

**MINUTES**  
**SALAMANDER TOXICITY STUDY CALL**  
**September 28, 2016**  
**10:00 AM PDT**

**Attendees:** Gerry McChesney (USFWS), John Isanhart (DOI), Gary Witmer (USDA), Vance Vredenburg (San Francisco State University)

- 1) Salamander captures (San Francisco State University):
  - a) Timeline to start and estimate how long to reach needed sample size
    - a. Upon first rain, will begin captures. If no rain soon, will search for salamanders anyway but will take longer to capture needed sample size.
    - b. Need to check for disease. For fungal and DNA testing, take simple skin swab; quick analysis. Infection levels have been low for these species (about  $\leq 10\%$ ). Get Results in a day or so.
  - b) Permits
    - a. Vance has been in touch with CDFW permitting folks. Permits expected soon.
    - b. All other permits/approvals for housing in place.
  - c) When to ship to USDA: all at once or as available?
    - a. Start with *Ensatina*. Then send *Aneides* after *Ensatina* trials done.
    - b. For SFSU, may be better to send all at once (less shipping). But for USDA, may be easier to send in phases so they are not overwhelmed.
    - c. If in phases, 35 at a time is a good amount.
  - d) Criteria for rejection (e.g., salamander tests positive for infection, injured, etc.)
    - a. If infected, will not be included in the study.
  - e) Salamander ages
    - a. Prefer adults, but may accept immatures if enough adults cannot be obtained. Be strategic in assigning different age classes to toxicity trial treatment groups.
- 2) Lab Trials (USDA):
  - a) When can USDA be ready to start?
    - a. Probably mid-October.
  - b) Do all trials need to be done at once or can they be done in phases if max. Sample size is not ready?
    - a. Could do in phases. May be easier.
    - b. Need 2 week quarantine. Not sure if time at UCSF counts. Gary will check. If so, then SFSU will quarantine for at least two weeks.
  - c) Timeline: How long to conduct trials?
    - a. 10-day exposure, then 2 weeks observation per group.
  - d) Housing of salamanders
    - a. Per Vance: Easy. Do really well. Can be kept singly or in groups. But keep singly during quarantine. Recommend housing singly for duration just in case fungal infection starts; can spread quickly.
    - b. If infected, can go downhill quickly or if otherwise healthy, can live a long time.

c. Vance sent Gary Standard Operating Procedure for salamander housing.