieve an integrated long-term solution to flooding from all sources.

Other environmental problems

The coastal water body downstream is designated for shellfish and bathing waters, and is a Special Protection Area (SPA) for overwintering diving birds. The catchments were mined during industrial times, the watercourses within them have also been heavily modified to enable flood defence and urbanisation.

4. Defining the problem(s) and developing the solution

Work is in progress; options are still being evaluated and the final options have not been selected. An update in 12 months will provide more information.

Project background

This case study relates to project SC150005 'Working with Natural Flood Management: Evidence Directory'. It was commissioned by Defra and the Environment Agency's Joint Flood and Coastal Erosion Risk Management Research and Development Programme.