**Objective:** Document the changes in biological groups relevant to the ecology of tropical forests in Mexican Biosphere Reserves.

**Researcher information**

Name:

1. Academic degree:
2. Expertise area:
3. Biological sex:
4. Work address:
5. Email:
6. Phone number:
7. Beginning year of work at the reserve:
8. Please qualify your knowledge about the reserve from 1 to 10 (being 1 the lowest and 10 highest):
9. How long have you worked at the reserve?

**Information about the reserve**

1. Name of the reserve:
2. Name of the research station in the reserve:
3. Is your study area inside the reserve?
4. If you answered **yes** to the previous question please skip to question number 18, otherwise follow to question 14
5. Please, describe the specific locality of your study area and its position regarding the reserve (i.e., northward, southward, eastward, westward, etc.)
6. What is the nearest distance between your study area and the limit of the reserve?
7. What is the size (in ha) of your study area?
8. Please, provide the elevation range of your study area.
9. If we draw a radius of 3km from your study area, would it mostly fall within the reserve?
10. In your opinion, how good are the protective actions in the reserve?
11. Has the protection status of the reserve changed during your study period? how?
12. If you have an additional comment please write it here:

**Part I: Changes in plant and animal communities**

We kindly reminded the participants that they are free not to answer any questions for which they believe to have insufficient knowledge on the subject.

Please provide details regarding the change in each section as well as its possible promoters.

In the last 3 decades, have any of the following groups changed in their total abundance or species richness values (native only) in their study area associated with the corresponding reserve?

Participants could choose among seven options about the degree of changes in species abundance and richness:

|  |  |
| --- | --- |
| **Descriptors** | **Range of change observed** |
| Strong decrease | More than 50% reduction |
| High decrease | Between 26-50% reduction |
| Small decrease | Between 6-25% reduction |
| No change | Changes between -5 a +5% |
| Small increase | Between 6-25% increase |
| High increase | Between 26-50% increase |
| Strong increase | More than 50% increase |

Additionally, the participants could choose among three levels of certainty to rate their knowledge in each question: speculation, good certainty, and high certainty.

***MAMMALS***

1. Top predators (e.g., jaguars, cougars, etc.)

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

1. Large, non-predatory mammals (e.g., tapir, deer, etc.)

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

1. Primates

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

1. Omnivorous/opportunistic mammals (e.g., peccaries, opossums, coatis, all> 1kg body weight)

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

1. Rodents (<1kg)

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

1. Bats

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

***BIRDS***

1. Understory birds (e.g. insectivorous birds dwellers of forest interior)

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

1. Large game birds (cracids, guans, curassows, pheasants)

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

1. Large frugivorous birds (e.g., toucans)

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

1. Raptors (e.g., eagles, hawks, falcons, owls)

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

1. Small nectarivorous birds (e.g., hummingbirds)

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

***AMPHIBIANS AND REPTILES***

1. Stream-dwelling amphibians

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

1. Terrestrial amphibians

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

1. Lizards and large reptiles

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

1. Venomous snakes

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

1. Non-venomous snakes

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

***TERRESTRIAL INVERTEBRATES***

1. Light-loving butterflies

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

1. Army ants (driver ants)

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

1. Leaf-cutter ants

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

1. Dung beetles

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

1. Disease-vectoring invertebrates (e.g., mosquitoes, sandflies, ticks)

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

1. Other groups

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

***PLANTS***

1. Large-seeded species (shade-tolerant trees, climax species)

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

1. Pioneer species

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

1. Lianas/Climbing vines (predominantly light-loving)

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

1. Epiphytic plants (e.g., orchids, bromeliads, ferns)

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

1. Other groups

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

***GENERAL GROUPS***

1. Migratory species (e.g., birds and mammals, frugivores or nectarivores)

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

1. Ecological specialists (e.g., foraging specialists, species with complex mutualism)

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

1. Species dependent on tree cavities (e.g., parrots, possums, bats)

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

1. Exotic animals (not native)

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

1. Exotic plants (not native)

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

1. Human diseases (e.g., dengue, malaria, leishmaniasis, Chagas, Chikungunya)

|  |  |  |
| --- | --- | --- |
| Abundance: | Richness: | Certainty level: |
| Details on changes: | | |
| Potential drivers: | | |

**Part II: Additional information**

In your opinion, what are the main threats in your study area? Could you identify a possible solution?

1. First biggest threat:

Possible solution:

1. Second biggest threat:

Possible solution:

1. Third biggest threat:

Possible solution:

1. Could you please recommend someone else to participate in this survey?
2. Are you interested in continuing to be involved in this study and participate as a co-author of the publication

Comment:

1. Please provide significant references on the described changes documented in the survey

|  |  |  |  |
| --- | --- | --- | --- |
| Authors names | Publication title | Journal | Year |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**Your collaboration is appreciated, we remain at your disposal for any comment.**