Paul:
It's time to head east, to the chalk hills of southern England. This unique landscape has given rise to some of my favourite stretches of river.
The chalk streams.
There are just over 200 in the world and Hampshire is home to many. One of the finest examples is the River Test.
My guide to the Test is Simon Cooper, a chalk stream expert who takes care of stretches of the river.
(to Simon) Quintessential chalk stream.Simon Yep. Let's get in it.
Simon:
There's one.
Paul:
Yeah.
Simon:
One just shot over there.
Paul:
A lot of wild fish here, Simon.
Simon:
It just honestly, this is a tremendous stretch.
Chalk streams are different to most rivers.
So most rivers, the rainfall comes down from the hills and, within a few hours or a few days, the water's all in the sea.
But with a chalk stream, the water we're standing in now actually fell as rain six months ago, twelve months ago.
Paul:
Right.
Simon:
And so this fell on the chalk downs, the chalk sort of absorbs it like a giant-
Paul:
Big, big sponge. Giant sponge.
Simon:
Like a giant sponge!
Paul:
It's called an aquifer, isn't it?
Simon:
Yes.
Paul:
And it's a sort of subterranean reservoir that feeds these rivers.
Simon:
Exactly and it, and it sort of, and then it seeps out in sort of gazillions of tiny little springs.
Paul:
Yeah.
Simon:
That then aggregate to create these chalk streams. And so the thing about them is they're always clear and that always ten degrees C.

I mean, the water looks crystal clear, but the problem is there are huge numbers of pollutants in this water.
If I can show you, we got a weed down here called blanket weed, so-
Paul:
Normally you would, you know, weed is an indication of a healthy river, isn't it?
Simon:
Exactly, and, and, and the king of weed.
Paul:
I know what it is, it's King Ranunculus.
Simon:
Ranunculus! Exactly and Ranunculus relies on sunlight, but unfortunately, because of phosphates that come out of agriculture and out of sewage. It promotes blanket weed and if we pull it up it's this sort of long filamentous weed.
Paul:
Right, yeah. You can, I can see why it might choke, you know, the bed and.
Simon:
And it does what it says on the label.
Paul:
Yeah.
Simon:
It's blanket.
Paul:
It's blanket.
Simon:
Blanket and so what it does.
Paul:
It really is blanket weed, isn't it?
Simon:
But the problem is if you get too much it cuts off the sunlight and the Ranunculus dies.
Paul:
Get out of here.
There's another real problem for the chalk streams though, isn't there, which is the abstraction, the removal of drinking water from the aquifer. By the water companies or the water company.
Simon:
The water companies, well, I mean yes, we're sort of ten, fifteen miles down from the source of the River Test and if we went up to the headwaters of the River Test, we'd actually find they're drying up.
Paul:
Chalk streams across the south are suffering the same fate as the Test, as abstraction by water companies and climate change put pressure on the aquifers.
Newsreader 1:
The Black Bourn is a chalk stream that rises south of Bury St. Edmunds.
In places it's all but dried up causing fish, invertebrates and plants to die.
Newsreader 2:
A chalk stream in trouble. Hardly any water and, beneath the surface, hardly any life.
Simon:

The difficulty is, since the last drought in 1976, the water demand has increased. So in 1976, you probably had a bath once a week.
You probably, but now you probably we have a shower every day and you're not alone in that, most people are like that.
So the average consumption per person has gone up to 150 litres a day.
Paul:
And the population has increased immensely, as well.
Simon:
Yes, and we haven't built a single new reservoir since 1989. And so, where do you take the water from? You suck it from the aquifers.
Paul:
Yeah.
Simon:
And if you taking it from the aquifers, it's not going into the rivers and the rivers that had water are literally dying.
Paul:
We point the finger, don't we, at people around the world who are damaging their ecosystem. And here we are with this extraordinary landscape and we're not treating it very well, are we, Simon?
Ofwat, the water regulator for England and Wales said:
"Ofwat is working with other regulators to develop a programme of new water resource infrastructure projects, including water transfers and new reservoirs.
These projects will help to address the country's long term needs alongside action to increase water efficiency and further reduce leaks. There are currently 18 projects going through the gated process of development."