Standard Operation Procedure (SOP) #13

Shrimp (ula vai) Surveys on Tau, American Samoa

Version 1.01 (June 29, 2021)

Change History

New Version #	Revision Date	Author	Changes Made	Reasons for Change	Previous Version #
1.01	6/29/2021	Amanda McCutcheon	Minor text updates, added datasheet and field identification information.	Text updates for clarification, datasheet and field guide were originally in appendices.	1.0

Only changes in this specific SOP will be logged here. Version numbers increase incrementally by hundredths (e.g., version 1.01, version 1.02) for minor changes. Major revisions should be designated with the next whole number (e.g., version 2.0, 3.0, 4.0). Record the previous version number, date of revision, author of the revision, identify paragraphs and pages where changes are made, who approved the revision, and the reason for making the changes along with the new version number.

Purpose

This SOP describes setting up a sampling station (reach) and conducting a sectional shrimp survey. This SOP will be used in American Samoa on the island of Tau in NPSA.

Overview of Procedure

Sampling moves from downstream to upstream. The 30 m reach will be divided into five sections each measuring 6 m. Sampling requires two observers collecting shrimp using dip nets and/or ‘opae nets as available. The same observers, or other observers if available, measure and identify shrimp and record data. The datasheet is included below.

Conducting a Survey for Shrimp

The 30-m reach is divided into five 6-m sections. Two observers utilize dip nets and/or ‘opae nets to catch as many shrimp as possible within a fifteen minute time period in a given section. Observers can use a variety of strategies to catch shrimp depending on the environment. One strategy would be to place the net downstream of a cascade and stir up the substrate upstream of the net to dislodge smaller shrimp. Another strategy is to pick up smaller rocks and leaves, as smaller atyid shrimp tend to hide under debris, and guide shrimp into nets. Larger crustaceans can also be found in deeper pools. Observers should sample a variety of substrate types to maximize the species diversity sampled. Observers will need to carefully inspect each piece of debris (rock, leaf, stick, etc.) scooped

up by the net in order to find shrimp. Shrimp can be as small as 3 mm and relatively clear, therefore, net contents must be inspected thoroughly. Shrimp caught within a section should be placed in a bucket with water from the site. Larger crustaceans (*Macrobrachium spp.*) and other shrimp that can be readily identified should be measured in terms of total length (from tip of the rostrum to the tip of the tail). Once identified and measured, shrimp should be returned to the stream. All other atyid shrimp that cannot be confidently identified in the field are to be collected and placed in a marked sample jar containing ethanol for later lab identification and analysis.

Introduced Species

Introduced species should be noted on the datasheet. In general, introduced species should be collected and removed from the stream. If the species is not previously known from that area it should be vouchered. If an introduced species is not able to be identified observers should catch the specimen for expert identification.

Species Identification Guide for American Samoa

The species identification guide to be used for monitoring in American Samoa will be Vargo (2009) (http://www.ctahr.hawaii.edu/adap/ASCC_LandGrant/Dr_Brooks/TechRepNo55.pdf, accessed 29 June 2021). This was not developed by the National Park Service; it is a technical report from the American Samoa Community College. This guide is intended to be used as a half page size booklet. The page numbering assumes a saddle stitch down the center fold.

Literature Cited

Vargo, D. 2009. Stream fauna of American Samoa; an illustrated guide to snails, shrimps, and fishes of American Samoa streams. Technical Report 55. P. 38. Community and Natural Resources, American Samoa Community College. Pago Pago, American Samoa.

Shrimp (ula vai) Datasheet

Park:	Stream:	Date:
Reach:	Method:	Observers:

Species	Length (mm)	Gravid (Y/N)	Segment	Species	Length (mm)	Gravid (Y/N)	Segment