

BDCP Environmental Surveys Team

GIS Data Management Plan

Appendices

A,B,D,&E

APPENDIX A: PCE UPLOAD METHODOLOGY

GPS DEVICE SET-UP AND PCE UPLOAD

- **STEP 1.** Verify that Active Sync and internet access is available on the computer to be used to upload data.
- **STEP 2.** Set GPS handheld in connection cradle (the hardware in which the GPS is placed on for charging and connecting to a computer); connect to power source via power cord and to computer via USB cable. Both cables should be in the GPS manufacturer's box.
- **STEP 3.** Power on the GPS which should activate the Active Sync window on the computer (this may take a few minutes). **We do not want the handheld to sync with the computer/laptop** therefore when the Active Sync window appears with sync options, click the cancel button.
- **STEP 4.** Navigate to My Computer\Mobile Device\BDCP Field Data. Copy the file BDCP_field_[ResourceType]_data_mm_dd_yy.axf to your desktop (mm_dd_yy will denote the revision date of the ArcPad database file (.axf) and will change as the database is updated; it will not reflect the date of the current field survey). **There will be a text document with the same name as the database file (database file has the .axf extension). In your Explorer screen, make sure you're viewing the files with details (select under "Views" dropdown). It should say "AXF" under the "Type" column for the ArcPad database file that you do want. Under the "Type" column it will say "text document" for the file you do not want.** If available, also copy the related .ssf file. It will have the same name except that it will have an .ssf file extension instead of the .axf file extension. Copy these files to your desktop. Move one folder level up to find the file called "GPSCorrect.ssf". This file can also be found by accessing "My Computer" and viewing the contents of "Mobile Device"; It is possible that you may have both a GPSCorrect.ssf as well as the BDCP_Field_[Survey_Type]_mm_dd_yy.ssf. Both files (if both exist) should be copied to your desktop.
- **STEP 5.** If you do not have an .ssf file, skip ahead to Step 6. Once you have the .axf and .ssf files on your desktop, you will need to combine them into a zip folder. To accomplish this:
 - Select the files that were copied to your desktop.
 - Right click on one of them and choose "send to" and then select from the list that appears "Compressed (zipped) Folder". This will create a zip folder on your desktop with the files in it.
- **STEP 6.** Upload GPS data to Project Collaboration Environment (PCE) website tool.
 - Navigate to <http://www.bdcpeireis.com> on your computer.
 - Log-in to PCE using your assigned user name and password. (For login questions, contact Scott Pierson [SPierson@natomatech.com].)
- **STEP 7.** Within PCE, navigate to Collaboration\SURVEYS\EIR EIS Team\Survey Data\ Resource Name (the Resource Name will be the type of survey performed by your team, e.g.; mammals, birds, etc.)
- **STEP 8.** For the first day of a survey period:
 - Click on Upload New File (link appears on the top right-hand side of the screen)
 - Fill out the "Upload File" screen as follows:
 - **Title** – mmddy_resource_GPSID#_data
 - **File Owner** – Should be you by default, may be Environmental Survey Technical Lead (ESTL) if preferred by the ESTL.

- **Notes** – First line of notes should ALWAYS read: Day X of X –Surveyor 1 Name; other notes may be added as necessary (e.g.; parcel hazards, additional access instructions, incidental findings data).
- **File Keywords** – Resource Name, GPSID#
- Select “Browse” and navigate to the desktop; select the BDCP_field_[Survey_Type]_data_mm_dd_yy.zip file (or the BDCP_field_[Survey_Type]_data_mm_dd_yy.axf file if you did not have a corresponding .ssf file and therefore didn’t create a zip file) and click “OK”. When you have returned to the Upload File page, click “Upload” and wait for the File Information page to load. Click “OK” to complete task.

Note: This may take up to 45-60 minutes, dependant on file size and internet speed. In the office, an 18 MB file took 3-5 minutes to upload, while a 250 MB file took 45 minutes.

Note: It is preferred that a new upload at the end of each day of your survey period be performed. Generally, this would be followed by removing the database containing what was collected that day from the GPS and replacing it with the most recent empty database available (refer to Step 10). Steps 9a and 9b are for those who wish to be able to see the data they’ve been collecting on previous days within the same survey period.

- **STEP 9a.** For additional days of the **same** survey period (an upload should occur every field day):
 - Navigate to resource folder (as shown in Step 7) and click on the file for this same survey period that you previously uploaded (files in the folder are listed on the right hand side of the screen).
 - Once the File Information page loads, click on “Check out file for editing” (first option below line).
 - After checking out a file for editing, the link will change to read: ”Check in Edited Version”. Click this link, complete the information fields and upload updated field data file to the same location. Repeat for each additional day of the survey period.
- **STEP 9b.** If you are going out the next day and want to retain today’s collected data on the handheld, you can turn off your GPS and unplug it from the computer. Leave it plugged to the power source to recharge. Skip Steps 10 and 11.
- **STEP 10.** If you are finished with surveys for this resource and period, or do not need the previous day’s collected data retained on your GPS AND have already uploaded today’s survey data via Steps 7 and 8, complete the following steps to upload a clean data file to the GPS:

Note: Files cannot be directly uploaded or downloaded from PCE to the mobile device. Files must first be saved on the local computer.

- Navigate in PCE to Collaboration\SURVEYS\Survey Data\[Survey Type] (the survey type will be the type of survey performed by your team, e.g.; mammals, birds, etc.)
- On the right side of the screen, click on the file titled “Empty [ResourceType] Database”.
- On the file information page click on ‘Download Current Available Version’ (option is available above the line). A dialogue box will ask if you want to Open, Save, or Cancel. Select Save, navigate to your desktop and click “Save”.
- Navigate on your desktop back to the mobile device folder and then to the “BDCP Field Data” folder. Replace the BDCP_field_[Survey Type]_data_mm_dd_yy.axf file that is in the “BDCP Field Data” folder (and that you should have already uploaded to PCE), with the “Empty Database” file that you just downloaded and saved to your desktop.
- Delete the .ssf file related to the .axf file that you just replaced.
- **STEP 11.** Unplug the GPS from the computer. If you are going to retain and use the GPS the following day, power it down, unplug from computer, and leave plugged into a power source to

recharge. If you are finished using the GPS for this period, check the GPS and all related equipment back in to the DWR Equipment Manager.

SD CARD BACKUP PROCEDURES

Note: If for some reason at the end of a day you can't get access to a computer for uploading to PCE, you may backup the database on a SD card. The SD card used for backup cannot stay with the Trimble GPS unit but must be kept in a separate location (e.g.; in the vehicle is a good place).

- **STEP 1.** Insert SD card into GPS. At the bottom of the GPS there are two grey screws. Unscrew and remove the cover; a slot for inserting SD cards will be found. Insert card and replace cover.
- **STEP 2.** Turn on the GPS, navigate to the Start menu (top left corner of screen). From the Start menu choose "File Explorer".
- **STEP 3.** Under "File Explorer" the GPS will indicate within which folder you are currently located. To the right of the folder name there is a drop down arrow:
 - Using the attached stylus, tap the drop down arrow; a list of the folders higher in the folder hierarchy are shown, as well as the SD Card (shown at the bottom of the list). There will be a dot next to the folder in which you are currently located.
 - Tap "My Device" on the list and then tap "My Documents" in the list of folders and files that are displayed.
 - When you're in "My Documents" tap the "BDCP_Field_D..." folder (should be the folder at the top of the list).
- **STEP 4.** Tap and hold on the AXF file. It is the file with the following icon shown at the left of the file name:  If you tap and let up on the stylus too quickly, Arcpad will open. When you tap and hold down on the file name, a menu will appear with the option "copy" listed.
 - Choose "copy"
 - Tap the down arrow next to BDCP_Survey_Data at the top under "File Explorer"
 - In the list that appears, choose "SD Card"
 - Somewhere on the screen where it is blank, tap and hold on the screen. A menu will appear including an option for "New Folder".
 - Choose "New Folder" and name the folder mmddy. Once you've completed this, tap the new folder you've created to enter it.
 - Hold down the stylus once again in an empty spot in the new folder screen and from the menu that appears choose "Paste".
- **STEP 5.** Remove the SD card from the GPS unit and place it in a safe place (separate from you) while you are out surveying (e.g.; in the vehicle).

Note: This is for backup purposes only. The data backed up on the SD card should not be uploaded to PCE unless something happens to the data being stored on the Trimble GPS unit (e.g.; run over by a truck, dropped in a slough, etc.). It is recommended that when you've successfully uploaded the day's database from the GPS to PCE that you delete all of the old backup data on the SD card.

CAMERA SET-UP AND PCE UPLOAD

- **STEP 1.** Connect to computer via USB cable. The cable should be in the manufacturer's camera box. Power on the camera; the computer may recognize new hardware or ask how to open the storage device, click cancel.

- **STEP 2.** Create a folder on your desk top named mmddy_resource_GPSID_photos
- **STEP 3.** Navigate to “My Computer” and select the camera; it should be listed under “Scanners and Cameras”. Copy the files from the camera file to the folder that was just created on your desktop.
- **STEP 4.** Zip the folder using either Winzip (if you have it) or by right clicking and selecting Send to\Compressed (zipped) folder. This will create a zipped version of photos on the desktop.
- **STEP 5.** Upload photos to Project Collaboration Environment (PCE) website tool.
 - Navigate to <http://www.bdcpeireis.com>.
 - Log in to PCE using your user name and password. (For login questions, contact spierson@natomatech.com).
- **STEP 6.** Within PCE, navigate to Collaboration\SURVEYS\Survey Data\ [Survey Type] (the Survey Type will be the type of survey performed by your team (e.g.; Mammals, Birds))
- **STEP 7.** For **each day** of the survey period:
 - Click on “Upload New File”. The link is on the top right hand side of the screen.
 - Complete the “Upload File” screen as follows:
 - **Title** – mmddy_resource_GPSID#_data
 - **File Owner** – Should be you by default, may be Environmental Survey Technical Lead (ESTL) if preferred by the ESTL.
 - **Notes** – First line of notes should ALWAYS read: Day X of X –Surveyor 1 Name; other notes may be added as necessary (e.g.; parcel hazards, additional access instructions, incidental findings data).
 - **File Keywords** – Resource Name, GPSID#
 - Click on Browse and navigate to the desktop, select the zipped folder and click “OK”. When you return to the “Upload File” page, click “Upload” and wait for the File Information page to load. Click “OK” to complete task.

Note: This may take up to 45-60 minutes, dependant on file size and internet speed. In the office, an 18 MB file took 3-5 minutes to upload, while a 250 MB file took 45 minutes.

- **STEP 8.** Delete the photos from the camera. If you are going to use the camera the following day, power it down, unplug from computer, but leave it plugged into a power source to recharge. If you are finished with the camera for this period, return the camera and all related equipment to the DWR equipment manager.

Note: If you require your previous days’ photos in the field on successive days you do not need to delete them from the camera each day, but should keep track of the new day’s photo numbers so as not to upload duplicates. The reason for not uploading the photos for the entire survey period each day, as with the GPS data upload, is to minimize file size and time to upload.

APPENDIX B: QUALITY CONTROL FORMS

DRAFT

Weekly Level 2 Environmental Survey Data Quality Control (QC) Form (Ver. 04/14/2010)			
Name of Reviewer:			
Review Date:			
Review Period (survey dates included):			
Survey Resource:		Data Collected by:	
QC	Item	Who:	Outstanding Issues
<input type="checkbox"/>	All data and photos collected during the review period specified above have been uploaded to PCE. This includes GPS data and scanned versions of the hard copy datasheets. <input type="checkbox"/> yes <input type="checkbox"/> no If no, provide outstanding issues in space provided.	*EFS	
<input type="checkbox"/>	The GIS repository contains all GPS data and photos collected by the individual specified above in "Data Collected by" during the review period. <input type="checkbox"/> yes <input type="checkbox"/> no If no, provide outstanding issues in space provided.	EFS	
<input type="checkbox"/>	The GIS repository contains data from all of the hard copy datasheets produced by the individual specified above in "Data Collected by" during the review period. <input type="checkbox"/> yes <input type="checkbox"/> no If no, provide outstanding issues in space provided.	EFS	
<input type="checkbox"/>	Data fields blank? <input type="checkbox"/> yes <input type="checkbox"/> no If yes, describe in the outstanding issues section where the omission is and what the value should be. If a field(s) is to remain blank, explain reason.	EFS	
<input type="checkbox"/>	Data fields incorrect? <input type="checkbox"/> yes <input type="checkbox"/> no If yes, explain issue and suggested resolution in the outstanding issues section.	EFS	
<input type="checkbox"/>	If applicable, are all questionable species sightings resolved? <input type="checkbox"/> yes <input type="checkbox"/> no If no, explain in the outstanding issues section.	*ESTL	
<input type="checkbox"/>	Are surveyors following proper PCE upload procedures? <input type="checkbox"/> yes <input type="checkbox"/> no If no, explain in the outstanding issues section.	*DS	
* EFS – Environmental Field Surveyor ESTL – Environmental Survey Technical Lead DS – Data Steward			
Signatures:			
Survey Technical Lead (ESTL)		Date	
Data Steward		Date	
Instructions:			
<ol style="list-style-type: none"> 1. Level 2 QC is to be performed on a weekly basis. 2. Because there will be lag time between the resource team's uploading of data to PCE and the data getting into the Oracle SDE geodatabase, the Level 2 QC should be initiated one week following the review period. 3. Once the EFS and ESTL have completed the assigned sections of the form, including signature and date, a scanned copy should be uploaded to PCE at the following location: Surveys – EIR/EIS Team – Field Process and QA/QC – Completed QC Form. The QC level, resource name, and date range should be included in the file name of the QC form. 4. The (DS) will download the scanned form(s), address any problems listed by the EFS or ESTL, complete the DS section, and sign and date the updated form. The completed form will then be reposted to the PCE at the same file location. 			

Weekly Level 3 Environmental Survey Data Quality Control (QC) Form (Ver. 04/14/2010)			
Name of Reviewer:			
Review Date:		Survey Resource:	
Review Period (survey dates included):			
QC	Item	Outstanding Issues	
<input type="checkbox"/>	All GPS data and scanned data sheets uploaded to PCE for data collected during the review period specified above have been loaded into the GIS data repository. <input type="checkbox"/> yes <input type="checkbox"/> no If no, provide outstanding issues in space provided.		
<input type="checkbox"/>	A comparison of digitized data in database with original hard copy datasheets has been performed.		
<input type="checkbox"/>	A visual scan of field attributes for obvious or consistent errors/omissions in the data repository has been completed. If necessary, a discussion with the resource lead regarding any remaining errors or omissions has also occurred.		
<input type="checkbox"/>	A verification of edits made to repository has been completed. (e.g.; updated photo links)		
Signatures:			
Data Steward		Date	
Instructions:			
1. Level 3 QC is to be performed on a weekly basis. 2. Form will be completed by Data Steward (DS). 3. Form will be uploaded to PCE at the following location: Surveys – EIR/EIS Team – Field Process and QA/QC – Completed QC Form. The QC level, resource name, and date range should be included in the file name of the QC form.			

Monthly Level 4 Environmental Survey Data Quality Control (QC) Form (ver. 04/14/2010)			
Name of Reviewer:			
Review Date:		Survey Resource:	
Review Period (survey dates included):			
QC	Item	Outstanding Issues	
<input type="checkbox"/>	(To be completed by ESTL) A visual scan of the final GIS data repository for global biological, spatial or other errors has been completed. Outstanding issues should be noted in space provided.		
Signatures:			
Environmental Survey Technical Lead (ESTL)			Date
Data Steward (DS)			Date
Instructions:			
<ol style="list-style-type: none"> Level 4 QC is to be performed on a monthly basis. Once the form is completed by the ESTL, including signature and date, a scanned copy should be uploaded to the following location: Surveys – EIR/EIS Team – Field Process and QA/QC – Completed QC Form. The resource name and date range should be included in the file name of the QC form. The DS will review the uploaded QC form, makes changes specified under the “Outstanding Issues” section, and sign and date. The completed form will then be reposted to the PCE at the same file location. 			

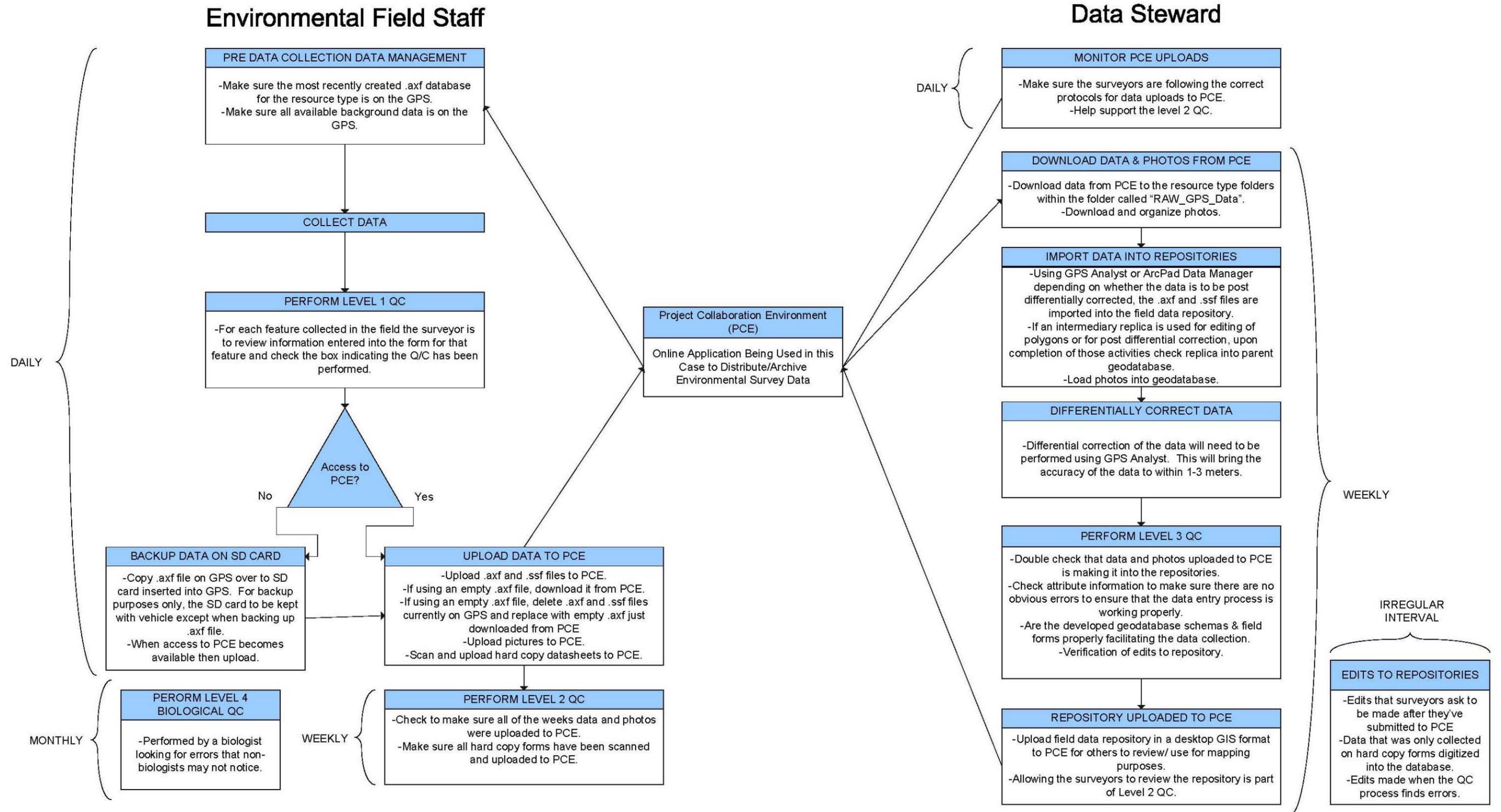
**APPENDIX D:
ALTERNATE DATA MANAGEMENT FLOWCHART**

DRAFT

Environmental Surveys GIS Data Management

5/24/2010

DRAFT



APPENDIX E: HARD COPY DATA ENTRY FORMS

DRAFT

Botany

DRAFT

Cultural

DRAFT

Herpetofauna

DRAFT

GIANT GARTER SNAKE HABITAT EVALUATION AND SCORING FORM

Site Name: _____ Trap Line ID #: _____

Parcel #: _____

General Habitat Type: _____

Surveyor/Affiliation: _____

Start/End Dates: _____ Evaluation Date: _____ Photos: _____

Scores: 0=absent/none, 1=present/low (<25%), 2=moderate (25-75%), 3=high (>75%)

Factor (* indicates either present or absent) **State** **Score**

1. Water available:		
a) Winter only (runoff) or sporadic availability (score = 1)	()	()+
b) April through October only (score = 2)	()	()+
c) All year (score = 3)	()	()+
2. Water velocity (active season):		
a) Still or slow flow	()*	()+
b) High flows	()*	()-
3. Substrate:		
a) Silt	()*	()+
b) Sand, gravel, rock	()*	()-
4. Banks are sunny	()	()+
5. Banks shaded by riparian overstory vegetation	()	()-
6. Aquatic or emergent vegetation present	()	()+
Dominant species [†] : _____		
7. Terrestrial vegetation present		
a) On banks	()	()+
Dominant species [†] : _____		
b) In adjacent uplands	()	()+
Dominant species [†] : _____		
8. Subterranean retreats present		
a) In banks	()*	()+
b) In adjacent uplands	()*	()+
9. Prey amphibians present	()*	()+
10. Prey fish present	()*	()+
11. Introduced gamefish present	()*	()-
12. Site subject to severe seasonal or tidal flooding	()*	()-
13. Adjacent land use:		
a) Rice	()*	()+
b) Natural Uplands	()*	()+
c) Row Crop	()*	()-
d) Urban	()*	()-
14. Disturbance due to human recreational or maintenance activities	()*	()-
15. Connectivity to known populations of GGS (within 5 miles)	()*	()+

[†] Up to three species and their respective cover classes (1 = 0-25%, 2 = 25-50%, 3 = 50-75%, 4 = 75-100%)

Total Score:

Additional Notes:

MORPHOMETRIC DATA

Capture Date _____ PIT Tag No. _____
 Capture Location E _____ N _____ Site _____ Trap # _____
 USGS 7.5' Quad v angle _____ Tnshp _____ Range _____

Mass (g) _____ DNA Collected Y/N _____

Sex _____

No. of Supralabials L _____ R _____ (Total) _____
 No. of Infralabials L _____ R _____ (Total) _____
 No. of Preoculars L _____ R _____ (Total) _____
 No. of Postoculars L _____ R _____ (Total) _____

No. of Dorsal Scale Rows at Mid Body _____

Vent-Tail Length (VTL) mm _____

Snout-Vent Length (SVL) mm _____

Subcaudal Count (if tail intact) _____
 (male ≥ 77 , not ≥ 85)(female ≥ 71 , not ≥ 76)

InR = _____ (Internasal-Rostral Contact) W of S6 at midht = _____ (Supralabial)

NR = _____ (Naso-Rostral Contact) W of S7 at midht = _____ (Supralabial)

(InR/NR $\leq 96\%$ in *T. gigas*) (WS7 > WS6 in *T. gigas*)

Notes: _____

Recaptures:

Date	Mass (g)	SVL (mm)	VTL (mm)	Release Date	Easting	Northing	Notes

**Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet**

STREAM:

Bank full width: _____
 Depth at bank full: _____
 Stream gradient: _____

Are there pools (circle one)? YES NO

If yes,

Size of stream pools: _____
 Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: _____

Vegetation: emergent, overhanging, dominant species: _____

Substrate: _____

Bank description: _____

Perennial or Ephemeral (*circle one*). If ephemeral, date it goes dry: _____

Other aquatic habitat characteristics, species observations, drawings, or comments:

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species location

³ Citation: U.S. Fish and Wildlife Service. 2005. Revised guidance on site assessment and field surveys for the California red-legged frog. 25 pp.

**Appendix E.
California Red-legged Frog Survey Data Sheet**

Survey results reviewed by _____ <small>(FWS Field Office) (date) (biologist)</small>
--

Date of Survey: _____ (mm/dd/yyyy) **Survey Biologist:** _____ (Last name) (first name)
Survey Biologist: _____ (Last name) (first name)

Site Location: _____
 (County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: _____
 Brief description of proposed action:

Type of Survey (circle one): DAY NIGHT BREEDING NON-BREEDING

Survey number (circle one): 1 2 3 4 5 6 7 8

Begin Time: _____ **End Time:** _____

Cloud cover: _____ **Precipitation:** _____

Air Temperature: _____ **Water Temperature:** _____

Wind Speed: _____ **Visibility Conditions:** _____

Moon phase: _____ **Humidity:** _____

Description of weather conditions: _____

Brand name and model of light used to conduct surveys: _____

Were binoculars used for the surveys (circle one)? YES NO

Brand, model, and power of binoculars: _____

⁴ Citation: U.S. Fish and Wildlife Service. 2005. Revised guidance on site assessment and field surveys for the California red-legged frog. 25 pp.

**Appendix E.
California Red-legged Frog Survey Data Sheet**

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: _____

Other notes, observations, comments, *etc.*

Necessary Attachments:

4. All field notes and other supporting documents
5. Site photographs
6. Maps with important habitat features and species locations

⁵ Citation: U.S. Fish and Wildlife Service. 2005. Revised guidance on site assessment and field surveys for the California red-legged frog. 25 pp.

Incidental Observations

DRAFT

Parcel Survey Checklist

County _____ Parcel Number _____ Date _____ Time _____
 Survey Participants _____

HABITATS

- Stockponds Vernal pools Sandy dunes Marsh
 Riparian woodland Grassland Other

BIRDS (Mike Bradbury) Cranes/Geese (winter) Ibis nest Rookery/Heronry
 Burrowing owl/burrow Owl Nest (tree) Blackbird nest Songbird nest Raptor nest
 Sightings/Comments:

MAMMALS (Mike Bradbury) Bats/bat structures Small rabbits (not jack)
 Ground squirrel activity (Stone Lakes)
 Sightings/Comments:

INVERTEBRATES Elderberry VP shrimp
 Sightings/Comments:

REPTILES and AMPHIBIANS (Laura Patterson) Burrows in VP grassland
 Slow streams/ditches
 Sightings/Comments:

PLANTS (Jean Witzman)
 Sightings/Comments:

CULTURAL RESOURCES (Janis Offerman) Prehistoric archaeological sites
 Historic archaeological sites/features Buildings/structures
 Sightings/Comments:

SITE ASSESSMENT (Karen Enstrom) Wells Fuel Storage Tanks Pits/Sumps
 Drums Chemical Storage Evidence of Chemical Spill Open or Leaking Containers
 Transformers Septic Tanks Junkyard or Landfill Industrial Use
 Sightings/Comments:

RECREATIONAL USE (Doug Rischbieter)
 Sightings/Comments:

Internal Draft- November 19, 2008

Invertebrate—Vernal Pools

DRAFT

Vernal Pool Branchiopod Wet-Season Surveys 2009/2010

Date:		Start time:		Surveyors:		Weather Conditions:	
		End time:					
GPS ID:		Camera ID:					
Pool ID							
Max. Depth (in.)							
Surface Area (m)							
Water Temp. (°C)							
Alkalinity:							
Total titrant used (ppm)							
Test result (ppm)							
pH							
EC (µS/cm)							
TDS (ppm)							
Dissolved Oxygen:							
%							
mg/L							
Turbidity (Low, Med, High)							
Large Branchiopods (est. # indiv)	<i>B. conservatio</i>						
	<i>B. lindahli</i>						
	<i>B. longiantenna</i>						
	<i>B. lynchi</i>						
	<i>B. mackini</i>						
	<i>B. mesovallensis</i>						
	<i>Branchinecta</i> sp.						
	<i>Cyzicus californicus</i>						
	<i>Lepidurus packardii</i>						
	<i>Lindleriella occident.</i>						
Other Invertebrates (indicate presence)	Amphipoda						
	Anisoptera						
	Belostomatidae						
	Ceratopogonidae						
	Chironomid						
	Cladocera						
	Copepods						
	Corixidae						
	Culicidae						
	Dytiscidae						
	Ephydriidae						
	Gastropoda						
	Hydracarina						
	Hydrophilidae						
	Microturbellaria						
	Notonectidae						
	Ostracods						
Syrphidae							
Amphibians							
Photo #							
Notes							

Mammal—Bat

DRAFT

BDCP BAT DATSHEET - BAT BRIDGE AND STRUCTURE SURVEYS

DATE: _____ MAP ID: _____
 OBSERVERS: _____
 UTM: _____ PHOTO IDS: _____
 PARCEL ID: _____ CAM ID: _____ GPS ID: _____

<p>BRIDGE ID:</p> <p>BATS PRESENT? Y N</p> <p>GUANO PRESENT? Y N</p> <p>FRESH GUANO</p> <p>NOT FRESH GUANO</p> <p>SPARSE AMT (< 50 PIECES)</p> <p>MODERATE AMT (50-100 PIECES)</p> <p>LARGE AMT (>100 PIECES)</p> <p>STAINING PRESENT? Y N</p> <p>POTENTIAL ROOST TYPE</p> <p>MATERNITY</p> <p>DAY</p> <p>NIGHT</p> <p>SOLITARY</p> <p>UNKNOWN</p> <p>NO POTENTIAL</p> <p>NOTES:</p>	<p>SPECIES PRESENT</p> <p>LABL</p> <p>ANPA</p> <p>COTO</p> <p>EUPE</p> <p>LANO</p> <p>LACI</p> <p>EPFU</p> <p>MYCA</p> <p>MYCI</p> <p>MYEV</p> <p>MYLU</p> <p>MYTH</p> <p>MYVO</p> <p>MYYU</p> <p>PIHE</p> <p>TABR</p> <p>UNK</p> <p>NOTES:</p>	<p>ROOST SIZE: 1, <50, 50-100, >100</p> <p>ROOST STRUCTURE</p> <p>TREE</p> <p>BRIDGE</p> <p>BUILDING</p> <p>OTHER</p> <p>TEMP IN STRUCTURE (F):</p> <p>HUMIDITY IN STRUCTURE (F):</p> <p>SUITABLE FORAGING HABITAT? Y N</p> <p>SHALLOW WETLAND</p> <p>SMALL FLOWING CHANNEL</p> <p>SMALL FLOWING CHANNEL W/ RIP VEG</p> <p>LARGE FLOWING CHANNEL</p> <p>LARGE FLOWING CHANNEL W/ RIP VEG</p> <p>STAGNANT WATER (I.E. POND)</p> <p>AGRICULTURE</p> <p>ORCHARD</p> <p>OAK WOODLAND</p> <p>OTHER</p> <p>NOTES:</p>
---	--	--

May 6, 2009

BDCP Bat Acoustic Monitoring – Habitat Information at Acoustic Set up Locations

Date (Day/Month/Year): _____ Observers (three initials of each member): _____

Parcel ID: _____ Map ID: _____ GPS ID: _____ Camera ID: _____
 Photo ID: N _____; S _____; E _____; W _____; Other Photos _____

Habitat Information At Detector:

Predominant Habitat Type(s) within 30 meter radius of the detector: (circle all that apply)

Riparian Forest (*Eucalyptus*, *Cottonwood*, *Willow*, *Sycamore*) _____ Percent Cover w/in 30m radius: _____
 Woodland (e.g., oak) _____ Percent Cover of 30m radius: _____ Annual Grassland _____ Percent Cover of 30m radius: _____
 Agricultural (crop) _____ Percent Cover of 30m radius: _____ Orchard _____ Percent Cover of 30m radius: _____
 Vineyard _____ Percent Cover of 30m radius: _____ Marsh/Wetland/Pond _____ Percent Cover of 30m radius: _____
 Other (description): _____ Percent Cover of 30m radius: _____
Predominant species composition of vegetation within each habitat type present within 30 meters of the detector: (i.e., Riparian Forest =
 overstory(OS) cottonwood, willow; understory (US) willow and blackberry; ground cover (GC): limited, area choked with blackberry)

Forest and Orchard habitat type details:

Habitat Type: _____
 Estimated DBH: <10 cm 10-20cm >20cm Canopy Height: <5ft 5-10ft >10ft Canopy Cover: Low Medium High
Agricultural habitat type details:
 Circle all that apply: Grain crop Row Crop Inundated crop Corn crop Crop Type (if known): _____

Suitable Features (within 30 meters of detector): (circle all that apply)

Roosting: Building Bridge Solitary Tree Intact Stand Large Tree(s) Snag(s) Other: _____
Foraging: Shallow open water (wetland) Slough/Flowing Channel (large or small) Stagnant water (i.e. pond)
 Other: _____

Habitat Information Adjacent to Detector:

Habitat Types (between 30 and 100 m of detector): (circle all that apply)

180° in front of detector:
 Riparian Forest Marsh/Wetland/Pond Slough/Flowing Channel Woodland Annual Grassland Agricultural (crop) Orchard
 Vineyard Other: _____

May 6, 2009

BDCP Bat Acoustic Monitoring – Habitat Information at Acoustic Set up Locations

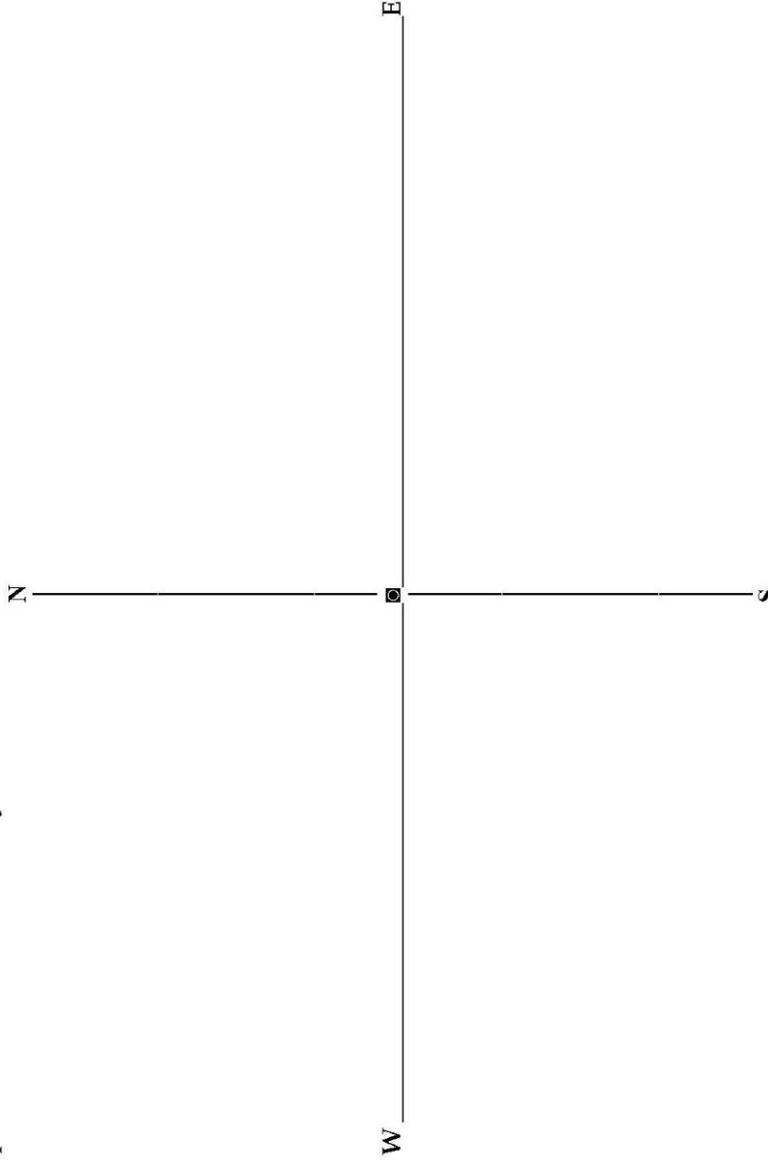
180° behind the detector:

Riparian Forest Marsh/Wetland/Pond Slough/Flowing Channel Woodland Annual Grassland Agricultural (crop) Orchard
Vineyard Other: _____

Suitable Features (between 30 and 100m of detector): (circle all that apply)

Roosting: Building Bridge Solitary Tree Intact Stand Large Tree(s) Snag(s) Other: _____
Foraging: Shallow open water (wetland) Flowing Channel (large or small) Stagnant water (i.e. pond) Other: _____

Please use the space below to sketch out the layout of the acoustic detector relative to notable features.



May 6, 2009

BDCP Bat Acoustic Monitoring – Habitat Information at Acoustic Set up Locations
Equipment Pick up Notes:

Parcel ID: _____

AR125: (circle all that apply) in place operational fallen over vandalized

Notes: _____

FR125: (circle one) operational (green light on) non-operational (green light off)

Notes: _____

Solar Panel: (circle all that apply) in place operational fallen over vandalized

Notes: _____

Power supply box and contents (battery, Phocos):

Notes: _____

HOBO: (circle one) present and collected absent

Additional Notes:

BDCP Bat Acoustic Monitoring – Habitat Information at Acoustic Set up Locations

May 6, 2009

Equipment Set up Notes:

FR 125 ID: _____ Sunset today: _____ Sunrise tomorrow: _____
Program 1 time on: _____ time off: _____ Enabled: Y N Program 2 time on: _____ time off: _____ Enabled?: Y N
Hobo Placement: _____
Notes: _____

BDCP BAT DATASHEET 1 - HABITAT ASSESSMENTS

DATE: _____ OBSERVERS: _____ MAP ID: _____ PARCEL ID: _____
 UTM: _____ PHOTO IDS: _____

<p>CIRCLE ALL THAT APPLY</p> <p>HABITAT TYPE</p> <p>ANNUAL GRASSLAND VINEYARD COASTAL SCRUB OAK WOODLAND URBAN/BARREN AG/CROP: GRAIN, ROW, INUNDATED, CORN ORCHARD: DECIDUOUS, NON-DECIDUOUS ESTIMATED DBH : <10CM, 10-20 CM, > 20CM ESTIMATED HEIGHT: <5FT, 5-15 FT, > 15 FT CANOPY: HIGH, MEDIUM, LOW ECUALYPTUS: INTACT STAND, SOLITARY CANOPY: HIGH, MEDIUM, LOW RIPARIAN/WETLAND SHALLOW WETLAND SMALL FLOWING CHANNEL SMALL FLOWING CHANNEL W/ RIP VEG LARGE FLOWING CHANNEL LARGE FLOWING CHANNEL W/ RIP VEG STAGNANT WATER (I.E. POND) OTHER VINEYARD</p> <p>NOTES</p>	<p>POTENTIAL ROOSTING FEATURES</p> <p>HUMAN OCCUPIED BUILDINGS No. ABANDONED BUILDINGS No. TREE: INTACT STAND, SOLITARY, LARGE TREE, SMALL TREE TREE TYPE: ORCHARD RIPARIAN/WETLAND EUCALYPTUS OAK OTHER</p>	<p>POTENTIAL FORAGING FEATURES</p> <p>WATER SHALLOW WETLAND SMALL FLOWING CHANNEL SMALL FLOWING CHANNEL W/ RIP VEG LARGE FLOWING CHANNEL LARGE FLOWING CHANNEL W/ RIP VEG STAGNANT WATER (I.E. POND) OTHER AGRICULTURE ORCHARD OTHER NOTES</p>	<p>SITE SUITABILITY RANK</p> <p>0 (NO POTENTIAL HABITAT) 1 (FORAGING HABITAT PRESENT) 2 (ROOSTING HABITAT PRESENT) 3 (ROOSTING & FORAGING PRESENT)</p> <p>FORAGING TYPE: ROOST TYPE: OTHER SPECIES OBSERVED IN PARCEL:</p>

BDCP BAT DATASHEET 3 - SUITABLE HABITAT FEATURE

DATE: _____ **OBSERVERS:** _____

UTM: _____

MAP ID: _____ **PARCEL ID:** _____

PHOTO IDs: _____

SUITABLE FEATURE (CIRCLE ALL THAT APPLY)

<p>ROOSTING</p> <p>TREE STAND</p> <p>EUCALYPTUS</p> <p>OAK</p> <p>COTTONWOOD</p> <p>ORCHARD</p> <p>OTHER</p> <p>BUILDING</p> <p>TREE</p> <p>SNAG</p> <p>LIVE/LARGE</p> <p>OTHER</p> <p>NOTES</p>	<p>FORAGING</p> <p>WATER</p> <p>SHALLOW WETLAND</p> <p>SMALL FLOWING CHANNEL</p> <p>SMALL FLOWING CHANNEL W/ RIP VEG</p> <p>LARGE FLOWING CHANNEL</p> <p>LARGE FLOWING CHANNEL W/ RIP VEG</p> <p>STAGNANT WATER (I.E. POND)</p> <p>OTHER</p> <p>AGRICULTURE</p> <p>ORCHARD</p> <p>OTHER</p> <p>NOTES</p>
---	---

Mammal—Riparian

DRAFT

DHCCP TRAP CHECKLIST

Location _____

Date _____ Start/End Time _____

Researchers _____ TRAP A: Tomahawks TRAP B & C: Shermans

A					
	A	B	C	Bait A	Notes
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

B					
	A	B	C	Bait A	Notes
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

C					
	A	B	C	Bait A	Notes
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

D					
	A	B	C	Bait A	Notes
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

E					
	A	B	C	Bait A	Notes
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

F					
	A	B	C	Bait A	Notes
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

Sb = *Sylvilagus bachmani* (brush rabbit)
Nf = *Neotoma fuscipes* (woodrat)
DIVI = *Didelphis virginiana* (Virginia opossum)
MEME = *Mephitis mephitis* (striped skunk)
MICA = *Microtus californicus* (California vole)
MUFR = *Mustela frenata* (long-tailed weasel)
PRLO = *Procyon lotor* (raccoon)
LECA = *Lepus californius* (black-tailed jackrabbit)
CALA = *Canis latrans* (coyote)
CACA = *Castor canadensis* (Beaver)
ONZI = *Ondatra zibethicus* (muskrat)
MUMU = *Mus musculus* (house mouse)
MUVI = *Mustela vison* (American mink)
PEMA = *Peromyscus maniculatus* (N.A. deer mouse)
RARA = *Rattus rattus* (black rat)
SCGR = *Sciurus griseus* (western gray squirrel)
SPBE = *Spermophilus beechyi* (California ground squirrel)
SYAU = *Sylvilagus audubonii* (desert cottontail)
THBO = *Thomomys bottae* (Botta's pocket gopher)
LUCA = *Lutra canadensis* (River otter)
VUVU = *Vulpes vulpes* (red fox)
URCI = *Urocyon cinereoargenteus* (gray fox)
VUMA = *Vulpes macrotis* (kit fox)

Assessment number ____ of ____ for this location
Page 1 of 2

ESRP - RBR HABITAT RAPID ASSESSMENT PROGRAM (RAP) DATA SHEET

Date: _____ Researcher(s): _____

UTM coordinates: **10 S** _____ PDOP: _____

Location: _____

Associated with APN(s): _____

1. Key Vegetation/Cover present (dominant types in 1st box, other plants present in 2nd box):

Shrubs	Herbaceous plants	Trees	Other Cover
<input type="checkbox"/> <input type="checkbox"/> California blackberry <input type="checkbox"/> <input type="checkbox"/> Himalayan blackberry <input type="checkbox"/> <input type="checkbox"/> California wild rose <input type="checkbox"/> <input type="checkbox"/> California wild grape <input type="checkbox"/> <input type="checkbox"/> Coyote brush <input type="checkbox"/> <input type="checkbox"/> Mugwort <input type="checkbox"/> <input type="checkbox"/> Poison oak <input type="checkbox"/> <input type="checkbox"/> Sandbar willow <input type="checkbox"/> <input type="checkbox"/> Other:	<input type="checkbox"/> <input type="checkbox"/> Black mustard <input type="checkbox"/> <input type="checkbox"/> Bull thistle <input type="checkbox"/> <input type="checkbox"/> Milk thistle <input type="checkbox"/> <input type="checkbox"/> Curly dock <input type="checkbox"/> <input type="checkbox"/> Fennel <input type="checkbox"/> <input type="checkbox"/> Pampas grass <input type="checkbox"/> <input type="checkbox"/> Poison hemlock <input type="checkbox"/> <input type="checkbox"/> Stinging nettle <input type="checkbox"/> <input type="checkbox"/> Pepperweed <input type="checkbox"/> <input type="checkbox"/> Other:	<input type="checkbox"/> <input type="checkbox"/> Valley oak <input type="checkbox"/> <input type="checkbox"/> Coast live oak <input type="checkbox"/> <input type="checkbox"/> Black willow <input type="checkbox"/> <input type="checkbox"/> Fremont's cottonwood <input type="checkbox"/> <input type="checkbox"/> Narrowleaf cottonwood <input type="checkbox"/> <input type="checkbox"/> Box elder <input type="checkbox"/> <input type="checkbox"/> Sycamore <input type="checkbox"/> <input type="checkbox"/> Elderberry <input type="checkbox"/> <input type="checkbox"/> Black walnut <input type="checkbox"/> <input type="checkbox"/> Other:	<input type="checkbox"/> <input type="checkbox"/> Grass <input type="checkbox"/> <input type="checkbox"/> Marsh/Wetland <input type="checkbox"/> <input type="checkbox"/> Rock Piles <input type="checkbox"/> <input type="checkbox"/> Broken Concrete <input type="checkbox"/> <input type="checkbox"/> Other:

2. Riparian Corridor Width

N/A	Poor		Marginal			Good			Excellent	
No vegetation is present in the area above the bank.	0-5 meters		5-10 meters			10-15 meters			15+ meters	
0	1	2	3	4	5	6	7	8	9	10

3. Linear Extent of Riparian Corridor

N/A	Poor		Marginal			Good			Excellent	
No vegetation present above the bank	More bare area than vegetated area. Highly fragmented		Breaks in the vegetation frequent with bare areas every 15 meters			Riparian area fairly intact, with a few gaps in-between vegetated areas			Riparian area intact and continuous with no breaks in vegetation	
0	1	2	3	4	5	6	7	8	9	10

⁶ In the title, RBR is short for Riparian Brush Rabbit.

4. Riparian Vegetation Type/Height

N/A	Poor	Marginal	Good	Excellent
No vegetation is present above the bank.	Grasses/herbaceous plants (Grazed or mowed shorter than 5 centimeters)	Herbaceous plants and/or grasses (full height)	Shrubs present but not adjacent to open areas of herbaceous plants and/or grasses	Shrubs present with edges adjacent to open areas of herbaceous plants and/or grasses
0	1 2	3 4 5	6 7 8	9 10

5. Riparian Vegetation Density

N/A	Poor	Marginal	Good	Excellent
No vegetation is present above the bank.	Vegetation very sparse, covers less than 25% of the ground. Large bare spots are visible.	Vegetation somewhat sparse, several bare spots are visible. Covers 25-50% of ground.	Vegetation fairly thick, a few gaps or bare spots. Covers 50-80% of ground.	Vegetation very thick and well-developed. No gaps or bare spots. Coverage nearly 100%.
0	1 2	3 4 5	6 7 8	9 10

6. Bank Vegetation Type/Height

N/A	Poor	Marginal	Good	Excellent
No bank (steep incline), or bank lacks vegetation due to boulder, gravel, or bare dirt substrate	Grasses/herbaceous plants (Grazed or mowed shorter than 5 centimeters)	Herbaceous plants and/or grasses (full height)	Shrubs present but not adjacent to riparian vegetation	Shrubs present with edges adjacent to riparian vegetation
0	1 2	3 4 5	6 7 8	9 10

7. Bank Vegetation Density

N/A	Poor	Marginal	Good	Excellent
No bank (steep incline), or bank lacks vegetation due to boulder, gravel, or bare dirt substrate.	Vegetation very sparse, covers less than 25% of the ground. Large bare spots are visible.	Vegetation somewhat sparse, several bare spots are visible. Covers 25-50% of ground.	Vegetation fairly thick, a few gaps or bare spots. Covers 50-80% of ground.	Vegetation very thick and well-developed. No gaps or bare spots. Coverage nearly 100%.
0	1 2	3 4 5	6 7 8	9 10

8. Land Use Outside the Corridor

Urban (pavement, roads, parking lots, industrial)	Urban (residential lawn, golf course, sports field, or parks)	Agriculture (row-crop)	Agriculture (pasture, fallow)	Forest
---	---	------------------------	-------------------------------	--------

Comments: _____
