Transect location analysis

- The Acclimatize data includes positions for each sample - GPS
- Orthogonal linear regression used to fit a transect line for each site
- Transects were split into four sections using GIS:
  - Swansea Bay, Cemaes and Traeth Gwyn
    - Transect above and below OS MLWS split into two equal sections
  - New Quay North
    - Transect split into four equal sections, 1 above OS MLWS and 3 below MLWS
  - Nolton Haven
    - Transect split into 1 section below OS MLWS and 3 sections on the beach area above MLWS
Swansea location analysis
Cemaes location analysis

Legend
Cemaes DSP Transect Sections
- Upper
- Mid - Upper
- Mid - Lower
- Lower

(Contains Ordnance Survey data © Crown copyright and database right 2020)
New Quay North location analysis
Traeth Gwyn location analysis
Nolton Haven location analysis
Swansea Bay - results
Cemaes - results

Cemaes - All days (n=61), ANOVA p = 0.000

Cemaes - Days with pGI ≤0.1 (n=40), ANOVA p = 0.000

Cemaes - Days with pGI >0.1 (n=21), ANOVA p = 0.000

Concentration (Cfu/100 ml)

n=678 n=207 n=207 n=433

n=434 n=143 n=138 n=285

n=244 n=64 n=69 n=148

Onshore ← Transect section → Offshore
Traeth Gwyn - results
Nolton Haven - results

Nolton Haven - All days (n=62), ANOVA p = 0.000

Nolton Haven - Days with pGI ≤0.1 (n=52), ANOVA p = 0.000

Nolton Haven - Days with pGI >0.1 (n=10), ANOVA p = 0.000
Conclusions

- Enterococci concentrations show significant differences between the transect sections.
- The general pattern is for water quality to improve moving offshore.
- The differences are large enough to impact on water quality classification.
- The worst water quality is generally inshore, during high water tidal conditions.
- The best water quality is generally offshore, below MLWS.
- With the exception of Cemaes, Excellent or Good water quality is evident offshore even on days with high pGI (>10%) impacted by event conditions.