National Wildlife Disease Program

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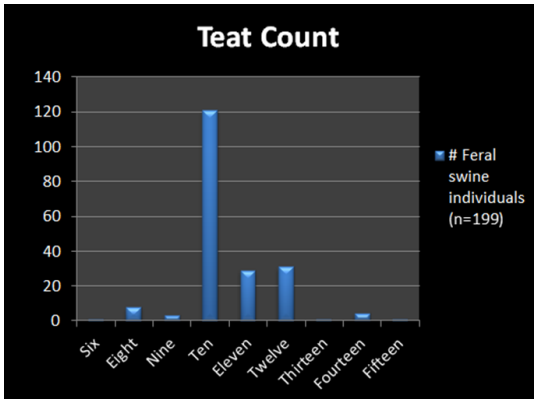
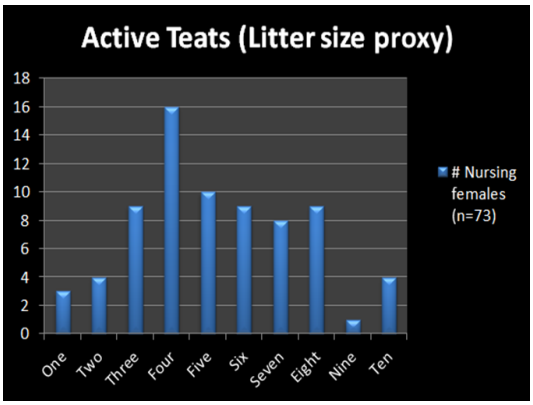
Program Activity Report (PAR)

Phenotypic traits observed in U.S. feral swine

Feral swine population and disease management will benefit from a better understanding of the types of pigs constituting free-ranging populations throughout the U.S. Feral swine populations appear to represent a genetic continuum from domestic breeds to relatively pure Eurasian wild boar (EWB). This genetic variation potentially manifests in a diversity of behaviors, fecundities, and other life history traits important for survival and, ultimately, the damage feral swine cause. Domestic swine for example, have larger litter sizes than EWB (8-10 vs. 4-6 piglets). When recently escaped or released domestic swine breed with feral swine, these heritable traits may translate to increased population growth. Also, domestic swine can reproduce year round whereas EWB exhibit seasonal anestrous periods that can be exploited for toxicant baiting or population reduction campaigns. Thus, knowledge of the genetic ancestry of feral swine across the U.S. will prove useful in fine tuning population and disease management efforts as well as identifying translocation events.

Molecular genetic techniques provide insight on hybridization and origins of feral swine populations. This avenue of investigation, while indispensable, is time consuming, expensive, and may not be warranted in all scenarios. Readily identifiable phenotypic characteristics that correlate to the presumed genetic diversity seen in feral swine populations across the U.S. would inform management on a real-time basis. One heritable metric the NWDP has been considering is the use of mammary gland (teat) counts on female feral swine to see if there is sufficient variation in number and if the observed values correlate to the hybrid spectrum of feral pig genetics. A number of WS operational programs and wildlife disease biologists have been collecting paired genetic samples and teat count data. The number of teats actively being nursed (typically one per piglet) is also recorded to help determine surviving litter sizes and to document reproductive activity throughout the year.





An initial look at the teat count data from 12 states reveals a mode of 10 teats/female, ranging from six to 15 teats with asymmetry (odd numbers) occurring in 17% of individuals. The number of active teats ranged from one to 10 per nursing female. The majority (84%) of females appeared to have between three and eight surviving piglets at the time of capture. When the study is completed, these data will be correlated to molecular results to determine if teat count morphology can provide a low-cost, rapid method of classifying the genetic ancestry of feral swine.

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The original artwork on this page was created by the National Wildlife Disease Program's Erika Kampe and Sarah Goff