

River basin management in the UK

In the UK there are 2 main problems the river basin managers must tackle:

1. **The inequality in supply and demand** - the population density of the north and west is much lower than in the south and east so the water demand is much lower. However, in contrast, the north and west receives much more precipitation than the south and east.
2. **The threat of river flooding** – some river basins are prone to flooding which can cause loss of life and considerable damage.

Environment agency guidelines

When tackling these issues the basin managers must adhere to 3 guiding principles:

- **Sustainable development** – there should be no long-term environmental deterioration due to water resource development and water use.
- **Precautionary principle** – where significant environmental damage may occur, but knowledge is incomplete, decisions should err on the side of caution.
- **Demand management** – management measure to control waste and consumption (e.g. water meters) should be employed.

Strategy to tackle the inequality in supply and demand

Already in the south & east of England groundwater sources are being used to their capacity and extraction from surface sources is at a maximum.

If demand increases further other strategies will have to be employed.

The environment agency has created a scheme with 3 components:

1. reservoirs in the north and west will be enlarged and upgraded
2. surplus water will be transferred from the north and west to the south and east
3. more measures will be employed to control demand by encouraging efficient use of water such as education, metering & pricing

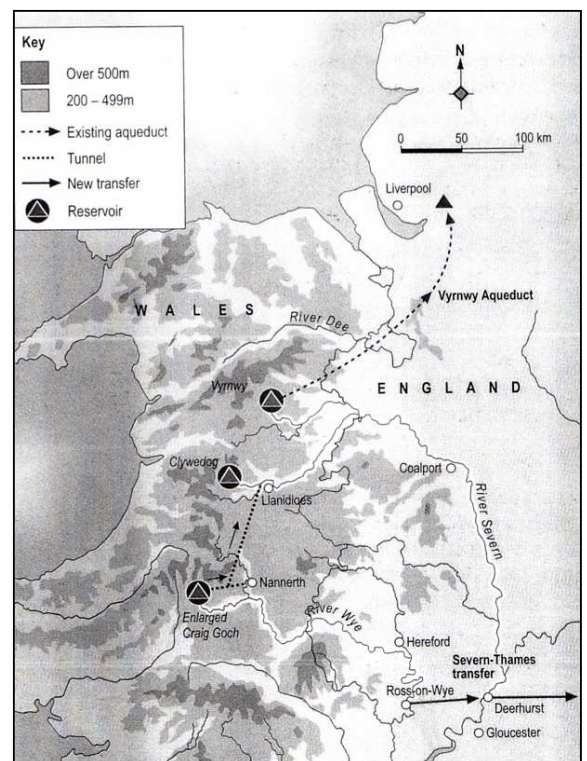
The Severn – Thames water transfer scheme

Based on the idea of transferring surplus water from the north and west (from the lower river Severn near Deerhurst) to the south and east (the upper river Thames at Buscot in Wiltshire). The water would move downstream and enter existing reservoirs near London. Old Gravel pits could be used as extra storage.

This would provide upto 146 million litres a day. Capital costs would be £5.7 million.

2 further proposals have been made:

1. Enlarge Craig Goch reservoir and cut a tunnel northwards to Llanidnoes to transfer the water into the river Severn – cost £105 million
2. Cut a tunnel to Nannerth and transfer water downstream to Ross on Wye where a further tunnel could transfer the water to Deerhurst – cost £72 million



Environmental issues

- Mixing foreign water with the Thames' could affect the water quality and ecosystems.
- Salmon migration along the Severn and Wye will be affected
- Pipeline routes will affect conservation and archaeological sites
- Dam enlargement at Craig Goch will affect the Eleynydd Site of Special Scientific Interest

So are these strategies in keeping with the EA guidelines?

The first issue is that mixing the water *could* affect quality and ecosystems. The 2nd EA principle states that if the environmental consequences aren't clear then the plan should be scrapped. In this case the plan **does not** comply with EA guidelines.

The 1st EA principle states that no long term deterioration should be caused. Creating larger reservoirs within a SSSI is clearly going to cause irreversible damage as is digging pipeline routes through conservation and archaeological sites. Affecting the migration of salmon will affect whole ecosystems - to a certain extent permanent damage will occur. These plans **do not** comply with EA guidelines.

Conclusion

I do believe these strategies will be effective in tackling the inequality in supply & demand for water and reduce the risk of flooding in prone areas.

However I do not believe they are in keeping with the EA guidelines and therefore I don't think these strategies will be employed without much resistance from others.

The EA needs to decide whether the advantages of a larger water supply outweigh the environmental damage caused. In doing this they will be disregarding their first principle which states that *no* irreversible environmental deterioration should be caused, i.e. there is no room for discussion, if it causes *any* damage then it shouldn't be employed.