Compartment Models cont'd
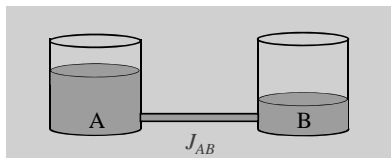
$$J_{AB} = k(A - B)$$
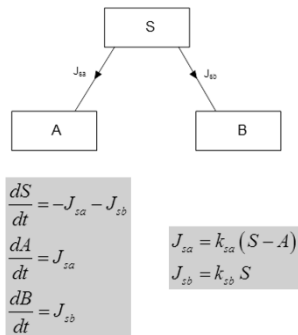

Berkeley-Madonna tutorial...

General transfer equations
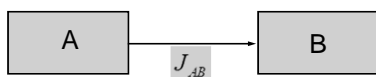
$J_{AB} = k$	constant flow
$J_{AB} = k_{AB} A$	donor dependent
$J_{AB} = k_{AB} B$	recipient dependent
$J_{AB} = k_{AB}(A - B)$	donor-recipient difference
$J_{AB} = k_{AB} AB$	donor-recipient product
$J_{AB} = k_{AB} A - l_{AB} A^2$	like logistic function
$J_{AB} = k_{AB} f(t)$	forcing function (time)

Model for Lab exercise 4

$$\frac{dS}{dt} = -J_{za} - J_{zb}$$

$$\frac{dA}{dt} = J_{za}$$

$$\frac{dB}{dt} = J_{zb}$$

$$J_{za} = k_{za}(S - A)$$

$$J_{zb} = k_{zb}\, S$$

Berkeley-Madonna Program

1) Draw compartments
2) Add flows between compartments
3) Define any parameters (like k)
4) Define flows (transfer equations)
5) Set initial conditions
6) Set run options
7) Check compartment DEs
8) Run model (solve)
9) Examine results (draw graphs)