

Sampling Procedures for Determining Presence or Absence of the Santa Cruz Long-toed Salamander (*Ambystoma macrodactylum croceum*)

These procedures were developed jointly by the Department of Fish and Game (Department) and the U.S. Fish and Wildlife Service (Service).

If suitable Santa Cruz Long-toed Salamander (SCLTS) breeding habitat occurs on the project site, the sampling procedures outlined below shall be followed. Suitable SCLTS breeding habitats are ponds that hold water in "normal" rainfall years at least through the end of May. SCLTS usually migrate and breed during the winter rains, typically January through February, depending upon rainfall patterns.

Sampling Procedures

The following sampling procedures shall be conducted for two consecutive seasons or until SCLTS are found, whichever comes first to determine the presence or absence of SCLTS for the purpose of proceeding with CEQA and other regulatory processes.

1. Ponds shall be dip netted for larvae two times per season, i.e. between March 15 and April 1, and between April 15 and May 1.
2. If larval sampling is negative in the initial season of sampling, drift fencing for adults/juveniles shall be conducted the second season. Drift fences shall be installed prior to January 1 and shall be monitored through February during periods of heavy rain, or through March if rains are late.
3. If sampling by drift fencing is negative, the ponds shall be sampled a second time by dip netting as in number 1.

Methodology

1. Dip Netting. Standard aquatic dip nets with mesh size not exceeding 1/4 inch shall be used. The minimum effort shall be one hour of dip netting per pond per visit for ponds of 1/2 acre or smaller. Ponds larger than 1/2 acre should be sampled for a longer duration (up to two hours) or one hour each on two consecutive days.
2. Drift Fencing. Drift fences may be made of any effective material acceptable to the Department and the Service. Pitfall traps, associated with the drift fences shall consist of nongalvanized metal or plastic containers equivalent to No. 10 cans or larger. The containers shall have drainage holes at or near (within one inch) the bottom. Noncellulose sponges or other nontoxic absorbent material shall be placed in the bottom of the traps and will be kept moist at all times to prevent desiccation of SCLTS. Each trap shall have a wooden cover with legs 1-2 inches high to provide shade. Pitfall traps associated with drift fences must be checked as often as necessary to ensure no mortality occurs and at a maximum of no more than 12-hour intervals.

Justification

During extensive sampling of known sites in recent years (1989-1992), Dr. Stephen B. Ruth found that SCLTS larvae were not present in all years even though water was available. This absence may have been due to a number of factors including, but not limited to late freezes, drying and refilling of ponds, fungal infections, and unfavorable water quality conditions.

Adults may migrate and lay eggs that subsequently die, and larvae may be present early in the year but not later if, for instance, a pond dried and then filled again during late spring rains.

We do not support "egg sampling" as a suitable method because eggs are difficult to find and they may be damaged during sampling.

Field workers shall obtain the necessary Federal and State permits prior to conducting the SCLTS sampling.

These procedures may be modified if deemed appropriate by the Department and the Service.

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