Traditionally, the naturalized flows in the Czech Republic are derived in monthly time step only, mainly since this is the only time step for which the water use data are in general available. However, finer time-scales (e.g. daily) are required for the assessment of climate change impacts on the water regime and proposal of the adaptation measures. Naturalization of flows is based on the information on water use reported by major water users. Withdrawals of small users are unknown, however, their sum can be considerable. Elimination of these uncertainties is based on the coupling of water management model with hydrologic balance model BILAN, which was originally developed for simulation of water cycle components in daily and monthly time step. With the linked model the amount of water used in the basin can be estimated, which eliminates part of the discrepancies in the declared water use. Inputs to the model are daily time series of observed discharge, air temperature, precipitation, relative air humidity and monthly time series of water use in the basin. The calculation is done in few steps: first the natural discharges are computed by water management model. These discharges are subsequently used in hydrologic balance model BILAN for the calibration of the model parameters. The resulting discharges are modified according to the available information on the water use and then compared with original observed discharges by a criteria function. The process is iteratively repeated until good agreement between simulated and observed discharges is reached.