



PAYMENT FOR ECOSYSTEM SERVICES (PES) – HULL PES PILOT RESEARCH PROJECTS

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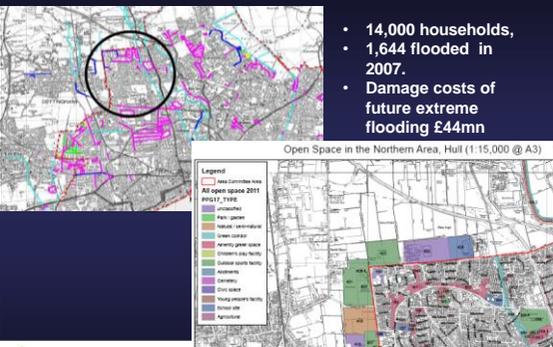
Objectives of Hull PES pilot

- Identifying how green and blue space currently delivers ESs to its residents and opportunities for enhancement
- Identifying community and local business preferences for enhanced ES delivery
 - regulation (flood alleviation, climate, air quality and water)
 - provisioning (food, biomass)
 - cultural (recreation, landscape and health benefits)
 - Supporting (biodiversity)
- Investigating mechanisms for providers to deliver flood risk management measures and for beneficiaries to pay them.
- Exploring willingness amongst partners to take proposed PES forward



Orchard Park and Greenwood ward

- 14,000 households,
- 1,644 flooded in 2007.
- Damage costs of future extreme flooding £44mn



Open Space in the Northern Area, Hull (1-15,000 @ A3)




Orchard Park and Greenwood ward




Study Methodology

Stage 1. Scoping

- Set up Local Task Group
- Institutional, policy, land holding, flood risk context
- Technical and economic benefits for ES enhancement via GI and SuDS
- Stakeholder mapping – beneficiaries, buyers, sellers, intermediaries
- Mapping out key PES characteristics - actors, payment vehicles, effectiveness

Stage 2. Detailed Research

- Develop materials and run 'HU6 Whatever the Weather' workshop with local stakeholders
- Help them understand ESA (using PES guidance outputs) and palette of SuDS and GI options that deliver multiple benefits
- Decide what mix/level of ESs they would like in the future
- Identify potential PES approaches

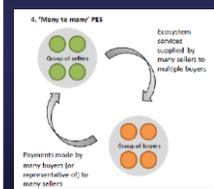
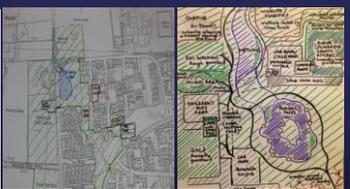
Stage 3. Develop PES pilot

- Prepare proposals on how PES could work
- Report to partners, Defra and disseminate results



Opportunity for Country Park style PES scheme

- Larger scale to create SuDS, greenspace & regeneration in Dane Park
- A complex 'many to many' PES approach
- Multiple ESs benefits (recreation, health, biodiversity, jobs, landscape and & water quality) piggy backing on the primary management of surface water flood risks




	Wildflower meadow grassland	Rough grassland	Ponds	Car park with permeable surface	Naturally colonising woodland	Woodland in managed greenspace	Aqua Sports pitches & golf course
COST							
1-4 yrs	710	580		€65-600/ car space	50	1500	1620-2280
5-9 yrs	630	580		depending on the selected treatment	110	710	1200-2280
10-50 yrs	710	580			350	1050	1620-2750
FLOOD RISK	✓	✓	✓	✓	✓	✓	✓
CO2 & CLIMATE	✓	✓	✓	✓	✓	✓	✓
WILDLIFE	✓	✓	✓	✓	✓	✓	✓
RECREATION	✓	✓	✓	✓	✓	✓	✓
LANDSCAPE	✓	✓	✓	✓	✓	✓	✓
OTHER: EMPLOYMENT	✓	✓	✓	✓	✓	✓	✓
WATER	✓	✓	✓	✓	✓	✓	✓

Buyers and intermediaries – short & long term

- Initially Council as buyer using a mix of potential funding:**
 - Defra pathfinder, EU Wild Cities, Interreg
 - Environment Agency /DCLG growth funds
 - Green City Initiative to include flood risk management and green infrastructure
 - EA partnership funding to maximise regeneration benefits of SuDS investments
 - Lancs Univ Soil quality and urban food production (allotment and market gardening)
- Longer term develop a 'many to many' layered PES for different ESs**
 - Buyers for flood regulation services such as businesses downstream in the catchment
 - Buyers for habitats for wildlife – could include businesses through biodiversity offsetting
- Working with Intermediaries to deliver:**
 - Wider employment, training (biomass and food) benefits – including Yorkshire Wildlife Trust, Groundwork, Bransholme Green Enterprises, Latitude etc
 - LT management & maintenance of the land, collecting payments, local volunteers/ social enterprises managing woodland, grassland, ponds, facilities – Land Trust



A small scale street level PES scheme

- Working with households (owners and tenants) to manage individual curtailments
- Reduction of surface water runoff to combined drains to reduce flood risks
- Applying a palette of different treatments, according to HH needs and budget
- Potentially the WASC as the main buyer
- Other ES benefits (visual, biodiversity, health, water quality, climate) piggyback on flood risk management





	Disconnect downpipes	Water butt	Permeable surface	Square metre garden	Soak away gardens	Car port with green roof
COST £	<€20	€25-50	€65-600/ depending on surface	€50-100	€100	Based on 5.5 x 2.4 m/car €450-600
FLOOD RISK	✓	✓	✓	✓	✓	✓
CO2 & CLIMATE		✓	✓	✓	✓	✓
WILDLIFE				✓	✓	✓
RECREATION					✓	✓
LANDSCAPE			✓		✓	✓
OTHER: EMPLOYMENT	✓	✓	✓	✓	✓	✓
WATER	✓	✓	✓	✓	✓	✓



Buyers, sellers and intermediaries

Sellers

- Groups of tenants or individual HH sellers on key streets
- £100k would pay for basic downpipe disconnect on all 4,930 suitable terraced and semi detached houses in Orchard Park

Buyers

- WASC as primary buyer (if approved by Ofwat) on behalf of customers
- PES financed through capital costs avoided by not enlarging drain capacity and reducing water treatment costs at plant (PR14 process)
- Akin to conservation (hippos, tap fittings, shower heads etc) or CERT schemes

Intermediaries

- Engineers for WASC/Council use flood risk modelling to identify priority streets
- Council as intermediary in disbursing funds, overseeing works
- Local NGOs working with communities, contractors, social enterprises



What is the legacy of the project?

Locally: two PES tailored to meet local needs and opportunities:

- Dane Park PES opportunities for multi agency approach to maximising wider benefits of green infrastructure across administrative boundaries
- Street level PES applicable to other flood-prone areas of the city
- Informing future SuDS work in the city
- Embedding ES & SuDS concepts across mainstream spending and delivery
- Opportunities for wider benefits - volunteering, skills, green job opportunities and strengthened community capacity for neighbourhood management.

Sub-regionally:

- street level approach, if successful, could be applied by WASC to other towns and neighbourhoods facing future flood risks/limited sewer capacities
- Shared concepts with others eg LNPs and Green Economy Council



Nationally

- **Fits with findings of Ecosystems Market Task Force**
 - Water cycle a key priority and within it flood risk management & waste water catchment management in face of climate change, water use & population
 - Need for a strong clear policy framework that provides clarity and assurance for water & sewage companies ... And others who will contribute to the new solutions
 - Highlights catchment based approaches can take many years to deliver full benefits, making a compelling business case for short time horizons difficult
 - Challenges associated with multiple beneficiaries



Learnings

- **How to design PES where there are multiple beneficiaries and providers (in an urban setting).**
 - Participatory approach to design (expertise, enthusiasm, commitment - task group, design charettes)
 - Making concepts understandable (photos, icons, language)
 - The important role of intermediaries (LAs, local NGOs)
 - Adaptive approach to designing a pragmatic scheme that could evolve (from 'piggy backing' to 'layering')
- **The challenges for PES buyers in making business cases internally and externally for involvement in PES schemes**
 - Internally – funding silos, total environment
 - Externally - costs avoided v. new assets
- **Legacy – using PES approach to mainstream ecosystem service thinking at local level (LAs, LNP, LEPS..).**

