



# HabitatNet

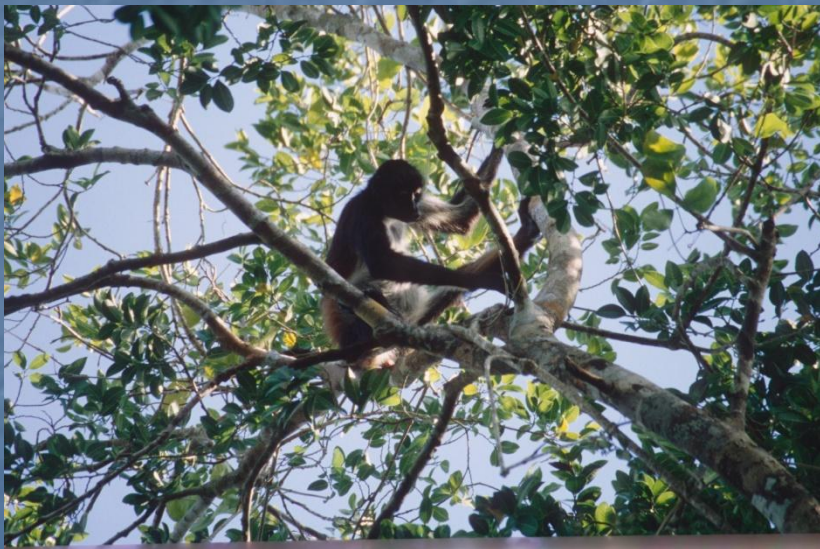


Smithsonian Institution



El Eden Ecological Reserve  
Quintana Roo, Mexico  
Dan Bisaccio, Project Director





Since 1995, Souhegan High School (Amherst, NH) students have been involved with this project.

Thus far, over 300 students have participated at the El Eden Ecological Reserve site.



# HabitatNet: Goals

## Teaching science as science is done

1. Education –
  - A. field methods/  
applications ...
  - B. sample, collect,  
interpret data ...
  - C. understand /  
appreciate “scientific  
habits of mind”.



# HabitatNet: Goals



## 2. Research

A. Biological Diversity Surveys

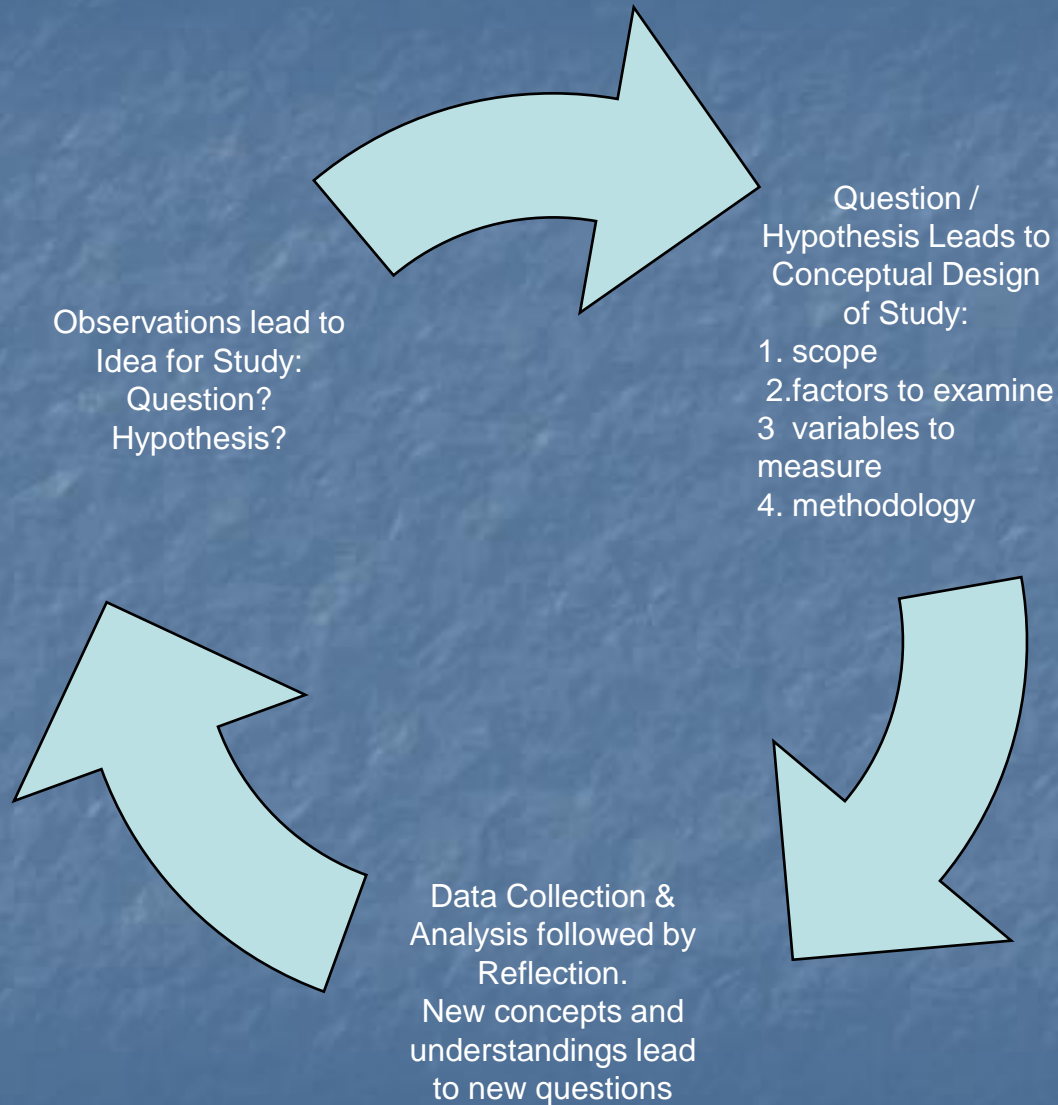
B. Student initiated projects



Essential Question:

“How does disturbance influence biodiversity?”

# HabitatNet / Conservation Biology Research Design Model @ SHS



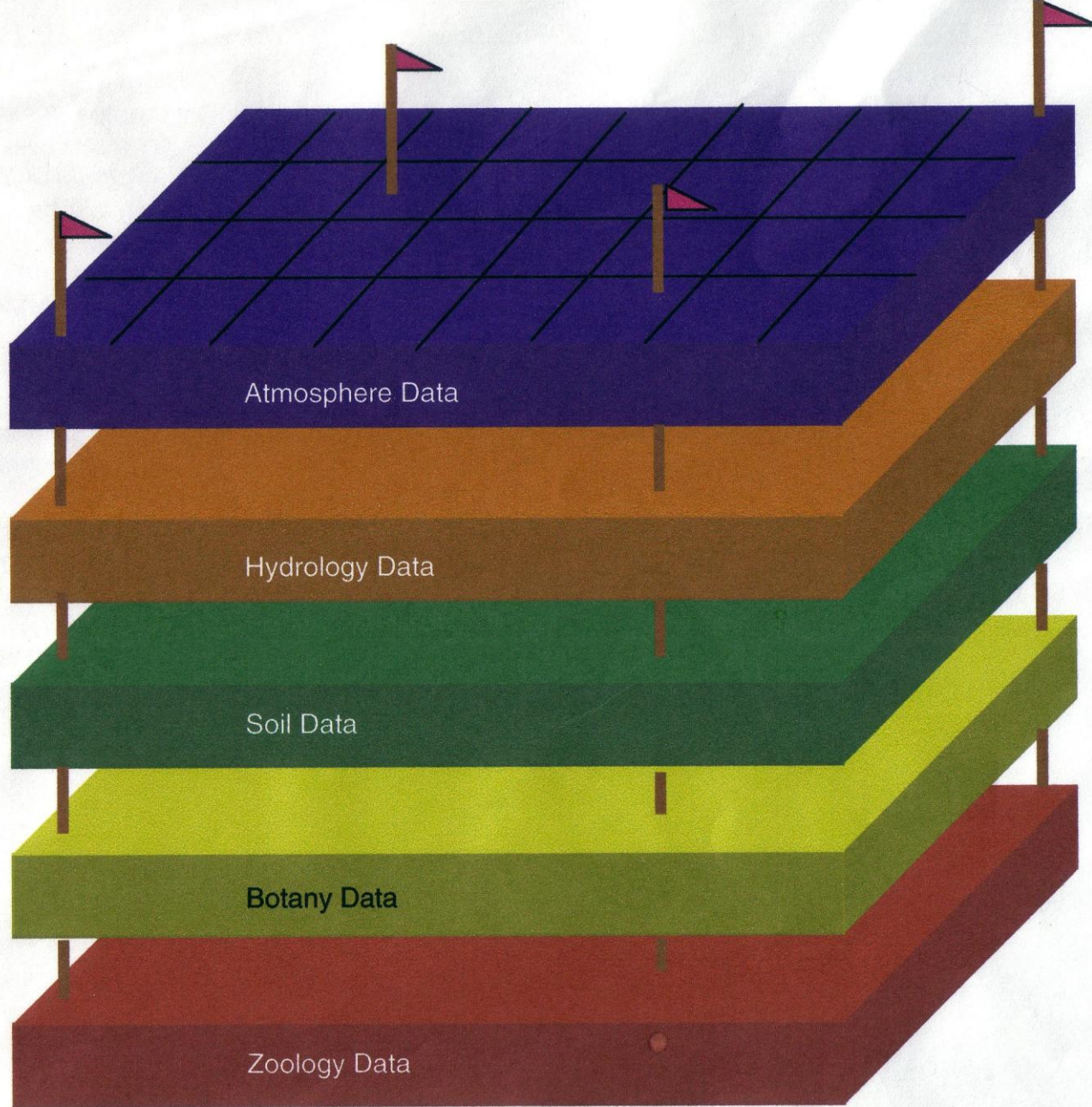


# Exotic Species

## New Family & Species!

- Family:  
Cellularphoneaceae
- Genus Species:  
Psuedo-pinus  
can-I-hear-you-now











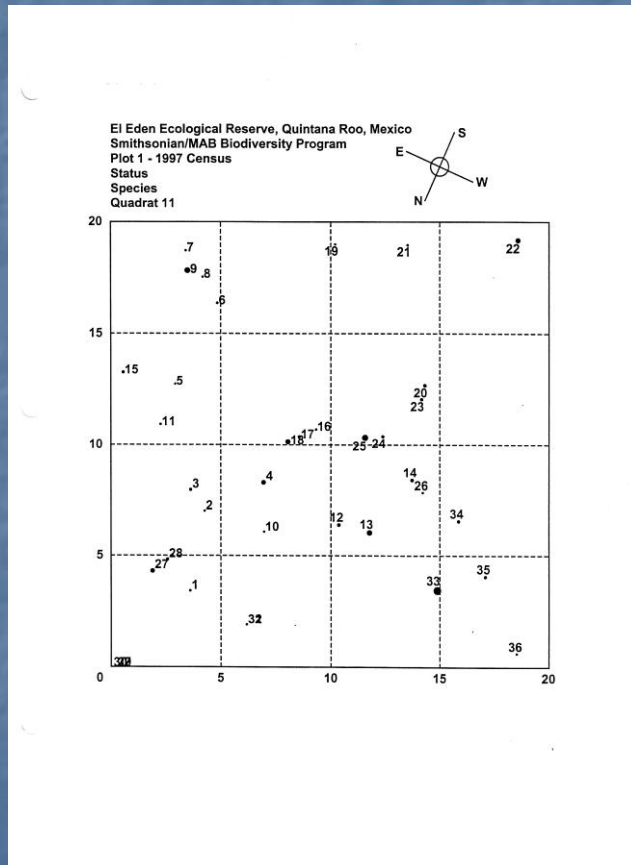
# Quadrat / Vegetation

20 meter x 20 meter quadrats are surveyed:

- a. trees w/ a 10 cm DBH or greater are measured, identified, tagged, and plotted.
- b. canopy density is determined.



# SIMAB/ HabitatNet Quadrats



El Eden Ecological Reserve, Quintana Roo, Mexico  
 Semi-Deciduous Tropical Dry Forest

Quadrat 117

Tree No.	Stem	DHt	Status	Acronym	Species
1	1	.74	AS	FICYUC	Ficus yucatanensis
2	1	.17	DS	AAABBB	UNKNOWN
3	1	.12	AS	MANSAP	Manilkara sapota
4	1	.12	AS	FICYUC	Ficus yucatanensis
5	1	.16	AS	VITGAU	Vitex gaumeri
6	1	.15	AS	VITGAU	Vitex gaumeri
7	1	.13	AS	LEGUNK	Leguminosae unknown
8	1	.20	AS	MANSAP	Manilkara sapota
9	1	.10	AS	FICYUC	Ficus yucatanensis
10	1	.18	DS	AAABBB	UNKNOWN
11	1	.12	AS	FICYUC	Ficus yucatanensis
12	1	.15	AL	FICYUC	Ficus yucatanensis
13	1	.10	AS	VITGAU	Vitex gaumeri
14	1	.11	AS	FICYUC	Ficus yucatanensis
15	1	.16	AS	VITGAU	Vitex gaumeri
16	1	.12	AL	VITGAU	Vitex gaumeri
17	1	.23	DL	MANSAP	Manilkara sapota
18	1	.29	AS	MANSAP	Manilkara sapota
19	1	.14	AS	AAABBB	UNKNOWN / ALIVE
20	1	.11	AS	FICYUC	Ficus yucatanensis
21	1	.12	AS	FICYUC	Ficus yucatanensis
22	1	.24	AS	MANSAP	Manilkara sapota
23	1	.11	AS	FICYUC	Ficus yucatanensis
24	1	.11	DL	UNKNOWN	UNKNOWN
25	1	.12	AS	SAPYAP	Sabal yapa
26	1	.34	DL	AAABBB	UNKNOWN
27	1	.13	DL	VITGAU	Vitex gaumeri
28	1	.11	AS	LEGUNK	Leguminosae unknown
29	1	.13	AL	VITGAU	Vitex gaumeri
30	1	.13	AS	LEGUNK	Leguminosae unknown
31	1	.16	AS	LEGUNK	Leguminosae unknown
32	1	.19	AS	BURSM	Bursera simaruba
33	1	.12	AS	FICYUC	Ficus yucatanensis



# Date Surveyed & Canopy Cover

5 1/00 80%	10 1/00 75%	15 7/00 70%	20 1/01 80%	25 1/01 100%
4 6/98 80%	9 7/98 85%	14 7/00 75%	19 7/97 75%	24 1/02 85%
3 4/98 60%	8 7/98 85%	13 7/97 65%	18 1/02 75%	23 7/99 70%
2 4/98 85%	7 4/97 85%	12 1/99 90%	17 1/99 90%	22 7/99 80%
1 4/97 90%	6 7/97	11 7/97	16 3/98	21 3/98

# The "Data"



(Figure 1) HabitatNet / SI-MAB Data Plot  
El Eden Ecological Reserve, Quintana Roo, Mexico  
Semi-deciduous Tropical Dry Forest

August, 1999      Quadrat Tree Data      Tree Diameter  $\geq$  .1 meter

Species	Number of Trees	Number of Stems	Average DBH/ stem	Basal Area	Relative Density	Relative Dominance	Relative Frequency
Metopium brownie	69	70	.201	2.428	14.94	18.07	8.13
Ficus yucatenis	60	60	.180	2.224	12.99	16.56	5.63
Manilkara sapota	37	39	.217	1.775	8.01	13.21	5.00
"Sak piich" Mayan	28	28	.188	.934	6.06	6.95	5.00
Bursera simaruba	45	46	.155	.934	9.74	6.95	5.00
Lysitoma latistiquum	16	16	.236	.822	3.46	6.12	6.25
AAA BBB (Dead)	32	34	.145	.644	6.93	4.79	6.25
Vitex gaumeri	20	21	.151	.427	4.33	3.18	5.00
Sabal yapa	33	33	.121	.386	7.14	2.87	5.63
Caesalpinia gaumeri	15	15	.158	.325	3.25	2.42	3.75
Guetarda gaumeri	7	8	.198	.314	1.52	2.34	1.88
Lonchocarpus sp2	15	15	.142	.261	3.25	1.94	3.13
Gymnopodium floribundum	8	11	.149	.213	1.73	1.59	3.13
Ficus sp1	7	7	.169	.196	1.52	1.46	2.50
Leg UNK	12	12	.125	.151	2.60	1.13	3.75
Lonchocarpus sp.1	7	8	.149	.150	1.52	1.12	2.50
Chak te	3	3	.237	.135	.65	1.01	1.25
Thouinia paucidentata	5	5	.175	.134	1.08	1.00	1.88
Brosium alicastrum	3	3	.208	.124	.65	.93	1.25
Coccoloba sp1	2	2	.250	.114	.43	.85	1.25
Lonchocarpus rugosus	4	4	.165	.102	.87	.76	1.88
Fla UNK	3	3	.193	.099	.65	.74	1.25
Lonchocarpus castilloi	3	3	.172	.083	.65	.62	1.88
Lonchocarpus xul	5	5	.138	.076	1.08	.57	1.25
Hippocratea celastroides	2	2	.210	.075	.43	.56	.63
Cocotetinax reade	3	3	.165	.066	.65	.49	.63
Croton sp1	4	4	.133	.059	.87	.44	1.88
Nees sp1	2	2	.157	.041	.43	.31	.63
Gueberda gaumeri	2	2	.130	.028	.43	.21	1.25
Touhinia paucidentata	1	1	.150	.018	.22	.13	.63
Hampea trilobata	2	2	.100	.016	.43	.12	1.25
Bauhinia denticata	1	1	.130	.013	.22	.10	.63
Rub UNK	1	1	.130	.013	.22	.10	.63
Sapiti gaumeri	1	1	.130	.013	.22	.10	.63
Coccoloba spicata	1	1	.110	.010	.22	.07	.63
Jatropha gaumeri	1	1	.110	.010	.22	.07	.63
Myr UNK	1	1	.110	.010	.22	.07	.63
Lau UNK	1	1	.100	.010	.22	.06	.63
TOTAL: 38 species	462	474	.160	13.433			100.00



# Youth Summit – Mexico 2005





# Wildlife Studies





# Bats



- Mistnetting bats and digitally recording echolocations (species specific echolocations)
- Establishing records of bat species present
- Researching bat "niches" / role in habitat

# Migratory Birds



- Researching NH – MX species
- Inventories of resident and migratory species



# Student Field Projects ....



# "Getting to know you"



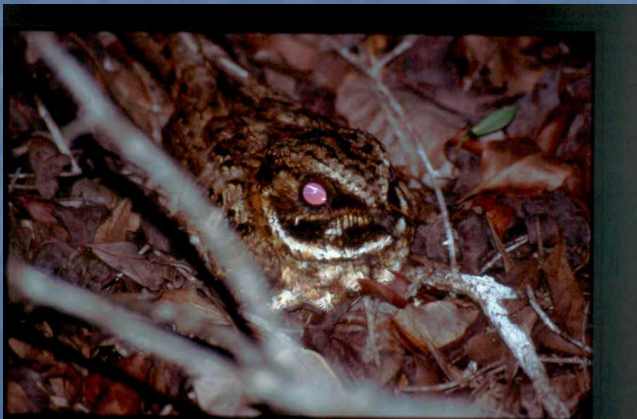
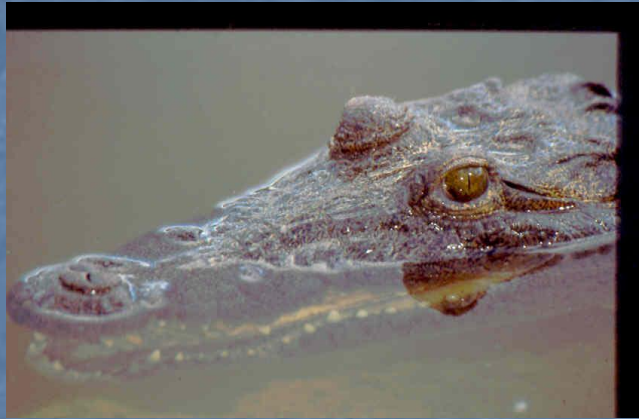
## LA CARRERA INCREÍBLE / THE AMAZING RACE

- 1. LA CARRERA DE LA ESPONJA - (TODO EL EQUIPO)**  
Formen una fila con el cabo grande (fondo de agua) detrás de la última persona y el cabo pequeño (cabeza delante de la primera persona). La persona al final toma la esponja, la llena con el agua del cabo grande, y todos la pasan hasta la primera persona, para que ponga el agua en el cabo pequeño. Regresen la esponja al final y sigan así hasta llenar el pequeño cabo de agua.
- 2. CARD GAME - (ENTRE EQUIPO)**  
A deck of cards are face down on the ground. 1 person at a time can run out to the deck and flip 1 card over to see if it is one of your team's symbol cards. If it is, bring it back and the next person can go. If it isn't, leave it there FACE DOWN and return to your team for the next player to go.
- 3. LA TORTURA - (2 participantes)**  
Los dos participantes escopicho corren hasta "la roca dura de tortura", donde otros compañeros les pegan 3 cables de cableado al pecho, los abrojan una cara oculta en las dos mejillas, y circulan sus labios con un lápiz. Entonces los dos regresan a la línea de salida.
- 4. BLANKET CARRY - (5 players)**  
The 5 players run down the course to the blanket. Each corner is grabbed by a player. The 5th player gets in the middle of the blanket and is carried back to the starting line.
- 5. SEMILLAS DE PALARO - (1 participante)**  
El participante corre hasta la pila de semillas y busca la moneda (un centavo) escondido dentro. Toma la moneda y regresa a la línea de salida.
- 6. GUM ART - (2 players)**  
The 2 players run down the course to the gum, index cards and toothpicks. The two players chew all the gum and use the toothpicks to make a heart on the index card. The heart art must then be returned to the starting line.
- 7. SILBIDOS - (1 participante)**  
Finalmente, mandan a un participante al cabo de agua, donde mete su cabeza en el agua para agitar el alfiler. El primer equipo que salte desde la línea de salida es el equipo ganador!





# Species Inventories



# Remote Camera





# Student Work



# Writing the Youth Accord





# “Going Public”





“In the end, we will  
conserve only what we  
love, we will love only  
what we understand, we  
will understand only what  
we are taught.”

Baba Dioum,  
Sengalese Conservationist



# Muchos Gracias!

Without the support of the all those who believe, HabitatNet would be "grounded".

Thank you!!

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