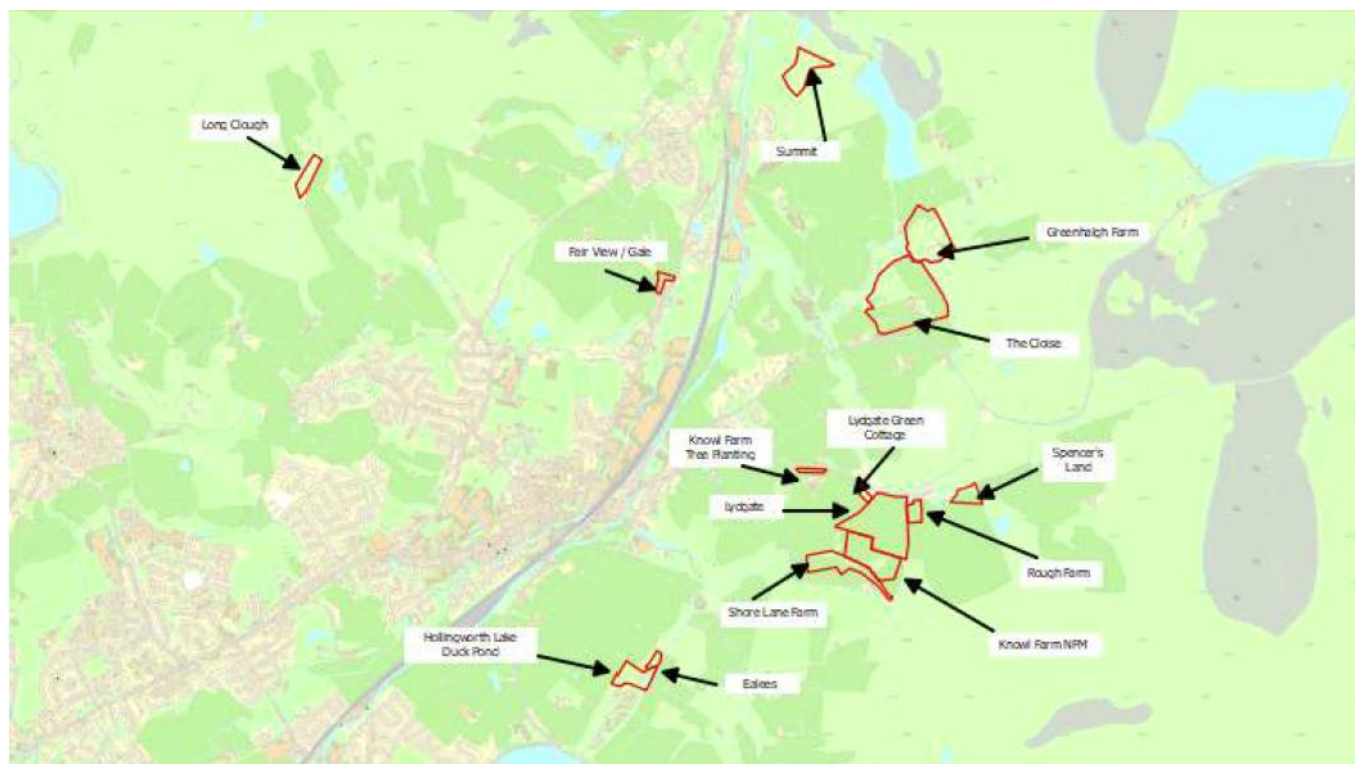


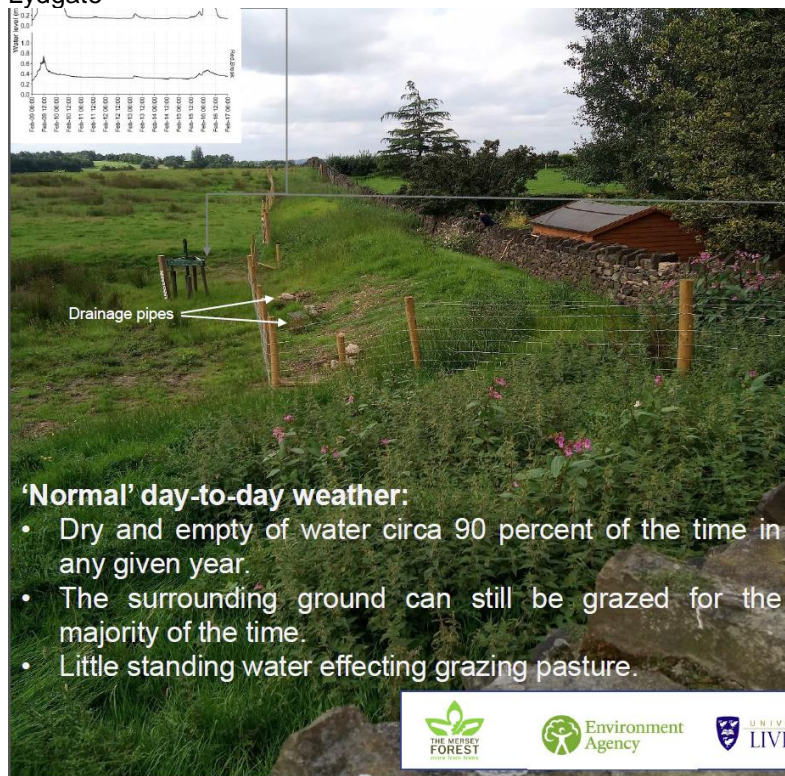
## Rochdale NFM

Rochdale MBC, working in partnership with the Environment Agency, Mersey Forest, and National Flood Forum utilised Defra Catchment Scale Flood Defence Grant in Aid fund to deliver a series of NFM interventions in the Upper Roch catchment. These interventions were designed to work in tandem with the Rochdale and Littleborough Flood alleviation capital scheme which is currently under construction. The £226k (inc. £30k Rochdale MBC funding) scheme delivered an additional 12,200 m<sup>3</sup> of flood water storage, along with 13.9 Ha Wet Grassland, and 14,900 trees planted, and will help reduce the risk to around 30 properties downstream. Ecological expertise was provided through the Greater Manchester Ecology Unit.



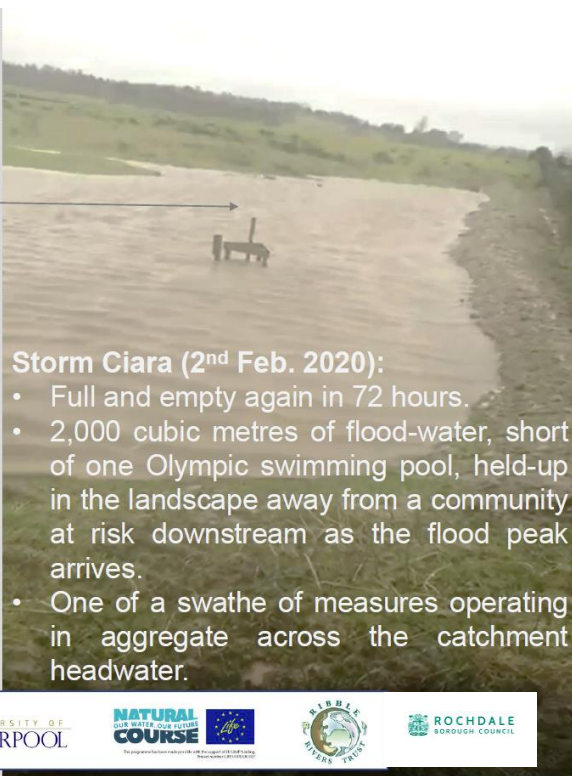
Rochdale NFM locations. (Interventions are on private land and cannot be accessed without landowner permission)

## Lydgate



### 'Normal' day-to-day weather:

- Dry and empty of water circa 90 percent of the time in any given year.
- The surrounding ground can still be grazed for the majority of the time.
- Little standing water effecting grazing pasture.



### Storm Ciara (2<sup>nd</sup> Feb. 2020):

- Full and empty again in 72 hours.
- 2,000 cubic metres of flood-water, short of one Olympic swimming pool, held-up in the landscape away from a community at risk downstream as the flood peak arrives.
- One of a swathe of measures operating in aggregate across the catchment headwater.



A large main bund and 3 additional upstream bunds have been installed at Lydgate. The two photographs shows the bund in dry conditions and it attenuating peak flow during a storm.





Large bunded barrier (with controlled outflow). These pass normal and low flows and fill and attenuate peak flows during storms.

#### Long Clough



A series of 3 online bunded ponds up in the moorland headwaters with outflows, that pass low flows but attenuate storm flows.





Engineered Log Jams. These pass forward low flows and attenuate high flows.



Some of the 14,900 trees which as they mature will improve soil drainage and will uptake moisture from the ground.

The features not only attenuate flood flows, reducing flood impacts at downstream communities at risk helping with climate change resilience, but also provide ecological habitat improvements, and sequester carbon.