LnBaranyi-Roberts model equation is:

$$\ln(N_t) = \ln(N_0) + (\mu_{max} \times A) - \ln(B)$$

where

$$A = t + \frac{ln(C)}{\mu_{max}}$$
$$B = 1 + \frac{exp(\mu_{max} \times A) - 1}{exp(ln(N_{max}) - ln(N_0))}$$

with

$$C = exp(-\mu_{max} \times t) + exp(-\mu_{max} \times \lambda) - exp(-\mu_{max} \times t - \mu_{max} \times \lambda)$$

t is time and ln is natural logarithm. The parameters to estimate are μ_{max}, λ, $ln(N_0)$ and $ln(N_{max})$.
The noisy output is defined as:

$$\ln(N_t) = \mathcal{N}(\ln(N_t), \%noise)$$

i.e random number from the normal distribution with mean parameter $\ln(N_t)$ and standard deviation parameter $\%noise$.

Example of LnBaranyi-Roberts curve
Time unit is hour. Maximal time is 500h. $\mu_{max} = 0.05$, $\lambda = 40$, $ln(N_0) = 5.4$ and $ln(N_{max}) = 20$.