Proposal Status | MAIN

Organization: University of Florida

Review #3

Proposal Number:	1754741
NSF Program:	POP & COMMUNITY ECOL PROG
Principal Investigator:	Bruna, Emilio M
Proposal Title:	SG: Are there synergistic effects of habitat fragmentation and drought on tropical plant demography?
Rating:	Multiple Rating: (Very Good/Good)

REVIEW:

In the context of the five review elements, please
evaluate the strengths and weaknesses of the proposal with respect to intellectual merit.

Strengths:
The proposal was clear and well-written, and the research would be relevant to predicting response to both drought and fragmentation for the species of interest. The use of an innovative tool (IR photos) to quantify soil/leaf temperature is exciting.
Strong data management plan

Weaknesses:
It is unclear at which level the researchers plan on replicating the study. They have 5000 plots but spread out across continuous (n=6), 10ha (n=3), and 1ha (n=4) fragments. If researchers plan on viewing replication at the plot scale, that could be considered psuedoreplication and if they plan on using the larger scale, there may not be enough replication for statistical power. It's unclear what the plan is which makes it difficult to assess statistical feasibility.

Beyond the hypothesis that droughts and fragmentation are bad for plant demography, there weren't really specific predictions to be tested. This meant the opportunity to formalize predictions about some of the microsite environmental differences was missed.

It's not clear that more demographic or environmental data are necessary to answer the proposed questions, making this seem more like a synthesis. Therefore the proposed work may be better suited for NCEAS or SESYNC.

It's unclear how demography of this single species is applicable more broadly, making the potential impact of the research as written limited.

In the context of the five review elements, please
evaluate the strengths and weaknesses of the proposal with respect to broader impacts.

Strengths:
Training of students, establishing collaborations, and establishing modules for a local museum.

Weaknesses: None noted.

Please evaluate the strengths and
weaknesses of the proposal with respect to any additional solicitation-specific review criteria, if applicable

Summary Statement

The researchers seek to use population viability modeling for an understory plant species to test the effects of drought on population viability in fragmented and unfragmented landscapes in the tropics (testing the fragmentation-drought hypothesis). Authors will capitalize on an existing long term demography dataset and pair it with environmental variables from available datasets and measured by the researchers.

Back to Proposal Status Detail

National Science Foundation
2415 Eisenhower Avenue, Alexandria, Virginia 22314, USA
Tel: 703-292-5111, FIRS: 800-877-8339 | TDD: 703-292-5090