

IMPACT #13 BAT-HARVESTER INTERACTION

SUPPLEMENTARY SITE CHARACTERIZATION

(2)

GENERAL SITE INFORMATION

Local Site Name: Cao Lanh District, Dong Thap province	PREDICT Site Name: NV-Dong Thap-Cao Lanh District	Alternate Site Name:
Survey Date (YYYY-MM-DD): 2018-12-25	Surveyor(s): Pham Thi Binh Ngoc, Nguyen Van Long	
Start Time (hh-mm): 10:15	End Time (hh-mm): 10:50	
Site Latitude (degrees-decimal min):	Site Longitude (degrees-decimal min):	GPS Uncertainty: (degrees-decimal min): 10, 42 676 : 105, 72 173
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 checked="" type="checkbox"/> < 50 m ² <input type="checkbox"/> 50 – 100 m ² <input 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: 2	Number of Non-Harvesters in Guano Exposure Area (check all that apply, #)
Approximate Age Range (yrs): 18 and 50	

<p>Origin of Harvesters (check all that apply, #)</p> <p><input checked="" type="checkbox"/> Local <u>2</u></p> <p><input type="checkbox"/> Seasonal _____</p> <p><input type="checkbox"/> Other (origin: _____, number: _____)</p>	<p><input type="checkbox"/> Children _____</p> <p><input checked="" type="checkbox"/> Locals <u>> 2</u></p> <p><input type="checkbox"/> Tourists _____</p> <p><input type="checkbox"/> Other _____</p> <p><i>note: the owner's relatives and friends usually go to the guano site when they visiting the owner's family.</i></p>												
<p>Duration of Time Harvester Spends in Guano Exposure Area (estimate of range, minutes per person):</p> <p>Low: _____ minutes</p> <p>Typical: <u>20</u> minutes</p> <p>High: <u>30</u> minutes</p>	<p>Duration of Active Harvesting (estimate of range, minutes per person):</p> <p>Low: _____ minutes</p> <p>Typical: <u>15</u> minutes</p> <p>High: <u>20</u> minutes</p>												
<p>Frequency of Harvesting (select one):</p> <p><input checked="" type="checkbox"/> Daily</p> <p><input type="checkbox"/> Weekly (____ times per week)</p> <p><input type="checkbox"/> Monthly (____ times per month)</p> <p><input type="checkbox"/> Annually (____ times per year)</p> <p><input type="checkbox"/> Holidays only</p> <p>Per Person (Low / typical / high)</p> <p>Once every ____ / ____ / ____ (days/weeks/month)</p>	<p>During which months is guano harvested? (select all that apply)</p> <p><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.</p> <p><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.</p> <p>Season of Harvest (select all that apply)</p> <p><input checked="" type="checkbox"/> Wet <input checked="" type="checkbox"/> Dry <input type="checkbox"/> Shoulder</p> <p>Are there limitations to guano harvesting? (select all that apply)</p> <p><input checked="" type="checkbox"/> Bat migration elsewhere</p> <p><input type="checkbox"/> High water levels</p> <p><input type="checkbox"/> Other _____</p>												
<p>Method of Collection (select all that apply):</p> <p><input checked="" type="checkbox"/> Shoveling</p> <p><input type="checkbox"/> Sweeping</p> <p><input type="checkbox"/> Use of hands only</p> <p><input checked="" type="checkbox"/> Other: <u>use a plastic / canvas sheet to catch the guano</u></p>	<p>List of Activities around Site (select all that apply):</p> <table style="width: 100%;"> <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 checked="" 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 checked="" 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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<p>GUANO INFORMATION</p>													
<p>How much guano is being collected per person? (select / fill in one of the following):</p> <p><input checked="" type="checkbox"/> <u>2.4</u> kilograms per <u>day</u> (day/week/month)</p> <p><input type="checkbox"/> _____ bags per _____ (day/week/month). Approximate size of bags _____ (L/other ____)</p> <p><input type="checkbox"/> Other measurement: _____</p>													
<p>How much guano is being collected overall, estimate? (total at site, select / fill in one of the following):</p> <p><input checked="" type="checkbox"/> <u>4</u> kilograms per <u>day</u> (day/week/month)</p> <p><input type="checkbox"/> _____ bags per _____ (day/week/month). Approximate size of bags _____ (L/other ____)</p> <p><input type="checkbox"/> Other measurement: _____</p>													
<p>Is guano fresh or dry at time of collection? (circle one)</p> <p style="text-align: center;"> Fresh Dry </p> <p style="text-align: center;"><i>when it's rainy</i></p>													
<p>Guano Usage (select all that apply):</p> <p><input checked="" type="checkbox"/> Own use <input checked="" type="checkbox"/> Storage on-site</p> <p><input checked="" type="checkbox"/> Selling for local use <input checked="" type="checkbox"/> Selling for non-local use</p> <p><input type="checkbox"/> Processing <input type="checkbox"/> Packaging to sell off-site</p> <p>Notes (e.g. where guano is sold to, if guano is sold directly, livestock grazing on guano-fed crops, etc.):</p> <p><u>They sell the guano to the wholesaler</u></p>	<p>Approximate Bat Species Contribution of Guano (species, %)</p> <ul style="list-style-type: none"> • <u>mosquitoes eating bats</u>, <u>100</u> % • <u>(mix species under</u>, _____ % • <u>Vesperilionidae)</u>, _____ % • _____, _____ % • _____, _____ % 												

• _____, _____ %

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	1			100
Mask				
Makeshift mask made of cloth				
Goggles				
Shoes	2			
Clothing specifically for harvesting	2			100
Other (specify): <u>hat</u>	2			100

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	2	%	%	100%
<input type="checkbox"/> Washing of feet afterwards		%	%	%
<input type="checkbox"/> Washing of hands afterwards		%	%	%
<input type="checkbox"/> Washing of body afterwards	2	%	50%	50%
<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	2	%	%	100%
<input type="checkbox"/> Spades		%	%	%
<input type="checkbox"/> Brooms		%	%	%
<input type="checkbox"/> Hands only		%	%	%
<input checked="" type="checkbox"/> Other <u>Canvas hat</u>	2	%	%	100%

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

☒ Yes ☐ No

Observed number of harvesters washing: 2

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: 2

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 guano farm is located between owner living quarter and the rice field, and the owner's fruit garden. The farm is 20 - 30 m away from the house but located right next to the rice field. Farmers who's working in the rice field can easily get contact with the guano.