

Multiple benefits of green infrastructure (GI)

Sutcliffe Park flood alleviation project

History

Sutcliffe Park was once a boggy area of land known as Harrow Meadow. In the mid-1930s, the Metropolitan Borough of Woolwich landscaped the site to create a park which for decades was used as a sports ground. Sutcliffe Park is now a wetland habitat and also a flood storage area and the site was designated as a Local Nature Reserve by Greenwich Council in 2006. Sutcliffe Park has been awarded Green Flag status for the 2008-2009 period.

Background

When South London became heavily developed in the 1930s, open sections of the river were encased in concrete tunnels (or culverts). After heavy rainfall large quantities of water would surge down the tunnels and when the water met the river Ravensbourne, at Lewisham, flooding occurred in this low-lying area. The establishment of local flood alleviation schemes in areas where the risk of flooding is high is a solution to the problem.

Materials and Methods

Site

To reduce the risk of flood damage in South London, Sutcliffe Park has been re-landscaped to become a floodwater storage area.

In the event of a flood, the following things will occur:

- The inner part of the park will be closed to the public.
- If water reaches a certain level in the encased culverts, it will enter the park via weirs built into the culvert. These openings are along the park's northern perimeter.
- The water level within the park will slowly rise and the area surrounding it will become flooded; however, the water level will rise in a controlled way, over a period of hours.
- Water will gradually flow away slowly to the River Thames at Deptford Creek.

Method

A number of changes had to be made to Sutcliffe Park, at the cost of £3.8 million. The central area of Sutcliffe Park was excavated, producing a vast 'bowl', in which 85 000 m³ of flood waters can be contained, and creating a lake. The River Quaggy was re-established as a meandering, natural water course and water continues to flow through the culvert. Paths have been created, and boardwalks and bridges installed for users of the site for ease of recreation. Aquatic plants have been introduced, including water-loving trees such as willows and alders, and a wildflower meadow has been created. Also as part of the scheme a second flood storage area was created, to the west of Sutcliffe Park, on land to the west of Kidbrooke Park Road.



A wildflower meadow.

Results

While this major re-landscaping work meant the loss of some grassland and a number of sports pitches, it resulted in the creation of a wetland site, which is rich in biodiversity and of huge ecological benefit. In recognition of this, Sutcliffe Park was designated as a Local Nature Reserve (LNR) in 2006.

Improvements have been made to the local environment and community facilities, and Sutcliffe Park helps provide protection for 600 properties and over 4000 people living and working in the borough. It is a 'dual purpose' park which can be used for recreation and flood storage during a flood event.

Conclusion

In a survey of 80 visitors to the area, 89% of visitors thought that the river restoration work had improved the park, and 20% of people reported fewer personal safety concerns.

Reference

Environment Agency (2010). *Building partnerships to create better places. Our work with local government*. Environment Agency, England.