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chick foraging.pdf

[Le Fer et al. 2008](https://platteriverprogram.org/system/files/2021-08/Le%20Fer%202008%20PP%20chick%20forage%20growth%20and%20survival%20study.pdf)

My comments are relative to prioritization.  At least for the plover hypothesis.  So here they are.

The science plan reference to the foraging study is incorrect that study found way more bugs at sandpits than river sites.  But more importantly it did not find any indication that there is a forage shortage anywhere.  Quite the opposite in fact.  However, it requires more than reading the abstract to figure it out.  First they banded 89 chicks from 31 nests on sandpits of which 32 survived to fledge.  Only one chick was found dead with no apparent cause.  Given they had people on these sites daily and often several times a day doing nest searches, banding, foraging observations and forage sampling if plover chicks were starving to death they would of found more.  They also made chicks move a lot which would of increased energy needs, also they were putting 4 bands on each chick as they hatch, which is a pretty significant amount of extra weight for a day or two, again extra energy needs, if chicks survive that then they should fine in normal circumstances.  Finally table 17 would indicate that areas where plovers had foraged for an hour had less small insects than random sites 75 meters away.  There are many ways to interpret that but one is the birds do reduce insect numbers but not to zero and they would not have to move very far to have additional forage resources.  Bottom line anybody can propose any hypothesis they want but we should be looking at all available data to see just how much uncertainty there is and in this case I do not think it is very much.  The idea that a pair of adult plovers would choose a nest site with inadequate forage resources is a pretty crazy if the goal is to pass on their genes.  I have also attached a paper that looks at foraging in multiple different habitat and concludes that basically that plovers can find adequate forage under various conditions.

The other comment is about resting sites this is a concept that I personally have never heard discussed.  Just exactly how does that work?  If you rest a site for 3 years out of 10 do you then have to achieve a 30% higher production in the years that it is available to achieve the same recruitment into the population?  Without knowing those things I could not rank those hypothesis.

The final big one is what is you can not test a hypothesis unless you know what it is you are testing.  In the case of plovers “sufficient long-term reproductive output”  will have to be defined and then it becomes a management objective and the participants in this Program did not sign on to a Program with a specified fledge ratio.  They signed on to a Program with specified acres.   You can state this hypothesis such that fledge ratios are not implied.  Hypothesis - Predation reduces piping plover productivity.  Null Hypothesis – Piping plover productivity will not increase over the long term with predator management.   There have been numerous studies which attempted to look at fledge ratios and model what was needed for long term population stability.  Table 1 in Appendix A of this report [https://pubs.usgs.gov/of/2020/1152/ofr20201152.pdf [pubs.usgs.gov]](https://urldefense.proofpoint.com/v2/url?u=https-3A__pubs.usgs.gov_of_2020_1152_ofr20201152.pdf&d=DwMFAg&c=5KGpHRm-YFpCcO8ia63njg&r=xrA05Xgo_k81FpvnuZP55REOK2zifYc-i0zn8BxNG54&m=1L1u1daswBCgyCitRHMgpvOFaHA8Zpvy0Jwwav2Shhs&s=uXjOIJEbZyeD4n9qkGw2VH_5LYCtJGAW0Incg0E1dUo&e=) lists them.  I come to two conclusions 1) those models must be wrong or the studies underestimate fledge ratios, 2) fledge ratios on the Platte are right in line or even towards the upper end with all the other studies out there.  A very important issue if we are going to make the birds go somewhere else to nest why we “rest” our sites.

Have a good weekend!