

WaPUG WORKSHOP - TIDAL OUTFALLS

The workshop started with a review of user note 18 Outfalls in WASSP. This seemed to answer most problems on the inclusion of outfalls in WASSP models.

The main part of the workshop consider the problem of what storm return periods and tide levels were appropriate for tide locked systems. Three approaches were identified.

1. Pragmatic - Run a limited range of combinations of large storms and low tides and small storms and high tides and see which gives the most critical case.
2. Time-series - Run a long time-series of tides and rainfall through the model and identify the worst case. This would require at least 40 years of record.
3. Probability - Generate synthetic tide and rainfall events. From all of the possible combinations of these identify which are likely to be critical, and run these through the model.

John Packman from the Institute of Hydrology gave a very clear presentation on the third method, and greatly contributed to the discussion.

The development of the ideas showed that methods 2 and 3 are similar. We could generate a synthetic time-series of rain and tide using method 3 and analyse it as method 2. Alternatively in method 2 we could use real tide levels but shifted in time so that they were effectively a synthetic time-series.

The workshop favoured the use of a synthetic time-series analysed as method 2. However this would be an enormous amount of work using a large number of events.

For most systems the pragmatic approach is all that is required. This will be the subject of a user note.

For systems with a lot of storage at the bottom of the system, which is affected by the tide level, the time-series approach should be used. However, this could be applied to a very simple storage model without using WASSP. The calculations would therefore become much quicker.