

Resuming production of SCCWRP fact sheets

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SCCWRP Commission Meeting

September 9, 2022

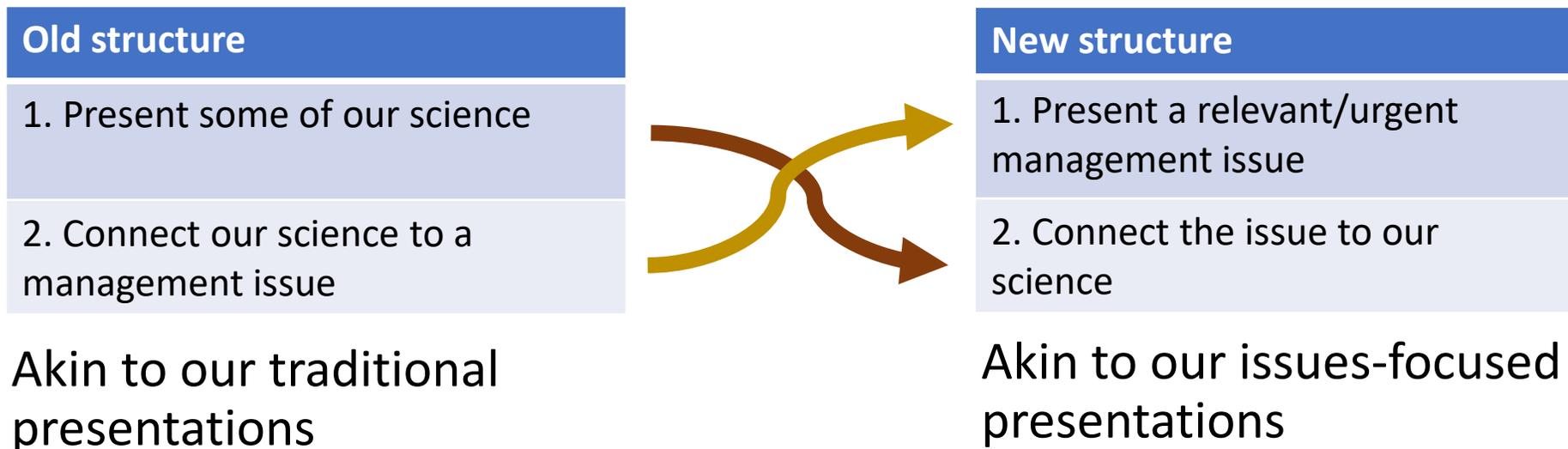
Background

- We produced an initial series of 9 fact sheets in 2011-2014
 - In June, you asked us to resume production of these 2-page fact sheets
 - The target audience was (and still will be) board members of your agencies
- I've developed a plan for producing our new fact sheet series
 - You received the first fact sheet (draft) in your agenda packet



Vision for the new fact sheet series

- Topics will be **narrowly focused**
 - The original topics were almost a one-for-one match with our research themes
- Topics will be **managerially relevant + urgent**



First fact sheet

- Topic: “Using DNA technology to protect beachgoers from fecal contamination”
 - CTAG reviewed a draft last month
- Topic is **focused** and **urgent**
 - San Diego County replaced culture methods with ddPCR this year
 - It’s been in the news: Some San Diegans upset about higher rates of beach closures
 - Other member agencies are considering similar changes

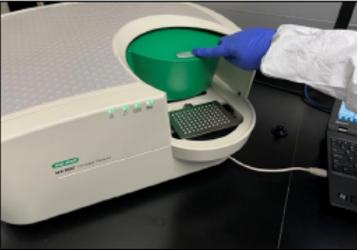
SCOWRP FACT SHEET

Using DNA technology to protect beachgoers from fecal contamination

DNA-based methods provide faster, more insightful information about when it's safe vs. risky to enter the water

September 2022

For decades, the public health community has tested beach water for fecal contamination using established bacteria culturing methods. But advances in DNA technology are paving the way for faster, more insightful ways to test water quality and warn beachgoers when it's potentially unsafe to enter. In 2022, San Diego County became the first public agency in the nation to end reliance on bacterial culturing in favor of a DNA-based method.



Key advantages of DNA technology

The traditional way to test beach water for fecal contamination is via cell culturing, where bacteria cells from a water sample are grown in a laboratory overnight and then analyzed. DNA-based methods, by contrast, focus on analyzing the DNA of the bacterial cells.

- » **Faster:** Whereas cell culturing typically takes 24-72 hours after beach water samples reach a laboratory, DNA methods can provide same-day results. Speed is of the essence when it comes to protecting the health of beachgoers, especially following unexpected, transient sewage spills. Public health agencies need to close beaches and/or post warning signs as soon as contamination is confirmed – and then reopen beaches and rescind advisories as soon as the threat has passed.
- » **More insightful:** Cell culturing cannot determine if fecal contamination originated in the gut of a human or another animal, such as a bird or dog. By contrast, DNA methods can make this distinction. These additional insights help the environmental management community prioritize remediating sources that represent the greatest threat to public health. (It is primarily human feces that sickens swimmers and surfers.)

DNA methods are ready for prime time

Scientists have spent the past two decades working to adapt and transition DNA technology for routine use in beach water-quality testing across Southern California:

- » **Evaluated side by side:** DNA methods have been evaluated side by side with traditional culture methods to show that results are consistently equivalent.
- » **Predictive of health risk:** Epidemiology studies have confirmed that DNA methods are more reliable as a predictor of illness risks for beachgoers who enter contaminated water.
- » **Standardized:** DNA methods have been standardized and published in peer-reviewed scientific literature.
- » **EPA-approved:** In 2012, the U.S. Environmental Protection Agency approved use of an initial DNA-based method for testing beach water quality.

DNA methods agree with culturing methods

Seeking your feedback

- Is it at the right level?
- Will the messaging resonate with our target audience?
- Is it structured from a manager’s perspective?

Production plan

- We will produce 1 fact sheet/quarter
 - Topic will correspond to one of the presentations the Commission will hear
 - We will select each topic as the Commission agenda comes into focus
- You will have the published fact sheet in front of you during the meeting
 - You'll be able to share it afterward

CTAG review

1. CTAG receives a draft of each fact sheet at their meeting
2. CTAG reviews/submit comments
3. You will receive the final published version at the Commission meeting