| Sample size Jut | July (t0) | September (t1) | November (t2) | January (t3) | Mite prevalence |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | - | $\longrightarrow$ |  |  | $6 / 6=100 \%$ |
| 2 |  |  | $\square$ |  | $2 / 2=100 \%$ |
| 4 |  |  |  | - | $4 / 4=100 \%$ |
| 8 |  | - | $\longrightarrow$ |  | $8 / 8=100 \%$ |
| 7 |  |  |  | - | $6 / 7=86 \%$ |
| 4 |  |  |  | - | $3 / 3=100 \% *$ |
| 22 |  | - | --- | - | $18 / 22=82 \%$ |
| Total n | 58 | 43 | 36 | 37 |  |
| Mite prevalence | 58/58 $=100 \%$ | $39 / 43=91 \%$ | $33 / 36=92 \%$ | $31 / 36=86 \% *$ |  |
| Recapture success | s $\mathrm{n} / \mathrm{a}$ | $43 / 58=74 \%$ | $36 / 58=62 \%$ | $37 / 58=64 \%$ |  |

S2 Figure. Summary of capture histories, capture timelines, and mite prevalence among Santa Catalina Island untreated foxes.

Foxes are divided into subsets ( $\mathrm{n}=7$ horizontal timelines) based on their total number of captures ( 2 captures $=$ blue dots, 3 captures $=$ green dots, or 4 captures $=$ red dots) and capture intervals ( 2 months, 4 months, or 6 months). The total number of foxes ( n ) at each capture period, mite prevalence at that time point, and recapture success is displayed at the bottom of the figure beneath each month. *Note: 1 of the 58 untreated foxes in the $6^{\text {th }}$ subset was accidentally treated at $t_{2}$; therefore, it was excluded from the mite prevalence calculation at $t_{3}$ for the $6^{\text {th }}$ subset. Note: 5 of the 58 untreated foxes were never recaptured after $t_{0}$.

