

Standard Operating Procedures

#AU 0021 RFID and PIT tags for studies of wild birds

Materials:

Split-ring RFID tags
Bird Seed
Bird Feeder
RFID reader

Canadian Wildlife Banding Permit is required for capture and banding of wild birds.

Procedure (RFID tag application):

Birds are captured following procedures in SOP#0002. They are first processed (see SOP #0003) then banded following SOP#0004. The bird will be held in the bander's grip: non-dominant hand, with the bird facing up, the head of the bird secured between the first and second fingers, and the body secured with the last 2 fingers. The leg to be banded is held extended and supported using the thumb and first finger. When an RFID band is applied, the CWS aluminum numbered band is placed on the left leg (SOP #0004). If identification of individuals using colour bands is required for the project, one colour band will also be placed on the left leg. On the right leg, the RFID band (manufactured by ib Technologies) is applied in the same way as for colour bands (SOP #0004) by using the band applicator which acts like a shoe horn; the band is opened and then the leg is inserted and the applicator is removed. For bird species where colour bands are not used, a plain grey band is used. For bird species where colour bands are also used, a coloured RFID band may be used to increase the number of possible band combinations (colours = pink, green, grey, white, black, orange, yellow).

Procedure (RFID feeders):

Feeders are equipped with RFID readers and antennae (see photos below). The raspberry-pi computer wired into the RFID reader will record the presence of feeding birds every second). This data is stored to 2GB SD cards, which are then downloaded and the data is uploaded to the animal nexus system (gaia.tru.ca:8080/animalnexus/). Depending on the focal species studied, the food may alternate and can include sunflower seed, mixed bird seed, nyger seed, cracked corn, or peanuts. Feeders can be filled regularly to be kept filled constantly or intermittently.

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RFID bands



A scrub jay wearing an RFID leg band. Note the size of the band (red circled) is not substantially larger than the leg bands already worn for individual identification

RFID feeders



Two examples of RFID reader and antenna systems at bird feeders. The antenna (below the perch) reads the number on the RFID band