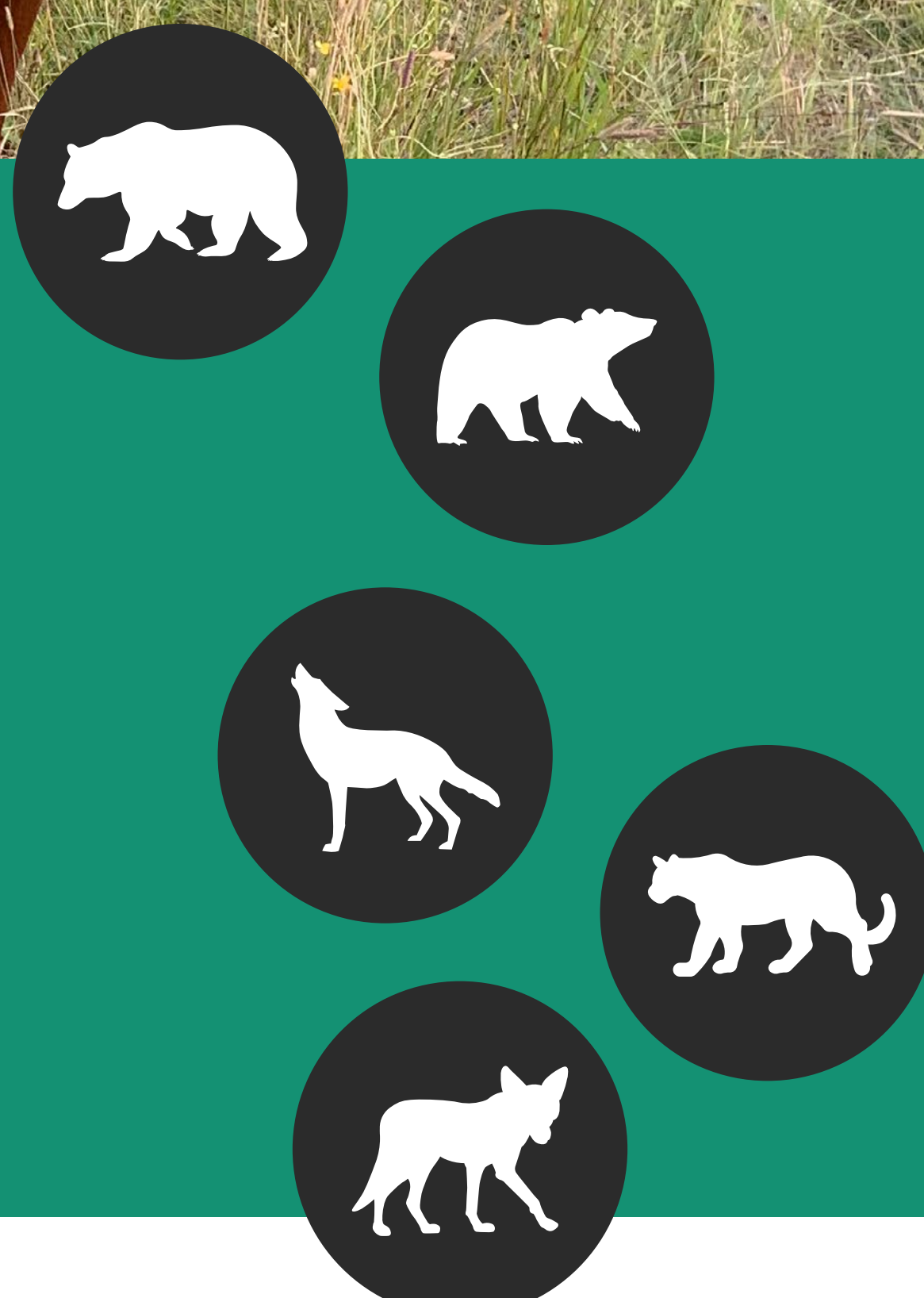


Low-stress livestock handling protects cattle in a five-predator habitat



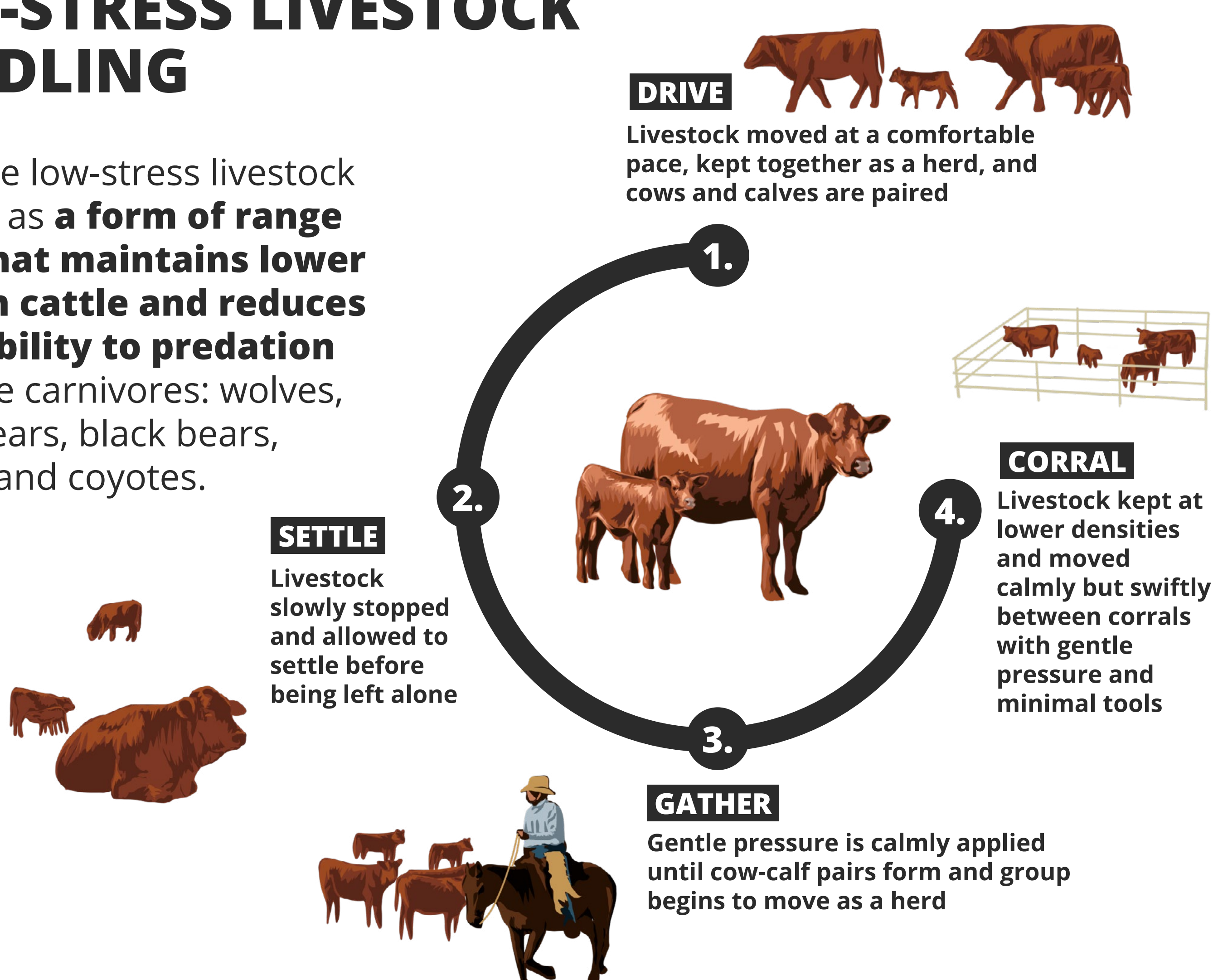
RANGE RIDING

Given the ecological importance of top predators, societies are turning to non-lethal methods for coexistence. Coexistence is challenging when livestock graze within wild predator habitats. **Range riders, herders hired to protect livestock, are often used, but their effectiveness is not well understood.**



LOW-STRESS LIVESTOCK HANDLING

We define low-stress livestock handling as **a form of range riding that maintains lower stress in cattle and reduces vulnerability to predation** by 5 large carnivores: wolves, grizzly bears, black bears, cougars and coyotes.



STUDY DESIGN

We studied **8 cattle herds** and the experiment occurred in two phases each lasting 2 months. In phase 1, each subject was randomly assigned to receive **treatment of visits by up to three range riders** (1 experienced, 2 newly trained) every 1-3 days, or **pseudo-control of visits by a single experienced rider** up to every 10 days. In phase 2 all subjects switched to the opposite experimental condition (this procedure called cross-over makes gold-standard experiments even better by producing stronger control over potentially confounding variables).



RESULTS

No cattle were killed during our study, though we observed all 5 carnivore species. We report **three major findings**:

1. Grizzly bears appeared to avoid cattle herds visited more frequently by range riders
2. Newly trained range riders supervised by an experienced rider did not raise or lower risk to cattle
3. Predators did not shift to cattle herds protected by fewer riders



CONCLUSION

Low-stress livestock handling could have many co-benefits, including quicker responses to livestock illness or injury, and increased livestock yields and pregnancy rates due to reduced stress. **We call for equivalent evaluations of other methods of predator control before they are implemented or subsidized, including lethal control.** We also call for more studies comparing low-stress livestock handling to traditional livestock handling, and more studies defining and quantifying costs of different forms of range riding.