

# Suspect/Non-Target Screening:

A powerful tool for selecting emerging environmental contaminants

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# Target v Non-Target (Suspect)

- Target



- Example:

Ibux and Simvastatin in Cod from Oslofjord

- Non-Target



- Example:

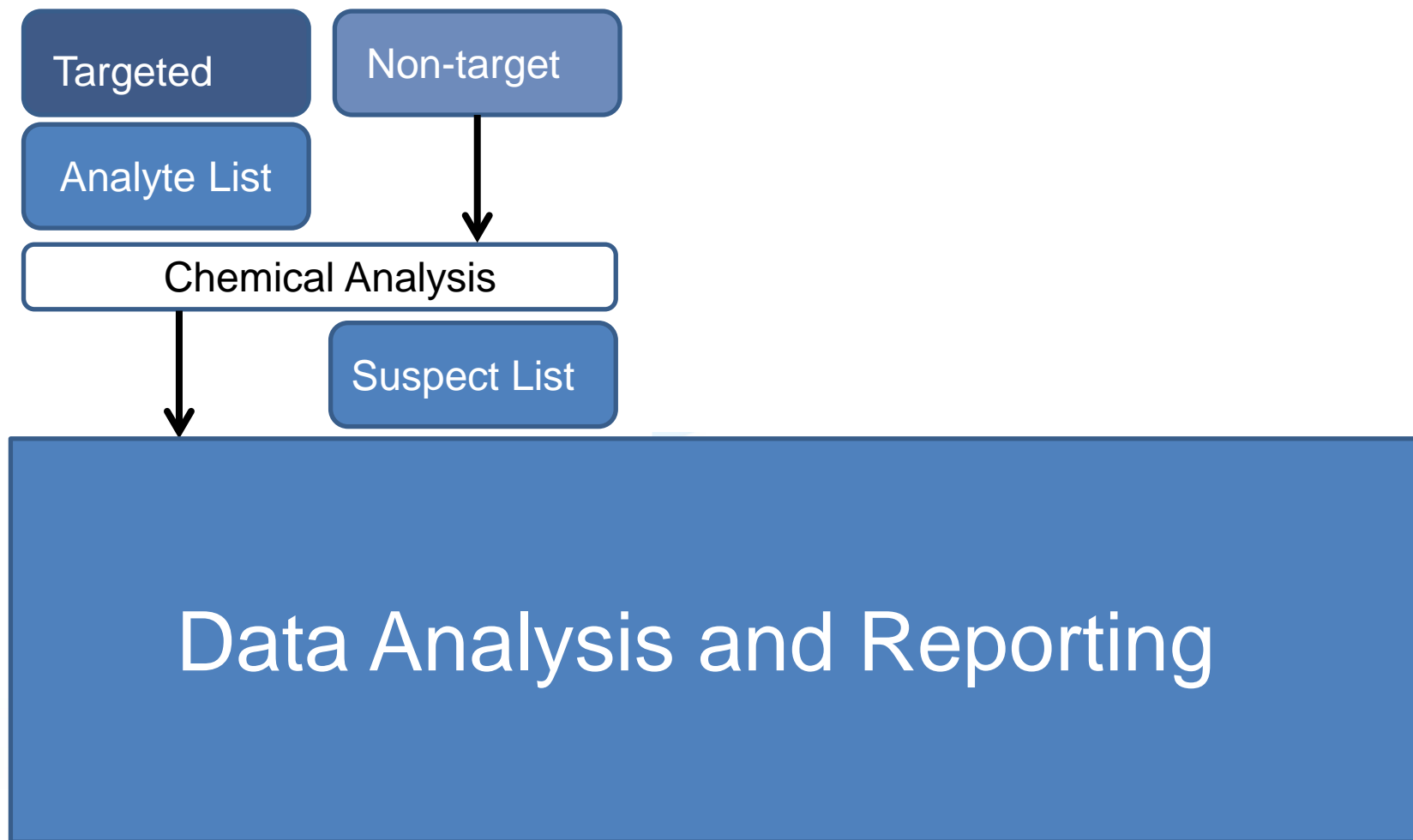
Everything in Oslofjord



Recipe = Suspect List

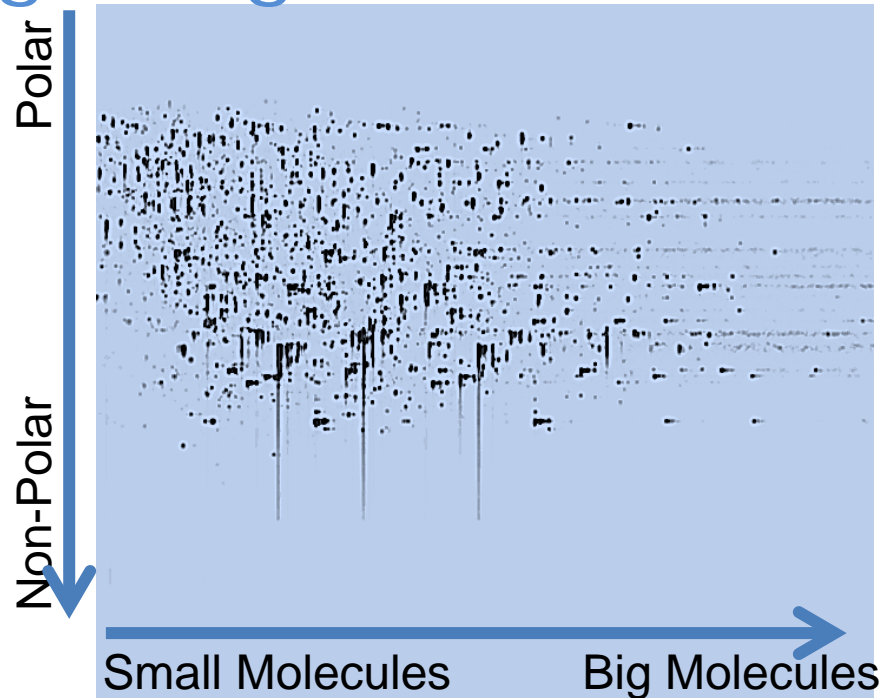
= Retrospective Analysis

# Identification Confidence



*Adapted from Schymanski et al., 2015*

# Non-Target Screening – Big Data!



- ~ 3 GB per Sample

# Spot The Difference

1. Look for changes over time....

September 2014

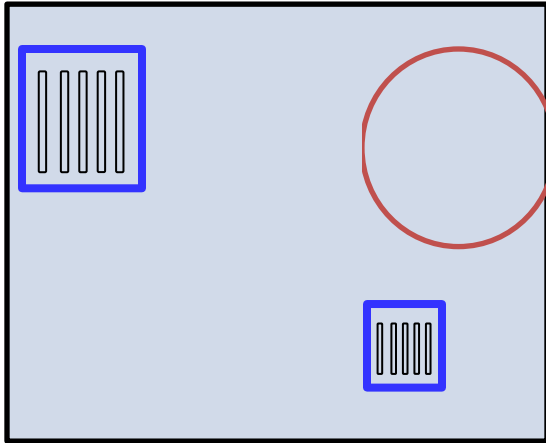


September 2015

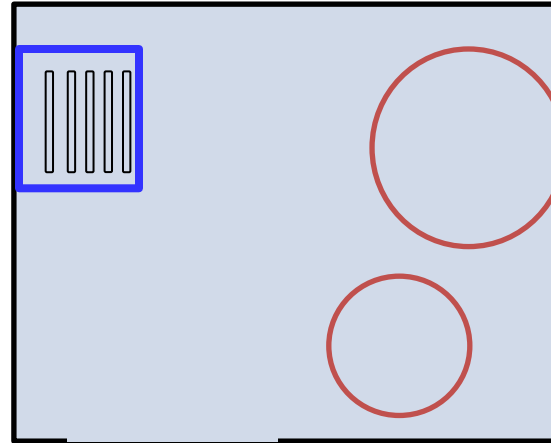


# Spot The Difference

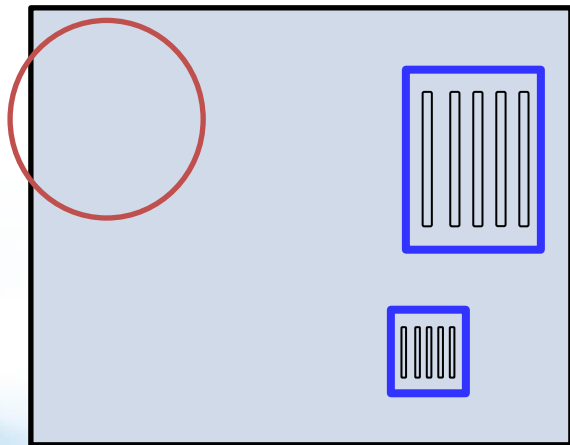
2. Look for changes with location....



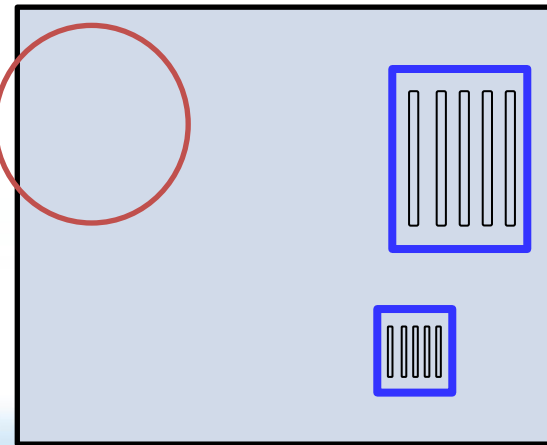
Cod - Location 1



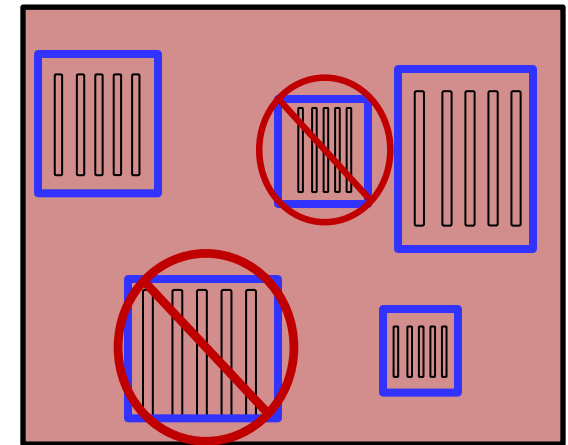
Cod - Location 2



Cod - Location 3



Cod - Location 4



Aggregate co-detection

# Example – Røye, Bjørnøya



>10000 Chemical Compounds



~ 500 Exogenous Compounds

- PFOS
- PFOA
- PFNA
- PFOSAA
- PFHpA
- PFHxPA ...

# Summary

## Suspect Screening...

- ...is retrospective analysis
- ...is reliant on statistics
- ...has variable Identification Confidence
- ...is time consuming (for data handling)