Comparing Salamander Abundance Between Two Similar Environments

Observational study done by:
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Salamander Conservation

Why should we care about salamanders?
Becoming threatened due to habitat desecration, roadkill and water contamination

Our Question

How similar are the habitat qualities of Fairfield Osborn Preserve (FOP) and Sugarloaf State Park (SSP) for Salamanders?

Background of Salamanders in the Area

Coastal Giant Salamander
Dicamptondon tenebrosus

California Slender Salamander
Batrachoseps attenuatus

Pacific Giant Salamander
Dicamptondon ensatus

Study Sites

Fairfield Osborn Preserve (FOP)

- Creek restoration
- Significantly less sediment issues
- Controlled preserve
- Relatively smaller streams with weak flow

Sugarloaf State Park (SSP)

- No restoration efforts
- Known sediment issues
- Public access park near road
- Larger stream with heavy flow

Procedure

- Determine three sites along FOP/Sugarloaf to study
- Learned from Suzanne DeCoursey proper methods to find salamanders and where to find salamanders
- Each member assigned area to actively search (25 minutes)
- Report number of salamanders found in each site
- Take pH, Alkalinity, and Canopy coverage at each site
- Compile data and search for correlations/consistencies

Fairfield Osborn Preserve

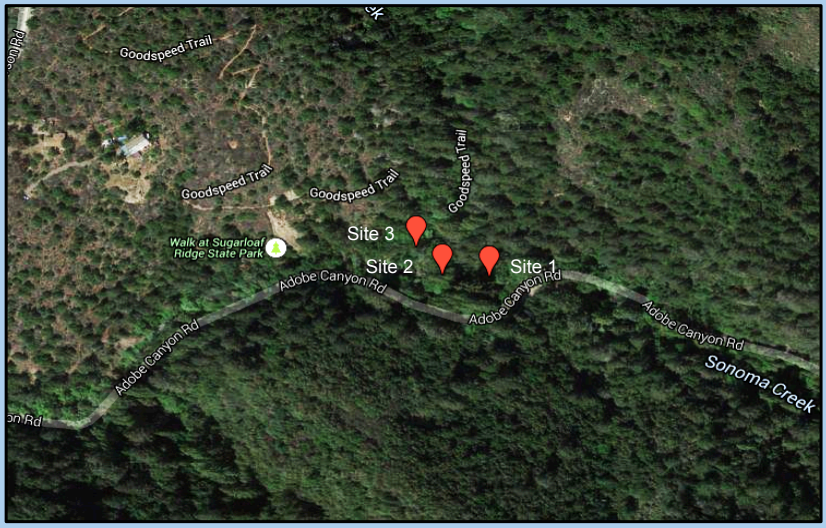
FOP Sites

Site 1

Site 2

Site 3

Sugarloaf State Park



SSP Sites

Site 3

Site 2

Site 1

Timing of Surveys

Week 1:

FOP: learn from and test methods for finding salamanders, find sites, learn how to use equipment

Sugarloaf: find sites, replicate methods, use equipment

Week 2 and 3:

FOP: Use applied methods, duplicate week 1 procedure

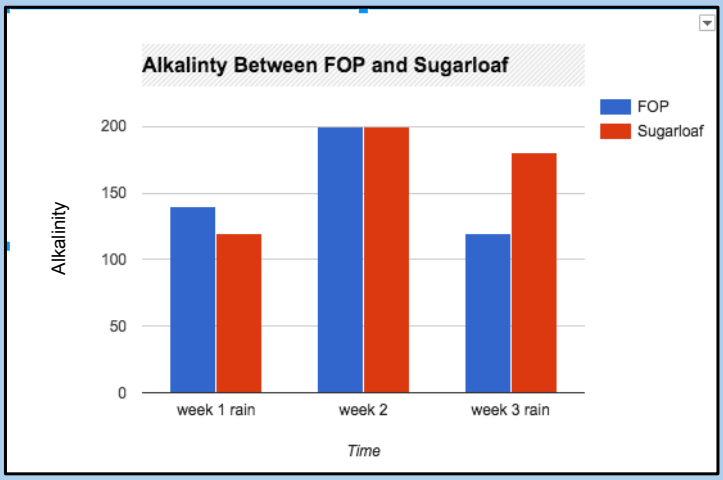
Sugarloaf: Use applied methods, duplicate week 1 procedure

Salamanders Found

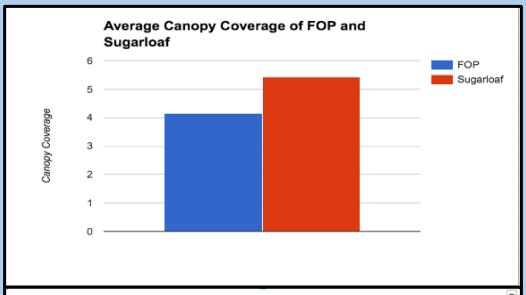
Only Pacific Giant Salamander species was found

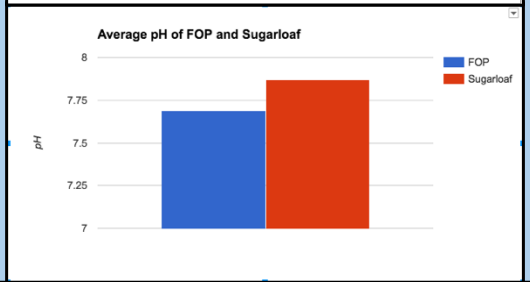
Salamanders	FOP	Sugarloaf
week 1	6	4
week 2 No Rain	2	0
week 3	0	5
Total	8	9

Alkalinity Over Time



Averages of pH and Canopy Cover



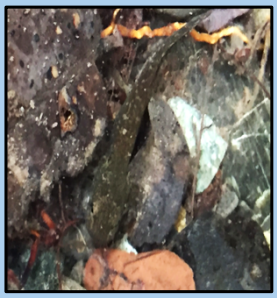


Results

The data collected at Sugarloaf shows that Salamanders and humans can co-occur

We can conclude the Pacific Giant Salamander can live where:

- pH is between 7.5 and 8
- Alkalinity is between 120 and 200
- Moderate to high amounts of canopy coverage



Future studies can look at:

The same pH, Alkalinity and canopy coverage values at other sites besides Sugarloaf and FOP to determine the range of the salamander species

Sources of Pictures

Sugarloaf State Park
Google Maps. (2016). Sugarloaf State Park. https://www.google.com/maps/ place/2605+Adobe +Canyon+Rd,+Kenwood,+CA+95452/ @38.4426594,-122.5353012,17z/data=!3m1!4b1!4m2! 3m1!1s0x808451df25acb5e5:0x6b39fc68b6bbffa7
Fairfield Osborn Preserve (FOP)
Google Maps. (2016). Fairfield Osborn Preserve. https://www.google.com /maps/place/Lichau+Rd, +Penngrove,+CA+94951/ @38.3381973,-122.6241549,17z/data=!3m1!4b1!4m2! 3m1!1s0x80844c9be2449dd1:0x3484a40df74f3a78
Pacific Giant Salamander
http://www.californiaherps.com/salamanders/images/ dtenebrosuslarvdnco.jpg

Work Cited

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