$$m_{sed\_2}\left(\frac{ds_{sed\_2}}{dt}\right) + m_{bio\_2}\left(\frac{ds_{bio\_2}}{dt}\right) + m_{DOC\_2}\left(\frac{ds_{DOC\_2}}{dt}\right) + v_2\left(\frac{dc_2}{dt}\right) =$$

$$- v_1\mu_{bio\_a1}c_2 - v_2\mu_{hydr\_2}C_2 + \alpha(c_1 - c_2)$$

$$- m_{sed\_2}\mu_{bio\_sed2}s_{sed\_2} - m_{bio\_2}\mu_{bio_biota2}s_{bio_2}$$

$$- m_{DOC\_2}\mu_{bio\_DOC2}s_{DOC\_2}$$