

Amphibian Monitoring Protocol for Klondike Gold Rush National Historical Park
Standard Operating Procedure (SOP) No. 5
Data Entry, Verification and Editing
Version 1.0 (April 2009)

Revision History Log

Previous Version #	Revision Date	Author	Changes Made	Reasons for Change	New Version #

5.1 Data Entry, Verification and Editing

5.1.1 Overview of the Database

All data collected in the field is entered and stored in a Microsoft Access database (T:\NRM\Amphibians\Database\KLGOtoads v4.7mdb). Data collected during each amphibian survey is manually entered into the database through a series of forms that mirror the fields on the data collection forms. The database forms are designed to minimize transcription error through the use of drop-down menus, auto-filled fields, and range limits.

SOP No.6: Data Management outlines the structure of the database and provides instructions for the development, maintenance, and distribution of monitoring data collected for the amphibian monitoring program.

5.1.2 Data entry

Data is to be entered into the database as soon as possible after returning from the field. The latest version of the database, KLGOtoads.mdb can be located on the KLGO Resource Management computer network drive at T:\NRM\Amphibians\Database. The user interfaces with the database through a series of forms custom-built for the project.

When the database is first opened, a menu of Access Objects is available in the left hand column. All field data is entered through the “Events” form, which contains a variety of drop-down menus, text fields, and sub-forms. Each “Event” form contains sub-forms for entry of individual capture data, water temperatures, and species observations.

To enter new survey data, the user first opens the “Events” form in the Access database. A new “event” form, or record, is created by selecting the “new (blank) record” button in the menu bar at the bottom of the form. An “event” is considered a single visit to a single site and includes all capture and observation data collected during the survey at the site.

Initial data fields to be completed by the user are:

Event_ID- automatically generated event number that links sub-forms and tables together for each data record

Data Entry Date- date data is entered into the database

Protocol Name- name of protocol followed for data collection

Search_Duration_Min- amount of time between “start time” of field survey and “end time” of field survey, in minutes

Field QA- whether or not (yes or no) a quality assurance review was made of the data and field notes prior to entering into the database

The screenshot displays the Microsoft Access application window with the 'Events' form open. The form is divided into several sections. At the top, there are fields for 'Location_ID', 'Event_ID' (marked as '(New)'), 'Data Entry Date', 'Protocol_Name', 'Search_Duration_Min', and 'FieldQA'. Below these, there is a section for 'Observers' with fields for 'SurveyDate', 'Start Time', 'End Time', 'Loc_Name', 'CoreSite', and 'Visit'. The 'Water Temperature' sub-form is prominently displayed, containing fields for 'AirTemp', 'AirTempType', 'Ripples', 'Precip', 'Wind', 'Sky - Clouds', 'Surface Glare', 'Last 2 Days Precip', 'WaterLevel', 'Clarity-Colo', 'Turbidity', 'IronFlock', 'Shoen', '% Shallow', '% Surface Emergent', '% Shore Emergent', '% Bot Submergent', '% Sur Floating', '% shore snow', and '% surface snow'. A 'Water Temperature' table is embedded within this sub-form, with columns for 'WaterTemp', 'WaterTempType', and 'Location'. To the right of the main form, there is a list of fields for 'Species_ID', 'Loc_Name', 'CaptureDate', 'Genus', 'Species', 'LifeStage', 'Count', and 'IndivCaps'. The bottom of the form shows a status bar with 'Record: 1 of 1' and 'Unfiltered'.

Figure 5.1 KLGotoads database “Events” table, including the “Water Temperature” sub-table

After the initial form data has been entered, data entry follows the same order as it was collected on field data sheets. Subforms are imbedded within the table for Water Temperatures, Amphibian Observations, and Amphibian Captures. All observations, measurements, and other

capture data for a single visit to a single site (considered an “event”) are entered into one record. Multiple “capture” and “observation” records are created within each event record by selection the “new (blank) record” button at the bottom of the green subforms.

The screenshot displays the Microsoft Access interface for the 'Events' database. The main window is titled 'Events - Microsoft Access'. The ribbon at the top includes 'Home', 'Create', 'External Data', 'Database Tools', 'Add-Ins', and 'Acrobat'. The 'Forms' pane on the left lists several forms: 'Events', 'IndivCaps', 'Species', and 'Water Temperature1'. The main area shows the 'Events' form in 'Form View'. It features a light green background with various input fields and dropdown menus. The 'Species_ID' subform is visible at the top, and the 'IndivCaps' subform is below it. The 'IndivCaps' subform contains multiple fields for individual capture data, including 'Species_ID', 'IndivID', 'Loc_Name', 'CaptureDate', 'Capture_Ty', 'Genus', 'Species', 'IndivXcoord', 'IndivYcoord', 'IndivError', 'Datum', 'SVL', 'SUL', 'Shank', 'Gape', 'Sex', 'Weight', 'Larval Stg', 'TagNo', 'Swabbed', 'Pool ID', 'Sample ID', 'Swab ID', 'Picture', 'Recapture', 'IndivNotes', and 'FieldQA'. The status bar at the bottom indicates 'Record: 485 of 485' and 'Unfiltered'.

Figure 5.2 KLGOTOads database “Species_ID” and “IndivCaps” subforms within the “Events” form

5.1.3 Verification and Editing

Once the data has been entered and saved, it should be reviewed and checked for inconsistencies. The user should cross-check the data in the database with the field data sheets immediately after data entry. All inconsistencies and errors should be resolved by changing the incorrect data. Data may be viewed in a table format by selecting “events” under the “Table” heading of the menu in the lefthand column of the database viewing screen. The Access database automatically saves all data entered into the database, so the program may be closed when data entry is completed.