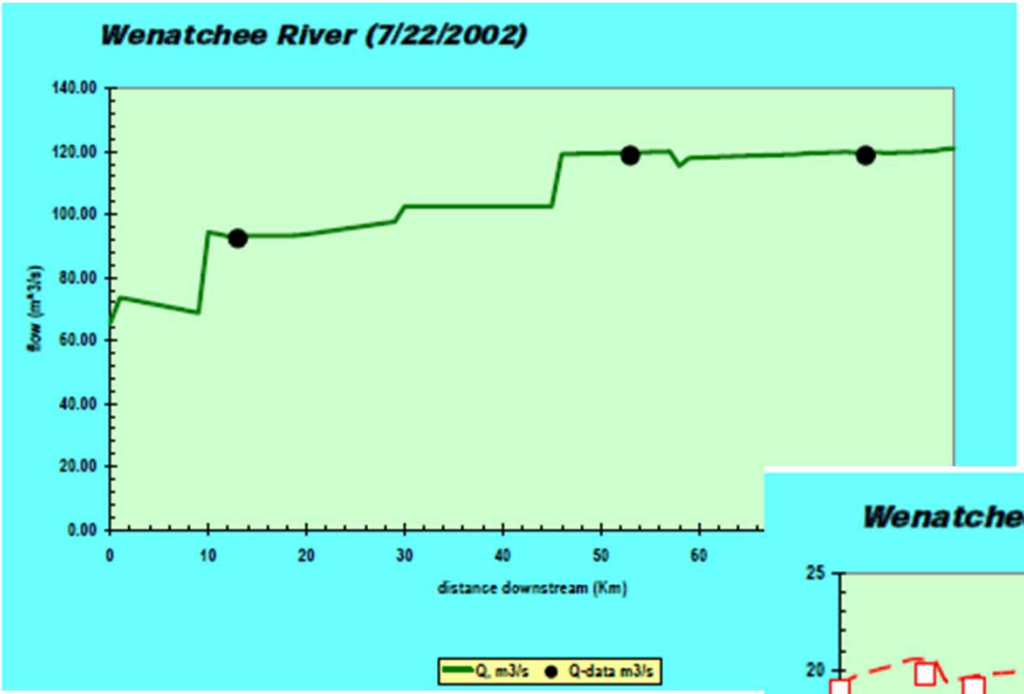
QUAL2Kw

- Quasi Steady State
  - Boundaries are steady
    - Option of repeating 24 hour time series for each parameter
  - Predicts steady state water quality with diel variation
    - Results apply to periods of relatively stable flows & inputs
    - Periphyton biomass grows until steady state reached and/or runtime is reached
  - Steady state prediction tool aligns with synoptic data from USGS
    - Reasonable data available to fill in gaps for a dynamic model?
  - Scour, a dynamic process, is not included
  - Includes temperature prediction and associated effects on periphyton growth
- Excel VBA code
  - Spreadsheet inputs, underlying mathematical code
  - Ease of use and transparency

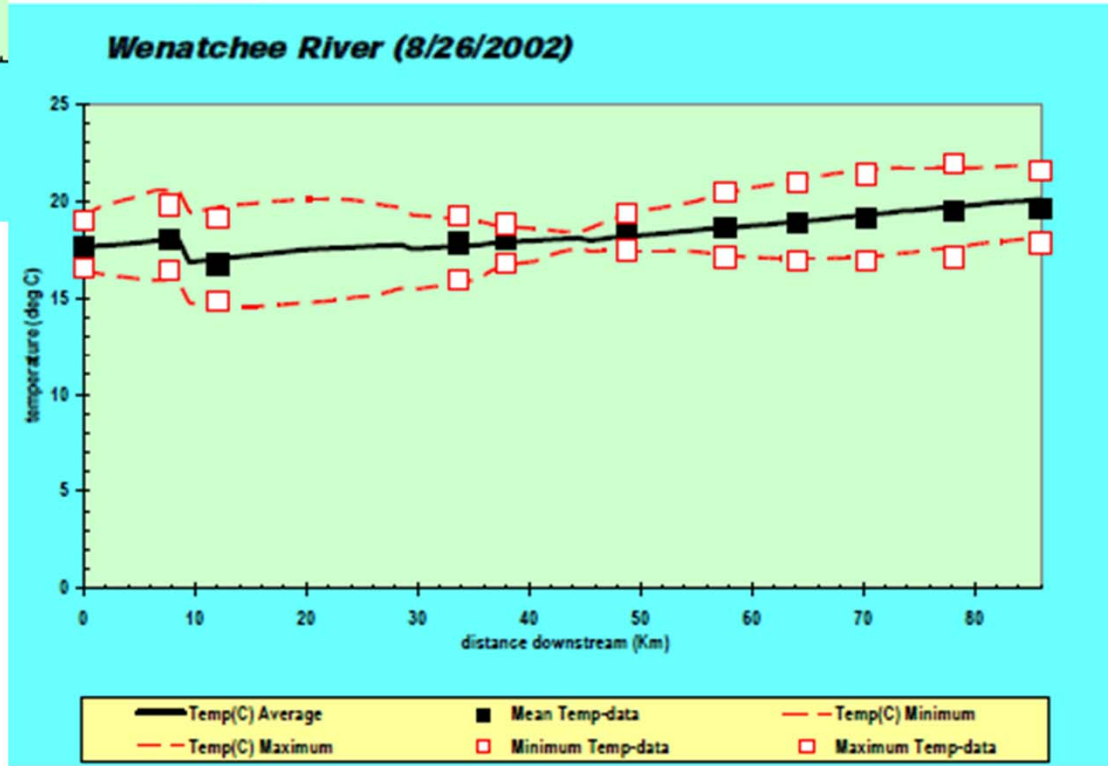
QUAL2Kw Example Output

Wenatchee River Water Quality Analysis

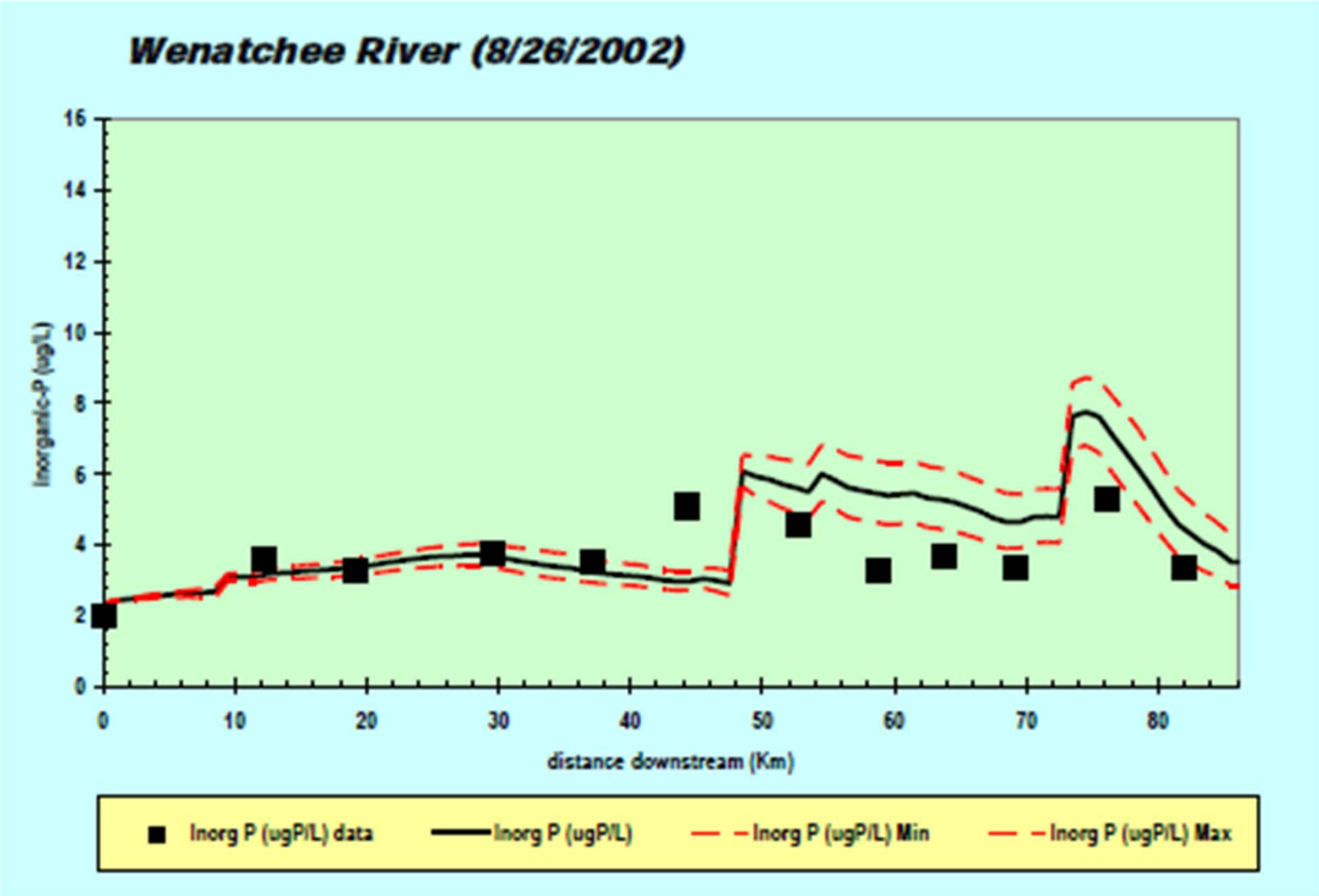
Example of Flow and Temperature Prediction



One advantage of QUAL2Kw over AQUATOX
- Temperature prediction



Example of Inorganic Phosphorus Prediction



Example of Periphyton Prediction

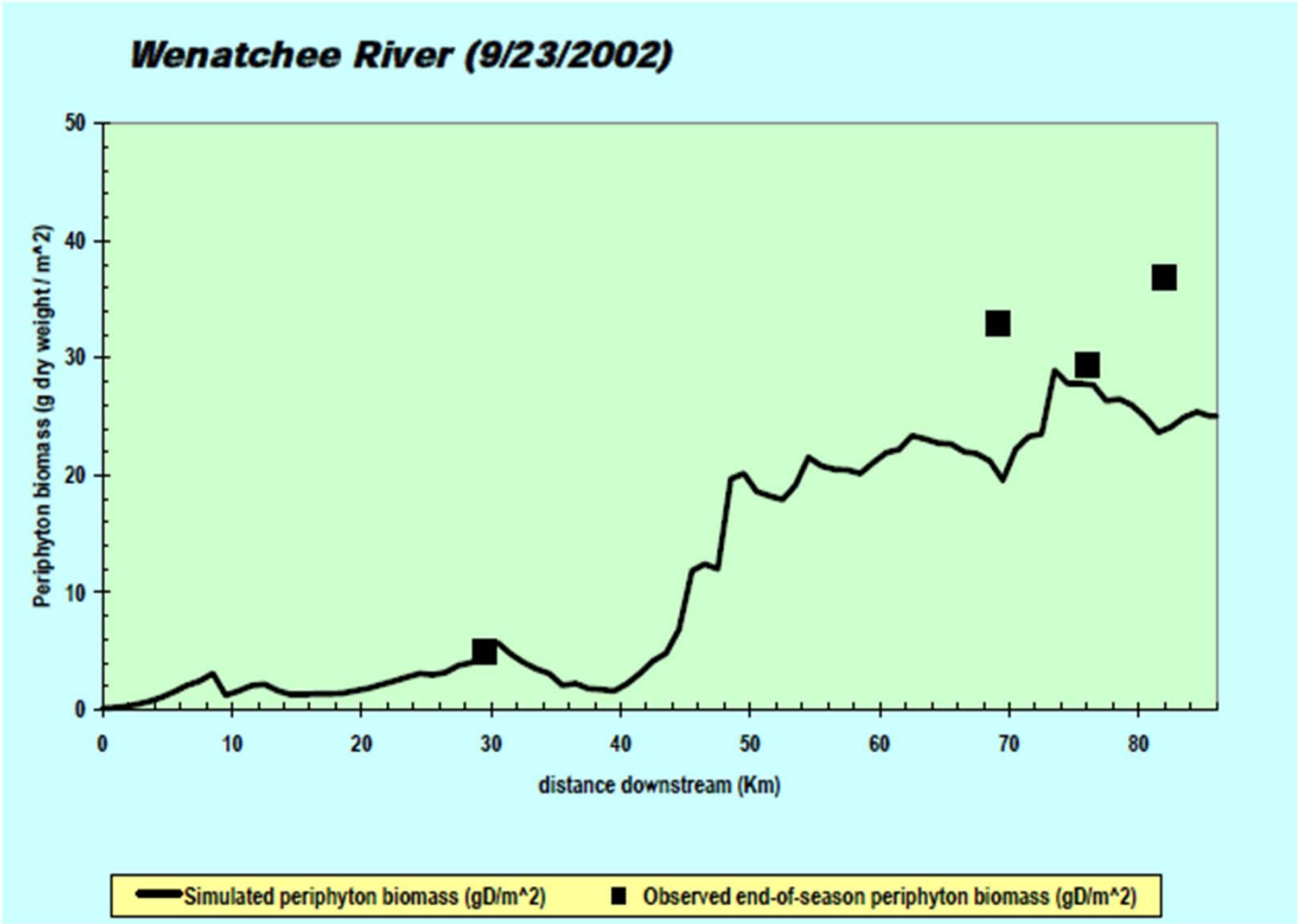


Figure 24. Comparison of QUAL2K simulated periphyton biomass (lines) to observed end-of-season biomass maxima (squares) in the Wenatchee River.