

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

| Month | Manual | Model | dil |
|-------|--------|-------|-----|
| Jan   | 9.25   | 9.25  | 0   |
| Feb   | 9.25   | 9.25  | 0   |
| Mar   | 9.25   | 9.25  | 0   |
| Apr   | 9.25   | 9.25  | 0   |
| May   | 9.25   | 9.25  | 0   |
| Jun   | 9.25   | 9.25  | 0   |
| Jul   | 9.25   | 9.25  | 0   |
| Aug   | 9.25   | 9.25  | 0   |
| Sep   | 9.25   | 9.25  | 0   |
| Oct   | 9.25   | 9.25  | 0   |
| Nov   | 9.25   | 9.25  | 0   |
| Dec   | 9.25   | 9.25  | 0   |

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

| Month | Manual  | Model   | dil |
|-------|---------|---------|-----|
| Jan   | 10.6375 | 10.6375 | 0   |
| Feb   | 12.4875 | 12.4875 | 0   |
| Mar   | 12.8575 | 12.8575 | 0   |
| Apr   | 13.2275 | 13.2275 | 0   |
| May   | 13.5975 | 13.5975 | 0   |
| Jun   | 13.9675 | 13.9675 | 0   |
| Jul   | 14.3375 | 14.3375 | 0   |
| Aug   | 14.7075 | 14.7075 | 0   |
| Sep   | 15.0775 | 15.0775 | 0   |
| Oct   | 9.2500  | 9.2500  | 0   |
| Nov   | 9.7125  | 9.7125  | 0   |
| Dec   | 10.1750 | 10.1750 | 0   |

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

| Month | Manual    | Model     | dil |
|-------|-----------|-----------|-----|
| Jan   | 2.454138  | 2.454138  | 0   |
| Feb   | 2.880945  | 2.880945  | 0   |
| Mar   | 8.898918  | 8.898918  | 0   |
| Apr   | 9.155002  | 9.155002  | 0   |
| May   | 9.411086  | 9.411086  | 0   |
| Jun   | 12.889559 | 12.889559 | 0   |
| Jul   | 9.923254  | 9.923254  | 0   |
| Aug   | 10.179337 | 10.179337 | 0   |
| Sep   | 10.435421 | 10.435421 | 0   |
| Oct   | 2.134033  | 2.134033  | 0   |
| Nov   | 2.240735  | 2.240735  | 0   |
| Dec   | 2.347436  | 2.347436  | 0   |

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

| Month | Manual    | Model     | dil |
|-------|-----------|-----------|-----|
| Jan   | 0.1795824 | 0.1795824 | 0   |
| Feb   | 0.2108141 | 0.2108141 | 0   |
| Mar   | 0.6511814 | 0.6511814 | 0   |
| Apr   | 0.6699204 | 0.6699204 | 0   |
| May   | 0.6886595 | 0.6886595 | 0   |
| Jun   | 0.9431980 | 0.9431980 | 0   |
| Jul   | 0.7261375 | 0.7261375 | 0   |
| Aug   | 0.7448766 | 0.7448766 | 0   |
| Sep   | 0.7636156 | 0.7636156 | 0   |
| Oct   | 0.1561586 | 0.1561586 | 0   |
| Nov   | 0.1639665 | 0.1639665 | 0   |
| Dec   | 0.1717745 | 0.1717745 | 0   |

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

| Month | Manual     | Model      | dil |
|-------|------------|------------|-----|
| Jan   | 0.02565463 | 0.02565463 | 0   |
| Feb   | 0.03011630 | 0.03011630 | 0   |
| Mar   | 0.09302591 | 0.09302591 | 0   |
| Apr   | 0.09570292 | 0.09570292 | 0   |
| May   | 0.09837992 | 0.09837992 | 0   |
| Jun   | 0.13474257 | 0.13474257 | 0   |
| Jul   | 0.10373393 | 0.10373393 | 0   |
| Aug   | 0.10641094 | 0.10641094 | 0   |
| Sep   | 0.10908794 | 0.10908794 | 0   |
| Oct   | 0.02230837 | 0.02230837 | 0   |
| Nov   | 0.02342379 | 0.02342379 | 0   |
| Dec   | 0.02453921 | 0.02453921 | 0   |

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

| Month | Manual   | Model    | dil |
|-------|----------|----------|-----|
| Jan   | 7.978125 | 7.978125 | 0   |
| Feb   | 9.365625 | 9.365625 | 0   |
| Mar   | 3.214375 | 3.214375 | 0   |
| Apr   | 3.306875 | 3.306875 | 0   |
| May   | 3.399375 | 3.399375 | 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   | 6.937500 | 6.937500 | 0   |
| Nov   | 7.284375 | 7.284375 | 0   |
| Dec   | 7.631250 | 7.631250 | 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   | 3.576494 | 3.576494 | 0   |
| Aug   | 3.668791 | 3.668791 | 0   |
| Sep   | 3.761087 | 3.761087 | 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   | 0.000000000 | 0.000000000 | NA  |
| Feb   | 0.000000000 | 0.000000000 | NA  |
| Mar   | 0.000000000 | 0.000000000 | NA  |
| Apr   | 0.000000000 | 0.000000000 | NA  |
| May   | 0.000000000 | 0.000000000 | NA  |
| Jun   | 0.000000000 | 0.000000000 | NA  |
| Jul   | 0.004946322 | 0.004946322 | 0   |
| Aug   | 0.005073969 | 0.005073969 | 0   |
| Sep   | 0.005201616 | 0.005201616 | 0   |
| Oct   | 0.000000000 | 0.000000000 | NA  |
| Nov   | 0.000000000 | 0.000000000 | NA  |
| Dec   | 0.000000000 | 0.000000000 | NA  |



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

| Month | Manual      | Model       | dil |
|-------|-------------|-------------|-----|
| Jan   | 0.000000000 | 0.000000000 | NA  |
| Feb   | 0.000000000 | 0.000000000 | NA  |
| Mar   | 0.000000000 | 0.000000000 | NA  |
| Apr   | 0.000000000 | 0.000000000 | NA  |
| May   | 0.000000000 | 0.000000000 | NA  |
| Jun   | 0.000000000 | 0.000000000 | NA  |
| Jul   | 0.002934490 | 0.002934490 | 0   |
| Aug   | 0.003010219 | 0.003010219 | 0   |
| Sep   | 0.003085948 | 0.003085948 | 0   |
| Oct   | 0.000000000 | 0.000000000 | NA  |
| Nov   | 0.000000000 | 0.000000000 | NA  |
| Dec   | 0.000000000 | 0.000000000 | NA  |

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

| Month | Manual      | Model       | dil |
|-------|-------------|-------------|-----|
| Jan   | 6294863896  | 6294863896  | 0   |
| Feb   | 7389622834  | 7389622834  | 0   |
| Mar   | 22825723866 | 22825723866 | 0   |
| Apr   | 23482579229 | 23482579229 | 0   |
| May   | 24139434592 | 24139434592 | 0   |
| Jun   | 33061719940 | 33061719940 | 0   |
| Jul   | 25453145318 | 25453145318 | 0   |
| Aug   | 26110000681 | 26110000681 | 0   |
| Sep   | 26766856044 | 26766856044 | 0   |
| Oct   | 5473794692  | 5473794692  | 0   |
| Nov   | 5747484427  | 5747484427  | 0   |
| Dec   | 6021174161  | 6021174161  | 0   |

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

| Month | Manual     | Model      | dil |
|-------|------------|------------|-----|
| Jan   | 460628857  | 460628857  | 0   |
| Feb   | 540738223  | 540738223  | 0   |
| Mar   | 1670280290 | 1670280290 | 0   |
| Apr   | 1718345909 | 1718345909 | 0   |
| May   | 1766411529 | 1766411529 | 0   |
| Jun   | 2419302865 | 2419302865 | 0   |
| Jul   | 1862542769 | 1862542769 | 0   |
| Aug   | 1910608389 | 1910608389 | 0   |
| Sep   | 1958674009 | 1958674009 | 0   |
| Oct   | 400546832  | 400546832  | 0   |
| Nov   | 420574174  | 420574174  | 0   |
| Dec   | 440601515  | 440601515  | 0   |

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

| Month | Manual    | Model     | dil |
|-------|-----------|-----------|-----|
| Jan   | 65804122  | 65804122  | 0   |
| Feb   | 77248318  | 77248318  | 0   |
| Mar   | 238611470 | 238611470 | 0   |
| Apr   | 245477987 | 245477987 | 0   |
| May   | 252344504 | 252344504 | 0   |
| Jun   | 345614695 | 345614695 | 0   |
| Jul   | 266077538 | 266077538 | 0   |
| Aug   | 272944056 | 272944056 | 0   |
| Sep   | 279810573 | 279810573 | 0   |
| Oct   | 57220976  | 57220976  | 0   |
| Nov   | 60082025  | 60082025  | 0   |
| Dec   | 62943074  | 62943074  | 0   |

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

| Month | Manual   | Model    | dil |
|-------|----------|----------|-----|
| Jan   | 7.978125 | 7.978125 | 0   |
| Feb   | 9.365625 | 9.365625 | 0   |
| Mar   | 3.214375 | 3.214375 | 0   |
| Apr   | 3.306875 | 3.306875 | 0   |
| May   | 3.399375 | 3.399375 | 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   | 6.937500 | 6.937500 | 0   |
| Nov   | 7.284375 | 7.284375 | 0   |
| Dec   | 7.631250 | 7.631250 | 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   | 9186394908 | 9186394908 | 0   |
| Aug   | 9423463163 | 9423463163 | 0   |
| Sep   | 9660531419 | 9660531419 | 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       | NA  |
| Feb   | 0       | 0       | NA  |
| Mar   | 0       | 0       | NA  |
| Apr   | 0       | 0       | NA  |
| May   | 0       | 0       | NA  |
| Jun   | 0       | 0       | NA  |
| Jul   | 7526967 | 7526967 | 0   |
| Aug   | 7721212 | 7721212 | 0   |
| Sep   | 7915456 | 7915456 | 0   |
| Oct   | 0       | 0       | NA  |
| Nov   | 0       | 0       | NA  |
| Dec   | 0       | 0       | NA  |

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

| Month | Manual    | Model     | dil |
|-------|-----------|-----------|-----|
| Jan   | 65804122  | 65804122  | 0   |
| Feb   | 77248318  | 77248318  | 0   |
| Mar   | 238611470 | 238611470 | 0   |
| Apr   | 245477987 | 245477987 | 0   |
| May   | 252344504 | 252344504 | 0   |
| Jun   | 345614695 | 345614695 | 0   |
| Jul   | 273604506 | 273604506 | 0   |
| Aug   | 280665267 | 280665267 | 0   |
| Sep   | 287726029 | 287726029 | 0   |
| Oct   | 57220976  | 57220976  | 0   |
| Nov   | 60082025  | 60082025  | 0   |
| Dec   | 62943074  | 62943074  | 0   |



Accum for pasture (dil = 1E+06)

| Month | Manual    | Model     | dil |
|-------|-----------|-----------|-----|
| Jan   | 73032354  | 73032354  | 0   |
| Feb   | 85733633  | 85733633  | 0   |
| Mar   | 264821667 | 264821667 | 0   |
| Apr   | 272442434 | 272442434 | 0   |
| May   | 280063201 | 280063201 | 0   |
| Jun   | 383578625 | 383578625 | 0   |
| Jul   | 295304736 | 295304736 | 0   |
| Aug   | 302925503 | 302925503 | 0   |
| Sep   | 310546271 | 310546271 | 0   |
| Oct   | 63506395  | 63506395  | 0   |
| Nov   | 66681715  | 66681715  | 0   |
| Dec   | 69857034  | 69857034  | 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   | 2345742 | 2345742 | 0   |
| Aug   | 2406277 | 2406277 | 0   |
| Sep   | 2466813 | 2466813 | 0   |
| Oct   | 0       | 0       | NA  |
| Nov   | 0       | 0       | NA  |
| Dec   | 0       | 0       | NA  |

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

| Month | Manual     | Model      | dil |
|-------|------------|------------|-----|
| Jan   | 657291187  | 657291187  | 0   |
| Feb   | 771602697  | 771602697  | 0   |
| Mar   | 2383394999 | 2383394999 | 0   |
| Apr   | 2451981905 | 2451981905 | 0   |
| May   | 2520568812 | 2520568812 | 0   |
| Jun   | 3452207624 | 3452207624 | 0   |
| Jul   | 2657742625 | 2657742625 | 0   |
| Aug   | 2726329531 | 2726329531 | 0   |
| Sep   | 2794916438 | 2794916438 | 0   |
| Oct   | 571557554  | 571557554  | 0   |
| Nov   | 600135431  | 600135431  | 0   |
| Dec   | 628713309  | 628713309  | 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   | 21111678 | 21111678 | 0   |
| Aug   | 21656496 | 21656496 | 0   |
| Sep   | 22201313 | 22201313 | 0   |
| Oct   | 0        | 0        | NA  |
| Nov   | 0        | 0        | NA  |
| Dec   | 0        | 0        | NA  |