

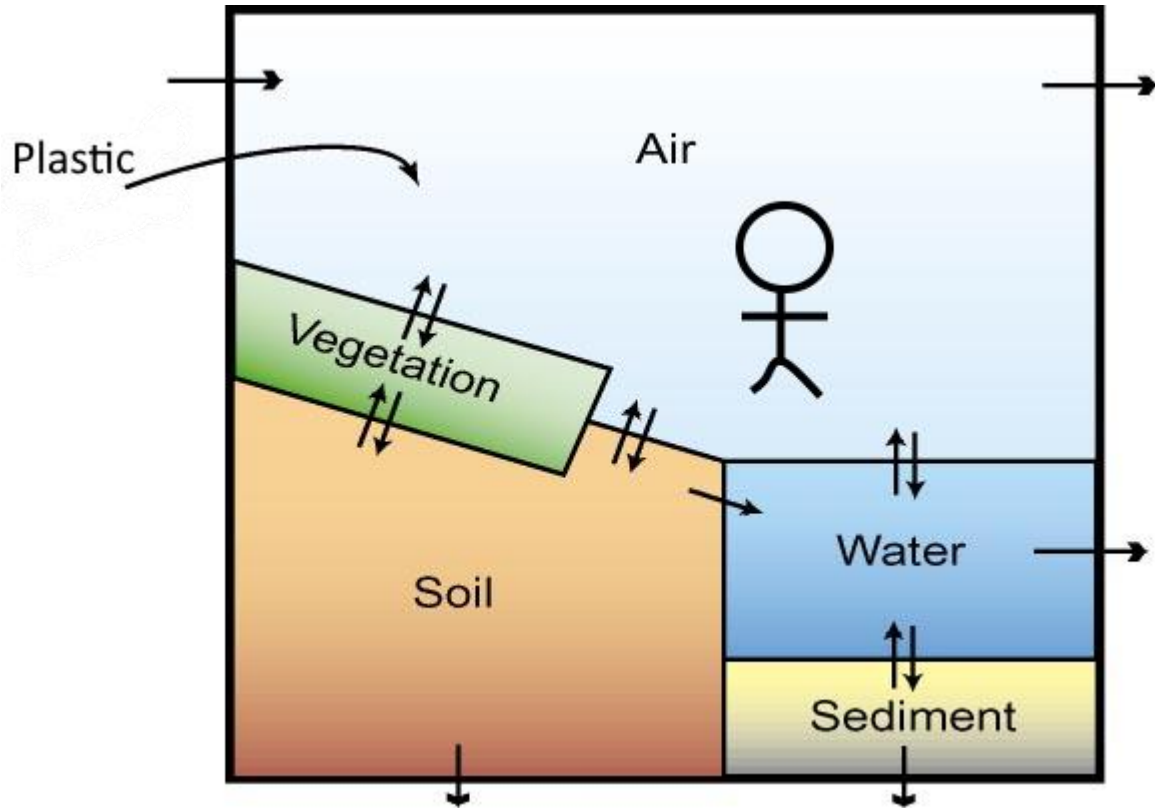
Microplastics in the environment & human exposure pathways

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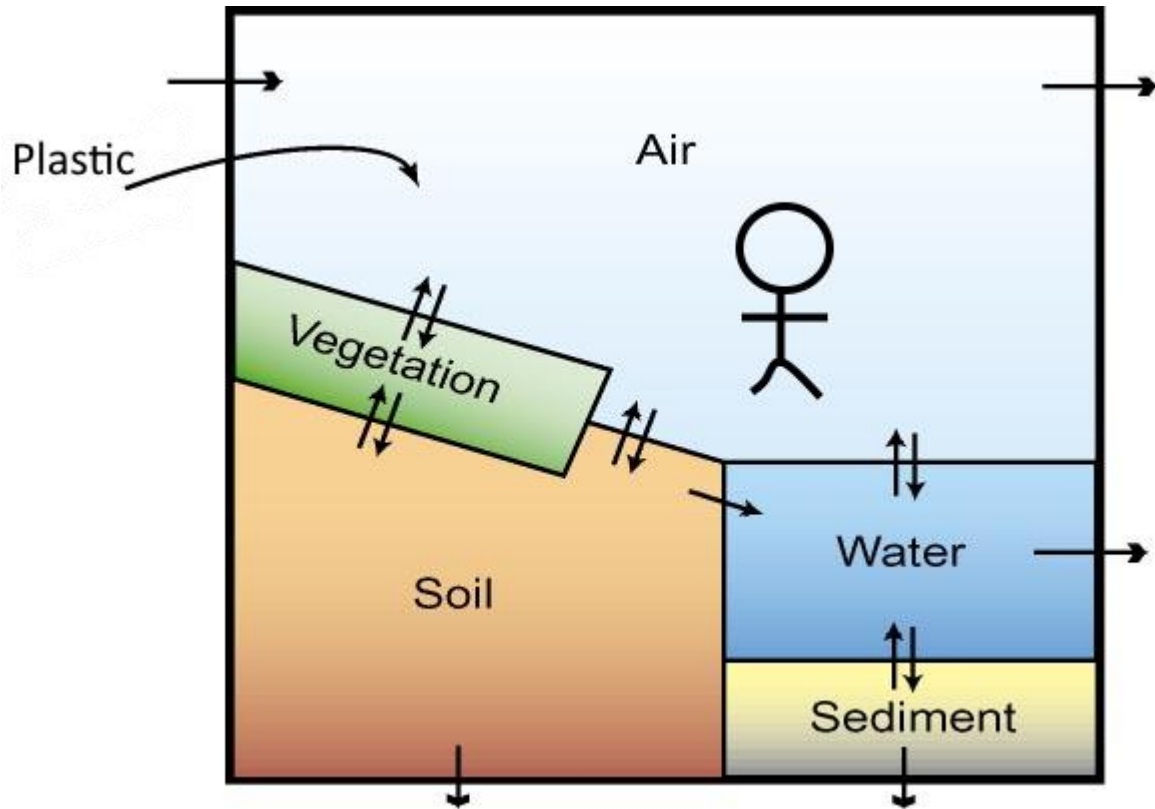
National Academies Microplastics and
Health Webinar Series 2, March 20,
2025



Microplastics in the environment & human exposure pathways



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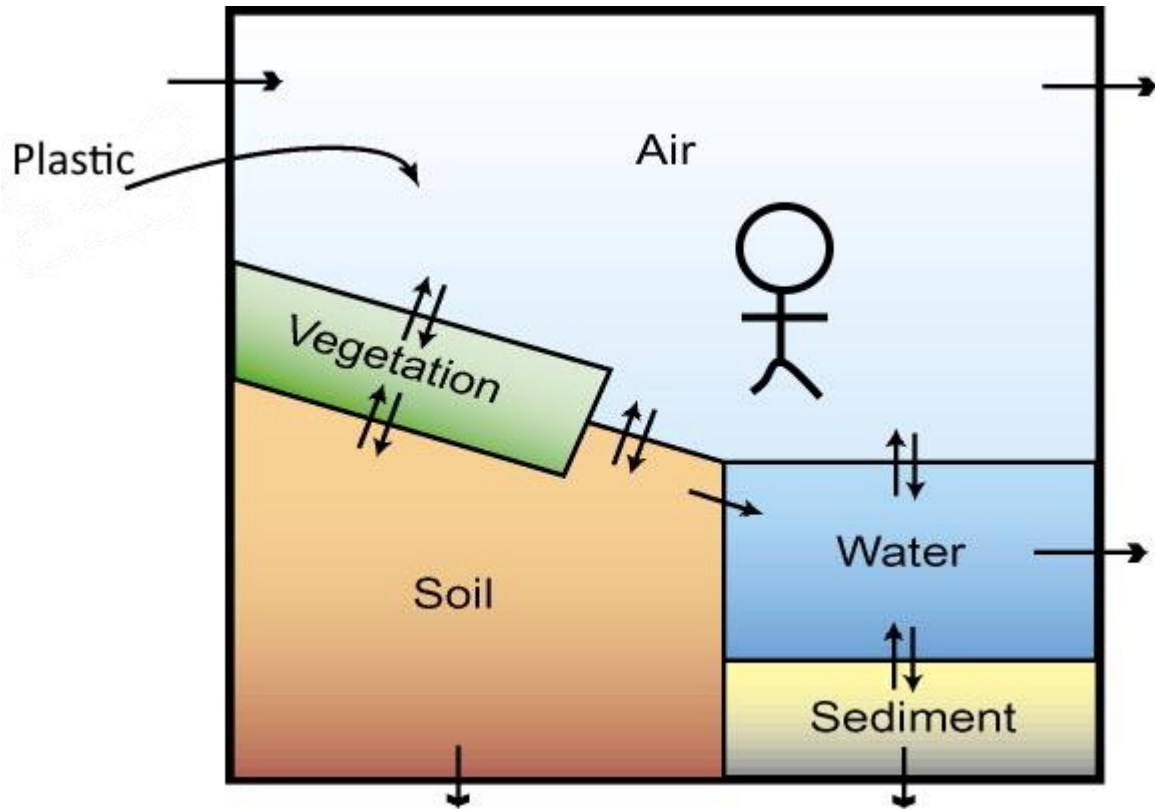


$$I = iF \times E$$

Population-level intake (g/day)

Emission rate to the exposure environment (g/day)

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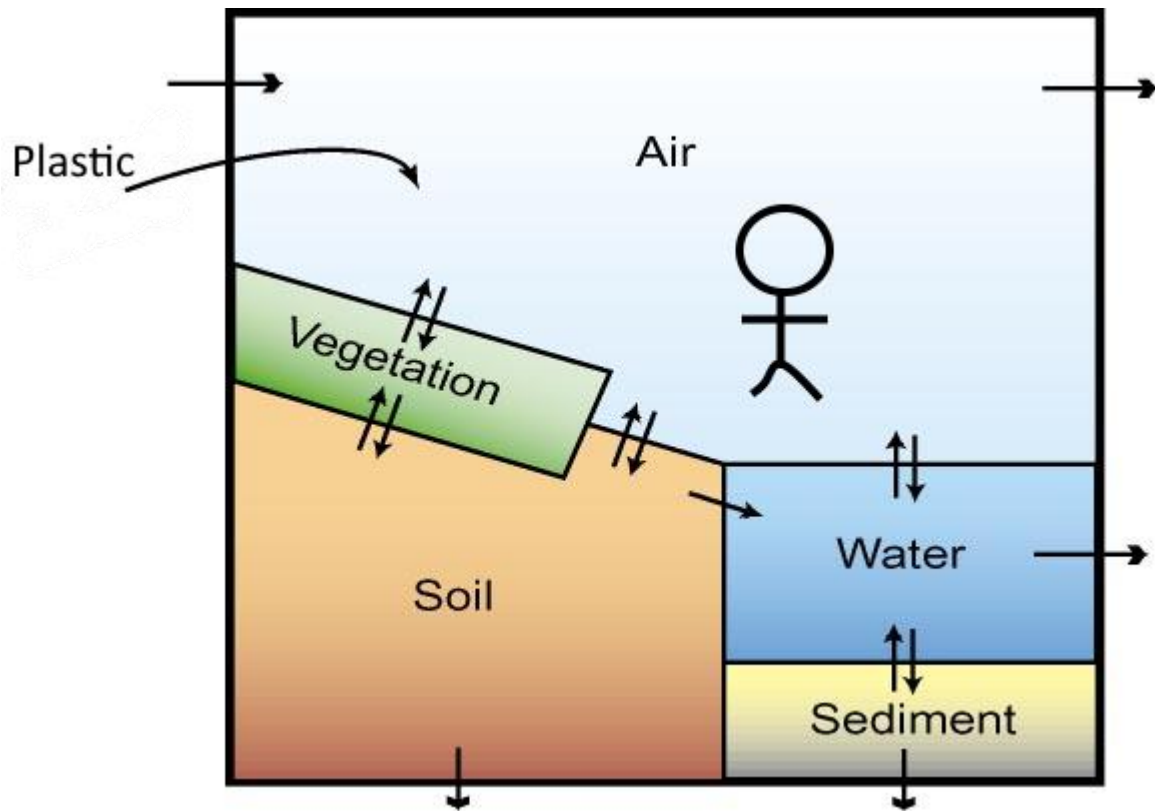


$$I = \frac{T_{ov}}{CTI} \times E$$

Population-level intake (g/day)

Emission rate to the exposure environment (g/day)

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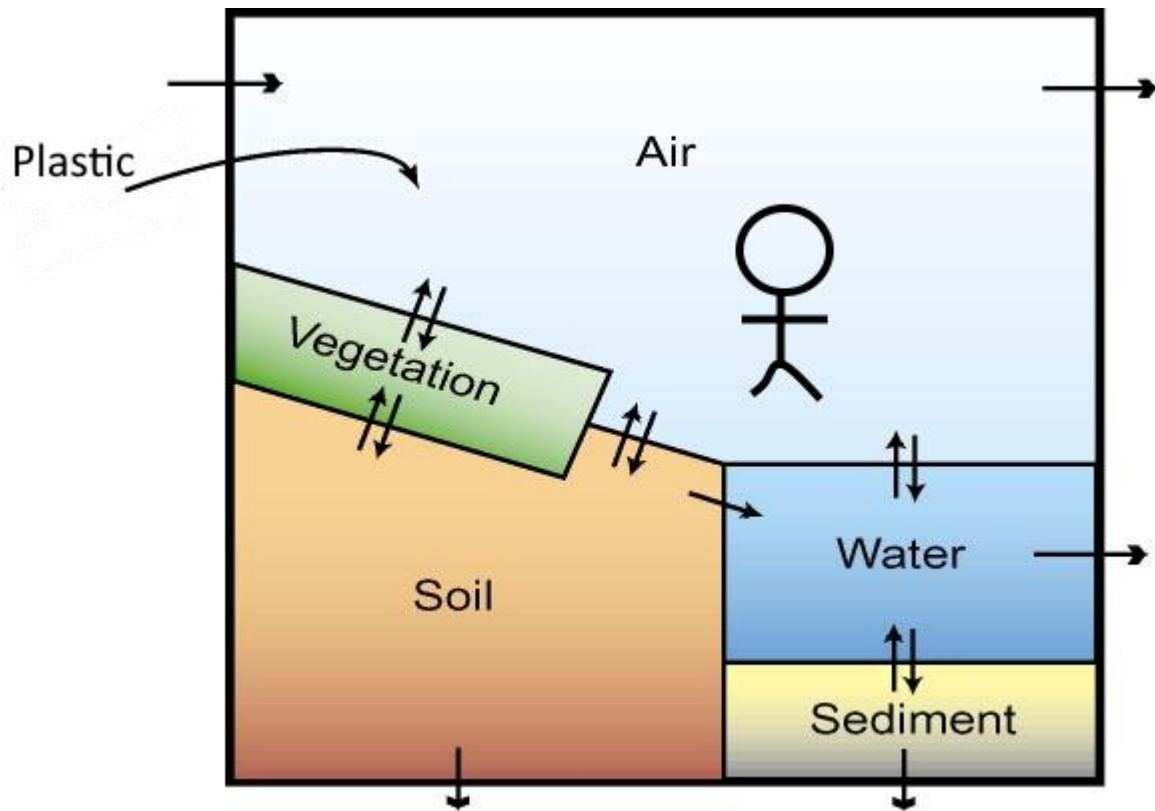
$$I = \frac{T_{OV}}{CTI} \times E$$

Population-level intake (g/day)

Residence time of plastic in the exposure environment (h)

Emission rate to the exposure environment (g/day)

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$$I = \frac{T_{OV}}{CTI} \times E$$

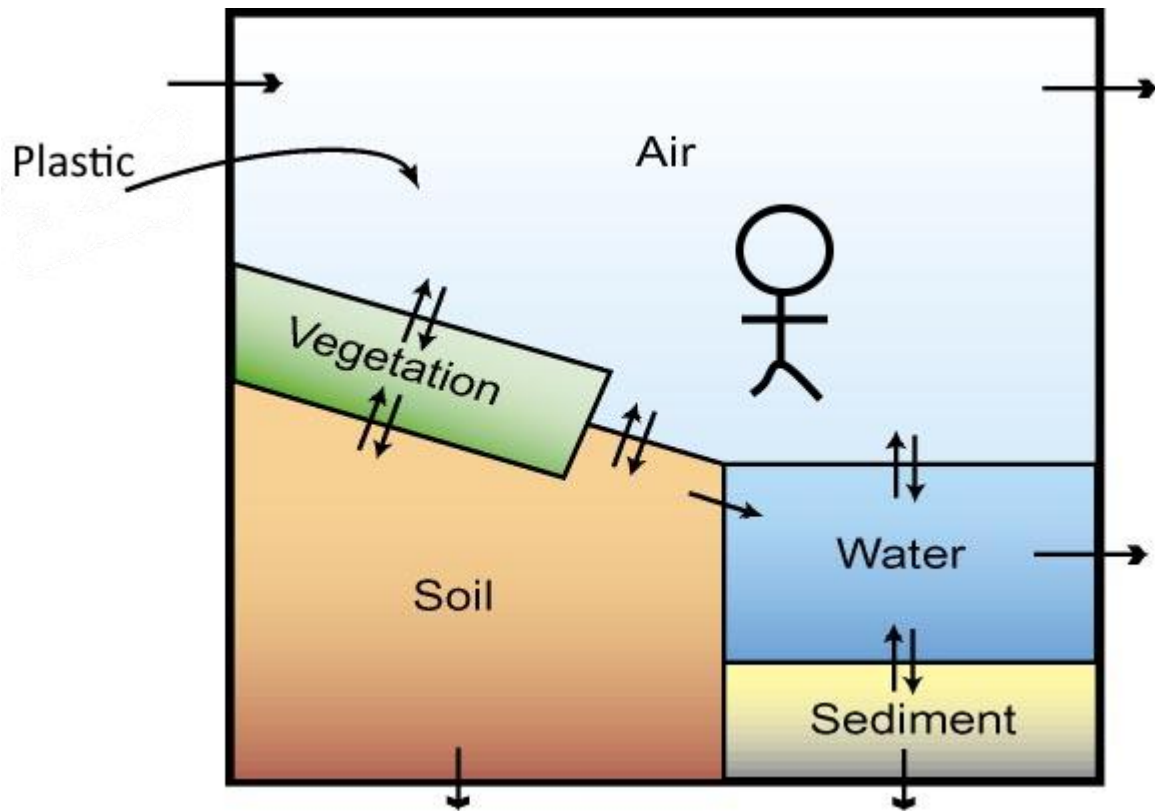
Residence time of plastic in the exposure environment (h)

Population-level intake (g/day)

Characteristic time for intake by the population (h)

Emission rate to the exposure environment (g/day)

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$$I = \frac{T_{OV}}{CTI} \times E$$

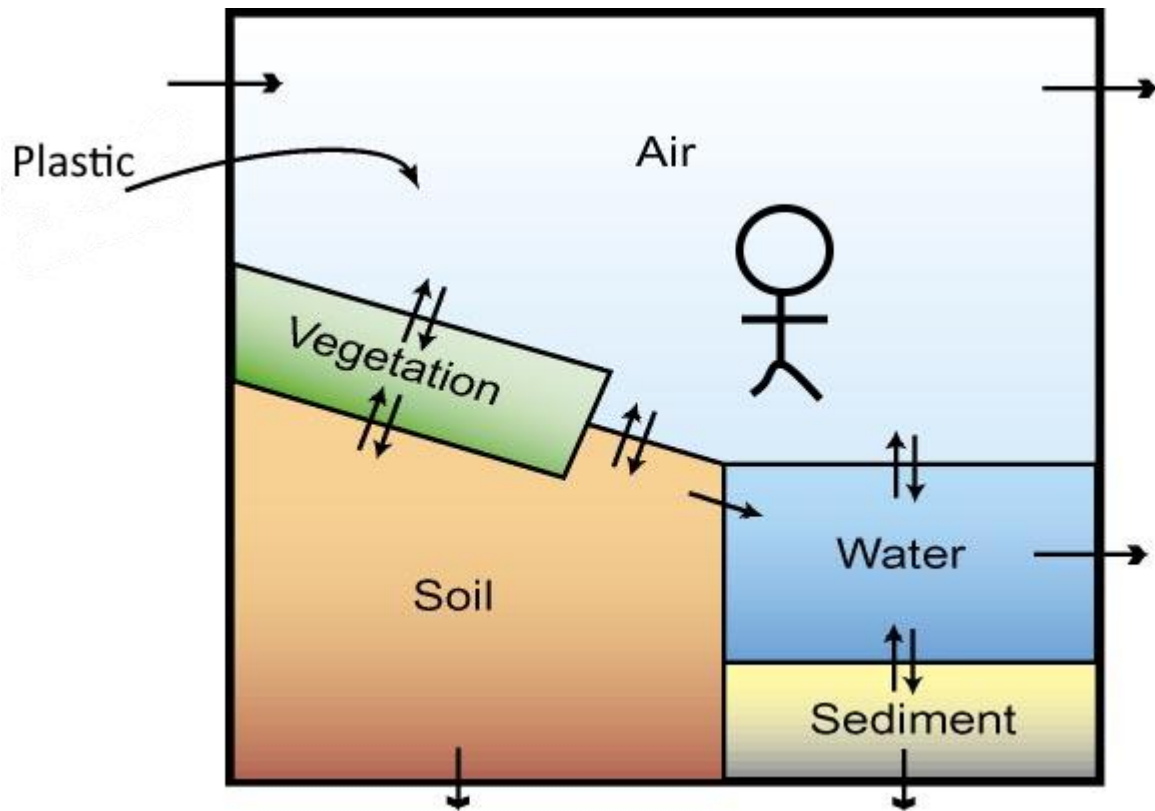
Residence time of plastic in the exposure environment (h)

Population-level intake (g/day)

Characteristic time for intake by the population (h)

Increasing exponentially (!)

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$$I = \frac{T_{OV}}{CTI} \times E$$

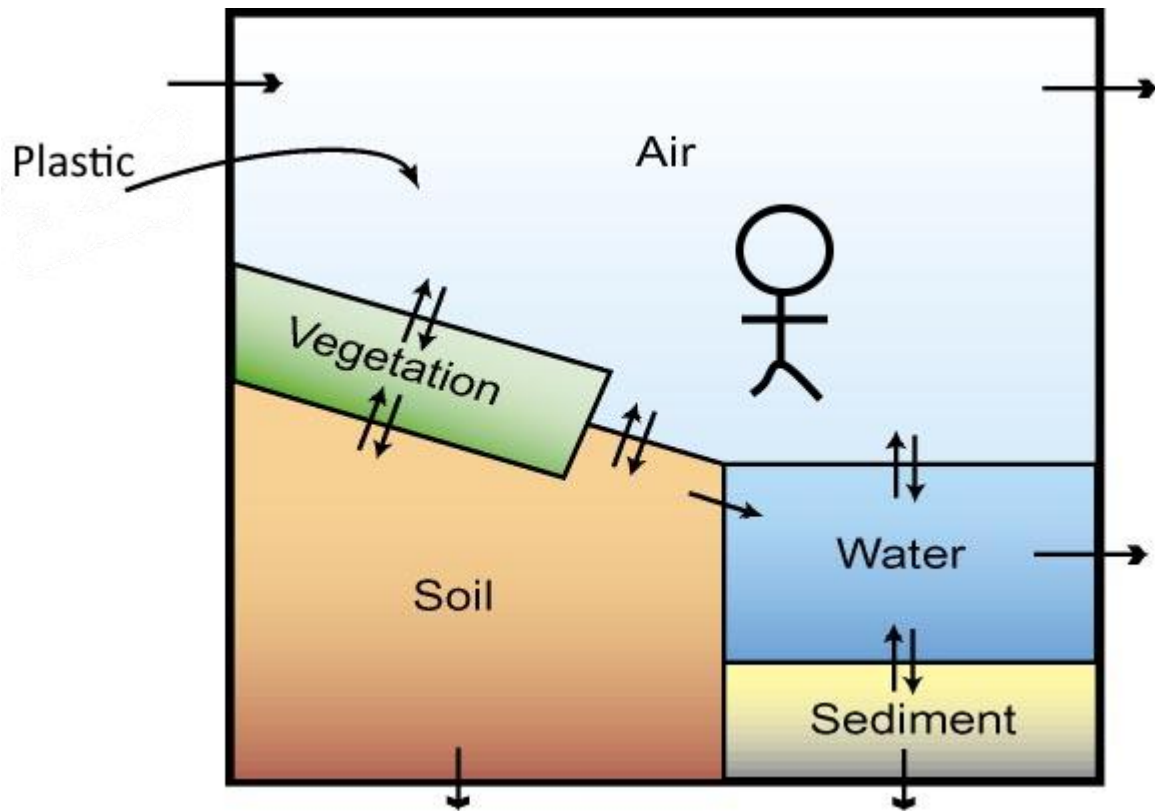
Variable but can
be very long
(years – decades)
(!)

Population-
level intake
(g/day)

Characteristic
time for intake by
the population (h)

Increasing
exponentially (!)

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$$I = \frac{T_{OV}}{CTI} \times E$$

Population-level intake (g/day)

Variable but can be very long (years – decades) (!)

Quite uncertain right now (??)

Increasing exponentially (!)