

IMPACT #13 BAT-HARVESTER INTERACTION

SUPPLEMENTARY SITE CHARACTERIZATION

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GENERAL SITE INFORMATION

Local Site Name: Cao Lanh city, Dong Thap Province	PREDICT Site Name: W-Dong Thap - Cao Lanh city	Alternate Site Name:
Survey Date (YYYY-MM-DD): 2018-12-25	Surveyor(s): Pham Thi Bach Ngoc, Nguyen Van Long	
Start Time (hh-mm): 11:35	End Time (hh-mm): 12:10	
Site Latitude (degrees-decimal min):	Site Longitude (degrees-decimal min):	GPS Uncertainty: (degrees-decimal min): 10, 43324 : 105, 68591
Site Type (circle one): Cave <input type="radio"/> Farm <input checked="" type="radio"/> Other <input type="radio"/>	Is Site Access Controlled? (circle one): Yes <input type="radio"/> No <input checked="" type="radio"/> If yes, what kind? (circle one): Fenced <input type="radio"/> Permit <input type="radio"/> Other: _____	
Farm Site Only: A) What kind of tree(s) do bats roost in? • Sugar palm leaves • _____ • _____ B) Is an artificial roost present in trees? (circle one) Yes <input checked="" type="radio"/> No <input type="radio"/>	Cave Site Only: Height of the cave at entrance: _____ m Height of the cave at harvesting area: _____ m To what degree does light penetrate cave to guano area? (select one) <input type="checkbox"/> 0-20% <input type="checkbox"/> 21-50% <input type="checkbox"/> 51-80% <input type="checkbox"/> 81-100% To what extent does water cover the cave area? (select one) <input type="checkbox"/> Little to none (0-20%) <input type="checkbox"/> Some (21-50%) <input type="checkbox"/> Most or all (51-100%) What is the ease of navigation into the cave? (select one) <input type="checkbox"/> Walk in, open area <input type="checkbox"/> Some difficulty walking, lower parts requiring ducking <input type="checkbox"/> Difficulty navigating, crawling required	
Approximate Area of Guano-Covered Area (select one): <input type="checkbox"/> < 50 m ² <input type="checkbox"/> 50 - 100 m ² <input checked="" type="checkbox"/> 100 - 500 m ² <input type="checkbox"/> > 500 m ² Approximate Depth of Guano-Covered Area (select one): <input checked="" type="checkbox"/> < 5 cm <input type="checkbox"/> 6 - 10 cm <input type="checkbox"/> 11 - 30 cm <input type="checkbox"/> 30 cm	Are bats present when guano is being harvested? (circle one) Yes <input checked="" type="radio"/> No <input type="radio"/>	
Approximate Size of Bat Roost (select one): <input type="checkbox"/> < 50 <input type="checkbox"/> 51 - 200 <input type="checkbox"/> 201 - 1,000 <input type="checkbox"/> > 1,000 (specify _____)		

HARVESTER INFORMATION

Number of Harvesters: 1	Number of Non-Harvesters in Guano Exposure Area (check all that apply, #)
Approximate Age Range (yrs): 35	

Origin of Harvesters (check all that apply, #) <input checked="" type="checkbox"/> Local <u>1</u> <input type="checkbox"/> Seasonal _____ <input type="checkbox"/> Other (origin: _____, number: _____)	<input type="checkbox"/> Children _____ <input checked="" type="checkbox"/> Locals <u>1</u> <input type="checkbox"/> Tourists _____ <input checked="" type="checkbox"/> Other <u>visitor from locals: >2</u>												
Duration of Time Harvester Spends in Guano Exposure Area (estimate of range, minutes per person): Low: <u>12</u> minutes Typical: <u>15</u> minutes High: <u>30</u> minutes	Duration of Active Harvesting (estimate of range, minutes per person): Low: <u>15</u> minutes Typical: <u>20</u> minutes High: <u>30</u> minutes												
Frequency of Harvesting (select one): <input type="checkbox"/> Daily <input checked="" type="checkbox"/> Weekly (<u>2</u> times per week) <input type="checkbox"/> Monthly (____ times per month) <input type="checkbox"/> Annually (____ times per year) <input type="checkbox"/> Holidays only Per Person (Low / typical / high) Once every ____ / ____ / ____ (days/weeks/month)	During which months is guano harvested? (select all that apply) <input checked="" type="checkbox"/> Jan. <input checked="" type="checkbox"/> Feb. <input checked="" type="checkbox"/> Mar. <input checked="" type="checkbox"/> Apr. <input checked="" type="checkbox"/> May <input checked="" type="checkbox"/> Jun. <input checked="" type="checkbox"/> Jul. <input checked="" type="checkbox"/> Aug. <input checked="" type="checkbox"/> Sep. <input checked="" type="checkbox"/> Oct. <input checked="" type="checkbox"/> Nov. <input checked="" type="checkbox"/> Dec. Season of Harvest (select all that apply) <input checked="" type="checkbox"/> Wet <input checked="" type="checkbox"/> Dry <input type="checkbox"/> Shoulder Are there limitations to guano harvesting? (select all that apply) <input checked="" type="checkbox"/> Bat migration elsewhere <input type="checkbox"/> High water levels <input checked="" type="checkbox"/> Other <u>bats is hunted for food by locals</u> <u>Rats and snakes often kill the bats</u>												
Method of Collection (select all that apply): <input type="checkbox"/> Shoveling <input type="checkbox"/> Sweeping <input type="checkbox"/> Use of hands only <input type="checkbox"/> Other: _____	List of Activities around Site (select all that apply): <table border="0"> <tr> <td><input checked="" type="checkbox"/> Harvesting</td> <td><input checked="" type="checkbox"/> within guano exposure area</td> </tr> <tr> <td><input checked="" type="checkbox"/> Packaging</td> <td><input checked="" type="checkbox"/> within guano exposure area</td> </tr> <tr> <td><input checked="" type="checkbox"/> Storing</td> <td><input type="checkbox"/> within guano exposure area</td> </tr> <tr> <td><input checked="" type="checkbox"/> Selling</td> <td><input checked="" type="checkbox"/> within guano exposure area</td> </tr> <tr> <td><input checked="" type="checkbox"/> Drying</td> <td><input checked="" type="checkbox"/> within guano exposure area</td> </tr> <tr> <td><input type="checkbox"/> Other</td> <td><input type="checkbox"/> within guano exposure area</td> </tr> </table>	<input checked="" type="checkbox"/> Harvesting	<input checked="" type="checkbox"/> within guano exposure area	<input checked="" type="checkbox"/> Packaging	<input checked="" type="checkbox"/> within guano exposure area	<input checked="" type="checkbox"/> Storing	<input type="checkbox"/> within guano exposure area	<input checked="" type="checkbox"/> Selling	<input checked="" type="checkbox"/> within guano exposure area	<input checked="" type="checkbox"/> Drying	<input checked="" type="checkbox"/> within guano exposure area	<input type="checkbox"/> Other	<input type="checkbox"/> within guano exposure area
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<input checked="" type="checkbox"/> Drying	<input checked="" type="checkbox"/> within guano exposure area												
<input type="checkbox"/> Other	<input type="checkbox"/> within guano exposure area												

GUANO INFORMATION

How much guano is being collected per person? (select / fill in one of the following): <input type="checkbox"/> _____ kilograms per _____ (day/week/month) <input checked="" type="checkbox"/> <u>1</u> bags per <u>week</u> (day/week/month). Approximate size of bags <u>3</u> (L/other <u>kg</u>) <input type="checkbox"/> Other measurement: _____	
How much guano is being collected overall, estimate? (total at site, select / fill in one of the following): <input type="checkbox"/> _____ kilograms per _____ (day/week/month) <input checked="" type="checkbox"/> <u>1</u> bags per <u>week</u> (day/week/month). Approximate size of bags <u>3</u> (L/other <u>kg</u>) <input type="checkbox"/> Other measurement: _____	
Is guano fresh or dry at time of collection? (circle one) <u>Fresh</u> Dry	
Guano Usage (select all that apply): <input checked="" type="checkbox"/> Own use <input checked="" type="checkbox"/> Storage on-site <input checked="" type="checkbox"/> Selling for local use <input checked="" type="checkbox"/> Selling for non-local use <input type="checkbox"/> Processing <input checked="" type="checkbox"/> Packaging to sell off-site Notes (e.g. where guano is sold to, if guano is sold directly, livestock grazing on guano-fed crops, etc.):	Approximate Bat Species Contribution of Guano (species, %) <ul style="list-style-type: none"> • <u>mosquitoes eating bats</u> <u>100</u> % • <u>mix species under</u> _____ % • <u>Vesperilionidae</u> _____ % • _____ % • _____ %

	• _____, _____ %
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PROTECTIVE PRACTICES AND EQUIPMENT

How many harvesters are wearing some form of Personal Protective Equipment (PPE)?

(select all that apply / number of harvesters at time of observation /

% range estimates of harvester population wearing PPE at low, typical, and high ends):

	Number of Harvesters	low (%)	typical (%)	high (%)
Gloves	_____	_____	_____	_____
Mask	<u>1</u>	_____	_____	<u>100</u>
Makeshift mask made of cloth	_____	_____	_____	_____
Goggles	_____	_____	_____	_____
Shoes	_____	_____	_____	_____
Clothing specifically for harvesting	<u>1</u>	_____	_____	<u>100</u>
Other (specify): <u>sandals</u>	<u>1</u>	_____	_____	<u>100</u>

Are any of the following practices observed?

(check all that apply, # of harvesters,

% estimates of total population low, typical, high):

	#	low	typ.	high
<input type="checkbox"/> Washing of shoes afterwards	_____	_____%	_____%	_____%
<input type="checkbox"/> Washing of feet afterwards	_____	_____%	_____%	_____%
<input type="checkbox"/> Washing of hands afterwards	_____	_____%	_____%	_____%
<input checked="" type="checkbox"/> Washing of body afterwards	<u>1</u>	_____%	_____%	<u>100</u> %
<input type="checkbox"/> Other _____	_____	_____%	_____%	_____%

Are any of the following tools used?

(check all that apply, # of harvesters,

% estimates of total population low, average, high):

	#	low	typ.	high
<input checked="" type="checkbox"/> Shovels	<u>1</u>	_____%	_____%	<u>100</u> %
<input type="checkbox"/> Spades	_____	_____%	_____%	_____%
<input type="checkbox"/> Brooms	_____	_____%	_____%	_____%
<input type="checkbox"/> Hands only	_____	_____%	_____%	_____%
<input type="checkbox"/> Other _____	_____	_____%	_____%	_____%

Availability of clean water for washing? (circle one):

☒ Yes ☐ No

Observed number of harvesters washing: 1

Estimate of all harvesters washing (% range):

Low (%) _____ Typical (%) _____ High (%) 100

Availability of soap for washing? (circle one):

☒ Yes ☐ No

Observed number of harvesters using soap: 1

Estimate of all harvesters using soap (% range):

Low (%) _____ Typical (%) _____ High (%) 100

Is footwear restricted due to religion? (circle one):

☐ Yes ☒ No

OTHER COMMENTS, GENERAL OBSERVATIONS, PHOTOS

- The bat guano farm is located between owner's house / living quarter and her fruit field. She also have some chicken and duck wandering around the fruit field and the guano site