# Cal/Ecotox
# Exposure Factors for Pacific Giant Salamander (Dicamptodon ensatus)*



| Endpoint Type | Endpoint Value | Error | Range | Units | Sex | Life Stage | Location | Note | Reference |
|---|---|---|---|---|---|---|---|---|---|
| Body Weight - Mean | 24.0 | 9.9 | | g | NR | Adult | Lab | a | 1 |
| Body Weight - Mean | 20.8 | 8.3 | | g | NR | Juvenile | Lab | b | 1 |
| Clutch or Litter Size | | | 83 - 146 | eggs/clutch | F | Adult | OR | c | 2 |
| Dietary Composition | Coleoptera adult (0.21); Orthoptera adult (0.13); Diptera adult (0.07); Lepidoptera larvae (0.20); Hymenoptera (0.05); Arachnida (0.15); Acarina (0.05); Diplopoda (0.37); Isopoda (0.05); Gastropoda (0.50); Amphibian (0.75); Reptilia (5.20); Mammalia (5.50); Rocks (0.05); Vegetable matter (0.05) | | | cc | NR | Adult | Del Norte; Humboldt; Marin; CA | d | 3 |
| Dietary Composition | Ephemeroptera (59.1%); Trichoptera (11.7%); Plecoptera (4.5%); Diptera (8.1%); Coleoptera (3.6%); Odonata (1.0%); Hemiptera (<1.0%); Non-Insecta (3.4%); Vertebrates (<1.0%); Terrestrial organisms, Insecta (8.8%) | | | % | NR | Juvenile | Mendocino; CA | e | 4 |
| Dietary Composition | Ambystoma gracile (39.2%); Trichoptera larvae (19.6%); Trichoptera adults (1.9%); Coleoptera larvae (37.2%); Coleoptera adults (21.6%); Odonata larvae (70.5%); Odonata adults (1.9%); Ephemeroptera nymphs (1.9%); Gammarid amphipoda (3.9%); Hemiptera adults (5.9%); Arachnoidea (3.9%); Chironomidae (19.6%); Oniscoid isopoda (1.9%); Misc. (25.5%); Empty (3.9%) | | | % | NR | Juvenile | Humboldt; CA | f | 5 |
| Dietary Composition | Ascaphus truei larvae (7%); Gastropoda (1%); Nematomorpha (1%); Arachnoidea (4%); Plecoptera nymphs (23%); Tricoptera larvae (26%); Tricoptera adults (3%); Coleoptera larvae (15%); Coleoptera adults (14%); Ephemeroptera nymphs (14%); Diptera larvae (10%) Diptera adults (5%); Lepidoptera (2%); Orthoptera (1%); Misc. (23%) | | | % | NR | Juvenile | ID | g | 6 |
| Dietary Composition | see citation | | | | NR | NR | WA | h | 7 |
| Duration of Incubation or Gestation | 275 | | | d | NR | Embryo | OR | i | 2 |
| Growth Rate | | | 2.92 - 4.16 | mm/mo | NR | Juvenile | ID; OR | j | 8 |
| Metabolic Rate | 20.7 (10C); 31.2 (15C); 63.3 (20C) | | | ul O2/g/hr | NR | Adult | Lab | k | 1 |

| Endpoint Type | Endpoint Value | Error | Range | Units | Sex | Life Stage | Location | Note | Reference |
|---|---|---|---|---|---|---|---|---|---|
| Metabolic Rate | 15.2 (10C); 20.7 (15C); 24.0 (20C) | | | ul O2/g/h | NR | Juvenile | Lab | l | 1 |
| Population Density | see citation | | | #/m2 | NR | Juvenile | Mendocino; CA | m | 9 |
| Population Density | | | 0.09 - 1.24 | #/m2 | NR | Juvenile | Mendocino; CA | n | 4 |
| Population Density | 0.50 | 0.24 SE | | #/m2 | NR | NR | OR | o | 10 |
| Population Density | 2.28 | 0.36 SE | | #/m2 | NR | NR | OR | p | 10 |
| Survival/ Mortality | 57 | | | % | NR | Juvenile | OR | q | 8 |
| Time of Fledging or Metamorphosis | July - Sept. | | | | NR | Juvenile | Mendocino; CA | r | 4 |
| Time of Mating/ Laying | May | | | | F | Adult | OR | s | 2 |

***Notes***

a N=14
b N=17; Age=larvae
c N=2; Benton County
d mean volume of gut contents; N=12
e average proportion of total prey items in stomach contents on 11 sampling dates; N=502; yr.-round; Fox Creek [lat., 38^o45'N, 123^o40'W]; see citation for seasonal and ontogenetic changes in dietary composition
f % frequency of ocurrence in stomach contents; N=51; May; Fern Lake, Arcata; snout-vent length range 61 - 185 mm
g % of stomachs containing the item; N=50; May - Oct.; Palouse River, Latah County
h monthly % of gut content samples in which organism occurred (n=38 diet items); N=3-34/mo; Apr.-Oct.; Maratta Creek, Cowlitz County
i N=NR; Benton County
j increase in total length; N=NR; Mary's Peak and Palouse; see citation for seasonal changes in total length
k average oxygen consumption measured at various temperatures (10-20C); N=4-5/temperature; average body weight, 24.0 g
l average oxygen consumption measured at various temperatures (10-20C); N=4-7/temperature; average body weight, 20.0 g
m figure of population density estimates; N=NR; Sept.-Oct.; Caspar Creek
n range over 4 yrs; N=NR; yr.-round; Fox Creek [lat., 38^o45'N, 123^o40'W]
o N=20 stream reaches; June - Aug.; streams in logged forests, Lane, Douglas and Coos counties
p N=23 stream reaches; June - Aug.; streams in uncut forests, Lane, Douglas and Coos counties
q % mortality during first yr of life; N=61; Gauldy Mountain, Tillamook County
r N=NR; Age=2-3 yrs; Fox Creek [lat., 38^o45'N, 123^o40'W]
s time of laying; N=2; Benton County

***References***

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