



KRSP Database Appendix:

Explanation of Database Codes

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1. Coding general to all database tables

GRID: study grid

KL – Kloo

SU – Sulphur

AG – Agnes

JO – Jo

LL – Lloyd

CH – Chitty

RR – Rolo Road

BT – Blue Trailer

SUX/SX – Sulphur Extension

EN – Enema

FL – ?

2. Behaviour table

BEHAVIOUR: behaviour

0 = other (details in comments)

1 = feeding

2 = vocalizations

DETAIL: detail

0 = other (details in comments)

1 = animal material

2 = cone

3 = buds

4 = mushroom, truffle

5 = bark

6 = new cone

7 = willow leaves

8 = poplar buds

9 = bearberry flower

10 = sunflower seeds

11 = pollen cone

12 = wood (nestbox)

13 = new spruce needle

14 = PB on trap

15 = off aspen leaves

16 = bearberry berries

17 = off grass

18 = fireweed

19 = witches broom

20 = white scales on willow bark (red stuff inside)

21 = aspen catkin

22 = licking water off leaves

23 = lichen/fungus

24 = PB

25 = unknown material

26 = apple (e.g. from hare traps)

27 = willow buds (new in 2000)

28 = bark beetle larvae (new in 2002)

29 = insects (new in 2004)

30 = snow

31 = new mushroom

32 = feeding on truffle (observed digging up)

0 = other (detail in comments)

1 = rattle

2 = screech

3 = wheeze

4 = squeak

5 = bark

	6 = rattle-chew
	7 = buzz
3 = travelling	1 = in tree (2013 to 2020) 2 = on ground (2013 to 2020) Coding was possibly reversed prior to this
4 = resting	
5 = in nest	
6 = off territory	
7 = interaction with another squirrel	0 = with other squirrel (detail in comments) 1 = neighbour 2 = untagged sq. 3 = juvenile 4 = unidentified sq. 5 = mom 6 = sibling 7 = non-neighbour 8 = non-antagonistic (new in 2019)* 9 = antagonistic (new in 2019)*
8 = caching behave	0 = detail in comments 1 = cutting cones 2 = travel with mushroom 3 = travel with cone 4 = cache mushroom 5 = cache cone 6 = digging holes
9 = dead	0 = detail in comments 1 = terrestrial pred. 2 = avian pred. 3 = unknown pred. 4 = 'natural' death (from causes other than predation) 5 = unknown cause 6 = trap/handling/collaring death 7 = road kill 8 = planned euthanasia
10 = groom	
11 = play	
12 = foraging	1 = on ground 2 = in tree

3 = on trap
4 = in/on midden (new in 1997)

13 = out of sight
14 = nest building
15 = unknown – not visible but known where it is
16 = scent marking
17 = moving kids
18 = trapped off territory/not handled
19 = vigilant
20 = digging for truffles
21 = foot stomping
22 = mating chase (new in 1995)

0 = MMMC – multiple male mating chase (new in 2019)*
1 = SMMMC – single male mating chase (new in 2019)*

23 = suckling (new in 1997)
24 = investigating nest (new in 2019)*
25 = infanticide (new in 2019)*
26 = in trap (new in 2019)*
27 = sqrl not found – signal from radio collar could not be picked up (new in 2019)*
28 = off grid (new in 2019)*

**behaviours and details added as part of the mast year protocol in 2019*

MODE: how the data were collected

1 = cas obs – casual observation
2 = timed (not used after 1995; used in 2004 for map points taken at 3 min intervals)
3 = ad foc – adult focals, time budget
4 = telem – telemetry* (nest loc)
5 = juv foc – juvenile focal (new in 1994)
6 = juv foc-sq not found – juvenile focal attempted but squirrel not found (considered off territory, i.e., signal could not be picked up)
7 = ad foc-sq not found – adult focal attempted but squirrel not found
8 = juv pt loc- juvenile point location (new in 2004)
9 = map- mapping point (new in 2004)
10 = estus ch
11 = mid vis
12 = camera trap
13 = ad pt loc and follow – adult point location and follow (added in 2019 as part of the mast year protocol)

** this code used when:*

- focals were started but then terminated*
- behaviour is recorded when attempting to get a nest location (new in 1997)*
- rattle points within a focal which were not on a sample point*

3. Census table

SQ FATE: fate of the squirrel

2012 – 2014:

- 1 = defends/owns same midden as last census, this is the squirrel's main place of residence
- 2 = defends/owns midden that differs from last census, this is the squirrel's main place of residence
- 3 = does not own midden but defends an area which is the same as last census
- 4 = does not own midden but defends an area which is different from last census
- 5 = known to be present on the grid and alive at the time of census but has no known home
- 6 = squirrel defends an additional midden, formerly termed secondary midden (A separate record is entered for each midden of this nature. This information is only entered if there is good evidence of defence of the midden [e.g. territorial calling])
- 7 = juvenile seen but still sharing mother's midden (juvenile may be calling but does not have exclusive ownership of the midden)
- 8 = UTS – this fate can be replaced once the squirrel is captured and tagged
- 9 = present now but not present in the previous census (this could be a juvenile or a tagged squirrel that was not in the previous census)

2014 – June 2016:

Note – fates 1-8 same as previous census, fates 10 -13 replace fate 9

- 1 = defends/owns same midden as last census, this is the squirrel's main place of residence
- 2 = defends/owns midden that differs from last census, this is the squirrel's main place of residence
- 3 = does not own midden but defends an area which is the same as last census
- 4 = does not own midden but defends an area which is different from last census
- 5 = known to be present on the grid and alive at the time of census but has no known home
- 6 = squirrel defends an additional midden, formerly termed secondary midden (A separate record is entered for each midden of this nature. This information is only entered if there is good evidence of defence of the midden [e.g. territorial calling])
- 7 = juvenile seen but still sharing mother's midden (juvenile may be calling but does not have exclusive ownership of the midden)
- 8 = UTS – this fate can be replaced once the squirrel is captured and tagged
- 10 = defends/owns midden and not present in last census
- 11 = defends/owns area and not present in last census
- 12 = no known home and not present in last census
- 13 = defends/owns a new midden (midden not identified in previous census – added for May census 2016)

July 2016:

Note – fates 1, 7, 8 same as previous censuses

- 1 = status of squirrel unchanged from previous census and defends a midden (the same midden as previous census)
- 2 = status unchanged from previous census and squirrel did not defend a midden in previous census nor does it currently defend a midden (i.e. these are floater squirrels in the current and previous census – should be very rare)
- 3 = status changed from previous census (defends a midden but the midden is different from the last census or the squirrel did not defend a midden before but now does)
- 4 = not present in the previous census
- 5 = status changed from previous census (no longer defends the midden it previously defended nor does it defend any other midden – squirrel is alive but does not defend a midden, should be very rare)
- 6 = new squirrel and defends a midden (squirrel not present in previous censuses but not defends a midden, the NEW part does not refer to whether or not the squirrel was tagged before but rather that it had not been recorded in the census file before)
- 7 = juvenile still sharing mother's midden (juvenile may be rattling but does not have exclusive ownership of the midden – applies to autumn census only)
- 8 = UTS
- 9 = new squirrel but does not defend a midden (squirrel not present in previous census but now on grid and does not defend a midden)
- 10 = new squirrel AND new midden (squirrel and midden not present in previous censuses)
- 11 = squirrel also defends a secondary midden

2017 – Present:

Note – fates 1, 7, 8 same as previous censuses

- 1 = status of squirrel unchanged from previous census and defends a midden (the same midden as previous census)
- 2 = status changed from previous census (defends a midden but the midden is different from the last census or the squirrel did not defend a midden before but now does)
- 3 = status unchanged from previous census and squirrel did not defend a midden in previous census nor does it currently defend a midden (i.e. these are floater squirrels in the current and previous census – should be very rare)
- 7 = juvenile still sharing mother's midden (juvenile may be rattling but does not have exclusive ownership of the midden – applies to autumn census only)
- 8 = UTS
- 14 = new squirrel but does not defend a midden (squirrel not present in previous census but now on grid and does not defend a midden)
- 15 = status changed from previous census (defends a NEW midden, i.e. the midden was not present in the previous census)
- 16 = new squirrel AND new midden (squirrel and midden not present in previous censuses)
- 17 = status changed from previous census (no longer defends the midden it previously defended nor does it defend any other midden – squirrel is alive but does not defend a

midden, should be very rare)

18 = new squirrel and defends a midden (squirrel not present in previous censuses but not defends a midden, the NEW part does not refer to whether or not the squirrel was tagged before but rather that it had not been recorded in the census file before)

19 = squirrel also defends a secondary midden

20 = juvenile's sharing a midden – more than one juvenile actively rattling and defending the same midden (new in 2019)

4. Cones table

STATUS: degree of bark beetle attack

OK – not attacked, needles green

pGA – partial green attack: fresh beetle attack with only a few entrance holes, a few or no sap flows

GA – green attack: many sap flows, some needles are going yellow or red, no green needles are on the ground (attacked this year)

RA – red attack: needles are red, no green needles except on ground around base of the tree, some red needles also on ground (attacked previous year)

NGD – new grey dead: pretty much all of the needles are on the ground, still many branchlets attached and are quite bright (attacked 2 years ago)

GD – grey dead: all needles on the ground are old red needles, some of the branchlets attached have yellow bark

OD – old dead: old and dead for at least 10 years, no needles under tree, bark off of lower and some upper branches

5. Dbaadmums table

BR: breeding status

0 = no

1 = yes

2 = yes but no young (lactating then lost litter)

3 = yes, information missed

4 = yes, but babies died before they were big enough to be tagged (new in 1996)

5 = data missed, no idea if bred or not, usually used if never seen in a year but found in previous and following years (new in 1997)

6 = pregnant (determined by palpitation) or lactating but disappeared/died before found young (new in 1997)

7 = P2/P3 and then lost litter (new in 2000)

LN: litter number

5 = used when first capture usually RC = 3 and caught only a few times therefore no idea of litter number or what happens to kids, used in conjunction with BR = 3

FOOD: experimental manipulations

0 = control

1 = food add

2 = juv cross-fostered (new in 1999)*

3 = sibling cross-fostered (new in 1999)*

4 = food add + juv cross-fostered (new in 2000)*

5 = food add + sib cross-fostered (new in 2000)*

6 = wool add (new in 2000)*

7 = wool + food add (new in 2000)*

8 = control swap

9 = litter reduction

10 = litter augmentation

11 = Giberellin3 add (new in 2002)

12 = Giberellin10 add (new in 2002)

13 = food depletion (new in 2003)

14 = GC 0 mg (stress experiment 0 mg cortisol – sham; new in 2016)

15 = GC 8 mg (stress experiment 8 mg cortisol; new in 2016)

16 = GC 0 mg cross fostered (stress experiment 0 mg cortisol – sham and cross fostered; new in 2016)

17 = GC 8 mg cross fostered (stress experiment 8 mg cortisol and cross fostered; new in 2016)

18 = chickadee playbacks (played chickadee calls from speakers; JO/BT; new in 2018)

19 = rattle playbacks (played squirrel rattles from speakers; JO/BT; new in 2018)

**Andrew McAdam PhD manipulations 1999 and 2000*

EX:

1 = no
2 = yes

PRE: litter in previous year?

1 = no
2 = yes

LSC: litter size code

0 = use in litter size analysis
1 = do not use
2 = cross-fostered (new in 1999)

FU: mother killed by human causes (new in 1995)

1 = killed in year of birth
2 = killed in spring
3 = mother killed

MOMB: mother's behaviour

1 = kept territory
2 = gave away part
3 = gave all away
4 = unknown
5 = lost territory
6 = disappeared
7 = got eaten
8 = trap death
9 = litter too late to determine

MOMM: fate of the midden

Same codes as MOMB above; use 2 when mom and juvenile share midden or mom gives one of multiple middens

MOMF:

MOMS:

EXPERIMENT:

6. Dbabehaviour table

MODE: how the data were collected

- 1 = cas obs – casual observation
- 2 = timed (not used after 1995; used in 2004 for map points taken @ 3 min intervals)
- 3 = ad foc – adult focals, time budget
- 4 = telem – telemetry* (nest loc)
- 5 = juv foc – juvenile focal (new in 1994)
- 6 = juv foc-sq not found – juvenile focal attempted but squirrel not found (considered off territory, i.e., signal could not be picked up)
- 7 = ad foc-sq not found – adult focal attempted but squirrel not found
- 8 = juv pt loc- juvenile point location (new in 2004)
- 9 = map- mapping point (new in 2004)
- 10 = estus ch
- 11 = mid vis
- 12 = camera trap

** this code used when:*

- focals were started but then terminated*
- behaviour is recorded when attempting to get a nest location (new in 1997)*
- rattle points within a focal which were not on a sample point*

BEH: behaviour

DET: detail

0 = other (details in comments)

- | | |
|-------------|---|
| 1 = feeding | 1 = animal material |
| | 2 = cone |
| | 3 = buds |
| | 4 = mushroom, truffle |
| | 5 = bark |
| | 6 = new cone |
| | 7 = willow leaves |
| | 8 = poplar buds |
| | 9 = bearberry flower |
| | 10 = sunflower seeds |
| | 11 = pollen cone |
| | 12 = wood (nestbox) |
| | 13 = new spruce needle |
| | 14 = PB on trap |
| | 15 = off aspen leaves |
| | 16 = bearberry berries |
| | 17 = off grass |
| | 18 = fireweed |
| | 19 = witches broom |
| | 20 = white scales on willow bark (red stuff inside) |

	21 = aspen catkin
	22 = licking water off leaves
	23 = lichen/fungus
	24 = PB
	25 = unknown material
	26 = apple (e.g. from hare traps)
	27 = willow buds (new in 2000)
	28 = bark beetle larvae (new in 2002)
	29 = insects (new in 2004)
	30 = snow
	31 = new mushroom
	32 = feeding on truffle (observed digging up)
2 = vocalizations	1 = rattle
	2 = screech
	3 = wheeze
	4 = squeak
	5 = bark
	6 = rattle-chew
	7 = buzz
3 = travelling	1 = on ground
	2 = in tree
4 = resting	
5 = in nest	
6 = off territory	
7 = interaction with another squirrel	1 = neighbour
	2 = untagged sq.
	3 = juvenile
	4 = unidentified sq.
	5 = mom
	6 = sibling
	7 = non-neighbour
8 = caching behave	1 = cutting cones
	2 = travel /c mushroom
	3 = travel with cone
	4 = cache mushroom
	5 = cache cone
	6 = digging holes
9 = dead	1 = terrestrial pred.
	2 = avian pred.

3 = unknown pred.
4 = 'natural' death
5 = unknown cause
6 = trap/handling
7 = road kill
8 = planned euthanasia

10 = groom

11 = play

12 = foraging

1 = on ground

2 = in tree

3 = on trap

4 = in/on midden (new in 1997)

13 = out of sight

14 = nest building

15 = unknown – not visible but known where it is

16 = scent marking

17 = moving kids

18 = trapped off territory/not handled

19 = vigilant

20 = digging for truffles

21 = foot stomping

22 = mating chase (new in 1995)

23 = suckling (new in 1997)

EXP: relative spatial location/exposure (new in 2004)

1 = TC, tree cover, within 1m of trunk

2 = TE, tree exposed, >1m from trunk or at tip

3 = GC, ground cover, within 1m of tree

4 = GE, ground exposed, >1m from tree/shrub overhang

5 = nest, in nest

6 = unknown, generally know where squirrel is but cannot judge exposure

7 = out of sight, temporarily lost squirrel

7. Dbafastall table

F1/F2: first/last fate

- 1 = recapture
- 2 = new animal never tagged before
- 3 = retag because one or both ears are ripped (used when the identity of the squirrel is known)
- 4 = new dead in trap
- 5 = recapture dead in trap
- 6 = tagged in nest
- 7 = tagged as a juvenile outside of nest
- 8 = new animal removed
- 9 = recap removed
- 10 = recap found dead (natural death)
- 11 = roadkill
- 12 = unnatural death due to handling (collaring, etc.)
- 13 = retag in both ears and unable to determine original identity
- 14 = moved from another grid
- 15 = used for FLASTALL query for Fate2 and means that the last record for the squirrel was from the CENUSUS table
- 16 = used for FLASTALL query for Fate2 and means that the last record for the squirrel was from the BEHAVIOUR table
- 20 = recap not in database
- 21 = recap release
- 22 = planned euthanasia
- 91 = chickadee (new in 2004)
- 92 = gray jay (new in 2004)
- 93 = ground squirrel (new in 2004)
- 94 = chipmunk (new in 2004)

8. Dbajuvenile table

NLOC1/NLOC2: nest spatial/territory characteristics

spatial: 0 = tree
1 = ground
territory: 0 = on territory
1 = other female
2 = other male
3 = off but unknown
99 = data not recorded (new in 1995)

NTYPE1/NTYPE2: nest construction type (new in 2004, but entered retroactively for previous years)

1 = grass
2 = wbr – witches broom
3 = cavity
4 = underground
5 = nestbox/bucket – manmade
9 = not recorded, nest missed, lost litter

CON1/CON2: condition of young

1 = poor, diarrhea, emaciated
2 = healthy

FLEE1/FLEE2: flea load of young

1 = <5
2 = >5<15
3 = >15
4 = extreme

ACT1/ACT2: activity of young

1 = docile, slow moving
2 = average level of activity
3 = very active and exploratory

WEAN/F/SPR: coding for juvenile locations

1 = disappeared (*used when there is no trace or didn't make it to weaning, corresponding SPAT = 6*)
2 = natal territory, home
3 = non-natal or new territory with existing midden; not on any part of natal territory but may

border on it

4 = non-natal with no previous midden

5 = unknown, not obviously settled but not disappeared (*corresponding SPAT = 6*)

6 = non-natal, no info on middens (used for pre-1990 data)

7 = killed (road/trap/natural)

9 = litter too late to determine, not weaned or not emerged by end of August

WSPAT/FSPAT/SSPAT: coding for juvenile spatial locations

1 = borders natal territory

2 = not bordering natal territory

3 = on natal territory AND has one or more middens (mom may have 2+ middens and may not leave, juv takes over one of mom's middens)

4 = on part of natal territory AND does not have midden (may set up new midden or include midden off natal territory)

5 = on natal territory AND not recorded if has midden or not

6 = unknown

9 = litter too late to determine, not weaned or not emerged by end of August

FOOD: experimental manipulations

0 = control

1 = food add

2 = juv cross-fostered (new in 1999)*

3 = sibling cross-fostered (new in 1999)*

4 = food add + juv cross-fostered (new in 2000)*

5 = food add + sib cross-fostered (new in 2000)*

6 = wool add (new in 2000)*

7 = wool + food add (new in 2000)*

8 = control swap

9 = litter reduction

10 = litter augmentation

11 = Giberellin3 add (new in 2002)

12 = Giberellin10 add (new in 2002)

13 = food depletion (new in 2003)

14 = GC 0 mg

15 = GC 8 mg

16 = GC 0 mg cross fostered

17 = GC 8 mg cross fostered

**Andrew McAdam PhD manipulations 1999 and 2000*

9. Dbamidden table

FATE: fate of midden ownership

- 0 = no change in ownership
- 1 = change in ownership
- 2 = not censused
- 3 = more than 1 owner
- 4 = no owner – based on rattle (not on a territory)
- 5 = new midden within normal census area
- 6 = midden censused for the first time
- 7 = change in ownership due to unnatural death
- 8 = insufficient information to determine ownership (new in May 1995)
- 9 = no longer a midden
- 10 = midden destroyed by road clearing in 2000

MCON: midden condition

- 1 = no to few bracts, up to a feeding station
- 2 = more than a feeding station, if there is a blanket of bracts that is < 1 square meter
- 3 = true midden with at least a blanket of bracts > 1 square meter, and usually holes, stored cones, etc.

ACT: activity at midden (new in 1997)

- 0 = not active
- 1 = active

DEF: strength of defence

- 1 = squirrels found occasionally at midden, few to no calls
- 2 = squirrels found occasionally at midden, sometimes calling
- 3 = squirrel found at midden, often defends it, but is the animal's secondary midden
- 4 = squirrel's primary midden
- 5 = squirrel trapped 3-4 times, never calls (new in May 1995)

CONES: cached cones on midden

- 0 = none
- 1 = few
- 2 = many

10. Dbatrapping table

FT: fate of the squirrel

- 1 = recapture
- 2 = new animal never tagged before
- 3 = retag because one or both ears are ripped (used when the identity of the squirrel is known)
- 4 = new dead in trap
- 5 = recapture dead in trap
- 6 = tagged in nest
- 7 = tagged as a juvenile outside of nest
- 8 = new animal removed
- 9 = recap removed
- 10 = recap found dead (natural death)
- 11 = roadkill
- 12 = unnatural death due to handling (collaring, etc.)
- 13 = retag in both ears and unable to determine original identity
- 14 = moved from another grid
- 15 = used for FLASTALL query for Fate2 and means that the last record for the squirrel was from the CENUSUS table
- 16 = used for FLASTALL query for Fate2 and means that the last record for the squirrel was from the BEHAVIOUR table
- 20 = recap not in database
- 21 = recap release
- 22 = planned euthanasia
- 91 = chickadee (new in 2004)
- 92 = gray jay (new in 2004)
- 93 = ground squirrel (new in 2004)
- 94 = chipmunk (new in 2004)

RADIO: fate of the collar (new in 1996)

- 1 = rc new (new collar)
- 2 = rc still on (collar on squirrel)
- 3 = rc change (change of collar)
- 4 = rc off (collar removed)
- 5 = no collar on squirrel

RC: reproductive condition

Male:

- 1 = scrotal
- 2 = abdominal

Female old database (up to and including 2012):

- 1 = non-breeder (P0, P1)
- 2 = breeder, not lactating
- 3 = breeder, lactating
- 4 = pregnant (P2, P3)

Female new database (2013 to present):

- 1 = P0 (non-breeder)
- 2 = P1 (possible pregnant female)
- 3 = P2 (pregnant female)
- 4 = P3 (very pregnant female)

CCON: coat condition (discontinued in 1999)

- 1 = dull, very patchy, missing fur
- 2 = dull, very patchy, no missing fur
- 3 = dull, slightly patchy, no missing fur
- 4 = dull, not patchy, no missing fur
- 5 = shiny, not patchy, no missing fur

R: behaviour when released from trap (changed in 2004; previously just entered rattles)

R = rattled within 5-10m

B = bark

HA = hang around

TO = took off

BRSTATUS: breeding status (1-3 no longer used)

- 1 = small pink nipples (has never experienced estrus)
- 2 = small dark nipples (has experienced estrus, may or may not have bred)
- 3 = multiparous – slightly to moderately elongated nipples, not swollen (has bred in the past)
- 4 = LAC – breeder – elongated, generally more swollen than 3 (may be lactating)
- 5 = LL – female lost litter prior to use finding nest OR lost after found nest 1 but before nest 2 (new in 1997)
- 6 = LL? – unsure whether female lost litter, typically used the first time the handler is unable to get milk but the female is expected to have given birth.

DATASOURCE: source of data (new in 2004)

DB = databook

HH = handheld

11. Flastall/Flastall2 tables

F1/F2: first/last fate

- 1 = recapture
- 2 = new animal never tagged before
- 3 = retag because one or both ears are ripped (used when the identity of the squirrel is known)
- 4 = new dead in trap
- 5 = recapture dead in trap
- 6 = tagged in nest
- 7 = tagged as a juvenile outside of nest
- 8 = new animal removed
- 9 = recap removed
- 10 = recap found dead (natural death)
- 11 = roadkill
- 12 = unnatural death due to handling (collaring, etc.)
- 13 = retag in both ears and unable to determine original identity
- 14 = moved from another grid
- 15 = used for FLASTALL query for Fate2 and means that the last record for the squirrel was from the CENUSUS table
- 16 = used for FLASTALL query for Fate2 and means that the last record for the squirrel was from the BEHAVIOUR table
- 20 = recap not in database
- 21 = recap release
- 22 = planned euthanasia
- 91 = chickadee (new in 2004)
- 92 = gray jay (new in 2004)
- 93 = ground squirrel (new in 2004)
- 94 = chipmunk (new in 2004)

12. Litter table

BR: breeding status

- 0 = no
- 1 = yes
- 2 = yes but no young (lactating then lost litter)
- 3 = yes, information missed
- 4 = yes, but babies died before they were big enough to be tagged (new in 1996)
- 5 = data missed, no idea if bred or not, usually used if never seen in a year but found in previous and following years (new in 1997)
- 6 = pregnant (determined by palpitation) or lactating but disappeared/died before found young (new in 1997)
- 7 = P2/P3 and then lost litter (new in 2000)

NTYPE1/NTYPE2: nest construction type (new in 2004, but entered retroactively for previous years)

- 1 = grass
- 2 = wbr – witches broom
- 3 = cavity
- 4 = underground
- 5 = nestbox/bucket – manmade
- 9 = not recorded, nest missed, lost litter

FOOD: experimental manipulations

- 0 = control
- 1 = food add
- 2 = juv cross-fostered (new in 1999)*
- 3 = sibling cross-fostered (new in 1999)*
- 4 = food add + juv cross-fostered (new in 2000)*
- 5 = food add + sib cross-fostered (new in 2000)*
- 6 = wool add (new in 2000)*
- 7 = wool + food add (new in 2000)*
- 8 = control swap
- 9 = litter reduction
- 10 = litter augmentation
- 11 = Giberellin3 add (new in 2002)
- 12 = Giberellin10 add (new in 2002)
- 13 = food depletion (new in 2003)
- 14 = GC 0 mg (stress experiment 0 mg cortisol – sham; new in 2016)
- 15 = GC 8 mg (stress experiment 8 mg cortisol; new in 2016)
- 16 = GC 0 mg cross fostered (stress experiment 0 mg cortisol – sham and cross fostered; new

- in 2016)
- 17 = GC 8 mg cross fostered (stress experiment 8 mg cortisol and cross fostered; new in 2016)
- 18 = chickadee playbacks (played chickadee calls from speakers; JO/BT; new in 2018)
- 19 = rattle playbacks (played squirrel rattles from speakers; JO/BT; new in 2018)

**Andrew McAdam PhD manipulations 1999 and 2000*

13. Trapping table

RATTLE: behaviour when released from trap (changed in 2004; previously just entered rattles)

R = rattled within 5-10m

B = bark

HA = hang around

TO = took off

COLLAR: fate of the collar (new in 1996)

1 = rc new (new collar)

2 = rc still on (collar on squirrel)

3 = rc change (change of collar)

4 = rc off (collar removed)

5 = no collar on squirrel

FT: fate of the squirrel

1 = recapture

2 = new (adult) animal never tagged before

3 = retag because one or both ears are ripped (used when the identity of the squirrel is known)

4 = new dead in trap

5 = recapture dead in trap

6 = tagged in nest

7 = tagged as a juvenile outside of nest

8 = new animal removed

9 = recap removed

10 = recap found dead (natural death)

11 = roadkill

12 = unnatural death due to handling (collaring, etc.)

13 = retag in both ears and unable to determine original identity

14 = moved from another grid

15 = used for FLASTALL query for Fate2 and means that the last record for the squirrel was from the CENUSUS table

16 = used for FLASTALL query for Fate2 and means that the last record for the squirrel was from the BEHAVIOUR table

20 = recap not in database

21 = recap release

22 = planned euthanasia

91 = chickadee (new in 2004)

92 = gray jay (new in 2004)

93 = ground squirrel (new in 2004)

94 = chipmunk (new in 2004)

NIPPLE: breeding status (1-3 no longer used)

- 1 = small pink nipples (has never experienced estrus)
- 2 = small dark nipples (has experienced estrus, may or may not have bred)
- 3 = multiparous – slightly to moderately elongated nipples, not swollen (has bred in the past)
- 4 = LAC – breeder – elongated, generally more swollen than 3 (may be lactating)
- 5 = LL – female lost litter prior to use finding nest OR lost after found nest 1 but before nest 2 (new in 1997)
- 6 = LL? – unsure whether female lost litter, typically used the first time the handler is unable to get milk but the female is expected to have given birth.

REP CON: reproductive condition

Male:

- 1 = scrotal
- 2 = abdominal

Female old database (up to and including 2012):

- 1 = non-breeder (P0, P1)
- 2 = breeder, not lactating
- 3 = breeder, lactating
- 4 = pregnant (P2, P3)

Female new database (2013 to present):

- 1 = P0 (non-breeder)
- 2 = P1 (possible pregnant female)
- 3 = P2 (pregnant female)
- 4 = P3 (very pregnant female)