Introductory e-mail:

As I mentioned previously, the next step in our research with our pig GPS database is to develop resource selection function models based on nation-wide GPS data. The goals of this project are: 1) to quantify the probability of pigs choosing particular landscapes and the factors affecting that choice so we can predict where they are most likely to establish, and 2) to develop resource selection function theory for application with big data spanning a wide-range of habitats.

Since our first two projects, much more data has been collected so our group has grown, and many of you have related interests. I thought it would be a good idea for us to get on a call to discuss the level of involvement everyone would like to have with this. Some of you have mentioned you’d like to have your own side projects about this, other would like to be intimately involved with the analyses, and other would just like to provide valuable feedback on the papers that emerge. Thus, I propose for those of you who mainly want to provide feedback on the papers, it’s up to you whether you’d like to join the kick-off call. In this call, I mainly want to discuss roles (level of engagement) but also get people’s thoughts/expertise on covariates they think are most important to explore (anything we didn’t think about in Kay et al. attached that could be useful?). For those who want to be involved in analyses along the way, we will likely set up regular calls. For those who would like to join the kick-off call, please fill out the following doodle poll: <https://doodle.com/poll/4czs5kuhw7shr9d2>. IF YOU DO NOT FILL THIS OUT I WILL ASSUME THAT YOUR PREFERED ROLE IS AT THE STAGE OF MANUSCRIPT PREPARATION AND WE WILL ONLY BE IN TOUCH ONCE WE HAVE A STRONG SET OF RESULTS AND DRAFT MANUSCRIPT. If you do not want to be involved at all, and would like to withdraw your data, please let me know that as well.

Just to update you about personnel on this project, the people who are doing all the heavy lifting on this will be Mark Wilbur (a new postdoc starting in my group in Dec.) and Sarah Chinn, a PhD student at UGA with Jim Beasley (starting now). Mark will be focused on developing RSF methodology for big data. Sarah will be focused on the pig-specific biological questions.

I’m very excited about how far we’ve come with this GPS database! I think there is a lot of valuable inference that can be made from it. If you have any additional data you’d like to contribute we’d love to include it as we are now doing updates.

**RSF initial coordination meeting – 10/11/2017**

Attendance: Kim Pepin, Nate Snow, Justin Fischer, Sam Wisely, Jim Beasley, Sarah Chinn, Lindsay Holmstrom, Ryan Brook

Missing (but want to be involved in the details): Kurt Vercauteren, Ryan Miller, Gary Roloff, Raoul Boughton

Missing (only want to be involved once there is a mature product): John Kilgo, Tyler Campbell, Steve Ditchkoff, Susan Cooper, Steve Hartley, Christie Wyckoff, Mark Lutman (?)

Will provide support for meteorological data: Andy Monaghan

**Plan forward**

1) People who haven’t shared their data yet will send it to Kim or the FTP site (details below; **FYI it is easiest to use if you set up a shared drive on your computer in windows explorer; I provided steps on how to do that below**).

Please also provide: a) a summary file which lists your pig individual ids with any pertinent individual-level data (sex, age, collaring coordinates, etc), b) a text file describing how the data can and can’t be used (this can be brief), and c) the collar data for each individual (including metadata such as collar ID, DOP, temp, etc if you have it).

2) Sarah will compile the data into one database. She will be in touch with individuals as needed to clarify questions so the data can be properly annotated and/or truncated. She will also start thinking about covariates – we will have a group discussion in a few months about this (mid-Dec.? – depending on when Sarah is ready).

3) Mark Wilbur will start in late Dec. He will begin by summarizing the data descriptively so we can think about the best approach to account for variation in fix rates, etc. across studies. We will have a meeting about this once he has a descriptive data summary together (early spring?).

**Timelines**

* 1 year for a draft manuscript on RSFs for pigs in USA/Canada(?); Potential objectives (to be refined by Sarah): to quantify how RSFs change as a function of latitude; to predict where pigs are most likely to establish or spread the fastest when we consider the fact that they prosper in northern climates too; to identify areas where the populations are most likely to be more connected and thus present riskier conditions for disease outbreaks.
* 1 year for a draft manuscript on the methodological advancements for modelling RSFs across large geographic gradients with big data; Objectives to be refined by Mark once we delve into the modelling challenges.

**Methodological complexities to discuss in detail in future calls**

We will structure each group call to address one or more specific challenges that come up. Examples people have already brought up are below. Sarah and Mark will schedule calls about these as appropriate.

* How to best account for variable fix rates and collaring lengths among studies
* Meteorological conditions that vary geographically; how to define them across such a broad geographical gradient in a meaningful way
* Different objectives among studies – i.e., how does manipulation of pig movement affect RSF, how can we account for it?
* Pig management: how can best structure the models so they are useful to management

**Summary of data and role overview from contributors on this initial call**

Nate – 30-40 collars; 2016-17 (7-9 months each year) from south central TX; using data to look at how pigs have moved around baits sites; would like to be involved in regular meetings

Justin – geographer at NWRC; 24 collars in MO (2011-2012) and 16 collars Judas pig (2016-17 mix of males and females from several states: IN, OR, LA, NM, SC, CO); collared for 3-4 months; will provide GIS support

Sam – ~12 collars for 3 months at MEARC FL in 2014; Raoul now has a lot more; interest in disease ecology; predicting disease risk based on landscape

Jim –20-30 collars in SC Savannah River Site biased towards females; interested in wildlife spatial ecology

Sarah – new PhD student in Jim’s lab – started in Aug.; will compile data into one database; will annotate data and

Lindsay –50 pigs across CA (10 weeks in length); 3 ecoregions; has done movement analysis; RSF; habitat connectivity; least-cost path modeling; interest in GIS and spatial epi for TADs

Ryan –30 collars since 2015 in Canada (3 days to 1 year length); Developing distribution map for Canada based on other types of presence data; Creating RSF at coarse scale for Canada; Interested in overlap with livestock; home ranges much bigger here; transboundary risk (large population that could move south)