

Table 1. Overview on studies examining effects of hunting activities on movements, spatial behavior, and activities of *Sus scrofa*. HR = home range; ? = effect of removal not clear, not clearly stated, or only assumed without proving; * = no better explanation; # resting HR = only bedding sites during inactivity are used for HR – calculation; § = in Brazil wild boar recently spread from an introduced population from Argentina – no feral swine.

Author	Wild boar or feral swine	Location	Removal type	Effect of removal	HR size	HR shift	Movement	Other behavioral changes	Other effects on behavior	Conclusions on effects of hunting on spatial behavior
Caley 1993, 1997	Feral swine	Northern Territory, Australia	Recreational hunt, hunt with dogs*	Yes		Only high* pressure		Nocturnal activity	Temperature	No changes with moderate hunting pressure*, only high pressure (repeated hunts with dogs) may induce leaving HR, temperature causes nocturnal activity rather than hunting
Fischer et al. 2016	Feral swine	Missouri, USA	Trapped-and-released, hunt with dogs, single hunt, shoot from helicopter	Yes	Reduced (ø-30%) after 1 removal, increased (ø+50%) after repeated removal	No		More elusive	Habitat	Repeated removal may lead to increased movements
Campbell et al. 2010	Feral swine	Texas, USA	Helicopter shooting	Yes	No (slight decrease)	Yes ~60% left former area within annual HR	No (slight increase)			Aerial gunning is an efficient tool - only short distance and short duration reactions occurred in surviving pigs
Gaston et al. 2008	Feral swine	Alabama, USA	"Low pressure" season = 260 man-days hunt, "high pressure" season = 4,985 man-days hunt	Yes	Decreased during hunt (ø-30%)				Season	Smaller HR in high pressure hunting, high effect of season on spatial behavior
de Assis Morais et al. 2020	Wild boar invasive §	SE Brazil	Trap + single hunt*	Yes				Changing to diurnal activity		Result is opposite to most other findings
Baubet et al. 1998	Wild boar	French Alps	Hunt*	Yes	Increase/decrease during hunting				Season	Effects of hunting not clear: increase/decrease in HR could be due to season as well as hunting

Calenge et al. 2002	Wild boar	NE / S France	S: Mainly drive hunts with large dogs attacking wild boar NE: Drive hunts small dogs used to find and drive boar toward hunters	Yes	Increase during hunting ($\emptyset+200\%$)				Season	Despite different study areas and methods of hunting, Larger home ranges during hunting season => seasonal effect? No effect of different hunting methods High individual variation (increased vs. decreased HR)
Johann et al. 2020a,b	Wild boar	SW Germany	Hunt all year, night hunt allowed, drive hunts in autumn/winter	Yes			Higher seasonal daily movements (due to hunt?)	Higher diurnal activity without hunting	Season	High behavioural flexibility of wild boar individuals makes it difficult to detect true effect of hunting
Keuling et al. 2008b	Wild boar	NE Germany	Hunt all year, single night hunt allowed, drive hunts in autumn/winter	Yes	Increased HR in high hunt pressure (repeated drive hunts + single hunt), slightly increased after single drive hunts	Only few cases, max 2 km, max 7 days	Increased after single hunt	Activity more affected by season than by hunting		Hunting increases movements and HR size, but all within annual HR
Maillard and Fournier 1995, Maillard et al. 1996	Wild boar	S France	Small drive hunts with dogs, repeated on some areas, October to January	Yes	Increased HR in high hunt pressure (repeated; $\emptyset+250\%$)		Increased		Season	Hunting caused wild boar to leave HR after high hunting pressure and to return later*
Ohashi et al. 2013	Wild boar	C Japan	Single dog hunting (seek and chase) only during day, box and snare traps, November to February	Yes				Decreased diurnal activity during hunt	Human activities (distance to settlements)	The effects of both hunting or other human activities (e.g., agriculture, transport) led to decrease of diurnal activity
Scillitani et al. 2010	Wild boar	N Italy	Drive hunt twice a week (November to January)	Yes	Increased resting HR# ($\emptyset+475\%$)	Max 15-km shift during hunting season with repeated drive hunts per month	Increased/ more variable	More elusive	Habitat	Hunting increased HR size, size of movements, and made wild boar more elusive when groups were repeatedly hunted
Sodeikat and Pohlmeier 2002, 2007	Wild boar	NW Germany	Hunt all year, single night at bait hunt allowed, drive hunts in autumn/winter	Yes	Partly increased or decreased total HR, increased resting HR# ($\emptyset+60\%$) by drive hunt	Max 6-km shift return after max 6 weeks after drive hunts		Decreased activity after drive hunt		Hunting led to temporary increase of HR and size of movements and to a decrease in activity after a drive hunt; 40% wild boar left resting range# after drive hunt
Thurfjell et al. 2013	Wild boar	S Sweden	Drive hunt, single hunt, small game hunt*	Yes		May occur		More elusive	Habitat	Hunting may lead to fleeing or hiding, depending on hunting method/pressure; adapting method to season and habitat would be useful

Tolon et al. 2009	Wild boar	Basin of Geneva, France	Drive hunts (max 3/week) with dogs and beaters, September to January	Yes		Yes, when refuge available	Refuge effect	Habitat	"Landscape of fear" effect on individual spatial behavior and wild boar moved to areas where hunting did not occur
van Doormaal et al. 2015	Wild boar	C Japan	Single dog hunting (seek and chase) only during day, box and snare traps, November to February	Yes			Decreased activity (RAI -50%), more nocturnal	Human activities (described as distance to settlement)	Hunting caused wild boar to become more nocturnal and to avoid human settlement
Wevers et al. 2020	Wild boar	Flanders, Belgium	Single night hunt allowed, drive hunts in autumn/winter, un hunted vs. year-round hunted areas within study area	Yes			No diurnal activity		Hunting caused wild boar to become nocturnal but animals did not avoid areas with hunting hides
Bastille-Rousseau et al. 2020	Feral swine	South Carolina, USA	Trapping + single shooting*	Partly	Only single individuals have decreased HR	No	More elusive	Season habitat	Targeted trapping did not induce HR shift; spatial behavior possibly affected by season
McIlroy and Saillard 1989	Feral swine	Namadgi NP, NSW, Australia	Searching with dogs for culling shots, poisoning*	Partly	Short-term increase after hunt (up to +500%)				Hunting not very effective, no important changes in space use, if hunt/cull only short term
Franckowiak and Poché 2018 Franckowiak et al. 2018	Feral swine	Texas, USA	Hunt year round*	?	?			Permanent hunting season, landscape, weather	Assumed larger HR due to year-round hunting season
Gaston 2008	Feral swine	Alabama, USA	Hunting season*	?	Decreased during hunt		More elusive	Season, habitat	Seasonal changes in spatial behavior interpreted as induced by hunting pressure
Saunders and Kay 1991	Feral swine	NSW, Australia	Hunt/trapping*	?			More elusive	Habitat	Thermoregulatory needs, refuge availability, and food supply are more important than hunting
Keuling et al. 2009	Wild boar	NE Germany	Hunt all year, single night hunt allowed, drive hunts in autumn/winter	?		?	More elusive		Wild boar avoid being hunted by shifting home range, becoming more elusive, and using sheltering habitats/refuges
Theuerkauf and Rouys 2008	Wild boar	Bialowieza NP, NE Poland	Hunt in commercial land vs. no hunt in NP*	?			More elusive, avoiding hunting areas, refuge effect	Habitat landscape	Hunting perceived by wild boar as "landscape of fear" and areas where hunting occurred were avoided

Thurfjell et al. 2009	Wild boar	S Sweden	Drive hunt, single hunt, small game hunt*	?				Refuge effect of edges (moving along woodland edges, hedge rows, and other structures)	Habitat landscape	Hunting caused strong avoidance of open habitats
Fattebert et al. 2017	Wild boar	Basin of Geneva, CH/F	Night cull by game wardens (night vision scopes + car) in Canton Geneva/drive hunts with dogs in surrounding areas	?		Larger HR in dayhunt area			Landscape, food, habitat, season	Larger HR in dayhunt area; key factors in affecting spatial behavior are food, habitat, landscape
Dexter 1996	Feral swine	NSW, Australia	Helicopter shooting	No	No (slight decrease)	No	No (slight decrease)			Hunting had no significant effect on spatial behavior
Brivio et al. 2017	Wild boar	C Italy	Protected area vs drive hunts with dogs max 3 days/week September to January	No				Nocturnal activity?		No direct effect of hunting detected, nocturnal behavior probably adapted to climatic conditions rather than to hunting
Keuling et al. 2008a	Wild boar	NE Germany	Hunt all year, single night hunt allowed, drive hunts in autumn/winter	No					Food, season	Spatial behavior affected by food availability and season
