The (Ecological) Tribe Has Spoken: Investigating the Applications and Limitations of Non-Documentary TV Shows as a Tool for Studying Biodiversity

Supplemental Information 1: Background README File

Christopher Crowder[1,2], Thabisa McAnyana[3], Geoffrey Cook[1]

[1]Department of Biology, University of Central Florida

[2]Wildlife Division, Nebraska Game and Parks Commission

[3]Biology Department, Nebraska Wesleyan University

Corresponding Author:
Christopher Crowder – CrowderFishScience[at]gmail.com

Date:
November 6, 2025

1. Overview

This README file provides an overview and description of the supplemental information associated with the manuscript titled **The (Ecological) Tribe Has Spoken: Investigating the Applications and Limitations of Non-Documentary TV Shows as a Tool for Studying Biodiversity.** The supplemental file includes a dataset that support the findings presented in the main text.

2. File List

File Name	Description and Notes	File Type
Survivor_Supplemental1_BackgroundREADME.pdf	This file – providing context and additional information.	PDF
Survivor_Supplemental2_LMDataForIdentifiedSpecies.xlsx	Full linear model results for all taxa that could be identified with notes regarding invasive or IUCN red list status.	Excel spreadsheet
Survivor_Supplemental3_FiguresAndTables.pdf	All the figures and tables that are also in the manuscript with the additional supporting figures and tables that were not presented in the text.	PDF

3. Data Origin, Availability, and Additional Resources

All data were collected by viewing seasons 33-46 of Survivor. All animals that could be identified to a specific family, genus, or species, are listed in the Linear Model excel document. This document lists the organism's common name, scientific name, total abundance observed over the 14 seasons, and the number of different years the organisms observed. The next columns have linear model results including the intercept, slope, and R^2 value. The last column makes note if the taxa is considered invasive or has a status with the IUCN red list. A cleaned-up

database of all observations, including those of animals we could not identify will be made available upon reasonable and agreeable request. Please contact corresponding author.

Data Structure:

The following variables can be found in the "Survivor_Supplemental2_LMDataForIdentifiedSpecies" excel file:

Variable Name	**Description**	**Unit / Type**
Common Name	The common name of the taxa.	Text
Scientific Name	The scientific name of the taxa.	Text
Abundance	Total abundance of the taxa observed over the course of the footage reviewed	Integer
Number of Years	The number of different years that taxa was observed.	Integer
Linear Model Intercept	The intercept from the linear model.	Integer
Linear Model Slope	The slope from the linear model.	Integer
R2_value	The R^2 value from the linear model.	Integer
Invasive or IUCN?	Note if the taxa is considered invasive or has a status on the IUCN red list.	Text

Missing Data:

Please note that some linear model results have "NA". This is because the slope is undefined or there was no variation in counts resulting in zero degrees of freedom leading to an R^2 value that cannot be computed. If there is no text noting invasive or IUCN status, then we did not find evidence that particular taxa was considered invasive or had a status on the IUCN red list.

4. Analysis Tools

We conducted our analysis using the following:

- R (version 4.5.0 “How About a Twenty-Six”), with the following package:
    - Vegan (version 2.7-2) for diversity and species accumulation curve: https://cran.r-project.org/web/packages/vegan/index.html
    - Ggplot2 (version 3.5.2) for graphing: https://cran.r-project.org/web/packages/ggplot2/index.html
    - Dplyr (version 1.1.4) for data handling: https://cran.r-project.org/web/packages/dplyr/index.html
- Operating systems: Windows 11 and macOS Ventura

5. Additional Supporting Text

Additional details regarding selection of *Survivor* as a date source: To potentially establish a dataset to allow temporal analysis, we evaluated television programs that filmed in the same locations at generally the same time for several years. The only easily accesible television program that met this requirement, as well as requirements noted in the manuscript, was Survivor season 33 to 46. We did not include more television shows due to the amount of time required to collect these data.

Additional details regarding invasive and IUCN listed species: Of the species identified, there were eight species that have been classified as invasive: Yellow Oriental Paper Wasps (*Pycnonotus cafer*, n=304); Goats (*Capra aegagrus hircus*, n=21); Polynesian Rat (*Rattus exulans*, n=15); Red-vented Bulbul (*Pycnonotus cafer*, n=11); Common House Gecko

(*Hemidactylus frenatus*, n=9); Common Myna (*Acridotheres tristis*, n=5); Cane Toad (*Rhinella marina*, n=4); and Coconut Rhinoceros Beetle (*Orcyctes rhinoceros*, n=2). Additionally, several International Union for Conservation of Nature (IUCN) red listed species were documented in the NDTV footage (2024). There were nine near threatened species including Tawny Hermit Crab (*Coenobita rugosus*; n=83); False Killer Whale (*Pseudorca crassidens*; n=8); Fiji Green Emo Skink (*Emoia concolor;* n=3); Masked Shining Parrot (*Prosopeia personata;* n=3); Crimson Shining Parrot (*Prosopeia splendens;* n=2); Fiji Tree Frog (*Cornufer vitiensis;* n=2); Tridacna Giant Clam (*Tridacna spp.;* n=2); Fiji Bicolor Foxface (*Siganus uspi.;* n=1), and the Fijian Swallowtail (*Papilio schmeltzi;* n=1). Nine vulnerable species were observed: Bull Shark (*Carcharhinus leucas*; n=66); Whitetip Reef Shark (*Triaenodon obesus*; n=42); Blacktip Shark (*Carcharhinus limbatus*; n=33); Manta Ray (*Mobula alfredi*; n=15); Coconut Crab (*Birgus latro*; n=9); Blacktip Reef Shark *(Carcharhinus Melanopterus*; n=5); Fin Whale (*Balaenoptera physalus*; n=2); Indo-Pacific Sergeant Major (*Abudefduf vaigiensis*; n=2), and Tawny Nurse Shark (*Nebrius ferrugineus*; n=1). Three critically endangered species were observed: Hawksbill Sea Turtle (*Eretmochelys imbricata*; n=43); Fiji Petrel (*Pseudobulweria macgillivray*; n=3), and Great Hammerhead (*Sphyrna mokarran*; n=1). Finally, 55 South Pacific Iguanas (*Brachylophuss spp.)* were observed, which are either the endangered Lau Banded Iguana (*Brachylophus fasciatus)* or the critically endangered Fijian Crested Iguana (*Brachylophus vitiensis).*