I. Responsibilities

A. Principal Investigator (PI) – the PI is responsible for:
   1. Submitting a protocol for approval of a breeding colony by the IACUC, including providing justification of the breeding colony for research/scientific purposes.
   2. Managing their own breeding colony under their own IACUC protocol, and ensuring that the number of animals bred is maintained at the minimum number of animals needed for research purposes. *Pis may only use animals produced by their breeding colonies for their own research protocols.*
   3. Ensuring that their breeding colonies follow one of the schemes outlined in this document or fully describe their own breeding scheme in their breeding protocol.
   4. Maintaining records of animal numbers and number of animals produced, and maintaining records of transfer of animals from a breeding protocol to an experimental protocol. Records must be accessible to the IACUC upon request.
   5. Oversight of appropriate colony management, timely weaning of litters and prevention of overcrowded cages;
   6. Ensuring a communication mechanism is in place to be able to receive timely communications from husbandry and veterinary staff (e.g. voicemail that is routinely checked and/or a number that is routinely attended)
   7. Ensuring that overcrowded cages are separated and the available space for new cages in allowed within the Animal Care Facility. The PI should not set up breeding animal cages unless there is available space for the cages of weaned animals. If adequate vacant spaces are not available within the same housing room, the PI must discuss options with the ACF Manager.
   8. Submitting Quarterly Breeding Colony Reports prior to the March, June, September, and December IACUC meetings. The purpose of these reports is to provide the IACUC with an accurate and total account of animals at each reporting period. Reports should indicate the total number of animals a PI has in their colony, the total number bred in a given month, and they must include and describe when any animals are transferred from a breeding protocol to another experimental protocol. See Section IV. Forms.

B. ACF Staff – The ACF Staff is responsible for daily observation of breeding cages for newborn animals, litters that are ready for weaning, separating of females and a general check of the animals’ health and overall condition.

C. IACUC – The IACUC is responsible for:
   1. Review of Breeding Protocols and consideration of the scientific/research necessity of the colony
   2. Semi-annual inspection of breeding colonies
3. Evaluating the progress of the breeding protocols to ensure that there is not an excessive number of animals being produced without a corresponding research need. To facilitate this evaluation, the IACUC will review the PI’s Quarterly Breeding Colony Reports.

II. Breeding Schemes – These are the recommended schemes of the IACUC. Any deviation from these schemes must receive prior approval from the IACUC.

A. Monogamous pair - One male and one female are housed together for mating
   1. Optimal for strains with pups that are small and often stay with dam for extended duration
   2. They are not separated when the female becomes pregnant or delivers the pups
   3. Litters are born approximately 21 days apart
   4. Weaning should take place a minimum of 18 days after delivery, but no later than 28 days after delivery
   5. The litter must be weaned prior to birth of new litter
   6. For strains that require pups to be weaned later than 21 days of age, female must be separated to avoid overcrowding

B. Trio Breeding - One male and two females are housed together for mating
   1. Mice
      a. Optimal for strains with small litter sizes (< 6 pups per litter)
      b. Both lactating females may be left in the same cage (+/- the male) only if both females have small litters (no more than 12 pups combined)
      c. Weaning should take place a minimum of 18 days after delivery, but no later than 28 days after delivery - preferably prior to the birth of new litters
      d. For strains that require pups to be weaned later than 21 days of age, both females must be separated to avoid overcrowding
   2. Rats
      a. One of the females must be separated when pregnancy is confirmed, before delivery of pups, to avoid overcrowding. One of the lactating females may be left in the same cage with the male
      b. Weaning should take place a minimum of 18 days after delivery, but no later than 28 days after delivery - preferably prior to the birth of new litters
      c. For strains that require pups to be weaned later than 21 days of age, both females must be separated to avoid overcrowding

C. Harem Breeding
   1. Mice
      a. One male and up to four female mice are housed together for mating
      b. Pregnant females must be separated into another cage before giving birth to avoid overcrowding. No litters should be born into cage with harem
   2. Rats - This breeding scheme is not recommended for rats due to increased risk of overcrowding and impact on animal welfare. It will only be permitted under specific circumstances and must be justified in the animal use protocol.
III. Weaning - Weaning refers to removing a pup from its home cage. The weaning schedule must be fully described in the IACUC breeding protocol.

A. Generally, laboratory rodents are weaned when they are 21 days old, but they can be weaned anywhere from 18 to 28 days old. Weaning age may vary depending on weanling size, weight and maturity; some strains such as transgenics benefit from being weaned later than 21 days of age. Growth of pups can be supported by placing a dish at the bottom of the cage containing moist chow (pellets of feed that are soaked in water).

B. For colonies where mice are routinely weaned after 21 days of age, the female must be separated from the male prior to giving birth as to avoid overlapping of gestation and overcrowding

C. Upon weaning, pups may be separated as follows:
   1. Male and female pups separated by sex into cages
   2. Housing a maximum of 5 mice up to 25g or 4 mice over 25g
   3. With rats, it may be best to separate the pups 4 per cage, if possible. This will aid in preventing over crowded caging as well as single housed rats once they have reached full maturity and over 400g. See cage density chart below for more information. Also, see IACUC Cage Density SOP.

IV. Forms
   Quarterly Breeding Colony Report Template