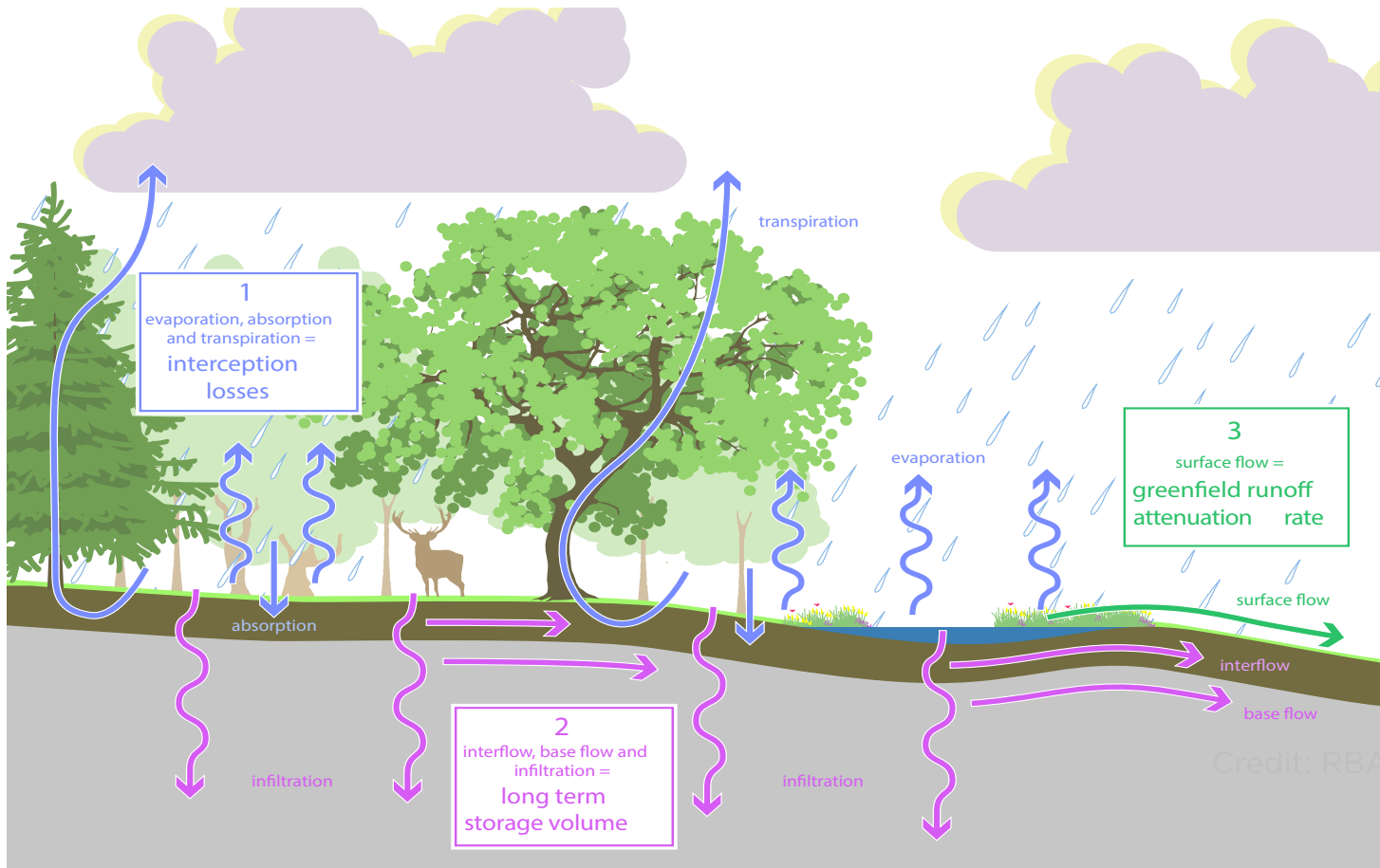


# Wales Green Infrastructure Forum 2019



SuDS for people,  
nature and water

# The character of rainfall



- Interception losses begin
- Long term losses continue
- Infiltration in free draining soils
- Runoff when soils cannot absorb rainfall

# Our inheritance from the past



Credit: Wikipedia



Credit: TFL



Credit: The Telegraph

- increasing hard surfaces
- increasing runoff
- pollution from human activity

- loss of amenity
- loss of biodiversity

# The opportunities with SuDS



- natural losses with permeable surfaces
- mimicking natural hydrology for urban trees and watercourses
- enhanced places for people and wildlife using 'a controlled flow of clean water'

# In the beginning - collecting and cleaning rainfall



- creative design to collect rain at or near the surface



Fort Royal, Worcester

- replacing the pipe and gully
- mimicking nature

# Creating 'a controlled flow of clean water'



Credit: Urban Green Blue Grids



Credit: RBA



- Blue roofs
- Permeable surfaces
- Swales, 'raingardens', basins, ponds and wetlands

# SuDS in contemporary housing

## Case Study - Springhill, Stroud



Housing on two levels:  
an upper car parking  
court and a lower  
pedestrian street



# SuDS in urban placemaking - Case Study - Bridget Joyce Square



Collection, cleaning and storage integrated into an urban space



# SuDS in highway retrofit - Case Study - Greener Grangetown



Bio-retention build out into hard urban streetscape adds measurable value and green infrastructure.



# SuDS in urban renewal - Case Study - Grey to Green, Sheffield



An urban transformation  
from four lane bus route  
to pedestrian oasis

# Integrated Urban Design - The Ecotrust Centre, USA



Permeable tarmac,  
bioretention, raingarden  
and filter drain

Every surface  
can be a  
rainfall  
collector

A microcosm of  
the city



# Conclusion



Integrated SuDS  
design - the future  
for managing rainfall  
in the city.

Thank you

Bob Bray  
for  
Robert Bray  
Associates