

POPULATION GROWTH MODELS/CURVE

Exponential growth

Curve

Geometric Growth Curve
or J-Shaped

$$\frac{dN}{dt} = rN$$

$$\frac{1}{dt} = (b-d) \times N$$

γ

$$\frac{dN}{dt} = rN$$

$$N_t = N_0 e^{rt}$$

$$r = \text{value} = 0.0205$$

Population density (N)

$r = 0.015$

(J-shaped)

N_t = population density after t (time)
 N_0 = population density at time zero
 r = Growth rate or intrinsic rate of Natural -

Time t

$$N_t = N_0 e^{rt}$$

N_t = population density
 N_0 = population

- Magnitude of r -value of Norway at ≈ 0.015
- $0.12 \leftarrow 1981$ flour beetle