

# science summary



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## The Health Benefits of Environmental Improvements

### Science Summary SC030106/SS

Two studies by the Centre for Environment and Society at the University of Essex shows that enhancements by the Environment Agency to local green spaces provide clear health benefits to local communities.

Surveys among local residents and users of three recently enhanced sites showed that after even small-scale environmental improvements, more people visited the sites more often, stayed longer and were more likely to visit for exercise and health. These findings highlight the broader social role of the Environment Agency and its contribution to people's quality of life.

Research over the past two decades suggests that a high quality natural environment provides a wide range of benefits, including including health and well-being. Studies show that contact with nature and living things makes most people feel good and that the quality of nature in people's environments affects their mental health.

Recent research has also pointed to the benefits of "green exercise." Regular physical activity has a major positive effect on physical and mental health, and regular contact with nature can enhance mental well-being. Thus scientists propose a synergistic benefit when people engage in physical activities in the open, or close to nature, for instance a jog round a park or a walk in the country.

We commissioned the Centre for Environment and Society at the University of Essex to find out whether our work to improve local environments produce such health benefits, for example an increase in people participating in "green exercise."

The analysis of 53 questionnaires completed by people at Sutcliffe Park, an urban green space in Greenwich, clearly show how the environmental enhancements provide health benefits.

In 2004 the Environment Agency completed its re-naturalisation of the river which now flows through the park at surface level. The restored park provides a

greater variety of habitats for local wildlife, including wetland environments such as reed beds and a shallow lake.

Following the work, the number of visitors and the total visits markedly increased (by 65 per cent and 73 per cent respectively). The total time spent in the park per person per month increased by more than 3.5 hours. Significantly more people visited the park for exercise, health, its scenery and wildlife following the improvement programme.

Similar results were obtained from users of a recently refurbished 200m stretch of the Montgomery Canal towpath in Welshpool. The towpath is part of the Welshpool Dragonfly Trail project. The trail features work by a local artist and school children and encourages visitors to explore the town, its heritage and its wildlife.

A total of 39 users answered the questionnaire. Although the number of visitors has not increased, the improvement scheme has encouraged existing visitors to visit more frequently, thereby providing them with enhanced health benefits. The total time along the canal side per person per month increased by 1.7 hours (approximately 19 per cent).

Survey participants from Sutcliffe Park and the Montgomery Canal towpath were also asked about their self esteem. There was a significant difference between people who had been active for more than 11 minutes compared to those who had not, with an average self-esteem score of 17.6 compared to 20.3 (Rosenberg Self-Esteem Scale).

The third site in this research project encompassed the coastal path at Easington, County Durham. Easington is ranked as the 28<sup>th</sup> most deprived local authority area within England. Members of the local population are predominantly elderly or are suffering from ill health, partly due to the collapse of the local coal mining industry. The linear coastal path was recently connected to the village and incorporated into a circular

route with park benches and work by local artists and school children.

The survey methodology here was slightly different as questionnaires were given directly to people using the path (on-site), but also to people in the local community (off-site).

A higher proportion of people spent longer on the path for each visit, following its restoration. Overall, for on-site users the number of visits per person per month increased by 13 per cent and the total time spent on the path per person per month increased by three hours. For off-site users, the number of visits per person per month increased by 9 per cent; more importantly the number of visitors, and therefore visits, increased by approximately 11.5 per cent and 63.5 per cent respectively.

Participants in the survey were also asked to rate their current "mood" on a scale from 0 to 10 (worst imaginable mood = 0). The average score for on-site participants was 8.2 and for off-site participants was 7.4. These values imply that the on-site participants were in "better moods" than the off-site participants, perhaps due to their surrounding environment.

Rising levels of obesity, physical inactivity and associated illness, together with increasing levels of mental illness, are a major public health concern in the UK. These case studies have demonstrated that the creation and maintenance of high quality, local natural environments are vitally important in encouraging people to "get out and get active."

The results of this research show that improvements to local outdoor environments can increase the number of visitors, the number of visits made, and the duration of each visit. Small-scale enhancements, such as those in Welshpool can have a significant impact whilst more dramatic improvements, such as those at Sutcliffe Park, have the potential to transform the capacity of local natural environments to provide a resource for health (the number of people primarily using the site for exercise increased from 40 per cent to 68 per cent).

Interestingly the participants that took part in these case studies were predominantly meeting physical activity targets and were not overweight/obese, as defined by their Body Mass Index (BMI). This finding suggests we are successful in increasing activity in people who already engaged in some physical exercise; but we need to do more to target groups who currently do very little or no activity.

Nevertheless, this research clearly demonstrates the health benefits that local green spaces and water environments can have for communities. The Environment Agency therefore makes an important contribution to improving health and quality of life and we should communicate this role more widely, especially to our staff. Furthermore, we should develop more robust tools to measure these kinds of impacts from our work. Although these case studies provide useful information, they represent a very small sample

and the evidence base would be significantly stronger if routine evaluation of projects took place.

Indeed, given the great emphasis on the need for a minimum of 30 minutes physical exercise on five days a week, we should consider targeting our environmental improvement schemes towards areas of high deprivation and poor health. In this way we will have the greatest opportunity to fulfil our aim to improve people's quality of life.

**This summary relates to information from Science Project SC030106, reported in detail in the following output:-**

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