



# VALUING NATURE

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Understanding and quantifying the  
health and wellbeing value of the  
East Devon Pebblebed Heaths

Exploring the potential of partnerships  
involving private sector organisations



European Centre for  
Environment & Human Health



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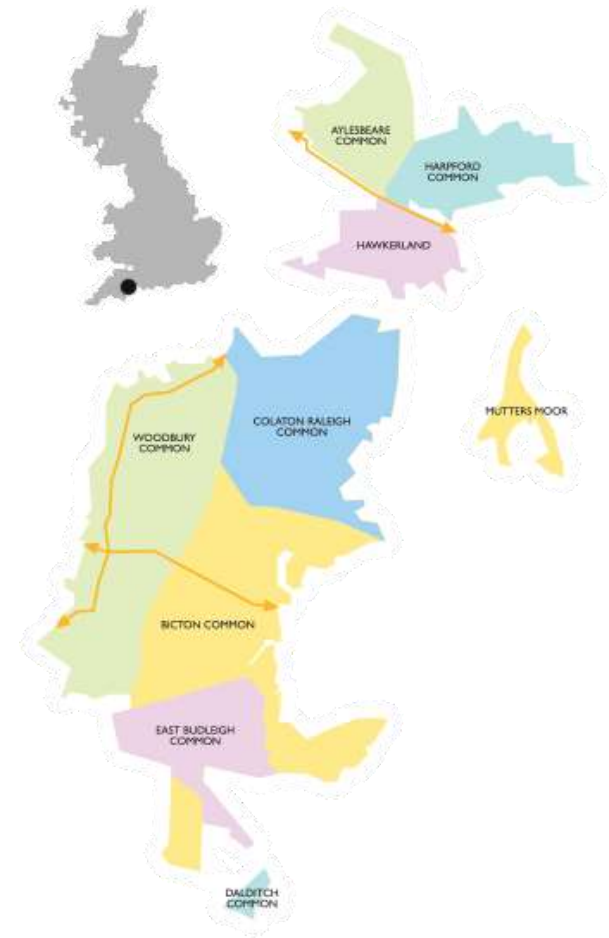


# Site: East Devon Pebblebed Heaths



# Site: East Devon Pebblebed Heaths (EDPH)

- Owned by CDE; managed by EDPH Conservation Trust
- European protected area status SAC, SPA and SSSI (lowland heathland & species protection)
- > 500,000 visitors every year; ~ 1,100 hectares
- Some areas leased / managed by other organisations e.g. RSPB, Devon Wildlife Trust



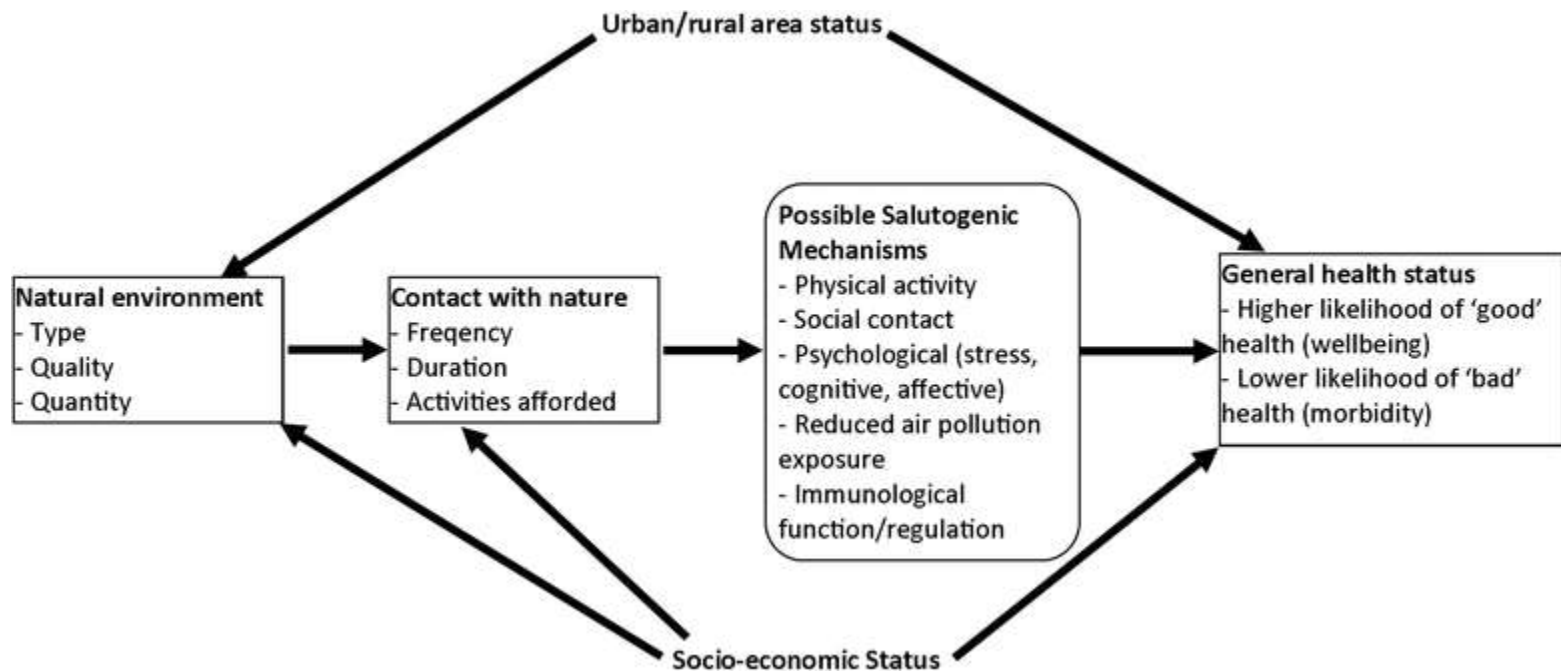
# Objectives

- To understand and evaluate the health and wellbeing value of the East Devon Pebblebed Heaths as a place of recreation and exercise
- To understand the tension between the rationale and values behind conservation / wildlife support objectives and health & wellbeing values
- To clarify how health and wellbeing values could be incorporated into public funding analyses

# Original objectives cont.

- To examine policy and practice dimensions of health and wellbeing valuation, including engaging with practitioner organisations.
- To gain insight into the role of partnerships involving private sector organisations in promoting health and wellbeing outcomes from nature sites.
- To understand the opportunities, barriers and constraints to increasing health and wellbeing benefits.

# Model of mechanisms for health benefits arising from natural environments



From Wheeler et al. 2015.



# Methods & activities

- Literature survey
- Economic valuation using visitor data already collected by Footprint Ecology using available tools such as travel cost; WHO HEAT tool; MOVES tool (QALYs); ORVal tool
- Supported by analysis of secondary data (e.g. Natural England's MENE data, census 2011, etc)
- Public engagement with environmental & public health stakeholders - interviews and workshop

# Workshop – 28 participants from 17 organisations represented including

Budleigh Health & Wellbeing Hub and Westbank Community Enterprises Ltd (venue)

Public Rights of Way (Devon County Council)

Devon Countryside Access Forum (DCAF)

RSPB

University of Exeter (LEEP)

Otter Valley Association

Footprint Ecology

East Devon District Council

Devon County Council (DCC)

Devon Wildlife Trust

Active Devon

E. Devon Area of Natural Beauty (AONB)

GP surgeries

LED Walking for Health

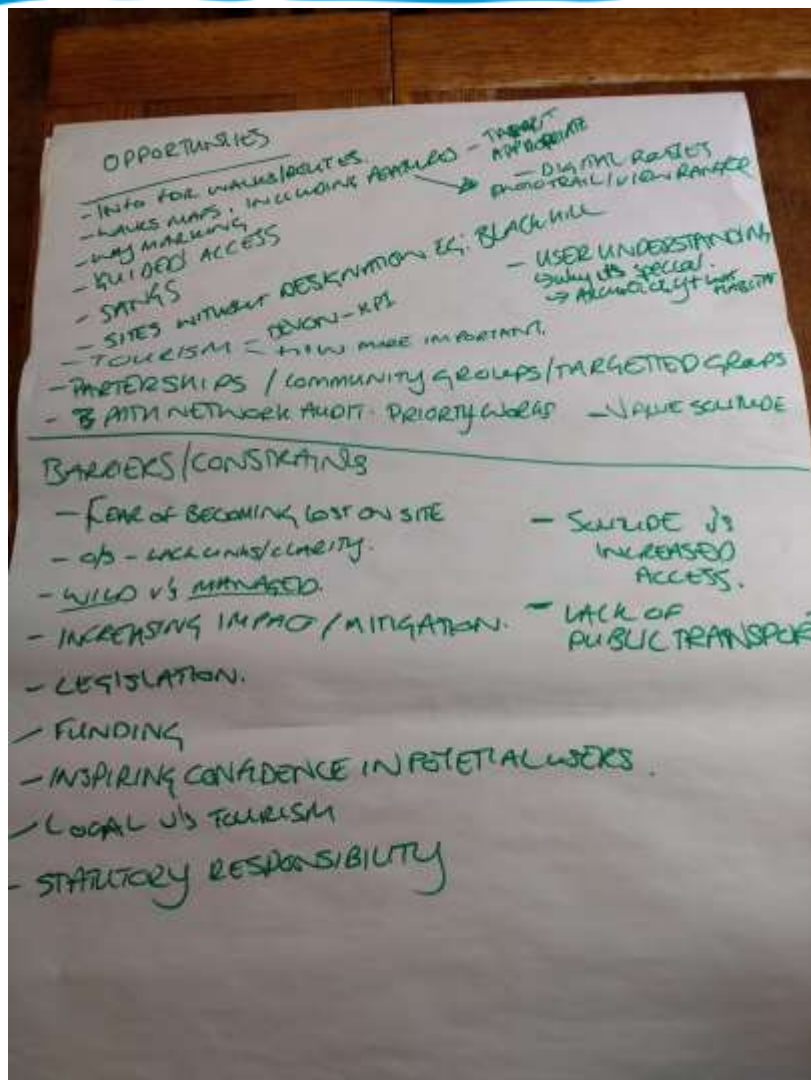
## **Presentations:**

- Initial findings of valuation & lit
- ORVal tool (LEEP, Uni of Exeter)
- Disability access issues (DCAF)
- Naturally Healthy group (DCC etc)
- Health walks
- Budleigh H&W hub



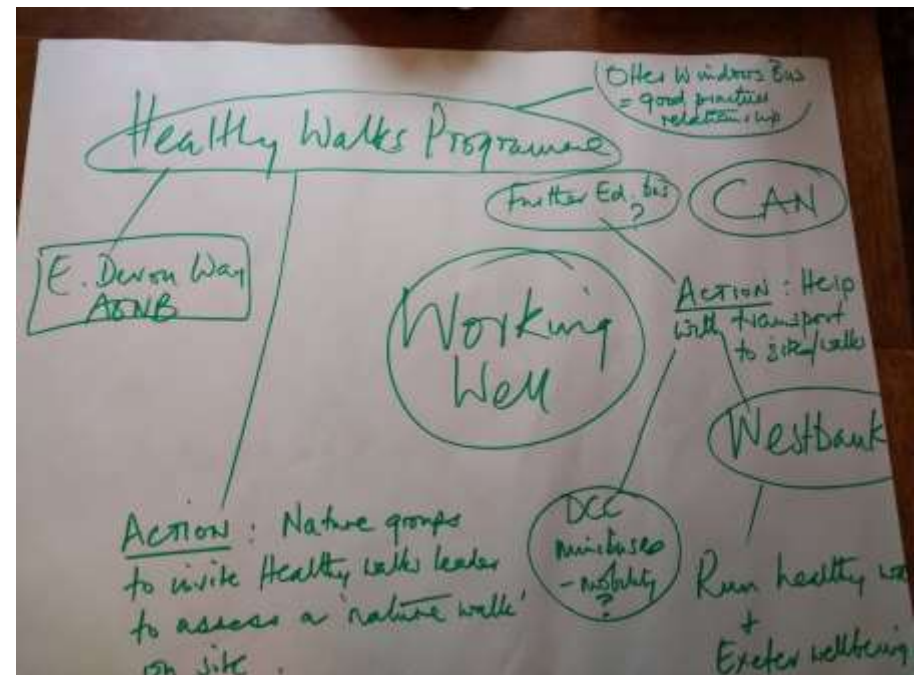


# Workshop discussions



## 3 themes:

- Quantifying economic and health & wellbeing value
- Opportunities, barriers & constraints
- Partnerships



# Key conclusions: Travel cost valuation

Travel cost results (based on visitor data):

- **£1,879,003 (£1.9m)** for an estimated 422,495 annual visits.

(based on travel cost for average trip (10.8km) to get to and from the site [by car] – use value - willingness to pay)

These are similar to the figures obtained for Outdoor Recreational Valuation (ORVal) tool (latest version)

- **£1,722,636 (£1.7m)** for an estimated 571,919 visits

# Key conclusions: HEAT

WHO Health Economic Assessment Tool (HEAT) results:

If x people walk for y minutes on most days, what is the economic value of the health benefits that occur as a result of the reduction in mortality due to their physical activity?

Adjusted estimated annual economic impact of the health benefits directly attributable to visits to the Pebblebed Heaths:

- **£446,310 (£0.4m)** for estimated 3097 regular visitors (based on approx. 422,495 annual visits)

(UK estimate **£1.5 to £1.7 billion\*** per year based on estimated 3 million people exercising outdoors)

# HEAT: Limitations and assumptions

- Assumes brisk walking speed of 3 miles per hr → used low estimate of average 3 x 30min visits per week\* (~13mins per day)
- Based on only estimated 3097 of frequent walkers
- Age 20-74 (walkers / dog walkers)
- Limitations of visitor data (no health or demographic data)
- Limited data on substitution (visits compared to other sites) → 19% figure for attribution to this site based on study of Wales coast path (£18.3m for the Wales coast path\*\*)
- MENE data points for site too few (15)

\*Based on White et al. 2016. \*\*23,688 people walking average 4.38 miles; 1.6 visits per week

# Key conclusions cont: MOVES tool

MOVES tool:

Similar model to HEAT tool

Developed by Sport England & University of East Anglia's Medical School Health Economics Consulting Group

Measures total annual value of QALYs\* gained (age 16-61+):

- **£556,766 (£0.6m)** for estimated 3097 people (regular walkers only – 3 x 30mins per week)

\*QALY: Quality-adjusted Life Years

# MOVES tool cont.

- Flexible tool; relatively easy to use (Excel)
- Can vary walking speed (brisk; slow; cross country/hills); starting level of exercise and age group (16-30; 31-45; 46-60; 61+)
- Gives outputs in QALYs → speak to public health practitioners
- Provides predicted costs of intervention & NHS costs
- Indicates that health impact & economic valuation are much greater for older people



# Relative costs of interventions

- Standard annual exercise costs: £157,598 for 3097 regular brisk walkers only (MOVES tool estimate)
- This appears to be less than the ~£350,000 annually for direct management of the site\*
- But this does not take account of less frequent visitors: ~464280 visits annually

\*This figure does not cover infrastructure or capital costs for site, transport or further targeting of other groups

# Return on investment (cost/benefit analysis)

- The return on investment using the PHCT and different valuation figures are as follows:
- HEAT estimate:  $(446310 - 3500000) / 3500000 = 28\%$  (0.28 times the cost)
- MOVES estimate:  $(556766 - 3500000) / 3500000 = 59\%$
- ORVal:  $(1722636 - 3500000) / 3500000 = 3.92 = 392\%$
- Travel cost:  $(1879003 - 3500000) / 3500000 = 437\%$

## Key conclusions cont.

- The health and wellbeing economic impact of exercising on the Heaths represents a **significant component of the overall 'welfare value' (economic use value) of the site**
- HEAT and MOVES tools give similar valuation results (£0.45 vs. £0.56m)
- ORVal and travel cost give similar results (£1.7m vs. £1.9m)
- Impact/benefits on mental health not included – tools currently being developed
- Qualitative value is harder to discern from visitor data – some data on reasons for visit – more data needed

# MENE data 2015-16\*: Qualitative experiences of the outdoors

Statement	Agree strongly (%)	Agree (%)
...I enjoyed it	48	49
...It made me feel calm and relaxed	31	57
...It made me feel refreshed and revitalised	31	55
...I took time to appreciate my surroundings	27	55
...I learned something new about the natural world	9	22
...I felt close to nature	24	51

\*Monitor of Engagement with the Natural Environment. Source: Natural England 2017.

# Qualitative values relating to nature experiences

- Qualitative research shows that nature experiences are meaningful and important, contribute to quality of life, and result in feelings of wellbeing that include spiritual aspects / those that cannot be expressed through words
- Values expressed can range from the abstract to the concrete and are formed through relationship to place and each other (e.g. place attachment)\*

# Key conclusions and learning points:

## Partnership

Partnership working could increase the health and wellbeing benefits through:

- identifying and filling evidence gaps especially those needed to influence public health policy
- strategic planning at county, district and organisational level – e.g. identifying strategic theory of change and evaluation for interventions (behaviour change models);
- better coordination of existing activities;
- consultation of key stakeholders e.g. disability groups on access – paths, gates etc.
- increased targeting of activities to include disadvantaged groups / older people etc; and
- inclusive training for walks leaders.



# Evidence gaps / action points arising from the analysis

- Identifying what evidence public health policy makers need in order to influence policy; & filling these gaps
- Refining the methodology for how visitor data could be used to estimate health and wellbeing economic impact and what additional data is needed
- Quantifying how the length of time doing a specific activity relates to the health recommendations for “moderate” or “vigorous” physical activity (e.g. using the Active 10 app )
- Obtaining more accurate estimates for substitution, so that estimates are attributable to the site in question.

# Evidence gaps / action points arising from the analysis cont.

- Identifying and utilising other data sources more effectively e.g. health data, MENE data to inform interventions.
- Quantifying mental health benefits of visiting natural environments
- Calculating travel cost using the zonal travel cost method.
- Collecting qualitative data about people's experiences of visiting the Pebblebed Heaths and associated health and wellbeing benefits.

# Placement learning experience

Informed & expanded my understanding in several areas:

- Economic valuation – including using travel cost, HEAT tool, ORVal, QALYs
- Range and role of stakeholders and nature of current interventions
- Ways of working in partnership with a private sector organisation
- Policy context and literature / evidence

# Challenges

- Timeframe for completing project tasks
- Workshop organisation time-consuming
- Extensive literature / evidence base to get to grips with
- Yet still important evidence gaps – especially evidence needed to influence public health policy; & quantifying mental health benefits of outdoors
- Gaps in visitor data - not originally intended for health and wellbeing purposes
- Engaging with public health professionals was challenging – busy / not available
- Finding funding for future research and strategic intervention work in this area
- Interventions currently fragmented - poorly funded area

# Opportunities

- Interest in further research & follow-up
- Follow-up work with the range of council & voluntary sector organisations likely to bring greater H&W benefits
- Help inform strategic objectives for Naturally Healthy group working with Devon County Council
- Chance to inform design of future visitor surveys to plug gaps in health and wellbeing info
- Valuation work could be extended to other sites using visitor data
- Evidence gaps identified that could be addressed with further research (incl. collecting qualitative data)
- Further data collection / sources e.g. Active 10 app & Exeter 10,000 project

# Proposed outputs & dissemination

- Workshop slides and discussion notes made available to participants
- Final report to be made publicly available and shared with Valuing Nature community
- Working with ECEHH staff to produce a working paper / case study and / or journal article
- Blog to be further updated
- CDE press release in process.



# References cited

Natural England 2017. Monitor of Engagement with the Natural Environment: The national survey on people and the natural environment: Headline report from the 2015–2016 survey, in Natural England Commissioned Report JP022. Natural England: Sheffield.

Rawluk, A., R.M. Ford, F.L. Neolaka and K. J. Williams. 2017. Public values for integration in natural disaster management and planning: A case study from Victoria, Australia. *Journal of Environmental Management* 185: 11-20.

Wheeler, B.W., R. Lovell, S.L. Higgins, M.P. White, I. Alcock, N.J. Osborne, K. Husk, C.E. Sabel and M.H. Depledge. 2015. Beyond greenspace: an ecological study of population general health and indicators of natural environment type and quality. *International Journal of Health Geographics* 14: 1-17.

White, M.P., L.R. Elliot, T. Taylor, B.W. Wheeler, A. Spencer, A. Bone, M.H. Depledge and L.E. Fleming. 2016. Recreational physical activity in natural environments and implications for health: A population based cross-sectional study in England. *Preventive Medicine* 91: 383-388.

# Tools cited

- WHO HEAT tool:  
<http://www.heatwalkingcycling.org/#homepage>
- MOVES tool (downloadable excel tool):  
<https://www.sportengland.org/our-work/health-and-inactivity/what-is-moves/moves-tool/>
- ORVal: <http://leep.exeter.ac.uk/orval/>
- Active 10 app :  
<https://www.nhs.uk/oneyou/active10/home#RhcbOxZUliUuYEcw.97>

# Thank you for your attention

