

# Blanket Bogs

## Where Does the Water Flow?

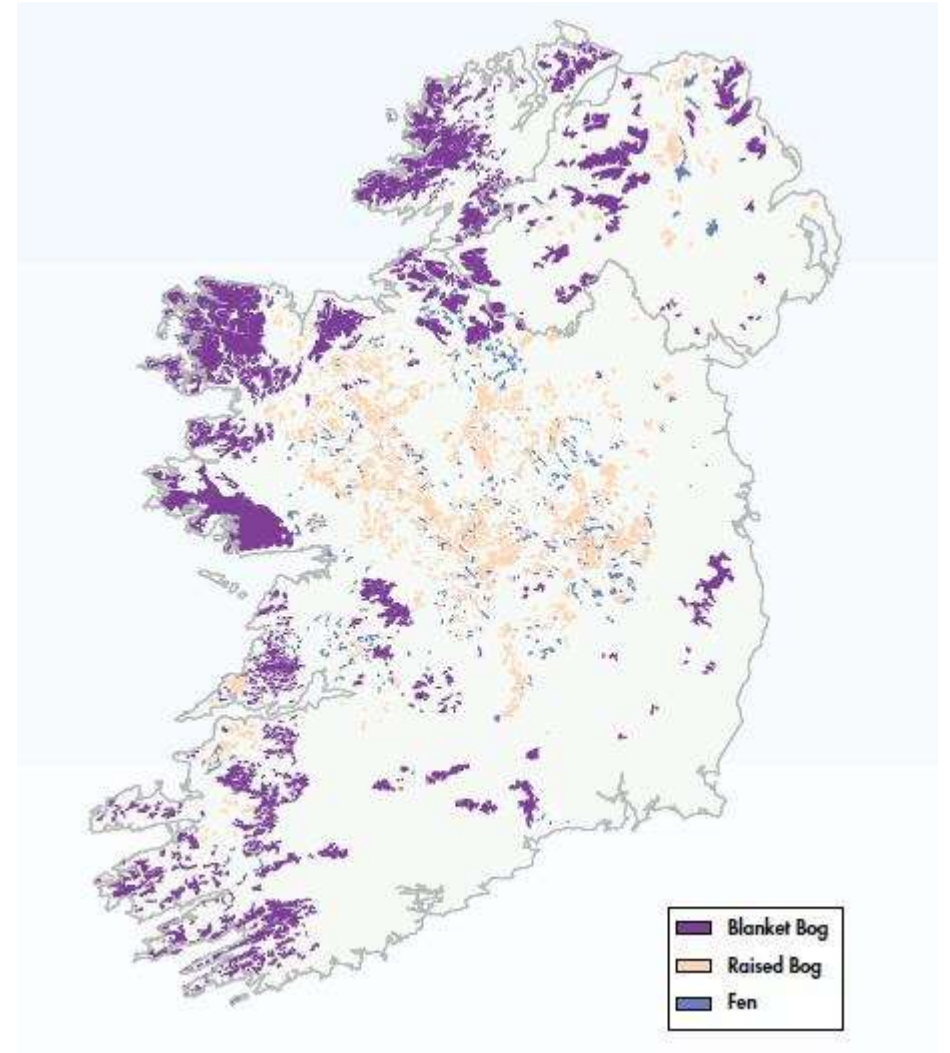
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# In this brief presentation I'd like to

- Look at where blanket bog occurs.
- Why water is important for blanket bogs
- How water is thought to behave in blanket bog.
- What have found out recently.
- How does altering blanket bog affect ecology.





# Condition of Blanket Bogs in Ireland.....

- ....not good!
- Areas hosting blanket bog have experienced significant disturbance, particularly over the past 60 years.
- Large areas have protected status but display high levels of degradation from human interference.
- Over 1400 catchments surveyed.
- None have intact peat coverage >1km<sup>2</sup>.

In addition,

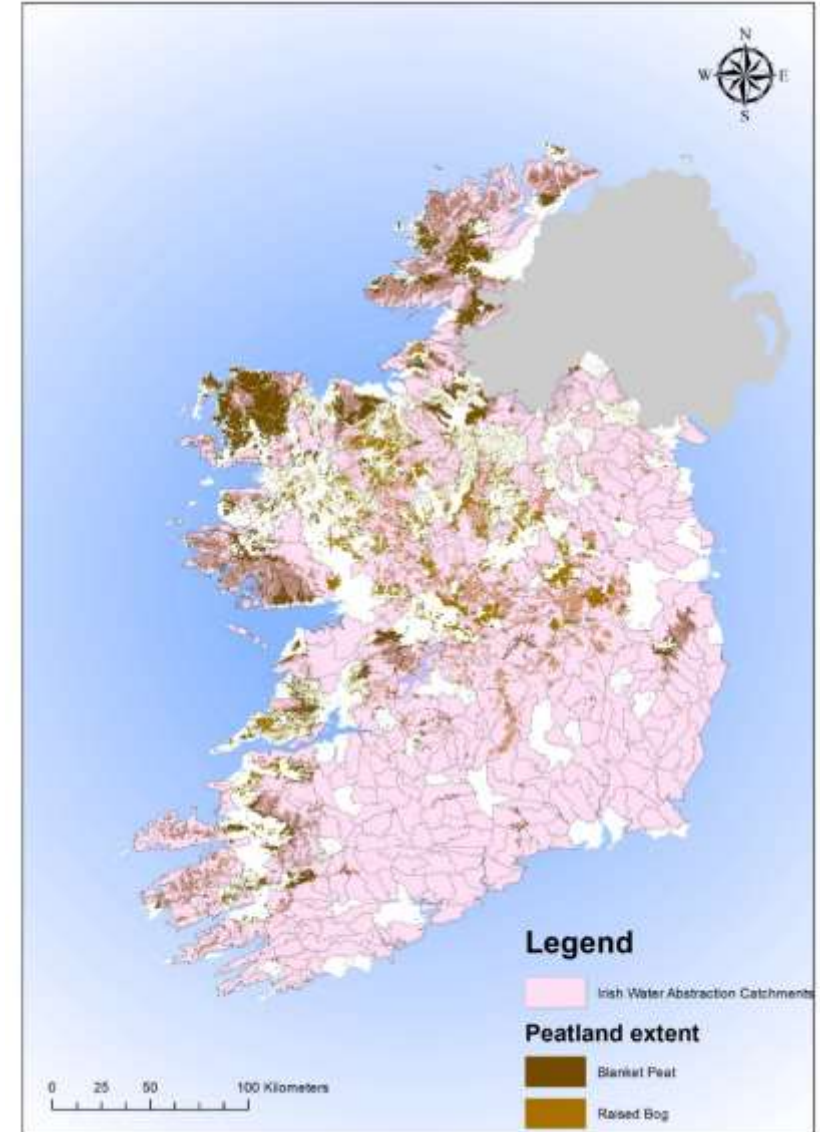
- Blanket bog-covered catchments host the majority of high status (near pristine) streams.
- These have displayed significant degradation over the past 20 years.



Data Source: Cormac Mc Conigley,  
Local Authority Waters Programme

# Blanket Bogs: Why should we care?

- Covers ~13% of the Island of Ireland.
- Major (aquatic and terrestrial) biodiversity reservoir.
- Major carbon reservoir.
- Major source of drinking water.
- Store large volumes of water that maintain stream flow.
- Can help dampen flooding.



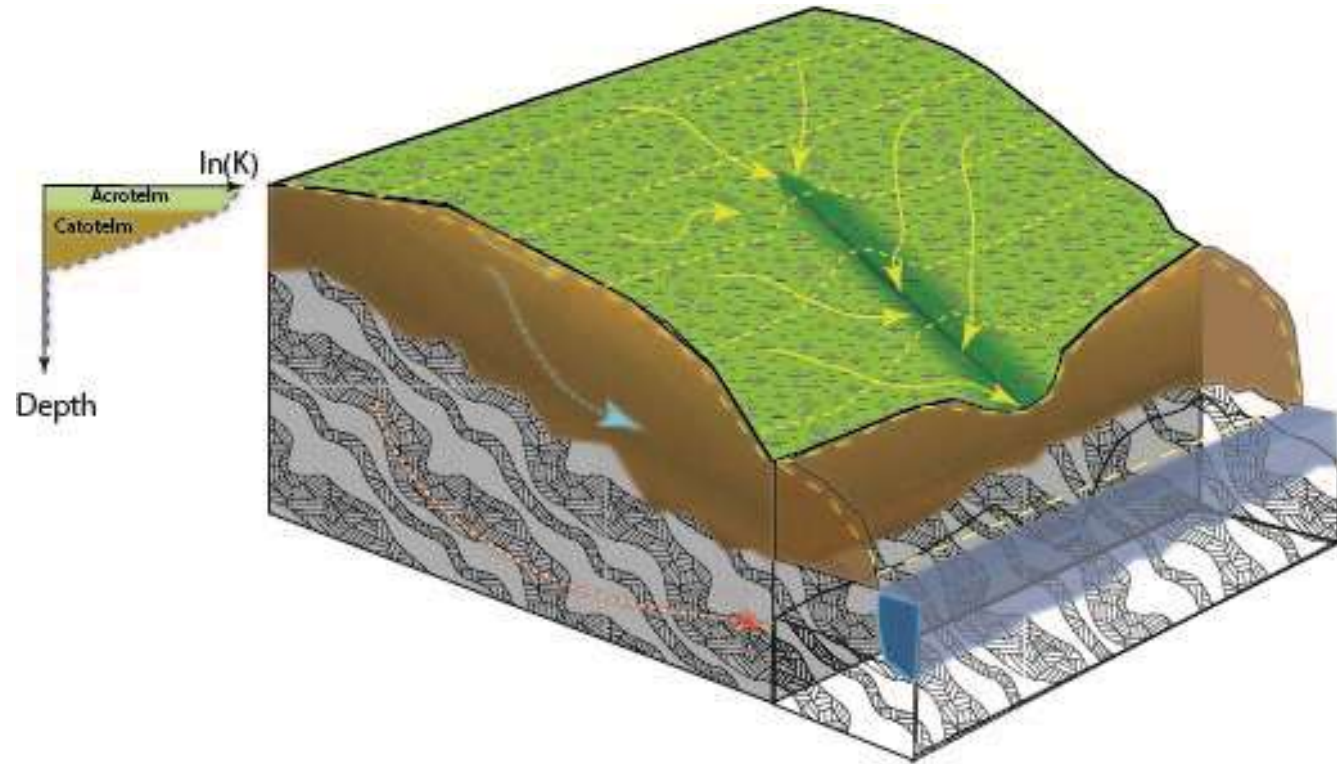
# ....and if we don't look after them?

- Increased GHG emissions
- Degraded water quality
- Loss of biodiversity and habitat (which must be restored)
- Higher flood risk.
- ... and other nasty surprises!
- All of this is expensive.
- Or
- It's better to keep blanket bog as near as intact as possible.

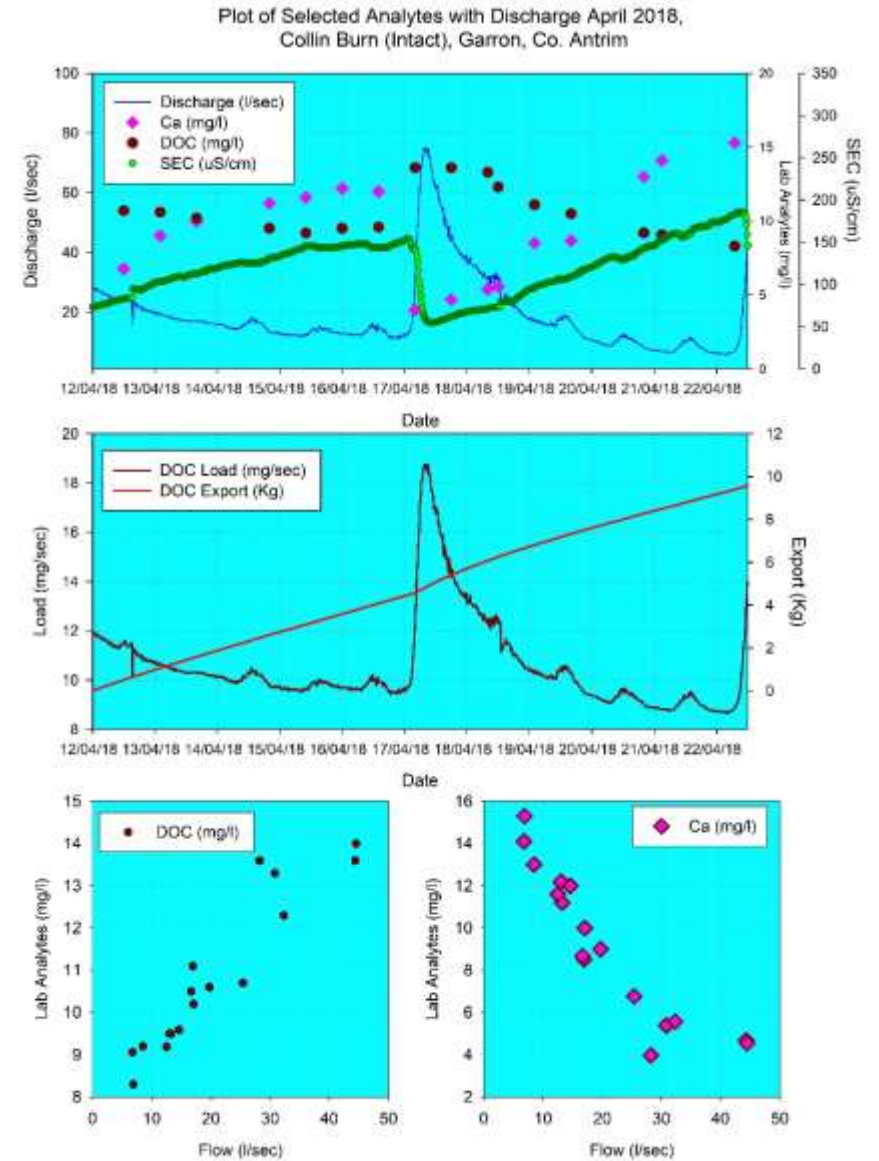




# To protect bogs, we need to understand the behaviour of water

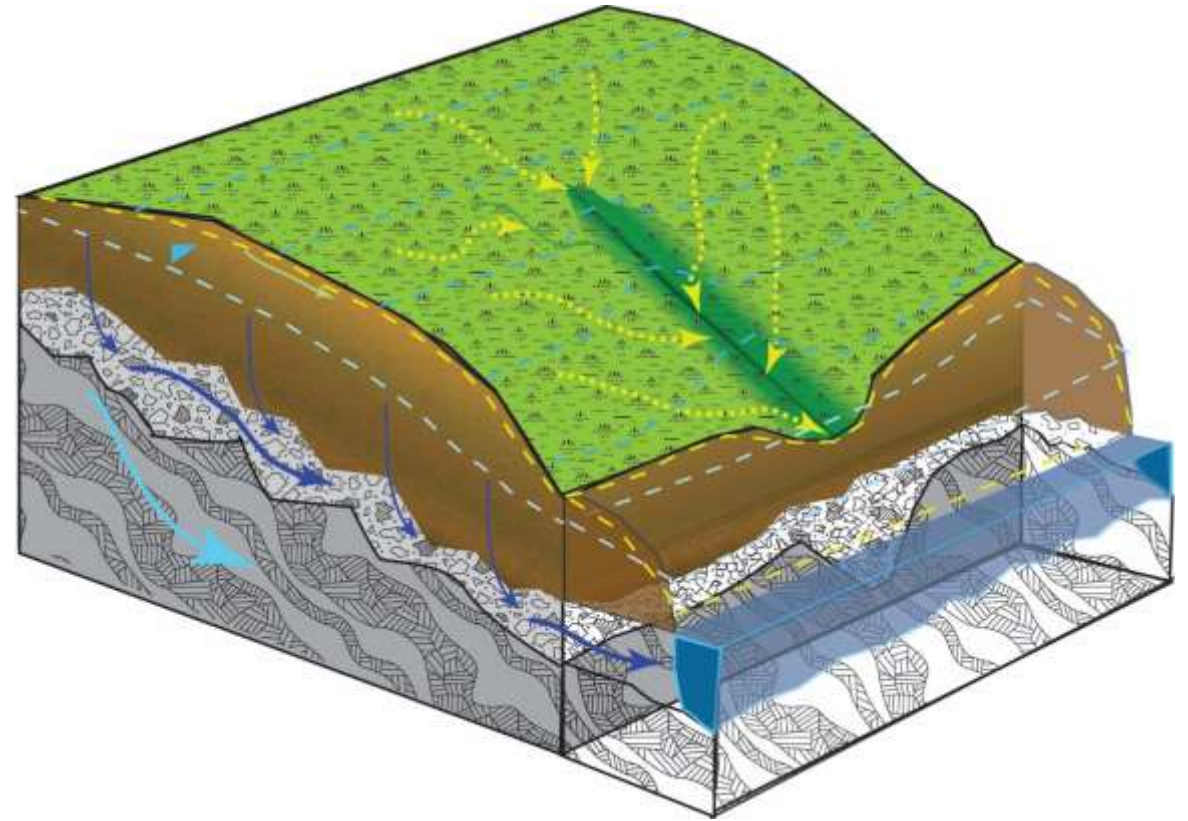


...but is this correct?



# Revised view of blanket bog

- Much more dynamic than previously suspected.
- High water levels due to repeated inputs –helping maintain stream flow during dry weather.
- Inputs very variable.
- Constant input of deeper water contributes significantly to stream flow during dry periods.





# When damaged.....

- Same amount of water coming in, but leaves more quickly.
- Higher runoff raising flood risk.
- Much less (poorer quality) bog water at low flow.
- ....leads to streams with lower flow and more mineralised water.
- Can have adverse impacts on aquatic and terrestrial ecology, and the ecosystem services blanket bogs provide.





# If you'd like to know more....

- General Summary: [Towards the Quantification of Blanket Bog Ecosystem Services to Water: Project Highlights - Bing video](#)
  - Written Summary: On the web, search for QUBBES, EPA Research Report 378.
  - Scientific Paper: Flynn, R., McVeigh, C., Mackin, F, Renou-Wilson, F. “Contributions to stream baseflow in blanket peat covered catchments” Journal of Hydrology (in press)
- or
- Contact me at [r.flynn@qub.ac.uk](mailto:r.flynn@qub.ac.uk)

