Alpha Diversity Method 2

- **Shannon's Diversity**

- s = number of species

$$H = -\sum_{i=1}^{s} \left(p_i \log_2 p_i \right)$$

- p_i = proportion of counts attributable to species i

- equal representation leads to high diversity index (play with it in R)

Alpha Diversity Method 3

- **Chao1**

$$chao1 = S_{obs} + \frac{F_1^2}{2F_2}$$

- *Sobs* = total observed species
- *F1* = number of singletons
- *F2* = number of doubletons