PZP Immuocontraception in White-tailed Deer
Dr. Allen Rutberg, Tufts Center for Animals and Public Policy
March 2011

**PZP safety.** Since 1993, approximately 2000 deer in seven states have been treated with the PZP (porcine zona pellucida) immunocontraceptive vaccine. The only documented side effect of PZP treatments is extension of the mating season. There is no evidence that this causes any harm to does, fawns, or bucks.

**Effectiveness of the one-shot PZP vaccine.** A one-treatment PZP preparation consisting of controlled-release PZP pellets plus a PZP/adjuvant emulsion reduced fawning rates in deer on Fripp Island, SC, by 95% in the first year after treatment and by 67% in the second year after treatment. Although these vaccinations were given by hand, we can now deliver the treatment directly by dart, as either a priming dose or a booster.

**Population effects.** Suburban deer populations have been stabilized and reduced over time by 35-50% at the National Institute of Standards and Technology (NIST) and two other field sites. The most dramatic reduction so far has occurred on Fripp Island, SC, where use of one-treatment PZP vaccines has been associated with a population reduction of 44% in five years.

**Deer-vehicle collisions.** DVC’s reported at NIST have declined from a peak of 44 in 1998-99 down to 0-7 per year since 2006. Although many factors are at play, the reduction in DVC’s is directly correlated with the reduction in deer population size.

**Federal regulatory status.** In September 2009, HSUS filed an EPA registration application for use of PZP as a contraceptive for wild horses and burros. Approval is expected later this year; future applications will seek to extend the EPA registration to deer.

**Cost and effort.** Cost of capture and initial treatment of deer at NIST has averaged approximately $261/deer, with subsequent remote delivery of booster vaccines costing approximately $88 per deer. Use of the one-shot treatments described above will increase the cost per vaccination, but reduce total labor costs by reducing the frequency with which deer have to be treated.

Contact Information: allen.rutberg@tufts.edu