# Total number of Cow–calf pairs (dil = 1E+06)

| Month | Manual | Model | dil |
|-------|--------|-------|-----|
| Jan | 11.61 | 11.61 | 0 |
| Feb | 11.61 | 11.61 | 0 |
| Mar | 11.61 | 11.61 | 0 |
| Apr | 11.61 | 11.61 | 0 |
| May | 11.61 | 11.61 | 0 |
| Jun | 11.61 | 11.61 | 0 |
| Jul | 11.61 | 11.61 | 0 |
| Aug | 11.61 | 11.61 | 0 |
| Sep | 11.61 | 11.61 | 0 |
| Oct | 11.61 | 11.61 | 0 |
| Nov | 11.61 | 11.61 | 0 |
| Dec | 11.61 | 11.61 | 0 |

# Animal Units by month of Cow−calf pairs (dil = 1E+06)

| Month | Manual | Model | dil |
|-------|--------|-------|-----|
| Jan | 13.3515 | 13.3515 | 0 |
| Feb | 15.6735 | 15.6735 | 0 |
| Mar | 16.1379 | 16.1379 | 0 |
| Apr | 16.6023 | 16.6023 | 0 |
| May | 17.0667 | 17.0667 | 0 |
| Jun | 17.5311 | 17.5311 | 0 |
| Jul | 17.9955 | 17.9955 | 0 |
| Aug | 18.4599 | 18.4599 | 0 |
| Sep | 18.9243 | 18.9243 | 0 |
| Oct | 11.6100 | 11.6100 | 0 |
| Nov | 12.1905 | 12.1905 | 0 |
| Dec | 12.7710 | 12.7710 | 0 |

# Cow−calf pairs on pasture without stream access (dil = 1E+06)

| Month | Manual | Model | dil |
|-------|--------|-------|-----|
| Jan | 2.269755 | 2.269755 | 0 |
| Feb | 2.664495 | 2.664495 | 0 |
| Mar | 8.230329 | 8.230329 | 0 |
| Apr | 8.467173 | 8.467173 | 0 |
| May | 8.704017 | 8.704017 | 0 |
| Jun | 11.921148 | 11.921148 | 0 |
| Jul | 9.177705 | 9.177705 | 0 |
| Aug | 9.414549 | 9.414549 | 0 |
| Sep | 9.651393 | 9.651393 | 0 |
| Oct | 1.973700 | 1.973700 | 0 |
| Nov | 2.072385 | 2.072385 | 0 |
| Dec | 2.171070 | 2.171070 | 0 |

# Cow–calf pairs on pasture with stream access (dil = 1E+06)

| Month | Manual | Model | dil |
|-------|--------|-------|-----|
| Jan | 0.934605 | 0.934605 | 0 |
| Feb | 1.097145 | 1.097145 | 0 |
| Mar | 3.388959 | 3.388959 | 0 |
| Apr | 3.486483 | 3.486483 | 0 |
| May | 3.584007 | 3.584007 | 0 |
| Jun | 4.908708 | 4.908708 | 0 |
| Jul | 3.779055 | 3.779055 | 0 |
| Aug | 3.876579 | 3.876579 | 0 |
| Sep | 3.974103 | 3.974103 | 0 |
| Oct | 0.812700 | 0.812700 | 0 |
| Nov | 0.853335 | 0.853335 | 0 |
| Dec | 0.893970 | 0.893970 | 0 |

# Cow–calf pairs on pasture in stream (dil = 1E+06)

| Month | Manual | Model | dil |
|-------|--------|-------|-----|
| Jan | 0.133515 | 0.133515 | 0 |
| Feb | 0.156735 | 0.156735 | 0 |
| Mar | 0.484137 | 0.484137 | 0 |
| Apr | 0.498069 | 0.498069 | 0 |
| May | 0.512001 | 0.512001 | 0 |
| Jun | 0.701244 | 0.701244 | 0 |
| Jul | 0.539865 | 0.539865 | 0 |
| Aug | 0.553797 | 0.553797 | 0 |
| Sep | 0.567729 | 0.567729 | 0 |
| Oct | 0.116100 | 0.116100 | 0 |
| Nov | 0.121905 | 0.121905 | 0 |
| Dec | 0.127710 | 0.127710 | 0 |

# Cow–calf pairs in confinement (dil = 1E+06)

| Month | Manual | Model | dil |
|-------|--------|-------|-----|
| Jan | 10.013625 | 10.013625 | 0 |
| Feb | 11.755125 | 11.755125 | 0 |
| Mar | 4.034475 | 4.034475 | 0 |
| Apr | 4.150575 | 4.150575 | 0 |
| May | 4.266675 | 4.266675 | 0 |
| Jun | 0.000000 | 0.000000 | NA |
| Jul | 0.000000 | 0.000000 | NA |
| Aug | 0.000000 | 0.000000 | NA |
| Sep | 0.000000 | 0.000000 | NA |
| Oct | 8.707500 | 8.707500 | 0 |
| Nov | 9.142875 | 9.142875 | 0 |
| Dec | 9.578250 | 9.578250 | 0 |

# Cow−calf pairs in forest without stream access (dil = 1E+06)

| Month | Manual | Model | dil |
|-------|--------|-------|-----|
| Jan | 0.000000 | 0.000000 | NA |
| Feb | 0.000000 | 0.000000 | NA |
| Mar | 0.000000 | 0.000000 | NA |
| Apr | 0.000000 | 0.000000 | NA |
| May | 0.000000 | 0.000000 | NA |
| Jun | 0.000000 | 0.000000 | NA |
| Jul | 4.497889 | 4.497889 | 0 |
| Aug | 4.613964 | 4.613964 | 0 |
| Sep | 4.730039 | 4.730039 | 0 |
| Oct | 0.000000 | 0.000000 | NA |
| Nov | 0.000000 | 0.000000 | NA |
| Dec | 0.000000 | 0.000000 | NA |

# Cow−calf pairs in forest on land without stream access (dil = 1E+06)

| Month | Manual | Model | dil |
|-------|--------|-------|-----|
| Jan | 0.0000000000 | 0.0000000000 | NA |
| Feb | 0.0000000000 | 0.0000000000 | NA |
| Mar | 0.0000000000 | 0.0000000000 | NA |
| Apr | 0.0000000000 | 0.0000000000 | NA |
| May | 0.0000000000 | 0.0000000000 | NA |
| Jun | 0.0000000000 | 0.0000000000 | NA |
| Jul | 0.0006185772 | 0.0006185772 | 0 |
| Aug | 0.0006345405 | 0.0006345405 | 0 |
| Sep | 0.0006505037 | 0.0006505037 | 0 |
| Oct | 0.0000000000 | 0.0000000000 | NA |
| Nov | 0.0000000000 | 0.0000000000 | NA |
| Dec | 0.0000000000 | 0.0000000000 | NA |

# Cow–calf pairs in forest in stream access (dil = 1E+06)

| Month | Manual | Model | dil |
|---|---|---|---|
| Jan | 0.0000000000 | 0.0000000000 | NA |
| Feb | 0.0000000000 | 0.0000000000 | NA |
| Mar | 0.0000000000 | 0.0000000000 | NA |
| Apr | 0.0000000000 | 0.0000000000 | NA |
| May | 0.0000000000 | 0.0000000000 | NA |
| Jun | 0.0000000000 | 0.0000000000 | NA |
| Jul | 0.0003669815 | 0.0003669815 | 0 |
| Aug | 0.0003764520 | 0.0003764520 | 0 |
| Sep | 0.0003859225 | 0.0003859225 | 0 |
| Oct | 0.0000000000 | 0.0000000000 | NA |
| Nov | 0.0000000000 | 0.0000000000 | NA |
| Dec | 0.0000000000 | 0.0000000000 | NA |

# Bacteria on pasture without stream access (dil = 1E+06)

| Month | Manual | Model | dil |
|-------|--------|-------|-----|
| Jan | 5821921575 | 5821921575 | 0 |
| Feb | 6834429675 | 6834429675 | 0 |
| Mar | 21110793885 | 21110793885 | 0 |
| Apr | 21718298745 | 21718298745 | 0 |
| May | 22325803605 | 22325803605 | 0 |
| Jun | 30577744620 | 30577744620 | 0 |
| Jul | 23540813325 | 23540813325 | 0 |
| Aug | 24148318185 | 24148318185 | 0 |
| Sep | 24755823045 | 24755823045 | 0 |
| Oct | 5062540500 | 5062540500 | 0 |
| Nov | 5315667525 | 5315667525 | 0 |
| Dec | 5568794550 | 5568794550 | 0 |

# Bacteria on pasture with stream access (dil = 1E+06)

| Month | Manual | Model | dil |
|-------|--------|-------|-----|
| Jan | 2397261825 | 2397261825 | 0 |
| Feb | 2814176925 | 2814176925 | 0 |
| Mar | 8692679835 | 8692679835 | 0 |
| Apr | 8942828895 | 8942828895 | 0 |
| May | 9192977955 | 9192977955 | 0 |
| Jun | 12590836020 | 12590836020 | 0 |
| Jul | 9693276075 | 9693276075 | 0 |
| Aug | 9943425135 | 9943425135 | 0 |
| Sep | 10193574195 | 10193574195 | 0 |
| Oct | 2084575500 | 2084575500 | 0 |
| Nov | 2188804275 | 2188804275 | 0 |
| Dec | 2293033050 | 2293033050 | 0 |

# Bacteria on pasture in stream (dil = 1E+06)

| Month | Manual | Model | dil |
|-------|--------|-------|-----|
| Jan | 342465975 | 342465975 | 0 |
| Feb | 402025275 | 402025275 | 0 |
| Mar | 1241811405 | 1241811405 | 0 |
| Apr | 1277546985 | 1277546985 | 0 |
| May | 1313282565 | 1313282565 | 0 |
| Jun | 1798690860 | 1798690860 | 0 |
| Jul | 1384753725 | 1384753725 | 0 |
| Aug | 1420489305 | 1420489305 | 0 |
| Sep | 1456224885 | 1456224885 | 0 |
| Oct | 297796500 | 297796500 | 0 |
| Nov | 312686325 | 312686325 | 0 |
| Dec | 327576150 | 327576150 | 0 |

# Bacteria in confinement (dil = 1E+06)

| Month | Manual | Model | dil |
|-------|-----------|-----------|-----|
| Jan | 10.013625 | 10.013625 | 0 |
| Feb | 11.755125 | 11.755125 | 0 |
| Mar | 4.034475 | 4.034475 | 0 |
| Apr | 4.150575 | 4.150575 | 0 |
| May | 4.266675 | 4.266675 | 0 |
| Jun | 0.000000 | 0.000000 | NA |
| Jul | 0.000000 | 0.000000 | NA |
| Aug | 0.000000 | 0.000000 | NA |
| Sep | 0.000000 | 0.000000 | NA |
| Oct | 8.707500 | 8.707500 | 0 |
| Nov | 9.142875 | 9.142875 | 0 |
| Dec | 9.578250 | 9.578250 | 0 |

# Bacteria in forest on land with and without stream access (dil = 1E+06)

| Month | Manual | Model | dil |
|-------|--------|-------|-----|
| Jan | 0 | 0 | NA |
| Feb | 0 | 0 | NA |
| Mar | 0 | 0 | NA |
| Apr | 0 | 0 | NA |
| May | 0 | 0 | NA |
| Jun | 0 | 0 | NA |
| Jul | 11538673068 | 11538673068 | 0 |
| Aug | 11836445276 | 11836445276 | 0 |
| Sep | 12134217484 | 12134217484 | 0 |
| Oct | 0 | 0 | NA |
| Nov | 0 | 0 | NA |
| Dec | 0 | 0 | NA |

# Bacteria in forest in stream (dil = 1E+06)

| Month | Manual | Model | dil |
|:-----:|:------:|:-----:|:---:|
| Jan | 0.0 | 0.0 | NA |
| Feb | 0.0 | 0.0 | NA |
| Mar | 0.0 | 0.0 | NA |
| Apr | 0.0 | 0.0 | NA |
| May | 0.0 | 0.0 | NA |
| Jun | 0.0 | 0.0 | NA |
| Jul | 941307.5 | 941307.5 | 0 |
| Aug | 965599.3 | 965599.3 | 0 |
| Sep | 989891.1 | 989891.1 | 0 |
| Oct | 0.0 | 0.0 | NA |
| Nov | 0.0 | 0.0 | NA |
| Dec | 0.0 | 0.0 | NA |

# Bacteria in stream (dil = 1E+06)

| Month | Manual | Model | dil |
|-------|-----------|-----------|-----|
| Jan | 342465975 | 342465975 | 0 |
| Feb | 402025275 | 402025275 | 0 |
| Mar | 1241811405 | 1241811405 | 0 |
| Apr | 1277546985 | 1277546985 | 0 |
| May | 1313282565 | 1313282565 | 0 |
| Jun | 1798690860 | 1798690860 | 0 |
| Jul | 1385695032 | 1385695032 | 0 |
| Aug | 1421454904 | 1421454904 | 0 |
| Sep | 1457214776 | 1457214776 | 0 |
| Oct | 297796500 | 297796500 | 0 |
| Nov | 312686325 | 312686325 | 0 |
| Dec | 327576150 | 327576150 | 0 |

# Accum for pasture (dil = 1E+06)

| Month | Manual | Model | dil |
|-------|--------|-------|-----|
| Jan | 70794000 | 70794000 | 0 |
| Feb | 83106000 | 83106000 | 0 |
| Mar | 256705200 | 256705200 | 0 |
| Apr | 264092400 | 264092400 | 0 |
| May | 271479600 | 271479600 | 0 |
| Jun | 371822400 | 371822400 | 0 |
| Jul | 286254000 | 286254000 | 0 |
| Aug | 293641200 | 293641200 | 0 |
| Sep | 301028400 | 301028400 | 0 |
| Oct | 61560000 | 61560000 | 0 |
| Nov | 64638000 | 64638000 | 0 |
| Dec | 67716000 | 67716000 | 0 |

# Accum for Forest (dil = 1E+06)

| Month | Manual | Model | dil |
|-------|--------|-------|-----|
| Jan | 0 | 0 | NA |
| Feb | 0 | 0 | NA |
| Mar | 0 | 0 | NA |
| Apr | 0 | 0 | NA |
| May | 0 | 0 | NA |
| Jun | 0 | 0 | NA |
| Jul | 3217969 | 3217969 | 0 |
| Aug | 3301014 | 3301014 | 0 |
| Sep | 3384058 | 3384058 | 0 |
| Oct | 0 | 0 | NA |
| Nov | 0 | 0 | NA |
| Dec | 0 | 0 | NA |

# SQOLIM for pasture (dil = 1E+06)

| Month | Manual | Model | dil |
|-------|--------|-------|-----|
| Jan | 637146000 | 637146000 | 0 |
| Feb | 747954000 | 747954000 | 0 |
| Mar | 2310346800 | 2310346800 | 0 |
| Apr | 2376831600 | 2376831600 | 0 |
| May | 2443316400 | 2443316400 | 0 |
| Jun | 3346401600 | 3346401600 | 0 |
| Jul | 2576286000 | 2576286000 | 0 |
| Aug | 2642770800 | 2642770800 | 0 |
| Sep | 2709255600 | 2709255600 | 0 |
| Oct | 554040000 | 554040000 | 0 |
| Nov | 581742000 | 581742000 | 0 |
| Dec | 609444000 | 609444000 | 0 |

# SQOLIM for Forest (dil = 1E+06)

| Month | Manual | Model | dil |
|-------|--------|-------|-----|
| Jan | 0 | 0 | NA |
| Feb | 0 | 0 | NA |
| Mar | 0 | 0 | NA |
| Apr | 0 | 0 | NA |
| May | 0 | 0 | NA |
| Jun | 0 | 0 | NA |
| Jul | 28961725 | 28961725 | 0 |
| Aug | 29709124 | 29709124 | 0 |
| Sep | 30456524 | 30456524 | 0 |
| Oct | 0 | 0 | NA |
| Nov | 0 | 0 | NA |
| Dec | 0 | 0 | NA |