

Introducing the team

PfSH Joint Committee September 2022

Sandra Norval – Future Growth Lead



Contributing today

- **Sandra Norval** – Future Growth Lead
- **Joff Edevane** – Environmental Monitoring and Reporting Manager



Planning for Future Growth

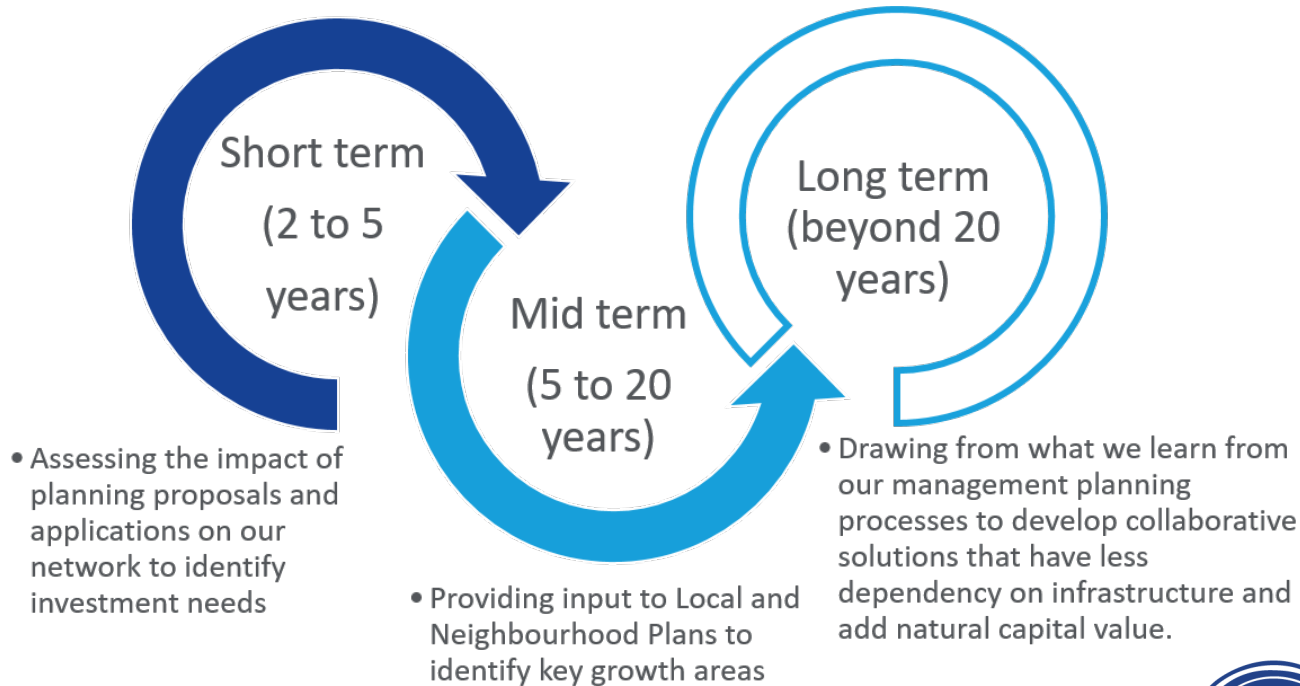
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Sandra Norval – Future Growth Lead



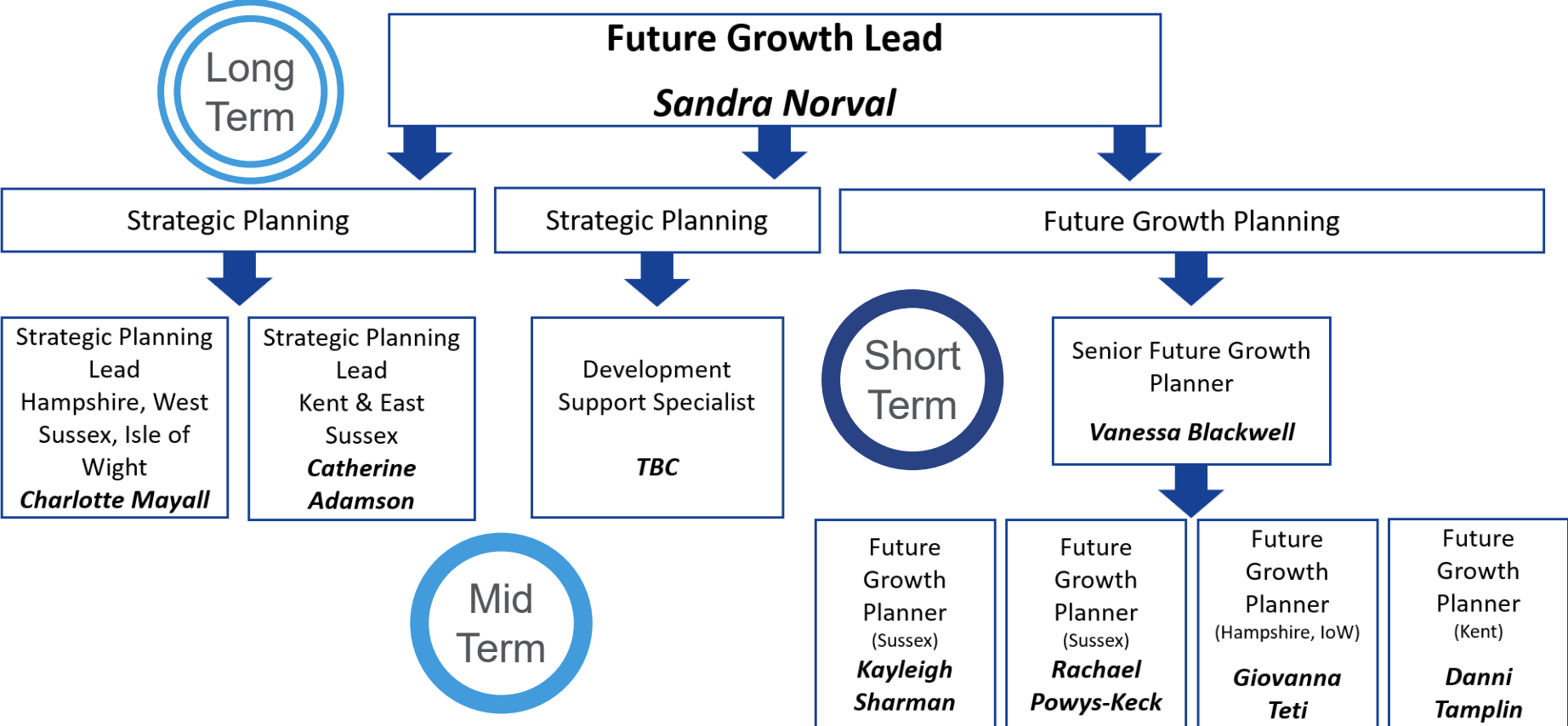
from
**Southern
Water** 

How the Future Growth team works

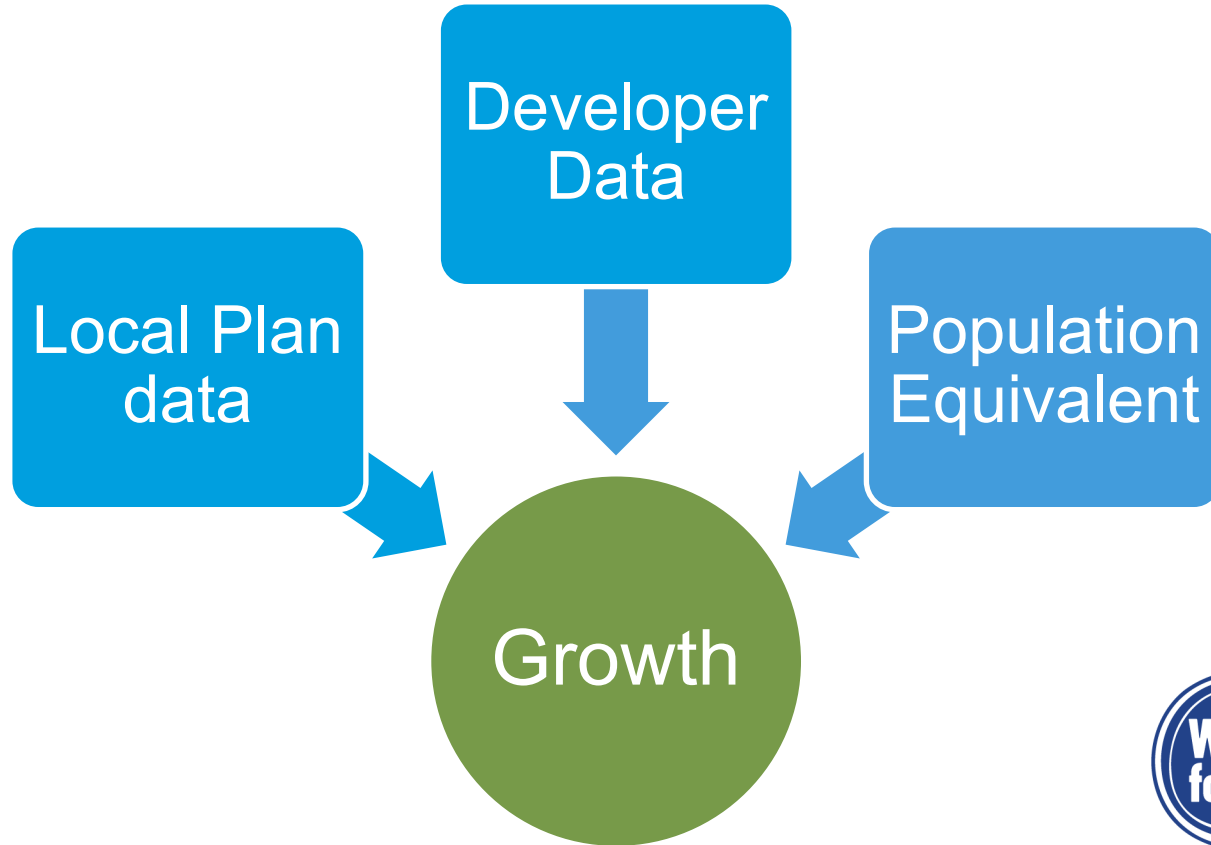


Future Growth Team

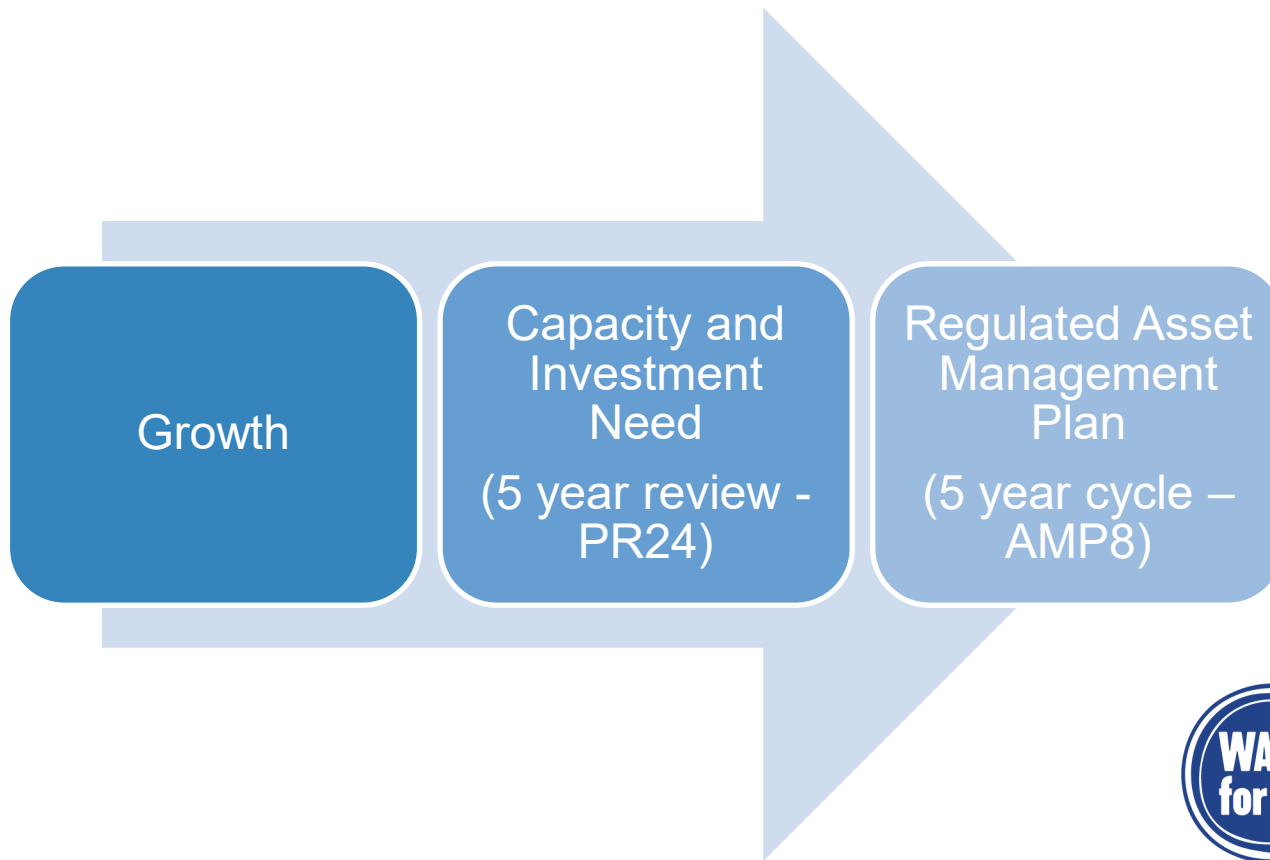
Working with planners and developers to enable a water resilient future



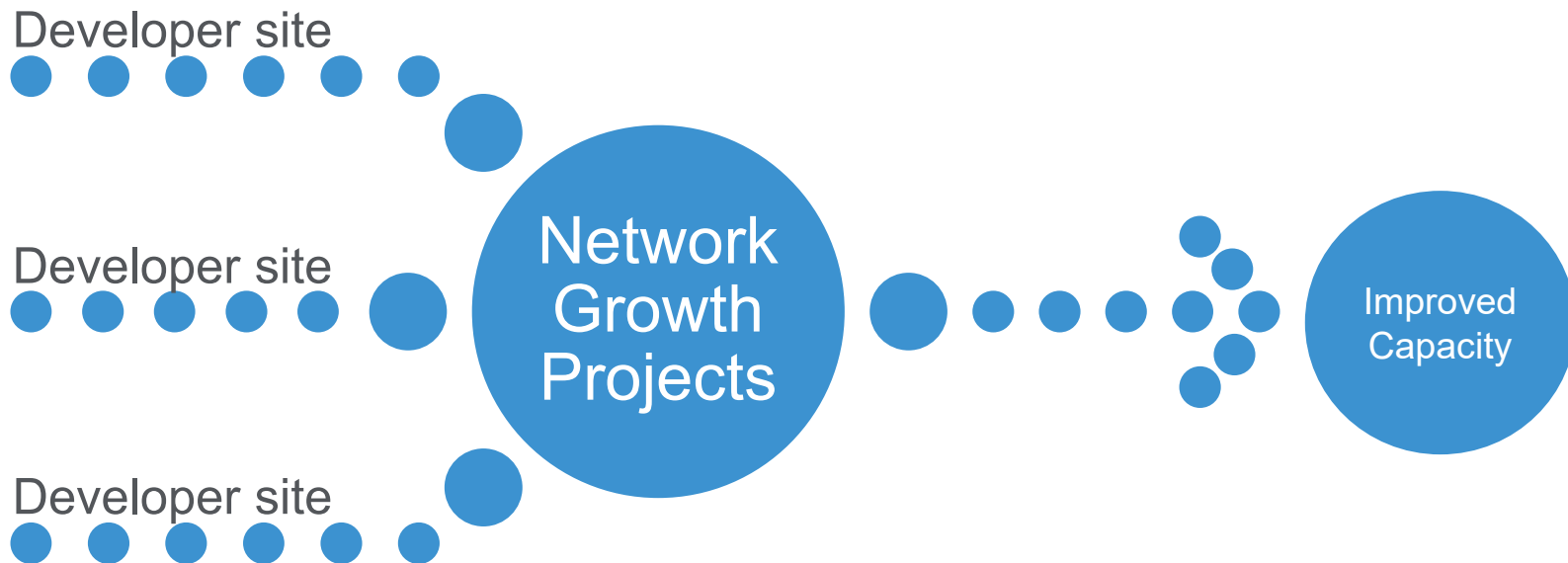
How Future Growth informs the business



How Future Growth informs the business



How Future Growth informs the business



Southern Water's role

- Asset Management Plan (AMP) on a 5 year cycle (currently AMP7, AMP8 from 2025)
- Compiled by preparation of:
 - Water Resource Management Plan (WRMP) – link to Water Neutrality
 - Drainage and Wastewater Management Plan (DWMP) – link to Nutrient Neutrality
 - Water Industry National Environment Programme (WINEP) – link to Nutrient Neutrality
 - Price Review for economic regulation (PR24 for AMP8) – links to both WN and NN
- Regulated by:
 - Ofwat – economic regulator and impact on customer bills
 - Environment Agency (EA) – impacts on environment
 - Drinking Water Inspectorate (DWI) – Drinking Water Quality
 - Consumer Council for Water (CCW) – Domestic customer relationship



A note on Storm Overflows

- Southern Water has brought together a CSO Taskforce who are developing pathfinder projects, 2 of which are on the PfSH area.
- An information sheet has been compiled which can be accessed on our website at [stormoverflows_faq.pdf \(southernwater.co.uk\)](https://www.southernwater.co.uk/stormoverflows_faq.pdf)
- We will share a copy with these slides too.



Nutrient Technically Achievable Limits & Update on Pagham Harbour WINEP Schemes

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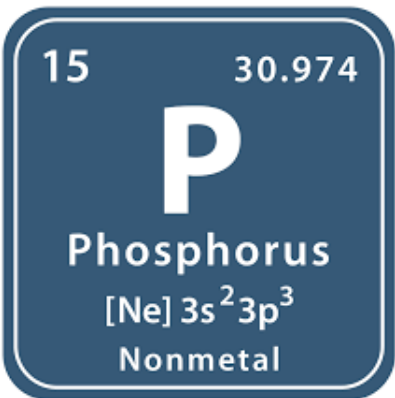
Joff Edevane – Environmental Monitoring & Reporting Manager



from
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The logo graphic for Southern Water, featuring three stylized blue waves of varying lengths, positioned to the right of the text "Southern Water".

Nutrient Neutrality (TAL)



What role can Water Industry play?

Some areas:

- Facilitate in schemes offered by Defra, local councils. Nutrient credits etc
- Work with developers on offsetting – e.g. wetlands fed by our treated discharges
- Etc

Main opportunity – upgrade our assets / wastewater treatment works

Technically Achievable Limits (TAL)

What is a TAL?

– the numeric lowest numeric concentration for a given substance that can be achieved using conventional wastewater treatment technology

- P TAL – 0.25mg/l Total Phosphorus
- N TAL – Total Nitrogen. Currently thought to be about 9mg/l but trials commencing to test this across water industry
- Can we go lower?



Technically Achievable Limits (TAL)

What has the industry been asked to do?

1. Participate in national trials for N TAL in AMP 8 (starts April 2025)
2. Cost and provide the carbon information for achieving Technically Achievable Limits (TAL) for nutrients for all wastewater treatment works discharges impacting on Habitat sites in unfavourable conservation status in PR24 on sites requested by the EA in named catchments

Any schemes successfully funded through Water Industry National Environment Programme (WINEP) to be delivered by **2030**



Technically Achievable Limits (TAL)

N TAL trials – Proposed Southern Water Sites

Technology	SW sites	PE	Receiving water	Case for site selection	Benefits to environment	Potential challenges
Nutrem	Petersfield	23073	The Criddell Stream (SSSI?)	Previous successful pilot trial at the site for P. University supports available. Low to no built for the trial	New technology potentially able to achieve low N without carbon source, so it's a one of the few low carbon N removal technologies	Future capex can be high to convert an existing filter works
4-stage Bardenpho, methanol dosing	Peel Common	270060	SOLENT	The only large scale N removal site relies on Methanol. Site already in operation, good operational and methanol handing experience	Results could readily applied at BUDDS FARM HAVANT WTW, MILLBROOK WTW, which have more than 70% of the total N contribution from wastewater to Solent. Free up growth potential for large areas in Hampshire	High carbon footprint
Optimise Modified Ludzack Ettinger Activated Sludge process	Pennington	54962	SOLENT	A modern N removal plant. Good operating experience. Lower costs to trial various control technologies	Most common N removal technology do not use carbon source. The results could be readily applied to CHICHESTER WTW, SLOWHILL COPSE MARCHWOOD WTW, LUDGERSHALL WTW, NEW ALRESFORD WTW and potentially many more sites. Could become the main workhorse for N removal	



Technically Achievable Limits (TAL)

Catchments for N and Total P TAL Costings:

- | | |
|--------------------|-----------------------------|
| ▪ River Avon SAC | £2.2m capital cost |
| ▪ River Itchen SAC | £57.8m capital cost |
| ▪ Solent | £643.6m capital cost |
| ▪ Stodmarsh | £181.6m capital cost |

Total	£885.2m
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Context – more than the value of the AMP7 (2020 – 25) WINEP programme

Fundamental changes to existing processes are required to meet limits

Impact on customer bills?



WFD No Deterioration Driver – Future Total N limits at Sidlesham & Pagham WWTWs for discharges to Pagham Harbour

Objective of scheme:

- Reduce nitrogen loads entering Pagham Harbour so that nitrogen load standstill is maintained even with future predicted population and WWTW growth.
- Proposed limits were to be Sidlesham WWTW to 12mg/l but other possible options for both WWTWs were to be considered

Outcome:

- Load equivalent calculations together with discussion with the EA has resulted in a Total Nitrogen permit of 15 mg/l as an annual average being accepted for Pagham WWTW. The current Total N UWWTR limit of 15mg/l remains at Sidlesham WWTW.

