Description of Calibration and Validation Statistics reported on TreeFlow reconstruction pages

For further details on these statistics in the context of the reconstruction process, see the Reconstruction Case Study Page:
http://150.135.237.120/drupal_sites/treeflow/content/reconstruction-case-study-blue-river-co

Statistic	Calibration	Validation
Explained variance (R2)	0.58	
Reduction of Error (RE)		0.51
Standard Error of the Estimate	14,232 AF	
Root Mean Square Error (RMSE)		15,396 AF

Calibration Statistics:

Explained Variance (R2):
A measure of the proportion of total variation about the mean in the predictand (observed flow or climate record) that is explained by the regression model.

Standard Error of the Estimate:
The square root of the mean square of the calibration errors (estimated flow minus observed flow). In other words, the measure of the central tendency of the calibration errors.

Validation Statistics:

Reduction of error (RE):
A measure of the skill of the validation series from regression model in estimating the observed flow values, compared to a prediction based on "no knowledge" (the mean of the observed record over the calibration period). An RE value above 0 indicates some skill, and in a robust reconstruction we expect the RE to approach the value of R2 from model calibration. RE can be treated as the validation series equivalent of the explained variance in the calibration (R2).

Root Mean Square Error (RMSE):
A measure of the central tendency of errors from the validation series (estimated flow minus observed flow), equivalent to the Standard Error of the Estimate from the calibration. In a robust model, RMSE should be very similar to the Standard Error of the Estimate.