In many parts of the world, protected areas harbour permanent livestock that range freely with native herbivores. These domestic animals are typically an undesirable ecosystem component because they pose a challenge to park managers and biologists who wish to maintain ‘natural’ species interactions and diversity. Studies dealing with livestock in protected areas have primarily focussed on interactions such as competition for food resources with native herbivores, habitat degradation, and human-carnivore conflicts caused by livestock depredation. The negative effects of such interactions are a major threat to the survival of many mammalian prey and predator species. However, the role of indirect interactions between native herbivores and domestic prey, via their common enemy, has received comparatively little attention and poses a significant knowledge gap in understanding the net impacts of domestic prey on native herbivores. We present our perspectives on ignored or missed indirect interactions in livestock–native ungulate systems, and suggest some management actions for understanding these systems and minimising conflicts. A broader understanding of indirect interactions among livestock, native herbivores and their predators will aid in more informed protected-area management.