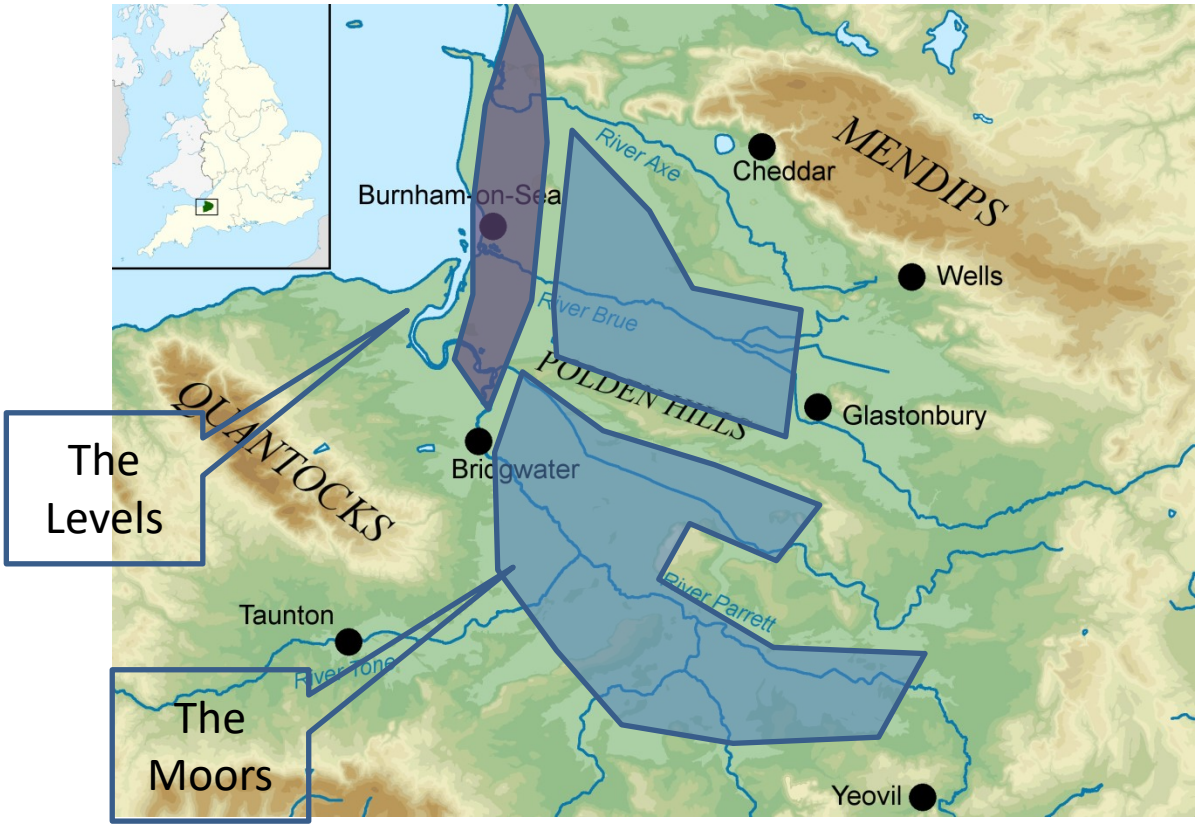
Environment Agency

How the **Somerset Moors** work

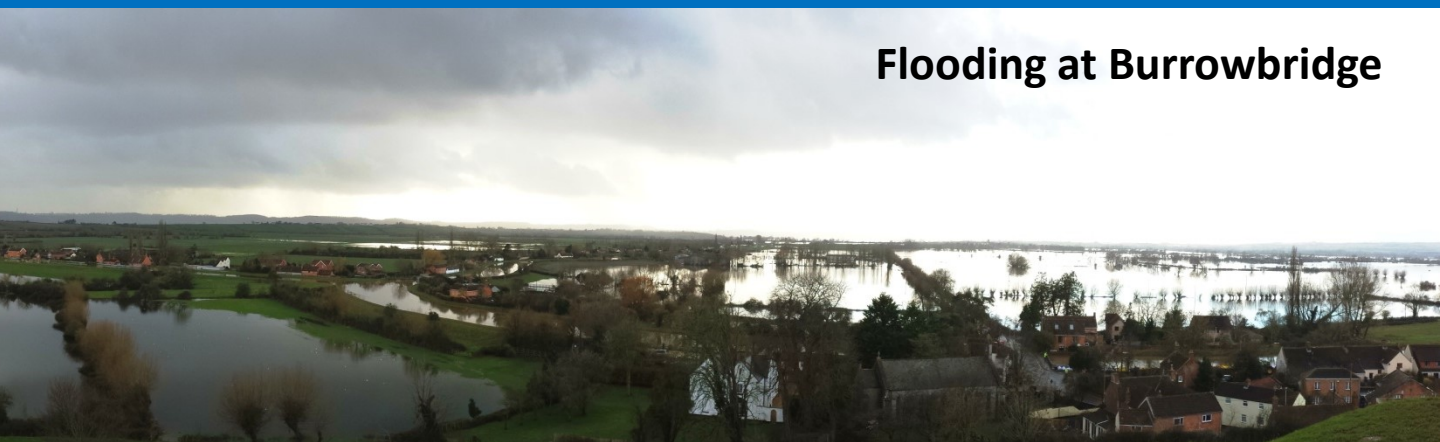
Introduction

Somerset was originally called ‘Sumersata’, which means ‘land of the summer people’. This is because the land was flooded though the winter and so its population only came down from the hills in the summer to graze their flocks. Its low-lying and flat landscape causes regular flooding even today.



The Somerset Levels and Moors consists of 'The Levels' (the higher coastal clay belt) and 'The Moors' (the low-lying basin into which the rivers overspill and flood). The lower part of the River Parrett flows through the Moors and its three main tributary rivers, the Tone, the Yeo and the Isle also flow through parts of the Moors.

The following pages show how the Parrett and Tone Moors flood and how water is moved around. Brue and Axe Moors are not dealt with. It's a complex interaction of embanked rivers, Moors, spillways, sluice gates and pumping stations.



Flooding at Burrowbridge

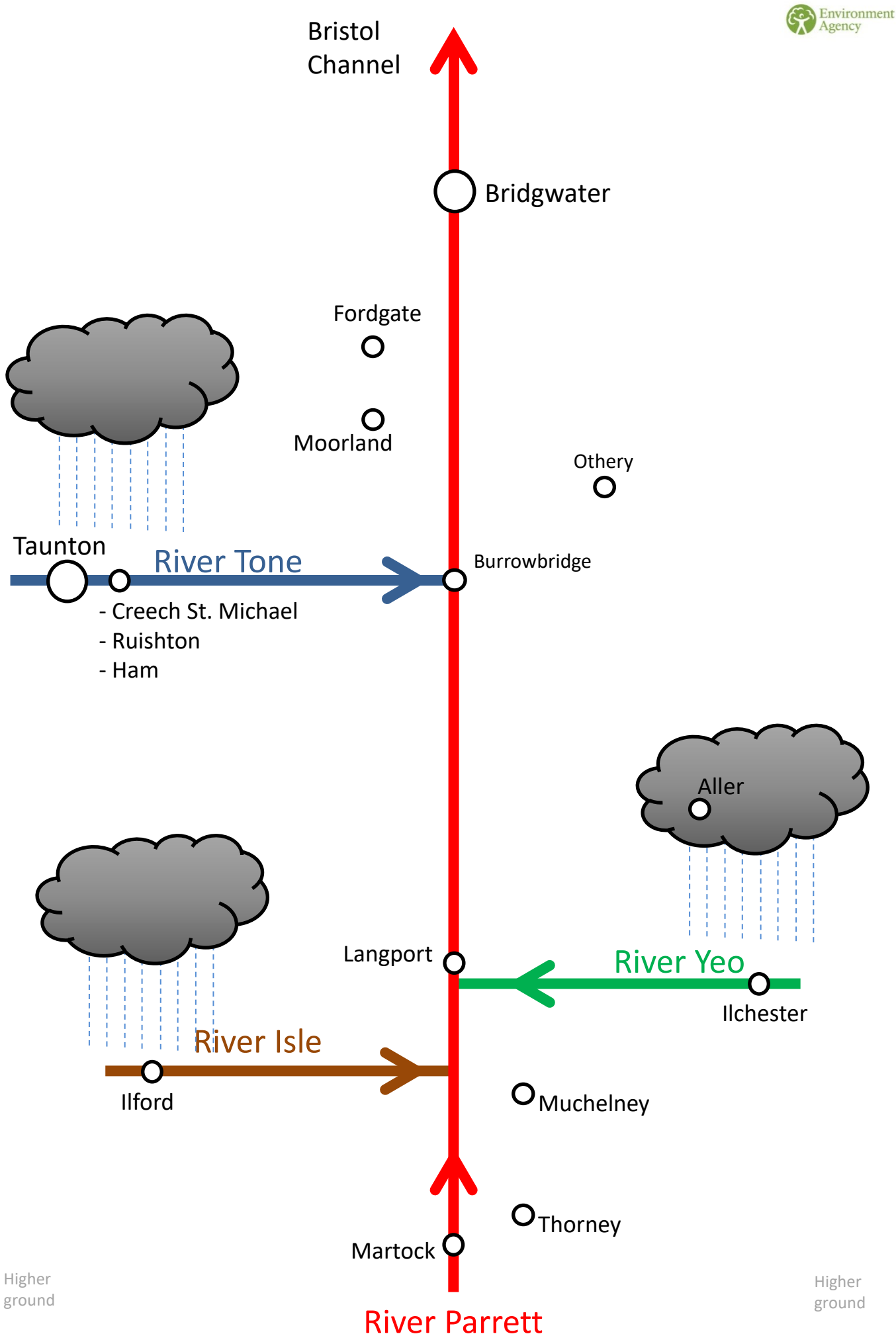
A typical flood on the Somerset Moors

1.

It starts to rain.

2.

Water drains from the high ground and down the main rivers, which are the Tone, Yeo, Isle and Parrett. Where these rivers cross the Moors they act as “high level carriers” and in many places they are embanked (raised banks higher than surrounding land). At times of high flow their principal function is to take water from the high ground to the sea by gravity discharging into the Severn Estuary.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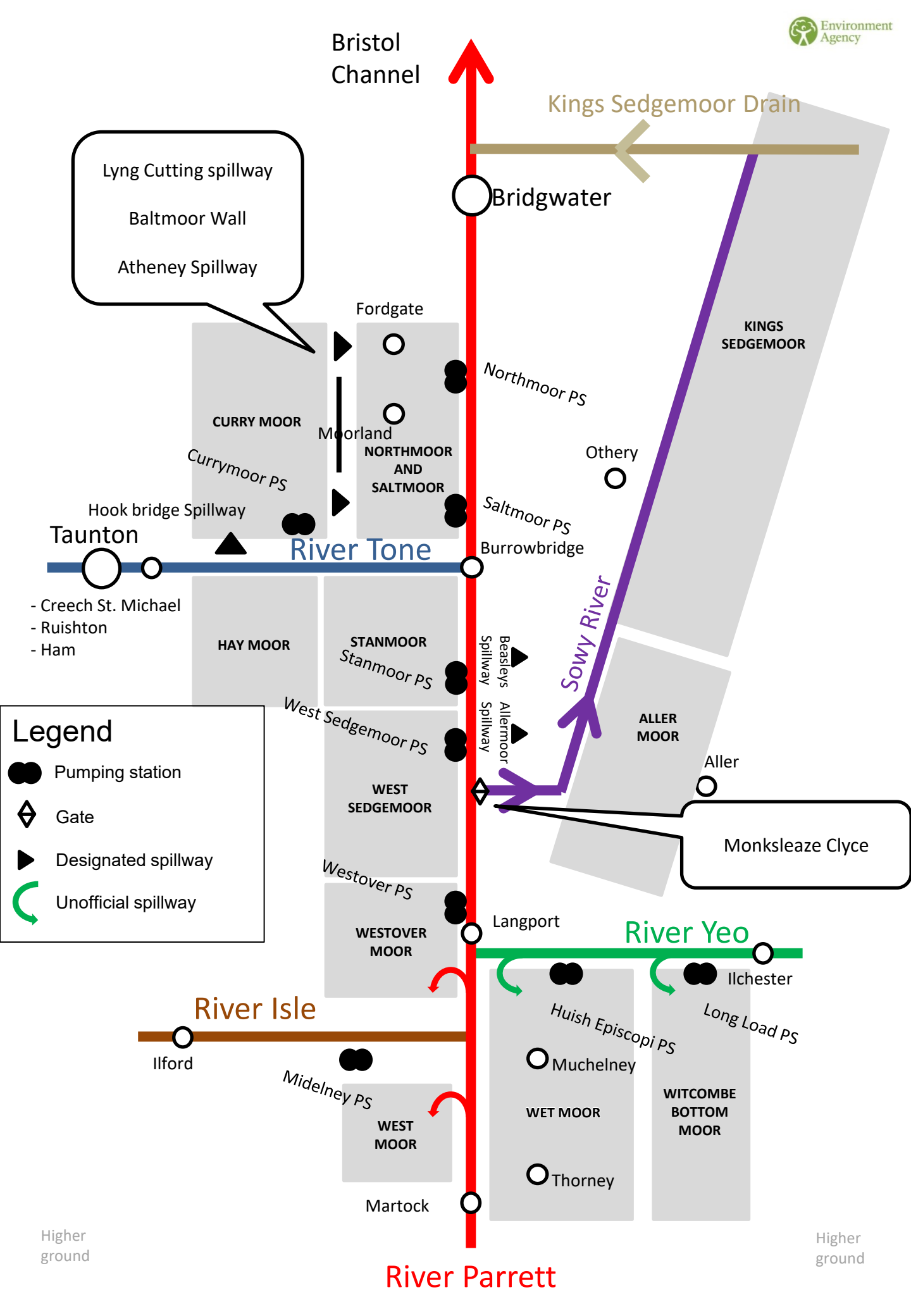
- Ham
Aller
Langport
River Yeo
Ilchester
River Isle
Ilford
Muchelney
Thorney
Martock
River Parrett
Higher ground
Higher ground

3.

If the embanked rivers become full, they start spilling into the adjacent moors. On the River Tone, the Hook Bridge Spillway starts spilling into Curry and Hay Moors and they fill up together.
Similarly the Rivers Yeo, Isle and Parrett can spill into the Moors upstream of Langport Bridge e.g. Witcombe Bottom, Wet Moor, West Moor and Huish Level.

Flooding at Muchelney

Taken by The Royal Navy (http://www.royalnavy.mod.uk/)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Ilchester
Huish Episcopi PS
Long Load PS
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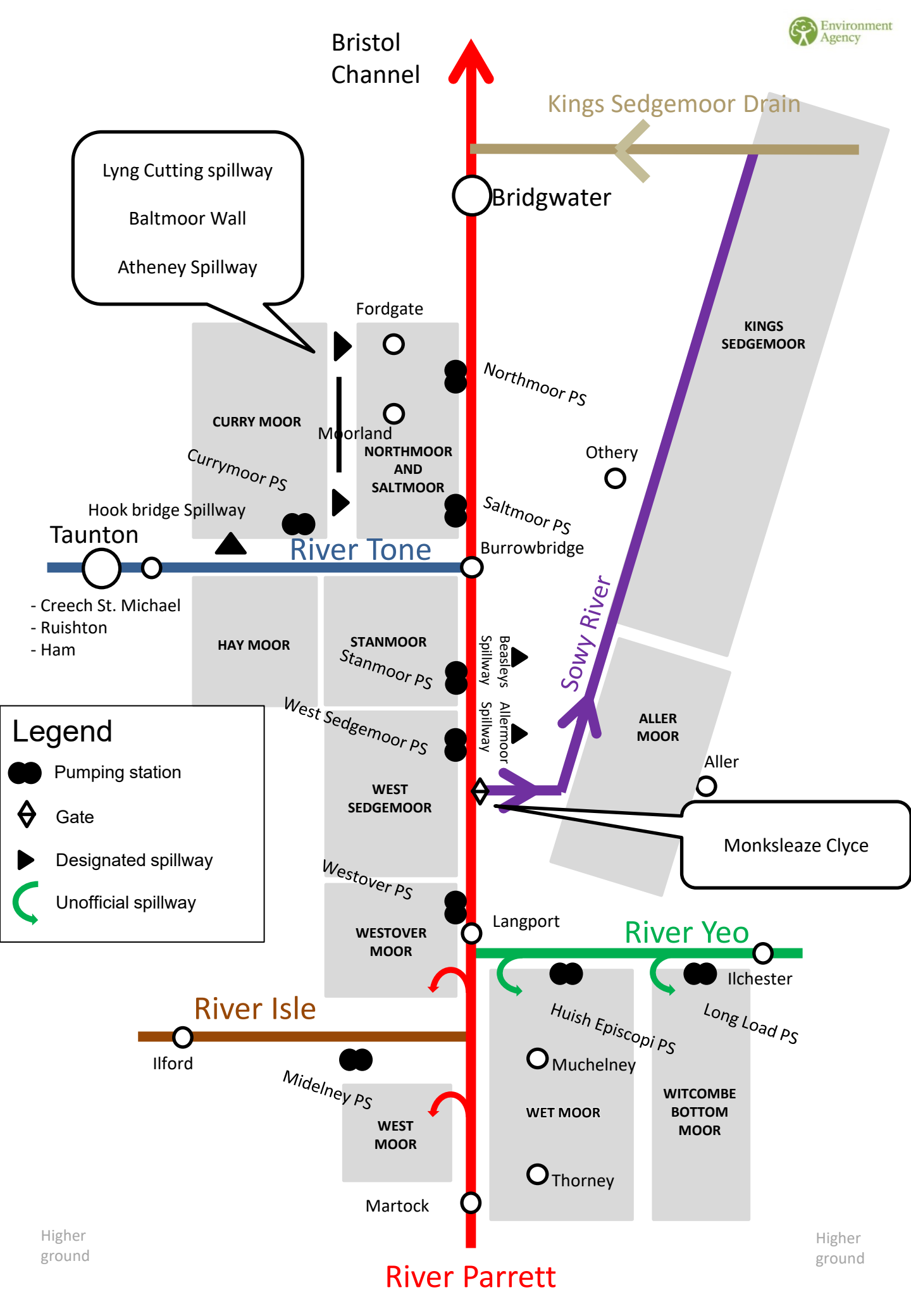
Midelney PS
WET MOOR
WITCOMBE BOTTOM MOOR
WEST MOOR
Thorney
Martock
Higher ground
Higher ground
River Parrett
Legend
Pumping station
Gate
Designated spillway
Unofficial spillway

4.

If the Parrett is bank full downstream of Langport, Allermoor and Beazleys Spillway start spilling into the Sowy River. As soon as Beazleys and Allermoor start spilling, we turn off the pumping stations at Long Load, Huish Episcopi, Midelney and Westover.

The River Parrett flowing through Great Bow Bridge at Langport

Taken by Jeremy Pidgeon of *"Control This View"* (www.controlthisview.co.uk)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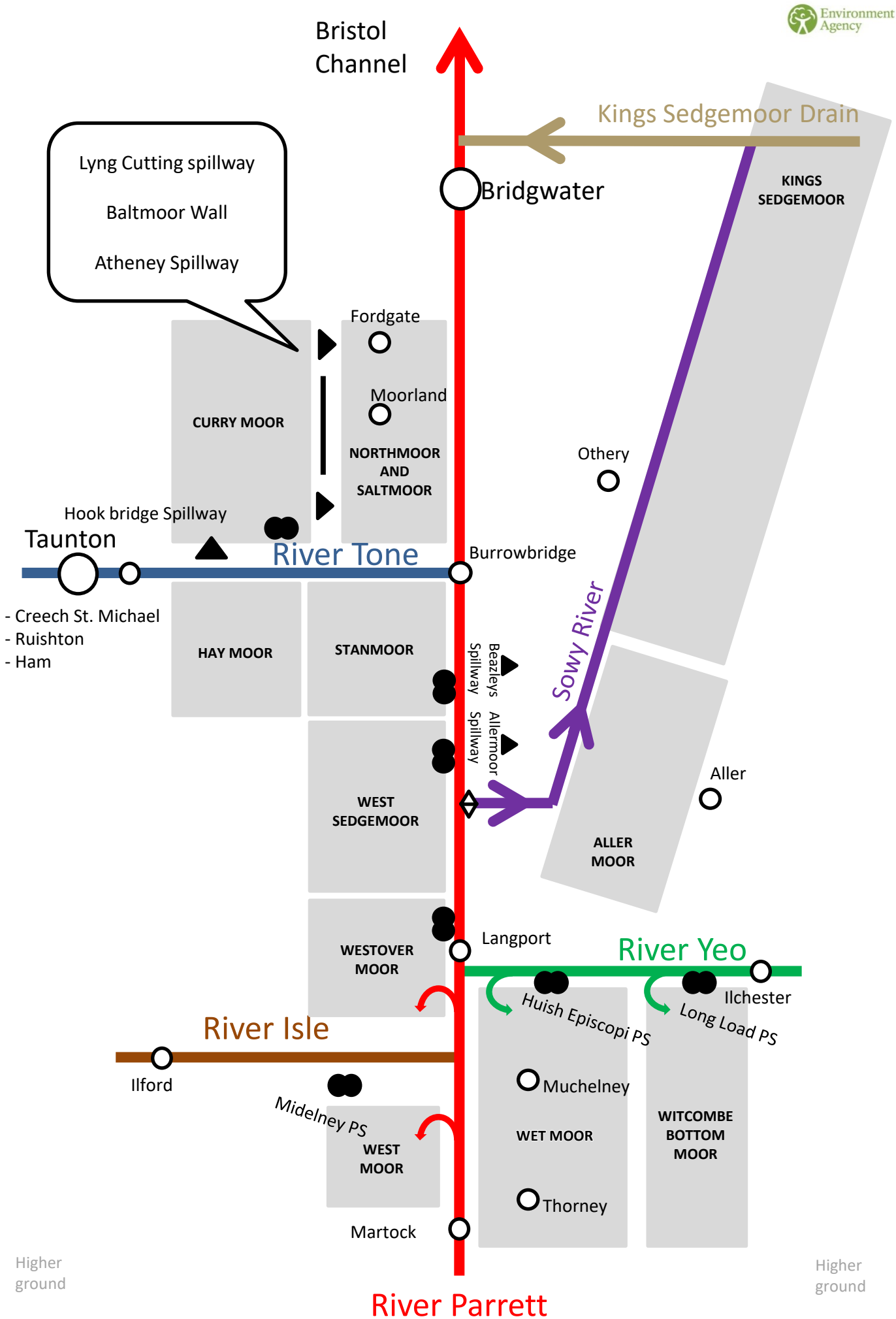
5.

The capacity of the Parrett at Burrowbridge is affected by the combined flow of the Parrett and the Tone whose confluence is just upstream of the bridge.

Flooding at Burrowbridge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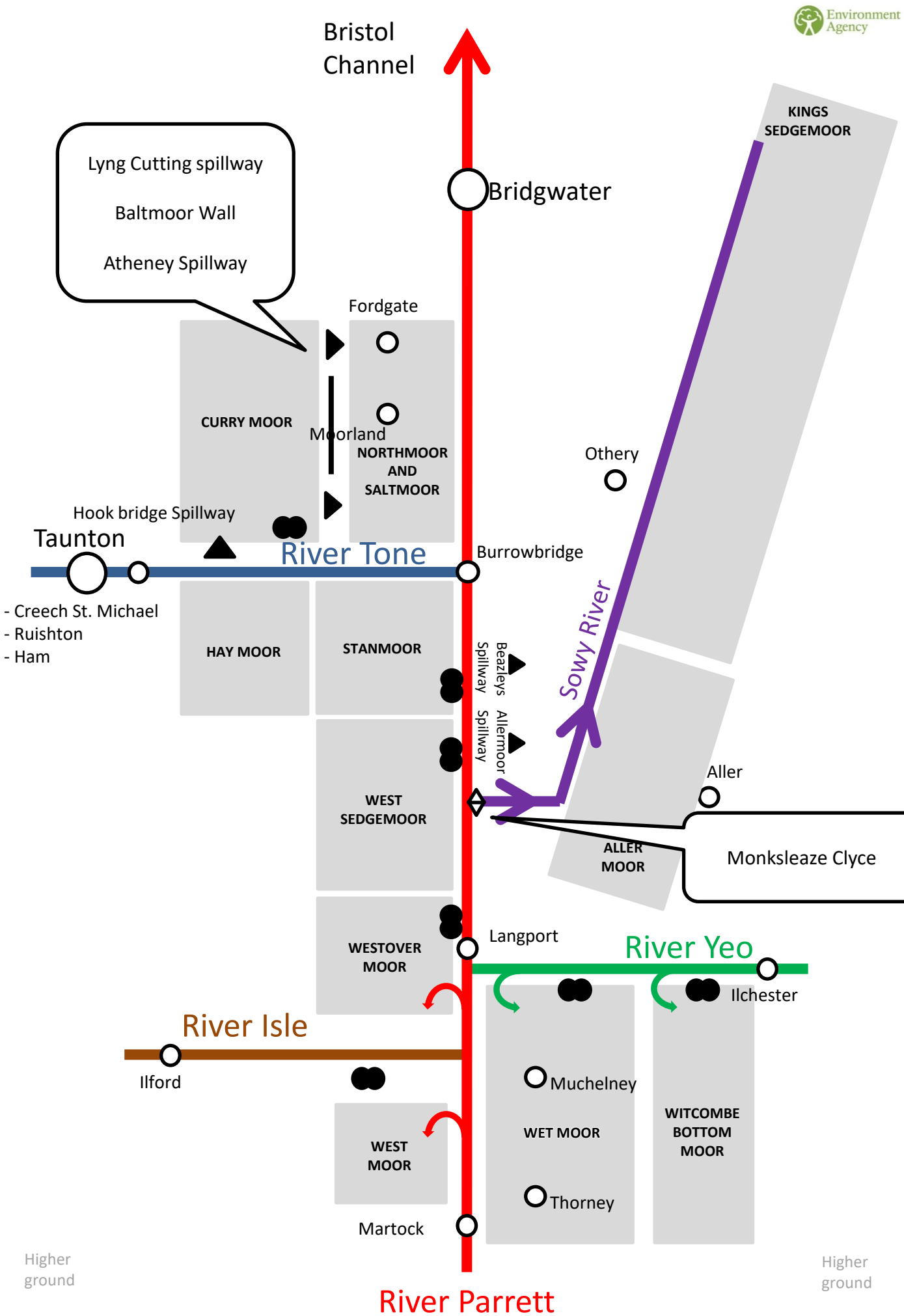
Higher ground
Higher ground
River Parrett

6.

When Beazleys and Allermoor stop spilling, we can open up Monksleaze Clyce and send flood water down the Sowy River along the King's Sedgemoor Drain and into the Parrett at Dunball, downstream of Bridgwater. This allows us the capacity in the system to resume pumping at the stations upstream of Langport (Long Load, Huish Episcopi, Midelney and Westover).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Higher ground
River Parrett

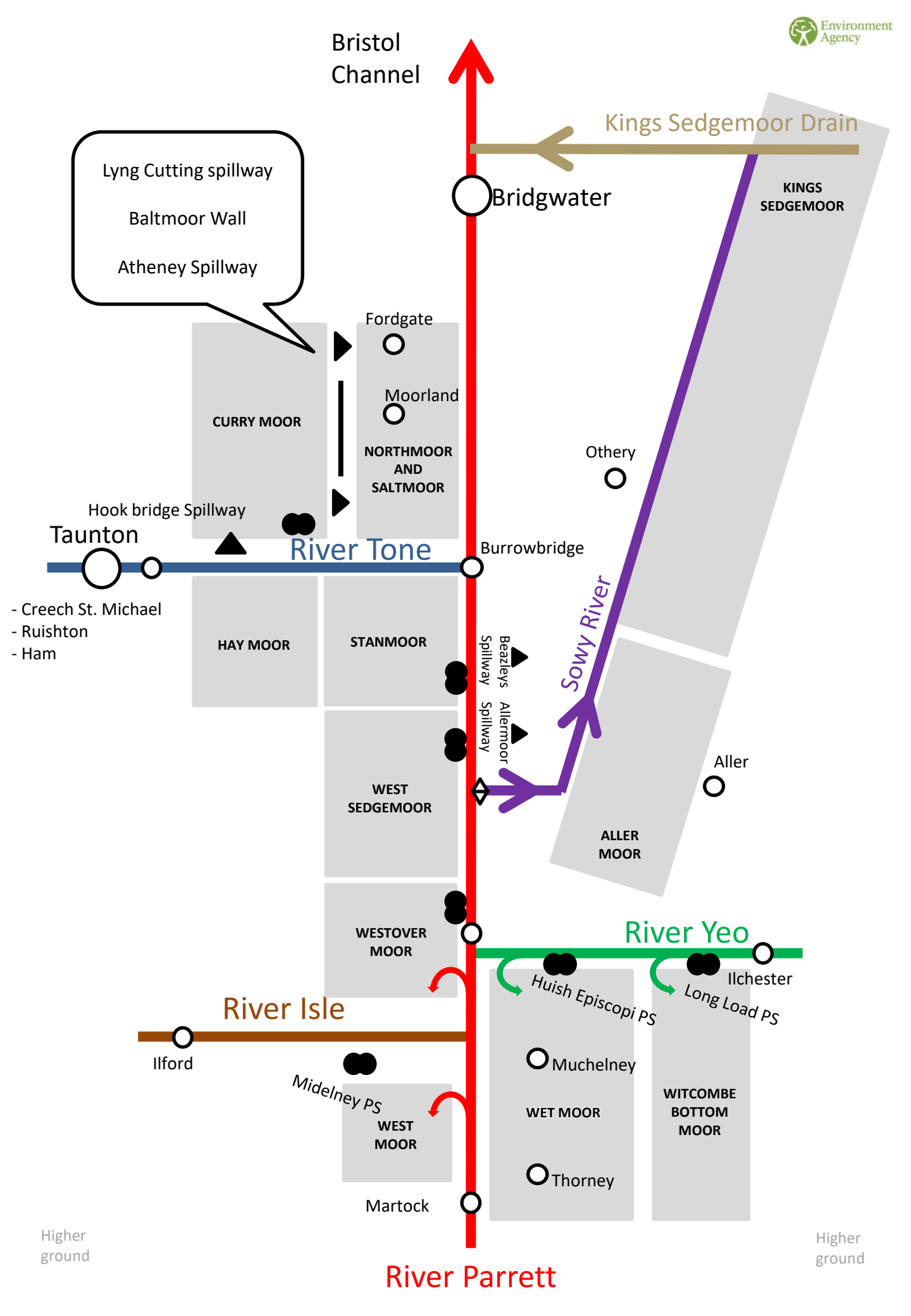
7.

As Curry and Hay Moors fill, they in turn start spilling into Northmoor and Saltmoor via the Lyng Cutting Spillway and then Athelney Spillway and then ultimately Baltmoor Wall.

Lyng Cutting spillway

Athelney spillway

Baltmoor Wall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8.

As Northmoor and Saltmoor start filling, properties in Moorland and Fordgate are at risk of flooding. We then increase the pumping capacity of Saltmoor and Northmoor pumping stations with additional temporary pumps. If rainfall continues to impact the area, Bridgwater is at risk from rising flood water in Northmoor spilling northwards between the canal and the banks of the River Parrett.

Saltmoor pumping station with additional pumps

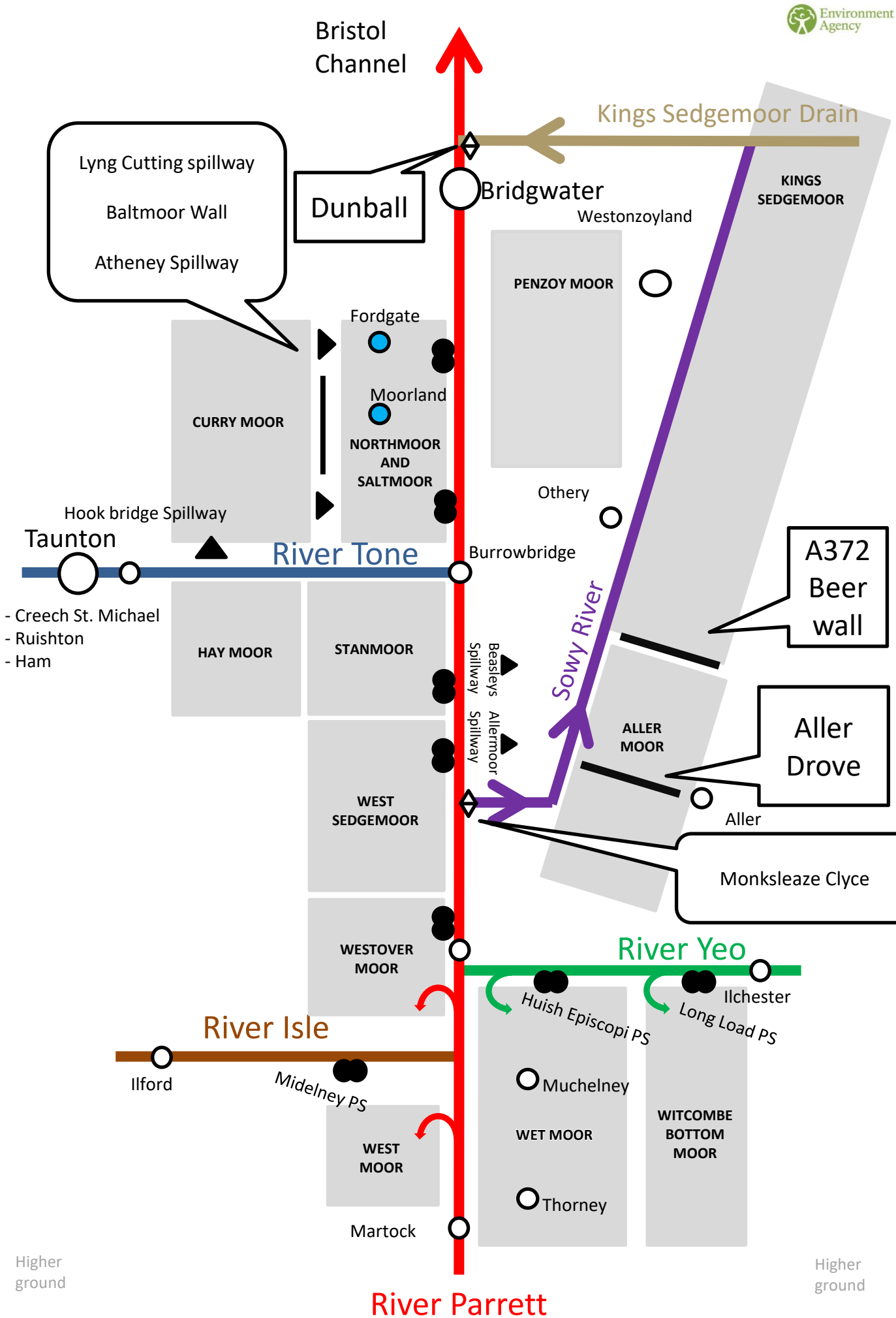
Taken by The Royal Navy (http://www.royalnavy.mod.uk/)

9.

If Hookbridge Spillway on the Tone stops running, we can start Currymoor pumping station to lower the levels in Curry and Hay moors which will stop spilling into Northmoor and Saltmoor.

Hookbridge Spillway

Currymoor pumping station with additional pumps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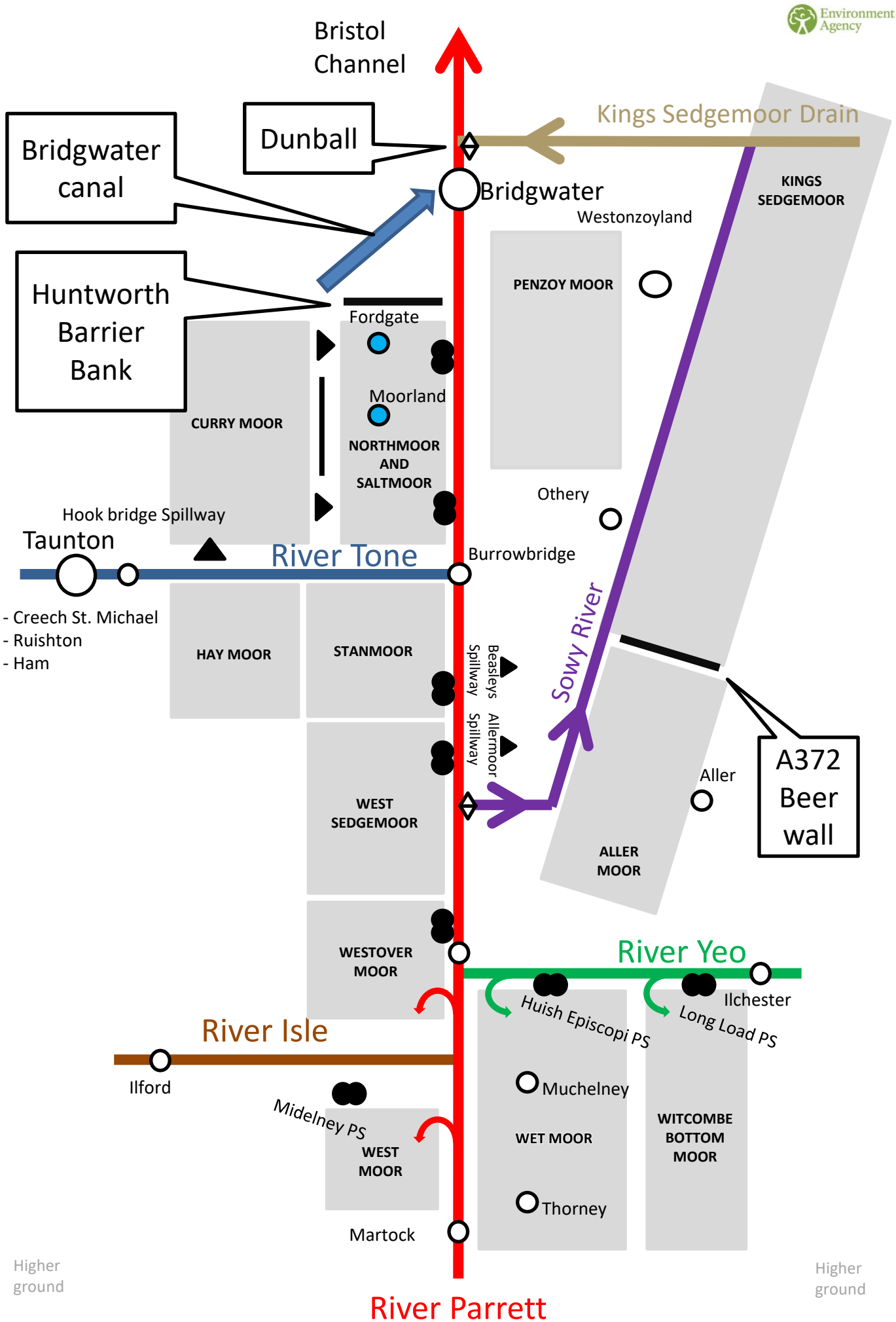
Emergency Process

1.

If it continues to rain for a prolonged period of time, Northmoor and Saltmoor will continue to fill

2.

To allow the level in the Tone to drop, we need to lower the level of the River Parrett. To lower the level in the River Parrett, we have to send Parrett water down the Sowy Flood Relief Channel, into the King's Sedgemoor Drain and out to Dunball. To do this, we need to open Monksleaze Clyce. Additional pumping may be required at Dunball to overcome tide-locking.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Higher ground
River Parrett

As Northmoor and Saltmoor continue to fill, a barrier bank is required at Huntworth with additional pumping capacity. Water will spill into the Bridgwater Canal and additional pumping capacity is required where the canal enters Bridgwater Docks so that we can discharge this flow into the River Parrett.

3.

Construction of the Huntworth Barrier Bank

Pumps at Dunball

Taken by Jeremy Pidgeon of *"Control This View"*
(www.controlthisview.co.uk)

Operational Flood Infrastructure

Beazleys Spillway

Allermoor Spillway

Photo shows A372 at Beer wall and additional pumping before improvements were made after 2013-14 flooding.

Northmoor pumping station and additional pumping

Westonzoyland pumping station and additional pumping

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08-11-2021 – Version 4
Edward Mellor, Melvin Wood, Antony Ryan and Adrian Govier