
Bid Specifications for Adult Female Elk Collars, Vaginal Implant Transmitters, & Calf Collars.

Jeremy Banfield-Elk Biologist

Avery Corondi-Elk Biologist Aide

Chris Rosenberry-Deer and Elk Section Supervisor

Must have Order Received by December 1, 2019, no later.

The Pennsylvania Game Commission is collecting bids for fifty (50) Iridium adult GPS radio-collars, 50 vaginal implant transmitters, and 50 expandable neonate collars to be used on Rocky mountain elk (*Cervus canadensis*).

Each **Adult GPS Radio-Collar** must:

- Be designed for use on free-ranging rocky mountain elk, and upon request, be supported with examples of their use on current elk studies.
- Use GPS technology to collect accurate locations and transmit location data on a predetermined schedule using an Iridium satellite connection.
- Store internally all location, activity, and temperature data collected during at least 2 years of continuous use.
- Have two-way communication via Iridium for changing GPS schedules.
- Have a battery life of approximately 2 years with 1 GPS fix every 13 hours, 1 GPS fix per Iridium message (e.g., once per day), and a VHF beacon on for 20 hours per day.
- Contain a VHF beacon.
- Contain a mortality sensor.
- Contain a 3-axis activity sensor.
- Contain a temperature sensor.
- Have all wires and antennas integrated within the collar belting or housing.
- Contain 2 complete sets of attachment hardware per collar (plates, bolt stems, nuts).
- Be compatible with Vectronic GPS Plus X Collar Manager software.
- Be compatible with Vectronic Drop-Off Manager software.

Each **Vaginal Implant Transmitter** must:

- Be designed for use on free-ranging rocky mountain elk.
- Communicate with the respective adult GPS radio collars to notify researchers of parturition events.

Each **Calf Radio-Collar** must:

- Use GPS technology to collect accurate locations and transmit location data on a predetermined schedule using a Globalstar satellite connection.
- Contain a VHF beacon.

- Contain a mortality sensor.
- Communicate with the respective adult GPS radio collars to notify researchers of separation events.

Bids should also include all costs associated with use of the collars for 2 years, including any activation fees and data transmission plans.

All radio-collars must be received at Harrisburg, PA by December 1, 2019.

Questions concerning radio-collar specifications should be directed to Jeremy Banfield.

(814) 279-4542

jebanfield@pa.gov