The principal chaparral dominant in California, *Adenostoma fasciculatum*, is broadly distributed and provides habitat and food resources for a large animal community. The effects of climate change and human impacts, including increased temperatures, fire frequency and severity, have placed pressure on habitats in California. It is important to investigate the potential resiliency of *A. fasciculatum* by providing greater detail of the life-history phases and plant-animal interactions.

In this study we focus on potential stand regeneration by seed using a series of experiments to document the length and quantity of seed rain, seed predation, by parsing the importance of the community of granivores, and determining the connection between stand age and germination rate from persistent soil seed banks.

Our research documented seed rain duration, multiple species of seed predators and points to the probability of native ants playing a role in the seed dispersal process. This is important given the recent advancement of the invasive Argentine ant (*Linepithema humile*) into Californian chaparral. We documented that a mid-aged stand had higher germination rates than others and how seed banks play a major role in assuring resiliency following fire.

**Methods**

- **Seed Rain:**
  - 12 seed rain stations
  - Total seed rain duration of seed rain
  - Seeds were bagged and counted on a bi-weekly basis

- **Seed Predation:**
  - 4 test stations at Mt. Diablo site
  - Seed offering of 100 seeds per station
  - Camera traps and seed rain samples indicated that ants and seed bugs may play a role as seed predators and dispersers.

- **Differential Seed Predation**
  - 2 test stations at Mt. Diablo site
  - Seed offering of 100 seeds per station
  - Camera traps were set open, partially covered, and completely covered seeds were provided in open vs. closed seed traps.

- **Seed Bank Dynamics**
  - 5 study sites throughout California Coastal Range
  - Seeds were offered from 16 to 71 days
  - Seed bank samples were collected at the site (24 samples per site)

**Results**

- **Temporal Patterns of Predation**
  - Seed rain and predation rates by species group, Mt. Diablo State Park.

- **Seed Bank Dynamics**
  - Seed bank germination rate by strata from 16 to 71 days

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**Research Questions**

- What is the rate, length and peak period of a mid-aged *A. fasciculatum* stand seed rain?
- What community of granivores feed on *A. fasciculatum*?
- Is there a differential preference between insects, birds or rodents in seed consumption?
- Is there a correlation between stand age and seed bank germination rates?