

# Through the Looking Glass

## South Fork Nooksack Temperature TMDL

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Acme/Van Zandt Subzone

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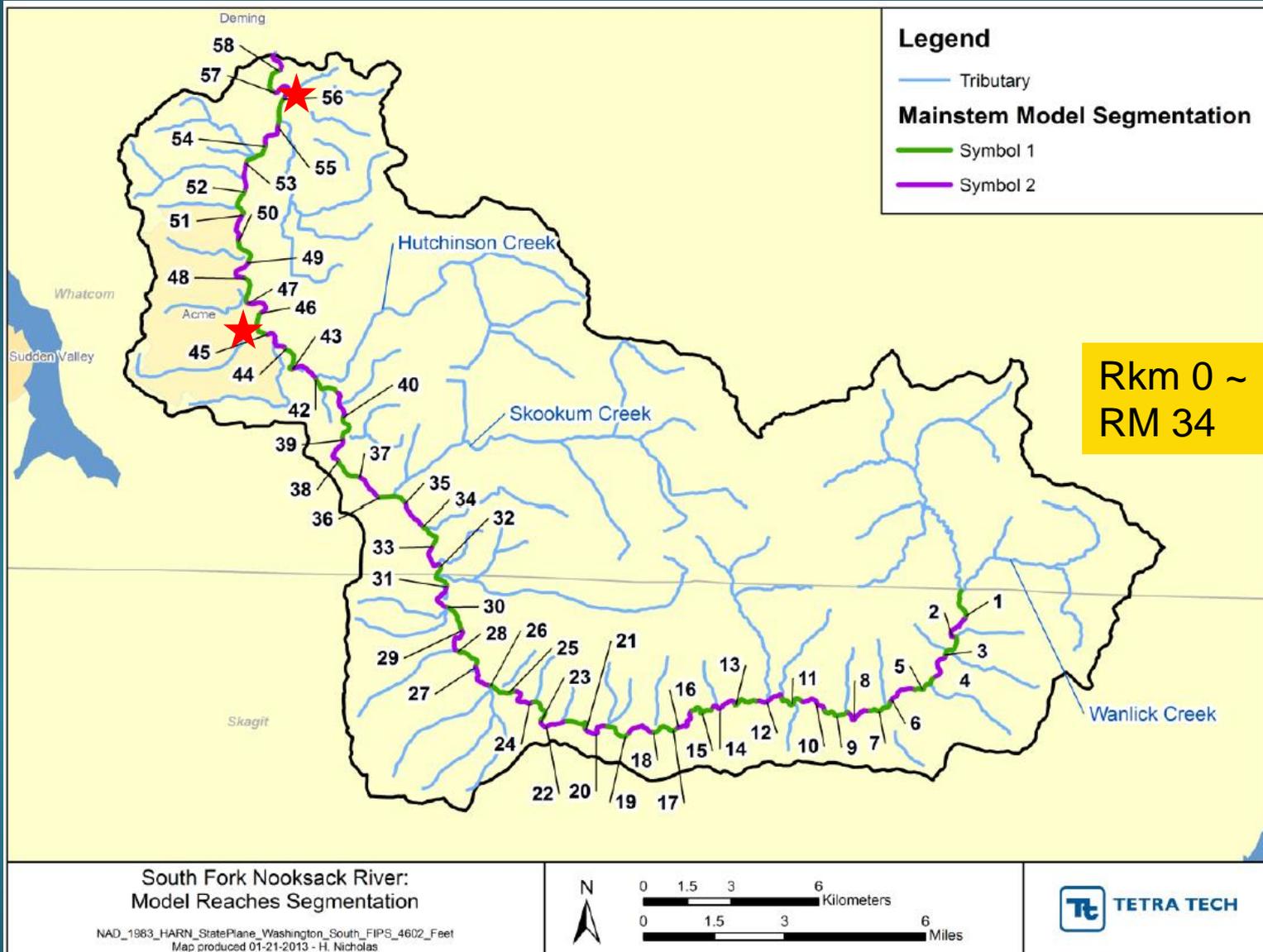
# The evolution of a simple project

- Temperature TMDL should be easy – allocate the shade from site potential tree height buffers.
- If criteria isn't met we can call SPV natural conditions.

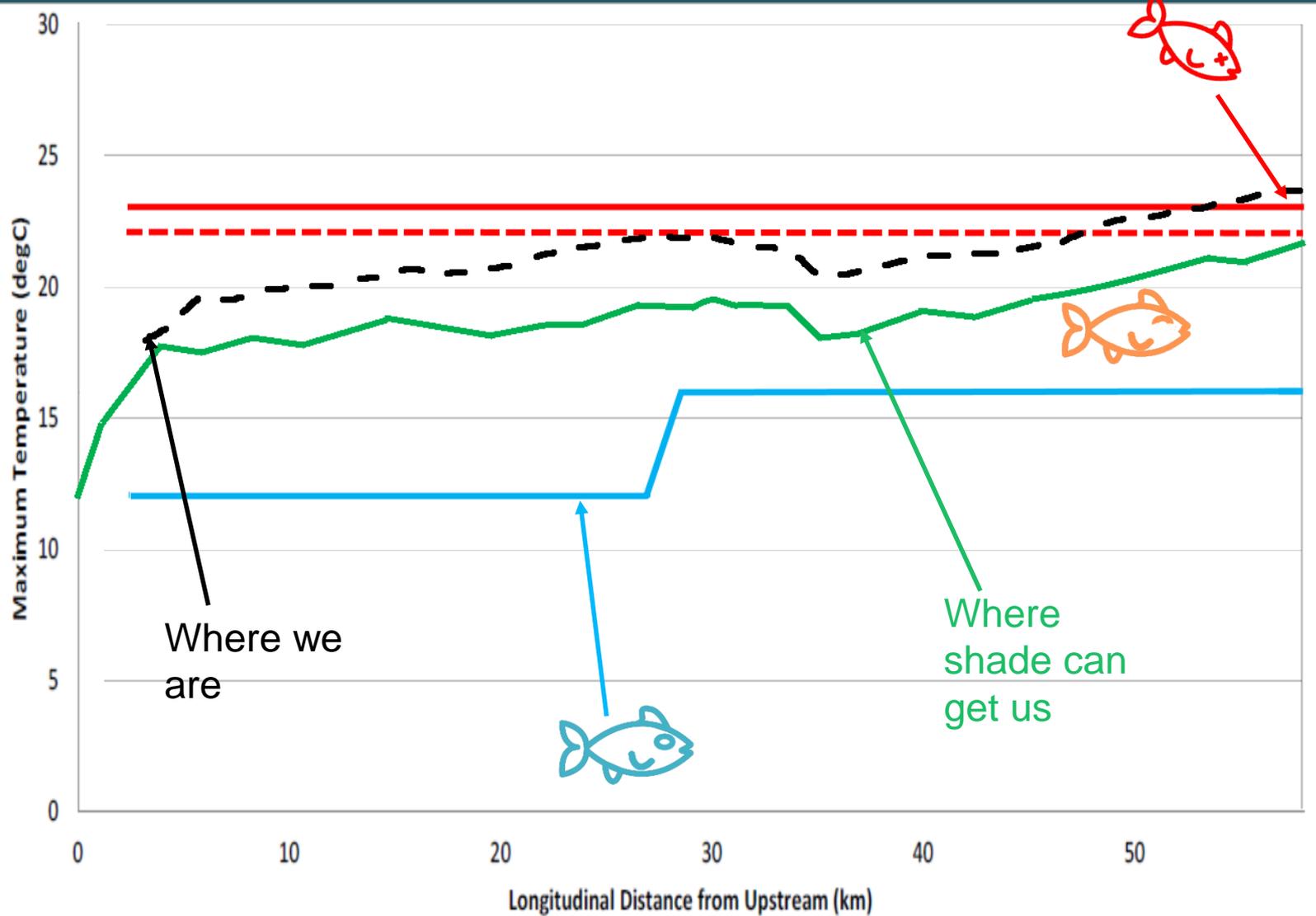
## **System Potential Vegetation**

100 year tree for the site,  
based on DNR mapping

# Orientation



# Simply shade it



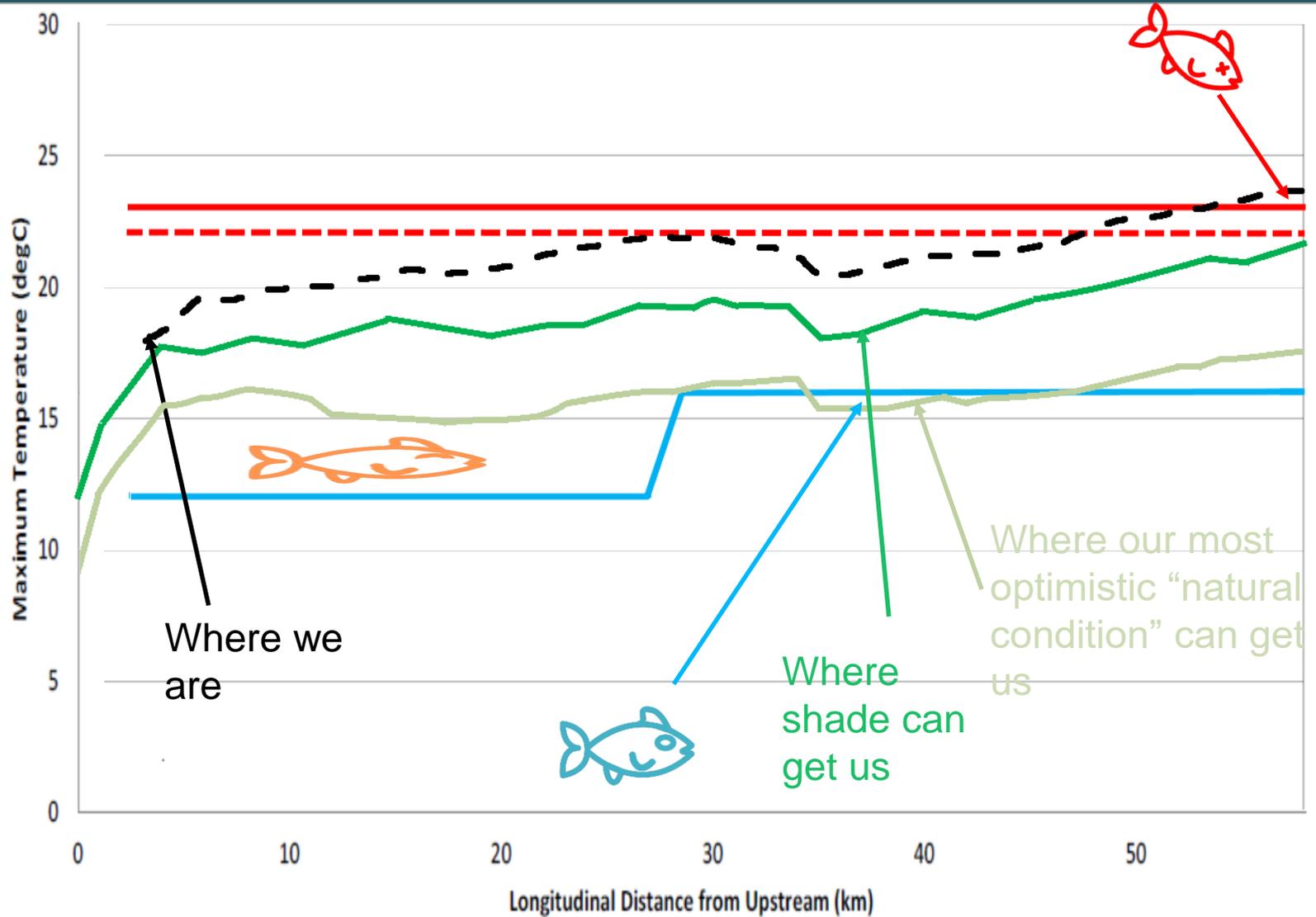
# The problem with shade only

- 100 year site potential underestimates the natural climax forest
- Other factors that have changed, affect temperature

## Sensitivity of Nat. Conditions

- Cooler headwaters
- Channel width
- Climax forest
- Hyporheic flow

# If we could do it all!



# EPA pilot examination of climate change

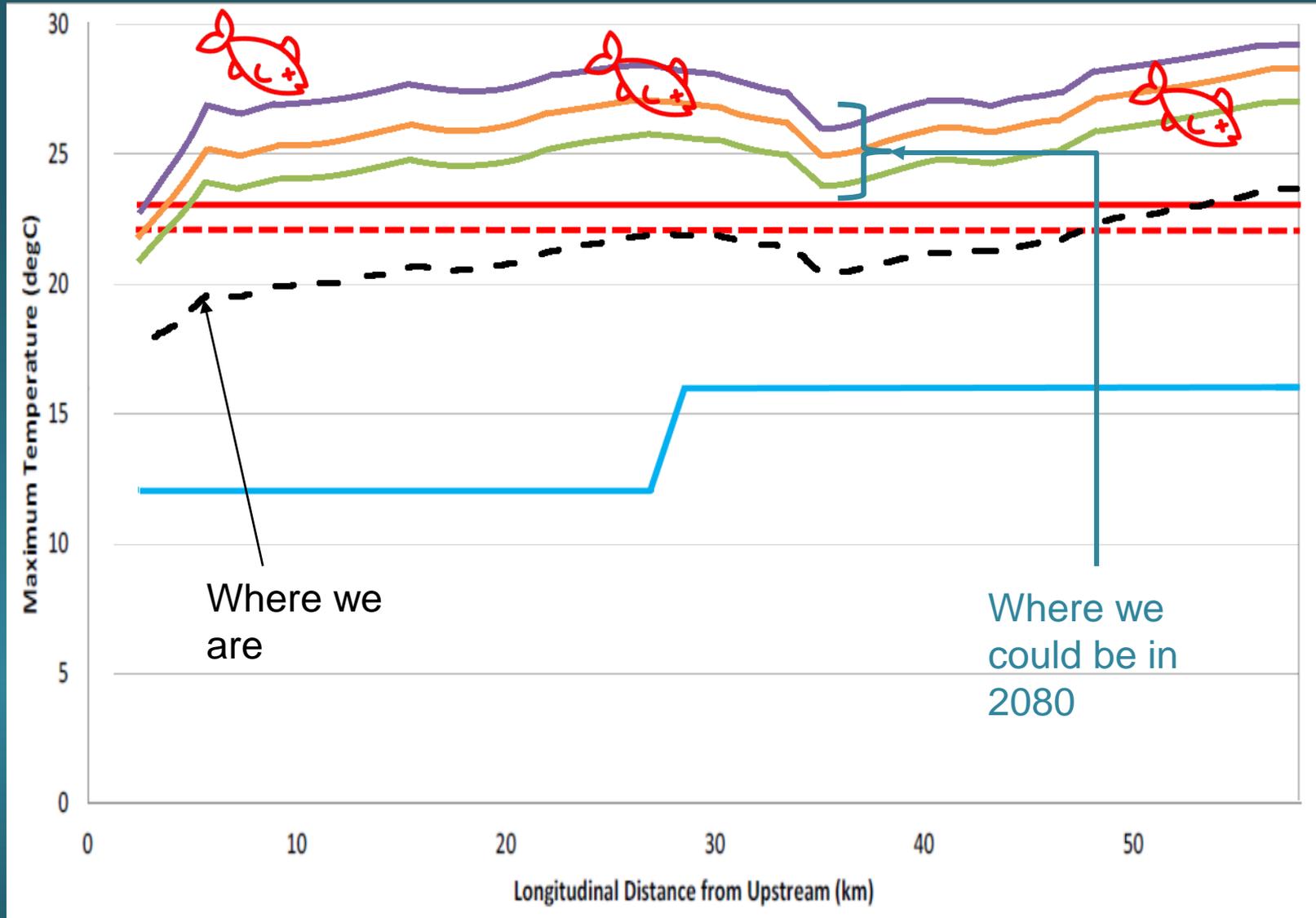




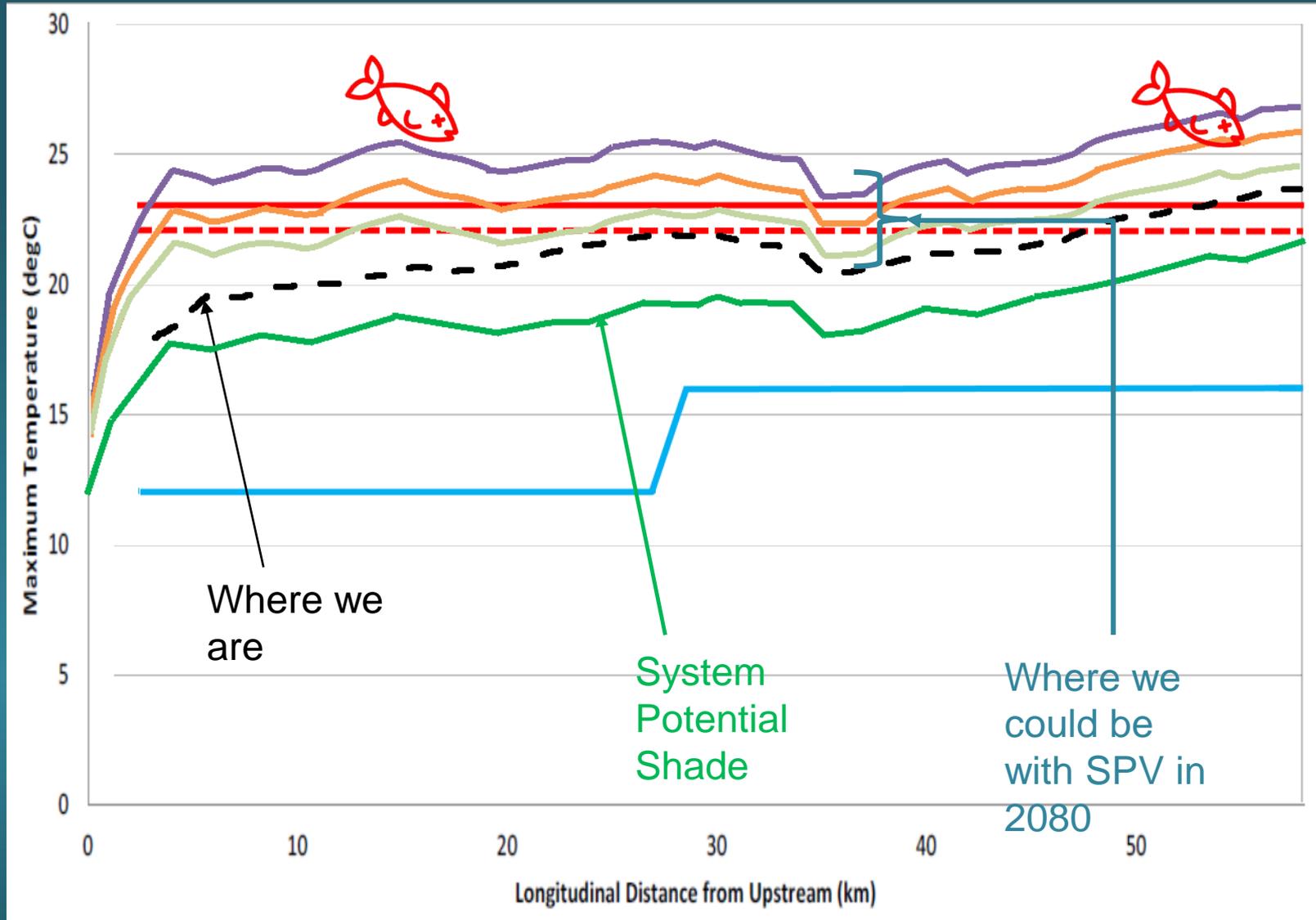
‘Now, here, you see, it takes all the running you can do, to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that!’

-Red Queen

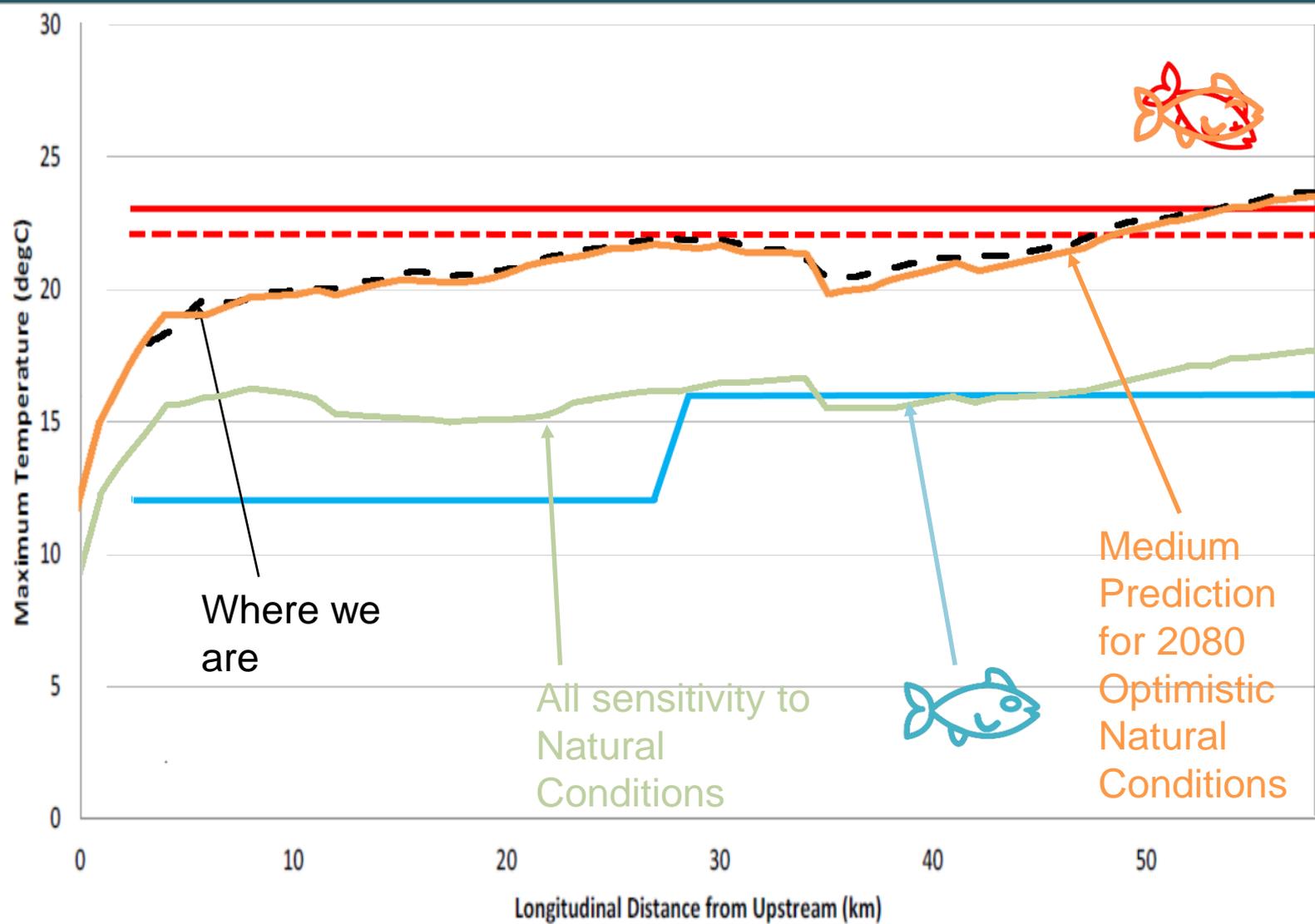
# If we stand still (do nothing)



# If we trot along (Shade only)



# If we run as fast as we can



# Implementation

- Shade
- Lateral connectivity (flood plain access)
- Longitudinal connectivity (fish blockage)
- Enhance ground water (wetlands)
- Hyporheic exchange (log jams)
- Refugia (more log jams)