

Cumulative reservoir fluid balance

(1) $\Delta Q(t) = Q_t^\downarrow(t) - Q_t^\uparrow(t) + Q_{GC}^\downarrow(t) + Q_{WAQ}^\downarrow(t)$

where

$Q_t^\uparrow(t)$	cumulative offtakes by the time moment t
$Q_t^\downarrow(t)$	cumulative intakes by the time moment t
$V_{GC}^\downarrow(t)$	cumulative volumetric inflow from gas cap expansion
$V_{WAQ}^\downarrow(t)$	cumulative volumetric inflow from aquifer expansion