

Shooting Wildlife?

Who makes your binoculars, cameras and spotting scopes?



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Part 1: Executive Summary

'Sport optics', such as binoculars, spotting scopes and monoculars, are used by many keen birders and wildlife watchers. They are also essential pieces of equipment for hunters, resulting in some optics companies marketing products at both conservationists and sport hunters. Also classed by some as 'sport optics' are rifle sights and optical rangefinders sold to hunting enthusiasts.

As highlighted by press coverage of Cecil the Lion's demise,¹ and the UK public's response to Westminster trying to legalise fox hunting,² the hunting of animals for fun or sport is highly controversial. The Mediterranean songbird slaughter, and the ongoing battle in the UK between the grouse-shooting industry and environmentalists,³ provide further modern-day examples of the impacts caused by ecologically insensitive hunting. These case studies also highlight the political tensions that surround the sport hunting industry.

With such an ethically complex issue, you might expect companies operating in the sport optics sector to be transparent or to take a definitive ethical stance. To date they have largely avoided this.

From an animal rights perspective this is problematic as some companies do not respect the 'right to life' concept. For some, it is never acceptable to kill an animal, and to glamorise the hunting of animals for sport is unacceptable. Optics companies such as Nikon have, consequently, become the target of consumer campaigns. In 2013, Viva! called for a boycott of all Nikon products (cameras, binoculars and scopes) until the company dropped its support for hunting. This boycott is still ongoing as Nikon continues to market products to both hunters and wildlife enthusiasts. It does, however, appear to have stepped back from some of its more full-throated endorsements of problem hunting behaviours.

From an environmental perspective the issues are more complex and debates about the ecological impacts of sport hunting, and the future role of hunting in global conservation efforts, are emotive and have become highly polarised.

This report explores the debates around the ethics and impacts of sport hunting, and examines how 30 optics companies approach this sensitive subject. Part Two reviews some of the literature on the global impacts of sport hunting, and Part Three of this report looks in detail at each of the companies involved.

Sport hunting, for the purpose of this report, is defined as 'hunting undertaken for leisure, for money or for free, with the end product of the hunt being meat, a prize or trophy, or the "thrill of the chase".'

1. www.theguardian.com/environment/cecil-the-lion

2. www.mirror.co.uk/news/uk-news/fox-hunting-poll-reveals-74-6066347

3. www.theguardian.com/commentisfree/2015/dec/29/deluge-farmers-flood-grouse-moor-drain-land

1.1 General Findings

(a) Companies committed to sport hunting.

25 (83%) of the companies covered in this report had some involvement in selling sport hunting accessories or marketing products at hunters. Of these 25 companies, 17 (57%) sold numerous sport hunting accessories, and marketed products directly at hunters. The remaining eight companies had weaker links with sport hunting, with one or two products being promoted for use when hunting, bird watching or playing golf.

Not only were products promoted for use when hunting, but the promotional language used by 47% of companies referenced 'big-game' or trophy hunting.

For example: *"Once you're after that **trophy**, nothing can hold you back ... Even after countless monster-obsessed pursuits, Steiner optics are eager for more and ready to go."*⁴

*"The ability to have both eyes open for a quick, snap shot can mean the difference between the one that got away and the prize **trophy** of a lifetime."*⁵

*"The Diamondback HP is well-equipped for any hunter looking for a 1-inch scope – and a 200-inch deer."*⁶

Vortex Optic's Diamondback riflescopes were also accompanied by images of hunters with the following statements: *"Hunters love it, game animals, not so much" and "Turns game trails into blood trails"*.

A number of companies (including Alpen, Berreta, Bresser, Hawke, Leupold, Meopta, Minox, Nikon, Swarovski, Vanguard, Vista Outdoors, Vortex Optics and Zeiss) also sponsored hunting TV shows that promoted trophy hunting. For example, Vanguard was the exclusive sponsor of 'Outdoor Option', a TV show aired on the Sportsman channel as part of 'Big Game Wednesday'.⁷ And Dean Capuano, director of communications for Swarovski Optik North America, was a TV show host on 'Swarovski Optik Quest' – a show that featured "Swarovski Optik Pro Staffers travelling to the world's most exotic locations in search of the planet's most difficult and sought-after trophies ..."⁸

By glamorising trophy hunting through imagery and language, optics companies promote a form of selective sport hunting that has been linked to changes in animal demographics, population health and animal migration – as discussed in Part 2 below.

(b) Companies without sport hunting connections.

Only four companies (13%), Canon Inc., Fujifilm Holdings Corporation, the Olympus Corporation and Kenko Tokina Co., did not appear to sell hunting accessories and did not market products at hunters. Interestingly, these four companies are Japanese owned.

(c) Companies with weak connections to sport hunting.

Six companies (20%) had very weak links to sport hunting, perhaps mentioning in catalogues that a product could also be used by hunters but without having a dedicated 'hunting' section on their website. The main brands in this group are: Celestron, Opticron, Pentax, Visionary, Kowa and Viking.

For example, Visionary's manufacturer recommended products for a range of activities in its brochure, including: *"Walking, travel, skiing, ships, balloons, camping, mountaineering, hunting, hiking, fishing, landscape or nature viewing and studying architectural detail, the list is endless and so much more enjoyable with a good pair of binoculars"*.⁹

And Viking Optical Limited (the sole supplier of optics to the RSPB) had no direct links with its own branded products, however, on its online optical centres it sold branded optics, such as Zeiss, which were marketed to the hunting industry.

Eschenbach and Carson similarly marketed their products at a range of users, but also had more specific sport hunting sections on their websites.

Companies with no, or very weak, connections with sport hunting (33% of the total) have perhaps the most to gain, and the least to lose, by considering whether to orientate themselves more firmly towards the market for wildlife enthusiasts.

4. www.steiner-optics.com/binoculars/hunting : viewed Nov 2015

5. www.meoptasportsoptics.com/shop/en/r1-1-4x22-rd-mr/meostar-r1-1-4x22-rd-mr/ctgRen.html : viewed Nov 2015

6. www.vortexoptics.com/uploads/catalog_2015_vtx-hunting.pdf : viewed Nov 2015

7. www.vanguardworld.us/photo_video_us/2015/02/27/vanguard-joins-the-outdoor-option-team-as-exclusive-optics-sponsor/ : viewed Nov 2015

8. outdoorchannel.com/showabout.aspx?show-id=14778 viewed January 2016

9. www.opticalhardware.co.uk/PDF/information_and_retail_price_lists/binocular_and_telescope_guide.pdf: viewed Nov 2015

1.2 Funding the pro-hunting debate

Companies that sold hunting optics were more likely to have sponsored hunting organisations or initiatives. 76% of companies that sold multiple hunting accessories had sponsored hunting organisations whose mission statements included “protecting hunters' rights”, and 59% were members of hunting and conservation organisations such as The Boone and Crockett club, Whitetails Unlimited and Safari Club International (SCI).

A number of companies were also trying to engage new user groups, such as women and children, in hunting through education programmes, competitions and sponsorship of TV shows. For example, Vista Outdoors sponsored the annual 'Daughters at the Range' event, which aimed to introduce families and their daughters to sport shooting.¹⁰ Nikon was a 2015 partner of 'Raised Hunting', a US show that follows the journey of an American family that “use hunting as a platform to teach ethics and values to their family”.¹¹ Swarovski Optik was listed as an International Sponsor of the Youth Hunter Education Challenge, a challenge organised by the US National Rifle Association.¹² And Barksa's twitter feed included a re-tweeted image of a young girl holding a dead deer's antlers and the statement: “We need more kids holding deer and less game controllers...”

These schemes fuel an ongoing culture of hunting, and fail to discuss the ethics of killing animals for sport.

80% of companies that promoted the use of at least one product for hunting also used images of trophy animals such as elk, white-tailed deer and bighorn sheep in promotional materials or on social media sites.

An extreme example of this is the 'Vortex Nation' section of Vortex Optics' website, www.vortexoptics.com, which contained a 'Trophy Room' that displayed images of scenes created by Vortex products: images of landscapes shot by Vortex equipment, animals killed using Vortex products and images of weapons used. The Trophy Room contained a 'big-game' section which displayed images of trophy hunts, including images of dead elk, caribou, a bull moose, bighorn sheep, black bear, mountain lion, roebuck, buffalo and brown bears.

Similarly, Alpen, Berreta, Bresser, Zeiss, Leica, Minox, Swarovski and Vanguard used images of animals such as male lions and bears, where the potential negative impacts of selective hunting have started to be evidenced – as discussed in the literature review.

1.3 Who to buy from?

Recommended companies are Canon Inc., Fujifilm Holdings Corporation, the Olympus Corporation and Kenko Tokina Co., which were the only companies covered that could not be directly linked with the sport hunting industry. The RSPB's own branded optics, supplied by Viking Optical, also do not sponsor hunting or promote shooting equipment.

The other five companies with weaker links to sport hunting may also be a good choice. The main brands in this group are: Celestron, Opticron, Pentax, Visionary and Kowa.

Consumers who hold animal rights issues close to heart may want to avoid companies committed to hunting. These are: Nikon, Bushnell, Vortex, Meopta, Minox, Leica, Steiner, Burris, Swarovski, Leupold, Vanguard, Zeiss, Hawke, Bresser, National Geographic, Acuter, Barska, Visionking, Bosma and Alpen brands.

If environmental issues guide your purchasing choices, then you may wish to avoid companies that glamorise trophy hunting. In particular companies whose images and footage include animals such as lions and bears where the potential negative impacts of selective hunting have started to be evidenced. These include Alpen, Steiner, Swarovski, Burris, Bresser, National Geographic, Zeiss, Leica, Minox, Vanguard and Vortex optics.

If you're going to change what you buy because of this report, remember to tell the company about it and let them know why!

10. www.vistaoutdoor.com/2015/08/vista-outdoor-sponsors-daughters-range-event/ : viewed Nov 2015

11. www.raisedhunting.com

12. international-yhec.nra.org/yhec-sponsors.aspx: viewed Nov 2015

1.4 Companies reviewed

Thirty optics companies are covered in this report, all of which sell birding optics, amongst other products. They all appear in the table on page 7.

Optics companies were selected based on market reports of the industry,¹³ in addition to correlating key manufacturers with recommended and accessible brands in the UK. Top selling binocular brands on Amazon were also viewed and recommendations from birding forums, bird optics websites^{14,15} and product reviews were taken into account.

(a) Company Profiles

A company profile has been developed for each optics company covered in this report.

Profiles explore the culture and history of the companies behind the optics brands, and examine the types of consumer products sold.

Where hunting accessories were found on sale, the type of products sold and how they were sold and promoted was reviewed. Where information was displayed on websites, the promotional text used, animal species used in images, and company links to the sport hunting industry through sponsorship or membership were recorded.

In particular, the promotion of trophy hunting was noted due to the potential impacts of selective hunting on a population's health and resilience – as discussed in the literature review in Part 2 of this report.

13. <http://beforeitsnews.com/business/2015/07/world-binoculars-market-forecasting-analysis-report-2020-2720098.html>

14. www.optics4birding.com

15. www.birdwatching.co.uk

1.5 Table of companies

Brand	Sells rifle sights/ scopes	Markets other optical products to hunters	Other hunting links or sponsorship	Company	Turnover
Acuter	x	x		Synta Technology (Taiwan), distributed by Optical Vision Limited (UK)	£13.24m/£7.7m
Alpen	x	x	x	Alpen Outdoor Corporation (USA)	£584,000
Barr & Stroud			x	Optical Vision Limited (UK)	£7.7m
Barska	x	x		Micro World Corp. (USA)	£3.35m
Bosma	x	x		Guangzhou Bosma Corp. (China)	\$10m-50m
Bresser (National Geographic)	x	x	x	Jinghua Optical & Electronics Co. Ltd. (China)	£46.61m
Burris	x	x	x	Beretta Holding SpA (Italy)	€623.6m
Bushnell	x	x	x	Vista Outdoor (USA)	\$2.08bn
Canon				Canon Inc. (Japan)	£20bn
Carson	x	x		Carson Optical (USA)	£6.49m
Celestron		x		Synta Technology (Taiwan)	£13.24m
Eschenbach	x	x		Eschenbach Holding GmbH/ Equistone Partners Europe (Germany/UK)	€131m
Fujinon				Fujifilm Holdings Corporation (Japan)	¥2,492.6bn
Hawke	x	x	x	Deben Group Industries (UK)	£5.18m
Kenko				Kenko Tokina (Japan)	£94.93 m
Kowa		x		Kowa Group (Japan)	¥434,344 m
Leica	x	x	x	LeicaCamera AG (Germany)	£227m
Leupold	x	x	x	Leupold and Stevens Inc. (USA)	£69.62m
Meoptica	x	x	x	Meoptica s.r.o. (Czech)	£62.24m
Minox	x	x	x	Minox GmbH (Germany)	Not available
Nikon	x	x	x	Nikon Corporation (Japan)	£4.83bn
Olympus				Olympus Corporation (Japan)	£4bn
Opticron		x		Opticron (UK)	£0.8m
Pentax		x		Ricoh Imaging Co ltd (Japan)	¥2,231bn
Steiner	x	x	x	Beretta Holding SpA (Italy)	€623.6m
Swarovski	x	x	x	Swarovski Group (Austria)	€3.2bn
Vanguard	x	x	x	Vanguard (China)	Not available
Viking, (RSPB)		x		Viking Optical (UK)	Not available
Visionary		x		Optical Hardware (UK)	£6.5m
Visionking	x			Visionking Optical Technology (China)	Not available
Vortex	x	x	x	Sheltered Wings Inc. (USA)	£6.21m
Zeiss	x	x	x	Carl Zeiss Stiftung (Germany)	€4.3bn

Part 2: Sport hunting ethics

Hunting animals for sport or recreation is widely opposed by broader society, especially when it involves chasing animals with dogs. Grandy et al (2003)¹⁶ found that a higher percentage of people are found to oppose hunting conducted primarily for sport, recreation or trophy hunting, compared to hunting for food.

Animal rights groups oppose hunting in all forms as they uphold the 'right to life' concept. Killing animals in any instance – whether for sport or food – is considered unacceptable as the animal's life is not ours to take.¹⁷

From an animal welfare perspective, the degree of suffering (pain and psychological trauma) caused by an action also determines whether an action is deemed morally acceptable or not. A couple of studies have tried to examine the animal suffering caused by hunting through observations of animal behaviour, and measuring glycogen and cortisol levels, and muscle damage.^{18,19} They suggest that a high level of skill can reduce the suffering experienced when an animal is hunted. For example, red deer appear to suffer more when wounded and not killed cleanly (in a single shot), or when forced to flee in a chase compared to deer instantly killed by a quiet and skilled deer stalker. The type of weapon used, the number of shots taken to kill an animal, the time from impact until death, and how hunters deal with dependent young are all factors that can impact on perceived suffering.²⁰

Whether it is deemed socially acceptable to kill an animal also appears to be dependent on the species in question and whether it can feel, or is perceived to feel, pain. Society tends to have 'favourite species', with less concern being shown towards the killing of 'vermin' such as rats compared to a dog, for example.

As highlighted by Grandy et al (2003), ethical considerations regarding hunting, particularly in the US, examine notions such as 'fair chase', humaneness of hunting methods used, whether hunting is conducted primarily for recreation, whether the final product is used (for meat etc.), the level to which hunting serves a wider purpose (for example, to help prevent a people/wildlife conflict), and whether hunters respect laws and regulations. Even the hunting industry is appalled at methods such as 'canned shooting' – where animals are bred and shot within an enclosed area.

16. Grandy, J. W., Stallman, E., & Macdonald, D. (2003). "The science and sociology of hunting: Shifting practices and perceptions in the United States and Great Britain." In Salem, D. J. & Rowan, A. N. (Eds.), *The state of the animals II: 2003* (pp. 107-130). Washington, DC: Humane Society Press.

17. Culture & Animals Foundation website, viewed 18/9/2015

18. Bateson, P. and Harris, R. (2000) "Report of contract 7 on welfare to the Committee of Inquiry into hunting with dogs," Home Office, London.

19. Loveridge, A. J., Reynolds, J. C., and Milner-Gulland, E. J. "Does sport hunting benefit conservation?" *Key topics in conservation biology* 1 (2007): 222.

20. Culture & Animals Foundation website, viewed 18/9/2015

2.1 Shooting and wildlife globally – a polarised debate

Discussions surrounding the social and environmental impacts of sport hunting are highly polarised, with animal rights organisations and pro-hunting groups both selecting studies that support their cause. Even within the academic literature, the influence that the hunting industry has on these studies must be questioned. Although exploring this question is beyond the scope of this study, we have highlighted this issue by listing sponsors of studies referenced, and authors' backgrounds in Appendix 1.

Many peer-reviewed academic journals that have assessed the impacts of sport hunting have taken a pragmatic or pro-hunting position to sport hunting, removing the ethical argument from the equation. Studies that have criticised this approach, or have questioned the impact and ethics of sports hunting, tend to be found in the 'grey literature': literature written by third-sector organisations, government bodies and animal rights groups. Although the quality and subjectivity of grey literature can be questioned, it is important to ask: is there a disconnect between societies' preferences and the focus and rational thinking of academic research within the hunting literature? If yes, what has created this disconnect? When sport hunting is put into a broader economic context and is compared to other industries such as eco-tourism, the economic and conservation arguments associated with sport hunting become less convincing.

2.2 What are the social and environmental impacts of sport hunting?

The impacts of sport hunting are complex and vary depending on the socio-political and ecological context in which hunting occurs. Motivations for sport hunting, the financial transactions involved, the species and animals targeted, the ecological awareness of the hunter, and the type of weapon used can all affect the size of impact, if any, observed.

The key animal, environmental and socio-political impacts associated with the sport hunting industry globally are summarised within this review; drawing on the academic and

grey literature. Many studies have focused on sport hunting's impacts on animal populations and biodiversity, but few have explored the social and political impacts of sport hunting, let alone explored all four areas simultaneously.

Many academic studies utilise theoretical models to predict the impacts of sport hunting, the results of which do not always match field observations.²¹ However, as Milner et al (2007) suggest, this mismatch of predicted impact versus observed impact may be due to a lack of long-term studies and rigorous monitoring regimes.

The practice of canned hunting, where animals are bred and shot within an enclosed area, is not specifically examined within this report as it raises additional issues regarding hunting ethics and the notion of 'fair chase', where an animal has a fair chance of escaping. However, many of the issues discussed within this report will still apply to the canned hunting industry, which is primarily found within South Africa.

2.3 Ecological Impacts

2.3.1 Population size

There are a number of historical and modern day examples of sport hunting leading to population decline and, in some cases, extinction due to ecologically-insensitive hunting or over killing.²² This has been observed for both target and non-target species, with Mediterranean songbird hunting²³ and the persecution of the hen harrier by the UK Grouse shooting industry²⁴ respectively, being two topical examples. Another example is the decline of the Nubian bustard (*Neotis nuba*) in Sahelian Africa.²⁵

However, where sport hunting has been well regulated, or a species has proved resilient to hunting (due to polygynous mating where one male lives and mates with multiple females), population numbers have remained static, and in a few instances have increased, so long as the female to male ratio has not surpassed an 'optimum threshold'.^{26,27} After the 'optimum threshold' is surpassed, pregnancy and birth rates may decrease, potentially leading to population decline.

21. Milner, J. M., Nilsen, E. B., Andreassen, H. P. "Demographic side effects of selective hunting in ungulates and carnivores." *Conservation Biology* 21.1 (2007): 36-47.

22. Leader-Williams, N. 2009 "Conservation and Hunting: Friends or Foes? "Recreational Hunting, Conservation and Rural Livelihoods: 9.

23. Birdlife International, August 2015, 'The Killing' www.birdlife.org/sites/default/files/attachments/01-28_low.pdf

24. Etheridge, B., Summers, R. W., and Green, R. E. "The effects of illegal killing and destruction of nests by humans on the population dynamics of the hen harrier *Circus cyaneus* in Scotland." *Journal of Applied Ecology* (1997): 1081-1105.

25. BirdLife International (2015) IUCN Red List for birds. Downloaded from www.birdlife.org on 03/09/2015. www.birdlife.org/datazone/speciesfactsheet.php?id=2763

Quotas are commonly used to ensure optimum 'harvests' are sought. However, it has been suggested that quotas are sometimes based on guesswork due to the poor monitoring of populations.²⁸ This can result in inappropriate quotas, and harvest 'optimums' being surpassed.

2.3.2 Population demographics

When killing is restricted to a few animals via a quota, or a population's size shows little change, the demographics of a population may still be altered through the process of selective hunting: hunting targeted at animals with desirable features (or sometimes undesirable features).

For example, trophy hunters, attracted by large or distinct sexually selected features such as manes, tusks or antlers, may target mature or old males. This results in some hunted populations having female-biased sex ratios, and/or a younger male population.^{29,30} This can affect population dynamics, mating behaviour, and may make certain sub-populations more vulnerable to competing groups.³¹ For example, larger lion prides, with a higher number of mature males, are less prone to losing kills to hyenas. If mature males are killed for trophies, prides potentially become more vulnerable to hyena 'robbings', creating an energy drain by increasing the need for them to hunt.^{32,33}

Smaller prides, with fewer mature males, are also vulnerable to incoming sexually-mature males. Cubs sired by rival (hunted) males may be killed by immigrant lions to reduce the inter-birth period of new mates. This behaviour, known as sexually selected infanticide, has been suggested as a cause of reduced cub survival rates in brown bears (*Ursus arctos*)³⁴ and is also well documented in lion populations.^{35,36}

Awareness of this issue has resulted in studies proposing guidance to wildlife managers on the 'specimen types' that should be allowed for killing. For example, Whitman et al (2004) recommend that trophy hunters target male lions aged six and above, allowing young males to rear cubs, reducing the long-term impacts on population size.

Milner et al (2007) highlight a number of studies that suggest that young adults can be socially disruptive, prolong the mating season, and show immature courtship behaviour within certain species, including elk and bighorn sheep. This can affect the willingness of females to mate, and the weight and timing of newborns – potentially affecting winter survival rates and vulnerability to predators. Younger animals and populations are potentially more vulnerable during cold winter periods, resulting in populations that are hunted at a younger age experiencing greater population variability.³⁷ Time of mating can also affect the sex of newborns, with later matings potentially increasing the likelihood of female calves in white-tailed deer, reindeer and Norwegian moose.³⁸

Removing older males can also impact on a group's knowledge and ability to interact with other groups. For example, trophy hunters may be attracted to elephants with longer tusks – a trait that is associated with age. Older males in elephant groups are thought to have greater discriminatory ability than younger males, which can affect the social knowledge of a whole group if they are removed.³⁹ Slotow et al (2002)⁴⁰ observed more aggressive behaviour amongst young bull elephants when mature bulls were not present – with 40 white rhinoceros being attacked and killed over a five-year period. This behaviour ceased once mature males were introduced into the population.

26. Milner, J. M., Nilsen, E. B. and Andreassen, H. P. "Demographic side effects of selective hunting in ungulates and carnivores." *Conservation Biology* 21.1 (2007): 36-47.
27. Solberg, E. J., Loison, A., Ringsby, T. H., Sæther, B.-E. & Heim, M. 2002: "Biased adult sex ratio can affect fecundity in primiparous moose *Alces alces*." *Wildlife Biology*. 8: 117-128
28. Lindsey, P. A., Roulet, P. A. and Romanach, S.S. "Economic and conservation significance of the trophy hunting industry in sub-Saharan Africa." *Biological conservation* 134.4 (2007): 455-469.
29. Milner, J. M., Nilsen, E. B., Andreassen, H. P. "Demographic side effects of selective hunting in ungulates and carnivores." *Conservation Biology* 21.1 (2007): 36-47
30. Noyes, J. H., Johnson, B. K., Bryant, L. D., Findholt, S. L., & Thomas, J. W. (1996). "Effects of bull age on conception dates and pregnancy rates of cow elk." *The Journal of wildlife management*, 508-517.
31. Milner, J. M., Nilsen, E. B., Andreassen, H. P. "Demographic side effects of selective hunting in ungulates and carnivores." *Conservation Biology* 21.1 (2007): 36-47.
32. Cooper, S. M. "Optimal hunting group size: the need for lions to defend their kills against loss to spotted hyaenas." *African Journal of Ecology* 29.2 (1991): 130-136.
33. Loveridge, A. J., Reynolds, J. C., and Milner-Gulland, E. J. "Does sport hunting benefit conservation?" *Key topics in conservation biology* 1 (2007): 222.
34. Swenson, J. E., Sandegren, F., Oderberg, A. S., Bjarvall, A., Franzen, R. and Wabakken, P. Infanticide, 1997, caused by hunting of male bears, *Nature* 386: 450-451
35. Pusey, A. E., & Packer, C. (1994). "Infanticide in lions: consequences and counterstrategies. Infanticide and parental care", 277-299.
36. Whitman, K., Starfield, A.M., Quadling, H.S., Packe, C. 2004, "Sustainable trophy hunting of African lions", letters to nature <http://faculty.washington.edu/wirsinga/Whitman2004.pdf>
37. Gordon, I., Hester, A. J. and M. Festa-Bianchet. "Review: the management of wild large herbivores to meet economic, conservation and environmental objectives." *Journal of Applied Ecology* 41.6 (2004): 1021-1031.
38. Milner, J. M., Nilsen, E. B., Andreassen, H. P. "Demographic side effects of selective hunting in ungulates and carnivores." *Conservation Biology* 21.1 (2007): 36-47
39. McComb, K., Moss, C., Durant, S. M., Baker, L., & Sayialel, S. (2001). "Matriarchs as repositories of social knowledge in African elephants." *Science*, 292(5516), 491-494.
40. Slotow, R., van Dyk, G., Poole, J., Page, B., & Klocke, A. (2000). "Older bull elephants control young males." *Nature*, 408(6811), 425-426.

Selective hunting also occurs when hunters are encouraged to avoid 'trophies' or target different 'problem' species, in an attempt to increase the health of a population or ecosystem. As a baseline (in terms of reducing potential impacts), the closer hunting mimics natural mortality rates, the less of an impact it should arguably have.

However, a couple of studies examining the motivations underlying sport hunting show that hunters are not always willing to change the animals they target.^{41,42}

2.3.3 Migration

Selective hunting can affect migration patterns of certain species, to the potential detriment of long-term population growth. For example, female grizzly bears in hunted populations have avoided food-rich areas in order to protect their cubs from potentially infanticidal immigrant males.⁴³

North American grizzly bears, cougars (*Puma concolor*) and elk (*Cervus elaphus*) have similarly avoided food-rich habitats in order to avoid hunters.⁴⁴ Ordiz et al (2012) observed solitary brown bears (*Ursos arctos*) during the bear hunting season in Scandinavia, and found that bears became more active at night during the hunting season, a time when they were expected to rest.

Studies have also observed snow goose (*Anser caerulescens atlanticus*) and other migratory birds changing migration routes and avoiding food-rich 'stop-over points' in response to disturbances created by hunting. Hunting, in some instances, has been found to cause longer flying distances for migratory birds, has caused birds to leave nests, parents to lose chicks, has increased vulnerability to predation, has increased human-bird conflicts, and reduced the weight of migratory birds that are prevented from resting and landing in 'stop-over points'.^{45,46}

2.3.4 Genetic impacts

By selecting healthy and strong specimens, sport hunters may leave weaker animals, or animals with 'less desirable'

traits. This, arguably, results in a process that opposes the natural evolution of a species where 'survival of the fittest' results in natural predators killing the weak, old and young. The impact of this selection bias on the long-term evolution of a population is unclear due to a lack of long-term studies and detailed observations, and few studies have focused on the genetic impacts of sport hunting. However, if 'desirable features' are inheritable, hunting presumably has an impact on genetics and inherited traits.

For example, changes in the phenotypes of a hunted population of bighorn sheep (*Ovis canadensis*) were documented by Coltman et al (2003),⁴⁷ with the population's average horn size and body weight decreasing over time as hunters selected large male specimens. As these inheritable features are correlated with fitness, it could be argued that this selection bias resulted in the population's average fitness decreasing over time.

Harris et al's (2002)⁴⁸ literature review suggested that sport hunting could both increase and decrease gene flow (depending on the species and habitat in question), which could potentially threaten locally adapted gene complexes and reduce genetic variability respectively. For example, neighbouring white-tailed deer populations were found to be genetically different at a local level due to philopatry (tendency to stay in one area) amongst female deer. Genetic flow was assumed to be enabled through male deer moving in-between populations. Consequently, if male deer were to be hunted, gene flow would presumably decrease. However, if for some reason, movement were to be increased as a result of the social disruption caused by hunting (see section on movement), gene flow could increase to the detriment of locally adapted gene complexes, increasing genetic variability.

The effect these changes in gene flow have on the long-term evolution and survival of hunted populations is unclear, and will presumably depend on a variety of other external factors such as land-use change, climate change, etc.

41. Grandy, J.W., Stallman, E., & Macdonald, D. (2003). "The science and sociology of hunting: Shifting practices and perceptions in the United States and Great Britain." In D.J. Salem & A.N. Rowan (Eds.), *The state of the animals II: 2003* (pp. 107-130). Washington, DC: Humane Society Press.

42. Holsman, R. H. "Goodwill hunting." *Exploring the role of hunters as ecosystem stewards. Wildlife Soc B* 28.4 (2000): 808-816.

43. Wielgusa, R. B., & Bunnell, F. L. (2000). "Possible negative effects of adult male mortality on female grizzly bear reproduction." *Biological Conservation*, 93(145), 154.

44. Ordiz, A., Støen, O. G., Sæbø, S., Kindberg, J., Delibes, M., & Swenson, J. E. (2012). "Do bears know they are being hunted?" *Biological Conservation*, 152, 21-28.

45. Kirby, J. S., Stattersfield, A. J., Butchart, S. H., Evans, M. I., Grimmett, R. F., Jones, V. R., O'Sullivan, J., Tucker, G. M. and Newton, I. "Key conservation issues for migratory land-and waterbird species on the world's major flyways." *Bird Conservation International* 18, no. 1 (2008): S49.

46. Loveridge, A. J., Reynolds, J. C., and Milner-Gulland, E. J. "Does sport hunting benefit conservation?" *Key topics in conservation biology* 1 (2007): 222.

47. Coltman, D. W., O'Donoghue, P., Jorgenson, J. T., & Hogg, J. T. (2003). "Undesirable evolutionary consequences of trophy hunting." *Nature*, 426(6967), 655.

48. Harris, R. B., Wall, W. A., & Allendorf, F. W. (2002). Genetic consequences of hunting: what do we know and what should we do? *Wildlife Society Bulletin*, 634-643.

2.3.5 Habitat preservation

The impacts of sport hunting on biodiversity, and the role of sport hunting as a conservation tool, has caused much debate amongst conservationists. Sport hunting and nature conservation are inextricably linked, and many national parks and reserves within the former British colonies and the USA can be historically traced back to sport hunters who wanted to protect game species and their habitats from unregulated killing and destruction.⁴⁹ Consequently, it is argued that sport hunting has made an important contribution to protecting habitat and wildlife globally. The key question is: does sport hunting continue to make an important contribution to conservation efforts globally?

In the USA, hunting directly contributes to conservation work through an 11% tax on sport hunting equipment under the Federal Aid in Wildlife Restoration Act (1973). This money pays for the buying of habitat, research, conservation training and education, and the provision of access to hunting and recreation facilities. Similarly, trophy hunting generates approximately \$201 million a year in sub-Saharan Africa, creating incentives for habitat protection (trophy operators manage approximately 1.4 million km² in sub-Saharan Africa), and contributing some revenue to conservation efforts.⁵⁰ Sport hunting is also argued to provide a more reliable income stream to remote areas and countries experiencing political instability, compared to photographic tourism, for example. A report by the League Against Cruel Sports (2004)⁵¹ disputes this claim, however, stating that photographic tourism can provide all-year-round trade, and benefits more people through varied job opportunities compared to sport hunting. Economists at Large (2013),⁵² also question the value of the sport hunting industry to local communities when studies have found that only three percent of hunting companies' revenue reaches communities living in hunting areas.

In the UK, where private land owners have an important role in conserving fragmented habitat and biodiversity, sport hunting has offered an economic incentive to plant new, and preserve existing, woodlands and hedgerows.⁵³

Hunting essentially places an economic value on wildlife, which has led to greater habitat protection globally.

Academics have suggested that sport hunting also has an important role to play in alleviating human-wildlife conflicts, potentially offering an economic incentive to conserve wildlife and preventing the conversion of habitat to less bio-diverse landscapes such as farmland.⁵⁴ It is also suggested that sport hunting, as an outdoor recreational activity, connects individuals with the broader environment – raising environmental awareness and increasing the likelihood of participation in conservation activities.⁵⁵ This theory is based on the notion that in order to become a good hunter you need to understand the behaviour, habitat and food preferred by the animals that are being hunted. However, studies have also questioned this rationale, as it is difficult to identify whether hunting leads to conservation or whether hunters would have conserved habitat in the first place – whether or not hunting was involved.⁵⁶ There is also evidence to suggest that sport hunters are not always willing to change their hunting preferences for broader conservation purposes.⁵⁷

Conservation undertaken to preserve a game species may benefit other non-game wildlife through preserving habitat. However, its species-specific approach to conservation can also have detrimental impacts on biodiversity and the health of the broader ecosystem. There are instances where game populations have been maintained at unsustainable levels, resulting in habitat degradation. For example, red deer populations in the Scottish Highlands have been maintained at high levels to the detriment of native woodland regeneration and moorland conservation.⁵⁸ Sport hunters' desire to maintain high game population levels can also conflict with proposed measures to improve ecosystem health, e.g. through the re-introduction of natural predators or through the creation of more diverse habitats that may not necessarily benefit game species.⁵⁷ Sport hunting can therefore act as a barrier to contemporary conservation development – which tends to take more of an ecosystem approach to preserving landscapes.

49. Coltman, D. W., O'Donoghue, P., Jorgenson, J. T., & Hogg, J. T. (2003). "Undesirable evolutionary consequences of trophy hunting." *Nature*, 426(6967), 655.
50. Lindsey, P. A., Frank, L. G., Alexander, R., Mathieson, A., & Romanach, S. S. (2007). "Trophy hunting and conservation in Africa: problems and one potential solution." *Conservation biology*, 21(3), 880-883.
51. A League Against Cruel Sports (ALACS) submission to Environment Minister, Elliot Morley MP, (2004), "The Myth of Trophy Hunting as Conservation", available online: www.league.org.uk/~media/Files/LACS/Reference-material/League-Against-Cruel-Sports-2004-The-Myth-of-Trophy-Hunting-as-Conservation.pdf
52. Economists at Large, 2013. "The \$200 million question: How much does trophy hunting really contribute to African communities?" A report for the African Lion Coalition, prepared by Economists at Large, Melbourne, Australia www.ifaw.org/sites/default/files/Ecolarge-2013-200m-question.pdf
53. Oldfield, T. E., Smith, R. J., Harrop, S. R., & Leader-Williams, N. (2003). "Field sports and conservation in the United Kingdom." *Nature*, 423(6939), 531-533.
54. Lindsey, P. A., Frank, L. G., Alexander, R., Mathieson, A., & Romanach, S. S. (2007). "Trophy hunting and conservation in Africa: problems and one potential solution." *Conservation biology*, 21(3), 880-883.
55. Cooper, C., Larson, L., Dayer, A., Stedman, R., & Decker, D. (2015). "Are wildlife recreationists conservationists? Linking hunting, birdwatching, and pro-environmental behavior." *The Journal of Wildlife Management*, 79(3), 446-457.
56. Loveridge, A. J., Reynolds, J. C., and Milner-Gulland, E. J. "Does sport hunting benefit conservation?" *Key topics in conservation biology* 1 (2007): 222.
57. Holsman, R. H. "Goodwill hunting." *Exploring the role of hunters as ecosystem stewards. Wildlife Soc B* 28.4 (2000): 808-816.
58. Grandy, J.W., Stallman, E., & Macdonald, D. (2003). "The science and sociology of hunting: Shifting practices and perceptions in the United States and Great Britain. In D.J. Salem & A.N. Rowan (Eds.), *The state of the animals II: 2003* (pp. 107-130). Washington, DC: Humane Society Press.

2.4 Socio-political impacts

2.4.1 Distribution of benefits

The economic benefits created by sport hunting in remote regions, particularly within developing countries, is often raised as an argument in favour of the sport hunting industry. Ensuring that local communities benefit from the presence of wildlife is also recognised as important on both sides of the conservation debate – as it has the potential to minimise wildlife-people conflicts and contribute to rural development.⁵⁹ The Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) in Zimbabwe is commonly cited as a 'successful' example of well-managed sport hunting. The project generates the majority of its revenue from sport hunting, aims to return 50% of its revenue to the communities involved, and aims to spend 20% of its revenue on wildlife management. However, part of CAMPFIRE's success may be down to subsidies provided by a number of international donors, primarily USAID, and complete community participation has still not been achieved according to Mutandwa et al (2007).⁶⁰

In the vast majority of cases however, the potential benefits created by the sport hunting industry are not currently fairly distributed, most notably in less economically developed countries experiencing poor governance. Money from the industry is reported to end up in the pockets of government officials and foreign businesses with only approximately 3% of sport companies' revenue ever reaching communities within hunting zones.⁶¹ Money that does reach local communities is not necessarily enough to protect local wildlife from persecution, or prevent the conversion of habitat to other land use types, such as farmland.⁶²

Corruption has also been identified as a barrier to benefits being realised by local communities and to good regulation and conservation.^{61,63,64} For example, reports of bribes being

paid to 'turn a blind eye' to species killed during hunts, killing over quota numbers and hunting methods used appear common.⁶³ The cost of corruption is highlighted in the case of Kenya, where trophy hunting was banned in 1977 due to overshooting and corruption, and was predicted to cost the country approximately \$20-40 million per year in lost revenue.⁶⁵

In addition, the revenue generated by the sport hunting industry at a national level is minimal compared to other, arguably less controversial, wildlife industries, such as eco-tourism. Economists at Large (2013) state that "overall trophy hunting accounts for less than 2% of tourism revenues". When compared to a nation's GDP, this figure becomes insignificant and discounts arguments of trophy hunting being a significant contributor to community economic development. Eco-tourism is also argued to offer more job and career opportunities compared to sport hunting.⁶⁶

2.4.2 Human rights

Where hunting reserves operate on national land, local communities have little voice in decision making, and in some cases have been banned from grazing livestock, hunting wildlife and using other natural resources (cutting down trees), whilst rich foreigners are allowed to hunt game for large sums of money.⁶⁷ As local communities are often unable to afford hunting licences, they are prevented from legally accessing local resources, resources their ancestors had grown up with, encouraging illegal hunting and potentially leading to arrests. This situation has been described as 'colonialism reborn', where hunting for food was once considered 'savage' compared to hunting for sport. This dynamic appears to have continued but with 'sustainability' at its core.⁶⁸ Yasuda's (2012) case study of Northern Cameroon documents a village that was forced to re-locate as it was inconveniently located within a key hunting area.

59. Lindsey, P. A., Roulet, P. A., and Romanach, S. S. "Economic and conservation significance of the trophy hunting industry in sub-Saharan Africa." *Biological conservation* 134.4 (2007): 455-469.

60. Mutandwa, E., & Gadzirayi, C. T. (2007). "Impact of community-based approaches to wildlife management: case study of the CAMPFIRE programme in Zimbabwe". *The International Journal of Sustainable Development & World Ecology*, 14(4), 336-344.

61. Economists at Large, 2013. "The \$200 million question: How much does trophy hunting really contribute to African communities?" A report for the African Lion Coalition, prepared by Economists at Large, Melbourne, Australia www.ifaw.org/sites/default/files/Ecolarge-2013-200m-question.pdf

62. Loveridge, A. J., Reynolds, J. C., and Milner-Gulland, E. J. "Does sport hunting benefit conservation?" *Key topics in conservation biology* 1 (2007): 222.

63. Lindsey, P. A., Frank, L. G., Alexander, R., Mathieson, A., & Romanach, S. S. (2007). "Trophy hunting and conservation in Africa: problems and one potential solution." *Conservation biology*, 21(3), 880-883.

64. Smith, R. J., Muir, R. D., Walpole, M. J., Balmford, A., & Leader-Williams, N. (2003). "Governance and the loss of biodiversity." *Nature*, 426(6962), 67-70.

65. Lindsey, P. A., Roulet, P. A., and Romanach, S. S. "Economic and conservation significance of the trophy hunting industry in sub-Saharan Africa." *Biological conservation* 134.4 (2007): 455-469.

66. A League Against Cruel Sports (ALACS) submission to Environment Minister, Elliot Morley MP, (2004), *The Myth of Trophy Hunting as Conservation*, available online

67. Yasuda, A. (2012). "Is sport hunting a breakthrough wildlife conservation strategy for Africa? A case study of northern Cameroon." *Field Actions Science Reports*. The journal of field actions, 6

68. Yasuda, A. (2012). "Is sport hunting a breakthrough wildlife conservation strategy for Africa? A case study of northern Cameroon". *Field Actions Science Reports*. The journal of field actions, 6

Although the above examples relate specifically to sport hunting, similar issues are associated with conservation as a whole when social issues are not taken into account.⁶⁹

2.4.3 Mixed messages

Many academic studies assess the impacts of sport hunting at the local level. However, Ralf Buckley (2014)⁷⁰ has suggested that sport hunting, particularly when it concerns rare species, can send mixed socio-political messages globally, resulting in local actions having global conservation impacts. Buckley questions the conclusions of studies that examine the local economic, environmental and social impacts of sport hunting if they do not account for broader indirect impacts. By allowing the hunting of rare or endangered species for leisure Buckley argues that:

1. East Asians may be less likely to stop the trade in rare animal parts, in addition to it becoming harder to control the illegal trade in animal parts internationally.
2. Reduced donations to conservation work may occur if donors believe their money is subsidising hunters.
3. Potential profits realised from releasing expensive hunting permits may lead to an increase in permits, rather than reduction, if managed by corrupt personnel.
4. The commercial tourism industry may reduce its financial support to conservation work, particularly in areas that allow sport hunting.

Although it has been argued that hunters can aid in preventing illegal poaching, legal hunting can also act as a cover for poaching, as highlighted by Yasuda's case study of Northern Cameroon (2012).⁶⁸

2.4.4 Conservation policy

The sport hunting lobby can place pressure on governments and wildlife management organisations to distort conservation policy towards a more human- and species-oriented approach to land management, rather than a holistic ecosystem approach. Holsman (2000)⁷² cites examples where hunter groups blocked the re-introduction of the wolf (*Canis lupus*) in Yellowstone, and the whooping crane (*Grus americana*) in several western US states. Holsman also references the Wildlife Legislative Fund of America's proposed amendments to the Endangered Species Act (ESA). WLFA, an organisation that represents over 1000 US sportsmen organisations, suggested that a 'hunting impact analysis' should be required before species are listed on the ESA!

69. Chapin, M. 2004. "A challenge to conservationists". World Watch 17(6): 17-31. www.worldwatch.org/system/files/EP176A.pdf

70. Buckley, R. "Mixed signals from hunting rare wildlife." Frontiers in Ecology and the Environment 12.6 (2014): 321-322.

71. Grandy, J.W., Stallman, E., & Macdonald, D. (2003). "The science and sociology of hunting: Shifting practices and perceptions in the United States and Great Britain." In D.J. Salem & A.N. Rowan (Eds.), *The state of the animals II: 2003* (pp. 107-130). Washington, DC: Humane Society Press.

72. Holsman, R. H. "Goodwill hunting." *Exploring the role of hunters as ecosystem stewards. Wildlife Soc B* 28.4 (2000): 808-816.

2.5 Conclusions

The debate surrounding sport hunting is highly polarised, making it difficult to assess the industry's global and long-term impacts. From the evidence referenced in this report, it appears that if sport hunting is well regulated, and is managed under the guidance of ecologists with knowledge of the game species in question, sport hunting may have minimal impacts on game population dynamics and the broader ecosystem. Whether this situation is realistic however is questionable – especially in countries where corruption acts as a barrier to effective management, and the hunting lobby puts pressure on wildlife managers to take a species-oriented approach to conservation rather than an ecosystem approach. Other less lucrative forms of wildlife management may be preferable, such as eco-tourism, but poor regulation may still act as a barrier to reducing tourism's environmental and social impacts.

Even if well managed, the long-term impacts of sport hunting on the evolution of species is still poorly understood, suggesting precautionary principles should be used, such as limiting sport hunting quotas. To better understand the long-term impacts, and to enforce 'optimum' quotas and recommended targets, detailed monitoring is needed, which has a financial cost (and barrier) associated with it. This monitoring should arguably occur outside of the sport hunting industry to ensure it is unbiased.

Many arguments placed in favour of sport hunting appear to boil down to economic benefits and associated financial incentives. For example, its contribution to protecting habitat through placing an economic value on wildlife has resulted in land owners protecting the habitat of game species, which can benefit other non-target species.

However, when the filter which ignores animal rights issues is removed, as is attempted in many academic studies, it arguably results in the conclusions of studies omitting important questions, the answers of which may be less controversial and may better align to societies' preferences. For example:

- What other outdoor activities could financially replace sport hunting?
- Could alternative outdoor recreational activities (such as wildlife watching) be used to raise more revenue for conservation? (Binocular tax for example.)
- Could the 'thrill of the chase' be created through participating in other activities such as 'green hunting' for research purposes?
- What about the potential of virtual shooting?
- Can populations be controlled (often used as an argument in favour of sport hunting) using other methods that cause minimal suffering to animals? (Sterilisation, for example.)
- Does effective localised regulation of sport hunting have broader global impacts for wildlife management?
- How can the two industries – consumptive and non-consumptive wildlife activities – be better segregated so as to allow consumers ethical choices?

This report has made a step towards the latter point regarding ethical consumers' choice; highlighting the optics companies to avoid whilst raising awareness of the links between sport optics and the hunting industry.

Part 3: Company Profiles

Alpen Outdoor Corporation

"... optics that allow hunters, shooters, birders, boaters, and outdoor enthusiasts, clearer, brighter viewing under all conditions ..."

Background

Alpen Outdoor Corporation is an American-based optics company, established in 1996,⁷³ that markets affordable optics products to birders, hunters and sports people. The company has an estimated annual turnover of £584,000, according to the corporate database hoovers.com.

Registered trademarks of Alpen Outdoor Corporation include Alpen, Apex, Shasta Ridge and Kodiak.⁷⁴ Rainier, Teton, Wings and MagnaView are also trademarks of the company. Alpen's product range includes riflescopes, spotting scopes, binoculars, monoculars and accessories, all of which are said to have a "limited lifetime factory warranty".

Alpen's website contains numerous blogs that promote hunter education in addition to encouraging woman and children to engage with hunting. The company also runs a 'pinkin it up' campaign which supports breast cancer research and tries to raise awareness of the prevalence and difficulties caused by breast cancer through its pink binocular range.

No environment or supply chain reporting could be found.

Shooting accessories

Alpen's 2015 catalogue was downloaded from the company's website, alpenoptics.com, in January 2016. It was found to contain a number of optics products including riflescopes, spotting scopes, binoculars, and monoculars. The catalogue promoted the use of Alpen optics products (such as riflescopes and binoculars) for hunting, and quoted users' experiences of using Alpen optics whilst hunting. For example:

"Look whose winning with Alpen Optics: Arlyne Roads – a bright shining archery star!" Arlyne said, "Hunting for me is in my bones – it's God's gift."⁷⁵



Bear killed using Alpen rifle scope.



Elk killed using Alpen optics.

images source: alpenoptics.com

73. Interview with Alpen Optics volunteers, July 2011, www.allbinos.com/index.php?art=159

74. www.alpenoptics.com, viewed January 2016

75. alpenoptics.com/images/Alpen_Catalog_web.pdf page 9, viewed January 2016

“Kodiak riflescopes cover a wide variety of shooting and hunting situations, including big game, varmint hunting, shotgun and slug hunting and target shooting ... ALPEN Kodiak riflescopes are priced for value conscious shooters.”⁷⁶

“I purchased a 10x42 Shasta Ridge binocular from Alpen Optics and took it with me to Colorado on a hunt. One of my fellow hunters had a Steiner binocular and asked if he could try my Alpen. When he looked through it he said he liked it better than his Steiner.”⁷⁷

“ALPEN’s high performance Shasta Ridge binoculars are fully waterproof, fully multi-coated, have long eye relief, and feature BAK4 optics that allow hunters, shooters, birders, boaters, and outdoor enthusiasts clearer, brighter viewing under all conditions.”⁷⁸

The company’s website, alpenoptics.com, listed items by product type rather than use.

As in the company’s catalogue, Alpen’s website quoted hunters’ experiences of using Alpen products. For example:

“Alpen binoculars and riflescopes are absolutely phenomenal for clarity and durability. You can’t buy more reliable optics”. – Dick Scorzafava, TV Host, Respected Author and Big Game Hunter.”⁷⁹

Images of game animals were also used to promote products.

The image gallery on Alpen’s website, alpenoptics.com/image-gallery.html, included an album entitled ‘hunters with Alpen products in use’, that contained images of dead trophy animals including a bear, coyote, kudu and a variety of deer and antelope species.

The ‘pro-staff’ section of the website highlighted ‘notable individuals in hunting, birding, archery and hunter education’.

Alpen’s pro staff members included William Bamblar, Gary Brennan, Jack Coad and Dennis Degnan, all of which used images of dead trophy animals in their profile pictures.

Alpen’s Facebook page ‘Alpen Optics Outdoors’ contained several hunting related posts, including a link to a blog post entitled ‘why you need to hunt with a good set of binoculars’, and several posts included images of hunters with dead trophy animals.

Connections to ‘sport’ shooting

The ‘pro staff’ section of Alpen’s website highlighted ‘notable individuals in hunting, birding, archery and hunter education’. Alpen’s pro staff hunter education members included William Bamblar, Gary Brennan, Jack Coad and Dennis Degnan, all of which used images of dead trophy animals in their profile pictures, and had notable experience of hunting and shooting. Alpen’s Hunting Pro Staff members listed 50 individuals all of whom were actively engaged in various types of hunting, including trophy hunting.

Alpen Optics backs a range of schemes aimed at engaging and supporting diverse people to hunt. For example, the company has run turkey hunting and fishing events for injured veterans.⁸⁰ Alpen has also provided discounted binoculars for successful hunt education students,⁸¹ has supported the International Hunter Education Association, and has sponsored junior deer hunts⁸³ and a women’s hunting camp.⁸⁴

Alpen Optics was also listed as a sponsor of The Guardian Long Range shooting competition,⁸⁵ the ‘Bighorn Outdoors’ TV show, and the ‘On the right Track’ hunting TV show,⁸⁶ whose website displayed multiple images of dead trophy animals,⁸⁷ some of which were taken with young children.

Alpen’s website also contained a blog by Vickie Gardner, co-founder of Alpen Outdoor Corporation, that described Vickie’s first hunt and the process of how she and her husband became hunters.⁸⁸

76. alpenoptics.com/images/Alpen_Catalog_web.pdf page 26, viewed January 2016

77. alpenoptics.com/images/Alpen_Catalog_web.pdf page 15, viewed January 2016

78. alpenoptics.com/bino-shasta.html, viewed January 2016

79. alpenoptics.com/Rscope-apex.html, viewed January 2016

80. www.alpenoptics.com/vet-hunt.html, viewed January 2016

81. www.examiner.com/article/alpen-optics-great-supporter-of-hunter-education-california, viewed January 2016

82. www.ihea.com/news-and-events/news/ihea-news-releases/272-hunter-educators-honored-at-international-hunter-education-association-usa-awards-ceremony-2, viewed January 2016

83. www.realtree.com/big-game-hunting/news/junior-deer-hunts-in-california, viewed January 2016

84. www.womensoutdoornews.com/2015/05/nw-ladies-hunting-camp-to-host-2nd-annual-outdoor-training-seminar-for-women/, viewed January 2016

85. www.guardianlongrange.com/#!sponsors/c1irv, viewed January 2016

86. www.bighornoutdoors.com/sponsors.php viewed January 2016

87. www.ontherighttrack.tv/ viewed January 2016

88. www.alpenoptics.com/news/MyFirstHunt.html viewed January 2016

Beretta Holding SpA (Steiner brand)

"Your quarry didn't survive the hunt, but your optics will."

Background

The Steiner brand is a 'member' of Beretta Holding SpA, a company that also owns the Beretta, Benelli, Franchi, Sako, Tikka and Burris brands.

Beretta Holding SpA is an Italian-based holding company whose subsidiaries specialise in light arms for hunting, sporting and personal defence. The company's subsidiaries manufacture and sell a range of products including optics, clothing, shotguns and pistols. Steiner-Optik GmbH operates in Germany and Steiner eOptics operates in the USA, according to Beretta Holdings' website, www.berettaholding.com.

Beretta Holdings' net sales in 2014 totalled €623.6 million. More than 50% of sales came from North America in 2014, where hunting and shooting were said to be popular. 6% of sales came from Italy and 22% of sales came from other European countries.

The Steiner brand was born in 1947 when Karl Steiner started to develop high-quality optical equipment in Germany. After just six years, Steiner had created a 50-employee business which has now gone global. The Steiner brand is known globally for its binoculars and riflescopes which are primarily marketed at hunters, marine and military personnel, and wildlife watchers.

No environment or supply chain reporting could be found on Steiner's or Beretta Holdings' websites.

Shooting accessories

A video promoting trophy hunting dominated the homepage of www.steiner-optics.com when viewed by Ethical Consumer in October 2015. Trophy animals shown in the video included wolves, bighorn sheep and large antelope.

Binocular and riflescope products were split into categories based on activity type which included hunting, military, outdoor, marine, and tactical activities. Shooting accessories listed included riflescopes, binoculars (stated to be suitable for low light conditions), and laser equipment.

Promotional text on Steiner's website, www.steiner-optics.com, appeared to be targeted at trophy hunters. For example:

"Versatile enough for western big game hunters or eastern whitetail hunters."⁸⁹



Steiner optics used during trophy hunt.

images source: .steiner-optics.com

89. www.steiner-optics.com/binoculars/hunting/predator-10x42 viewed Nov 2015

Hunting binoculars were named 'predator' or 'nighthunter' and were accompanied by the phrase: *"Once you're after that trophy, nothing can hold you back ... Even after countless monster-obsessed pursuits, Steiner optics are eager for more and ready to go."*⁹⁰

*"Your Quarry Didn't Survive the Hunt, But Your Optics Will."*⁹¹

*"The Predator Series was made for hunters who demand all-around capability in their optics ... this is the perfect choice for turkey hunters, bow hunters, black powder enthusiasts and anyone who hunts the early season or in heavy cover."*⁹²

*"Nighthunter XP is especially valued by eastern whitetail hunters who still-hunt, and western elk hunters who cover lots of ground."*⁹³

*"Versatile enough for prairie dogs, big game or the bean field."*⁹⁴

*"You can pick out your trophy more easily and target more accurately. From North America, to Europe, to Africa, Steiner's premium performance and nonstop reliability will not let you down."*⁹⁵

Images of dead wolves and antlers from elk⁹⁶ and bighorn sheep⁹⁷ were used throughout the website.

Steiner also had a Facebook page (Steiner Hunting) dedicated to promoting its hunting line of products that contained numerous images of live and dead trophy animals including boar and deer.

% revenue from shooting product sales

Beretta Holdings SpA stated in an undated press release that *"Thanks to the growing weight of the optics division, non-firearms sector sales account today [2014 financial year], for one fourth of total sales and showed an overall 4% growth, with the clothing and accessories category growing by 12%."* This suggested that fire arm sales accounted for 75% of the company's turnover plus an unknown percentage from shooting accessories.⁹⁸

Connections to 'sport' shooting

The Beretta family has a long history of sport hunting, and numerous articles describe the current CEO Pietro Gussalli Beretta's passion for hunting.^{99, 100, 101} Beretta was listed as a CIC Platinum member sponsor on the International Council for Game and Wildlife Conservation's (ICGMC) website, www.cic-wildlife.org, when viewed in October 2015. The ICGMC described itself as a "politically independent advisory body which aims to preserve wild game and hunting".

Benelli, a brand owned by Beretta Holdings, was listed as a partner on the National Wild Turkey Federation's website – an organisation whose mission is to preserve wild turkey populations and continue hunting practices. Benelli was also listed as a sponsor of the Delta Waterfowl Partners – a conservation and duck hunting organisation.

Steiner was listed as a National Sponsor of Whitetails Unlimited (an educational conservation and hunting organisation), in addition to 'Beyond the Hunt' - a hunting TV programme whose website showed images of dead trophy animals- including bears. Burris was also listed as a sponsor of 'Beyond the Hunt'.

In addition, Burris and Steiner were both listed as 2013 sponsors of 'Steve's Outdoor Adventure' TV show, described as a 'high adrenaline big game hunting program'.

90. www.steiner-optics.com/binoculars/hunting : viewed Nov 2015

91. www.steiner-optics.com/binoculars/hunting: viewed Nov 2015

92. www.steiner-optics.com/binoculars/hunting/predator-10x42 : viewed Nov 2015

93. www.steiner-optics.com/binoculars/hunting/nighthunter-xp-10x42 : viewed Nov 2015

94. www.steiner-optics.com/riflescopes/hunting/g3-4-20x50 : viewed Nov 2015

95. www.steiner-optics.com/riflescopes/hunting/nighthunter-xtreme-3-15x-56 : viewed Nov 2015

96. www.steiner-optics.com/binoculars/hunting/nighthunter-xp-8x42 : viewed Nov 2015

97. www.steiner-optics.com/riflescopes/hunting/nighthunter-xtreme-3-15x-56: viewed Nov 2015

98. www.berettaholding.com/en/press/13: viewed Nov 2015

99. www.pietrogussalliberetta.it/en/biography/ : viewed Nov 2015

100. archive.fortune.com/2008/01/23/lifestyle/The_family_business_Beretta.fortune/index.htm: viewed Nov 2015

101. www.bighunter.it/Home/AmicidiBigHunter/PietroGussalliBeretta/tabid/1057/Default.aspx: viewed Nov 2015

Guangzhou Bosma Corp.

"With small investment ... get big game back!"

Background

The Bosma optics brand is owned and manufactured by the Chinese company Guangzhou Bosma Corp. Established in 2000, Bosma researches, produces and markets sports optics products worldwide. Its key markets are the US and Europe, and Bosma's product range includes binoculars, spotting scopes, riflescopes, laser rangefinders, telescopes and night vision equipment.¹⁰² Products are marketed at naturalists, birders, hunters, tactical and law enforcement personnel.

Bosma's website, www.bosmaoptics.com, states that it is the *"top brand and standard for stable quality"* in China, and that Bosma sponsored and supplied its products to the 2008 Beijing Olympic Games and the 2010 Asian Games.

According to the website www.ec21.com, viewed by Ethical Consumer in December 2015, Bosma Corp's annual revenue lies between US\$10,000,001 and \$50,000,000.¹⁰³ No further information about the company could be found.

No publicly available annual accounts, annual report, environment or supply chain reporting could be found.

Shooting accessories

When viewed in December 2015, Bosma's website, www.bosmaoptics.com, listed products under the following categories: binoculars, spotting scopes, precision optics, tactical optics, rangefinders, night vision and telescopes. Under binoculars, spotting scopes and precision optics, products were divided again into activity type. Listed activities included hunting, birding, outdoors, marine, tactical and opera.

Hunting products listed on Bosma's website in December 2015 included a hunting series of binoculars and spotting scopes, 'hunting riflescopes' and a 'digital night vision hunting' product.

Product overviews highlighted the benefits of using specific pieces of equipment for hunting. For example: *"The Super Wide Angle optics design on the BOSMA brand new riflescope 1-6x24IR hunting Sight brings really amazing field of view and exciting experience for shooters, which allows you to acquire your targets with amazing speed and accuracy."*¹⁰⁴

Bosma SFHD 4x 3-12x56mm Riflescopes were said to be *"designed for dual purposes – both target shooting and hunting"*.¹⁰⁵



BOSMA website homepage.

102. www.bosmaoptics.com/about.asp?id=74 viewed December 2015

103. bosmacorp.en.ec21.com/ viewed December 2015

104. www.bosmaoptics.com/showproducts.asp?id=823 viewed December 2015

105. www.bosmaoptics.com/showproducts.asp?id=793 viewed December 2015

“BOSMA'S Target Shooting Series riflescopes are designed for entry level hunters, shooting enthusiasts and those shooters/hunters who are looking for economic scope for their rifles. With small investment and get big game back!”¹⁰⁶

Bosma's Top Hinge 8x42/ 10x42 Waterproof Fogproof Binoculars were said to be *“designed for flawless hunting and nature observation”*. They were described as allowing “hunters, shooters, birders, boaters, and outdoor enthusiasts clearer, brighter viewing under all kinds of conditions”.¹⁰⁷

Bosma's New Hunting 8x42/ 10x42 Binoculars were described as being *“the premium binoculars for hunting, hiking or nature-watching.”¹⁰⁸*

Hunting Riflescope w/ Illumination 3-12x56: *“survives riflescopes from all kinds of fierce hunting field”*.¹⁰⁹

No images of game animals were found on Bosma's website, with the exception of the website's header which contained an image of gazelles.

Bosma's Facebook page¹¹⁰ contained images of deer that referenced hunting, and the company's twitter feed @ Bosmaoptics contained a post dated December 17, that stated: *“The deer hunting season isn't over quite yet!”* This statement was accompanied by an image of a male deer.

106. www.bosmaoptics.com/showproducts.asp?id=797 viewed December 2015

107. www.bosmaoptics.com/showproducts.asp?id=848 viewed December 2015

108. www.bosmaoptics.com/showproducts.asp?id=850 viewed December 2015

109. www.bosmaoptics.com/showproducts.asp?id=683 viewed December 2015

110. www.facebook.com/bosmaoptics/ viewed December 2015

Bresser GmbH

"...specialists for astronomy, optics, photography, and hunting..."

Background

Bresser GmbH was founded by Josef Bresser in Germany in 1957 and started out as an importer and distributor of binoculars. Josef's son, Rolf Bresser, took over the business in 1979 and he continues to be a key shareholder of the company today.

From 1999 until 2009 Bresser was part of the American company 'Meade Instruments Corp'. The European subsidiary of Meade Instruments was then bought out in 2009 and Bresser GmbH's key shareholders, as of 2009, became the Chinese optics company Jinghua Optical & Electronics Co. Ltd. (JOC), Rolf Bresser (son of the founder), and Helmut Ebbert. Details regarding percentage ownership could not be found.

JOC, established in 1933 and a key shareholder of Bresser GmbH, is a leading Chinese optics manufacturer that produces a range of optical glasses, lenses and prisms, telescopes, binoculars, monoculars and spotting scopes.¹¹¹ The company has three factories located in Chengdu, Kunming and Guangzhou in China and, according to the corporate database hoovers.com, the company has a turnover of £46.61 million. (Bresser GmbH has an estimated turnover of £16.7 million.)

In 2009, the Explore Scientific brand was launched to sell telescopes and eyepieces to amateur astronomers and, in 2012, the company signed a licensing agreement to market optics products and other outdoor devices under the National Geographic brand.¹¹² The National Geographic Society is a non-profit scientific and educational organisation that aims to *"increase and diffuse geographic knowledge" and "inspire people to care about the planet"*.¹¹³ However, in September 2015, climate change sceptic Rupert Murdoch controversially bought a majority stake in National Geographic. A new venture, National Geographic Partners, is now 73% owned by 21st Century Fox and 27% by the National Geographic Society and combines the television channels with the magazine and other media assets.¹¹⁴



image source: bresserusa.com/blogs/news

Bresser team on a hunting trip.

Bresser now offers a broad range of optics products aimed at all ages and skill levels. Products include telescopes, binoculars, spotting scopes, rifle scopes, night vision devices, photo studio equipment, microscopes, rangefinders, magnifiers, weather stations and other outdoor products, all of which are distributed globally. Products are sold under the Bresser, National Geographic, Explore Scientific and Yukon brands. The company's website, www.bresser.de, states that *"BRESSER supplies the complete range of commerce: specialists for astronomy, optics, photography, and hunting as well as retailers, toy stores and selected online stores"*.

Although Bresser's website contained a section on corporate social responsibility, this primarily talked about schemes the company was involved with rather than its environmental and social policies and practices. For example, when viewed in December 2015, Bresser was working with JNF-KKL, 'Israel's biggest environmental organisation', and the company had partnered with the 'Tiny Tots Science Corner'. No further information about what Bresser's role in the partnerships was, and no discussion of how the company reduced its environmental and social impacts could be found.¹¹⁵

111. jinghua.en.forbuyers.com/about/ viewed November 2015

112. www.bresser.de/c/en/bresser-gmbh/history/ viewed November 2015

113. press.nationalgeographic.com/2012/02/23/ngs-bresser-usa-new-optics-line/ viewed November 2015

114. www.theguardian.com/media/2015/sep/09/national-geographic-nonprofit-status-21st-century-fox viewed November 2015

Shooting accessories

On Bresser's 'group of companies' website, www.bresser.de, products are listed under product type and key uses. Product categories include astronomy, microscopes and magnifiers, sport optics, photo studio, weather & time, and junior. Under the sport optics section of the website a number of shooting accessories are sold including rifle scopes, spotting scopes, monoculars, night vision equipment, binoculars, game cameras and rangefinders.

A number of products are recommended for hunting, including numerous binocular models (some of which contain the word 'hunter' in their name): the National Geographic 8x42 Binoculars, the Bresser Range Finder, the National Geographic 4x21 Rangefinder, the Bresser NightSpy 5x60 Night vision scope, Yukon Spartan 4x50 Night Vision Scope and binoculars and Yukon Scout monocular, ATN night vision scopes, Ranger LT 6.5x42, HD Action Camera and the Bresser 120° Observation camera.

The Yukon Craft 3-12x56 Riflescope was recommended for *"a wide range of applications including daytime hunting, sports shooting and law enforcement"*¹¹⁶ and another Yukon model was designed for *"driven hunts as well as for shooting short and medium range moving targets"*.

The Bresser Pirsch 25-75x100 45° Spotting Scope was described as a reliable tool for hunting and was recommended for use by the *"the price-conscious observer and hunter"*.¹¹⁷

The YUKON 20-50x50 WA WP spotting scope was described as suitable for use when *"observing nature while hiking or camping, hunting large or small animals ..."*¹¹⁸

The Bresser TrueView 6-18x40 Riflescope was said to be a *"stand hunting or stalking scope, as well as for sport shooters"*.¹¹⁹

No images of game animals were found on the 'Bresser group of companies' website. However, the US Bresser website, bresserusa.com, had images of hunters and hunted animals on its website when viewed in December 2015, including an image of a dead black bear,¹²⁰ turkeys, white-tailed deer and a wolf.¹²¹

The US website also used more descriptive language to market products. For example: *"its magnification range of 2.5x to 10x makes it an ideal choice for smaller targets or stealthy predators"*.¹²²

*"Greatly enhances your eye's ability to see in dim settings and [has] a non-illuminated reticle for a more traditional hunting experience."*¹²³ *"No matter your target, making the perfect shot takes more than luck. It takes precision equipment that will give you the edge."*¹²⁴

Connections to 'sport' shooting

In December 2013 it was announced that Bresser would sponsor 'The Stuff of Legends', a TV show produced by Hunter's Specialities and aired on the Sportsman Channel, that *"showcases exciting hunts"*.¹²⁵ The bresserusa.com website continued to display a range of Hunter's Specialities optics when viewed in December 2015.

A blogpost dated 18 August 2014 on the website bresserusa.com, described how the Bresser team had supported a young cancer survivor on a hunting trip in Idaho. The blog was accompanied by an image of a successful black bear hunt.¹²⁶

Bresser was also listed as a sponsor on the Texas Sportsman Tracking Outdoors website, www.texassportsmantv.com, when viewed by Ethical Consumer in December 2015.

No further connections or criticisms between Bresser's or JOC's staff and sport hunting could be found.

115. www.bresser.de/c/en/bresser-gmbh/corporate-social-responsibility/ viewed November 2015

116. www.bresser.de/en/Sport-Optics/Riflescopes/Yukon-Craft-3-12x56-Riflescope.html viewed November 2015

117. www.bresser.de/en/Sport-Optics/Spotting-Scopes/Bresser-Pirsch-25-75x100-45-Spotting-Scope.html viewed November 2015

118. www.bresser.de/en/Sport-Optics/Spotting-Scopes/YUKON-Scou20-50x50-WA-WP-Tripod-Kit-Spotting-Scope.html viewed November 2015

119. www.bresser.de/en/Sport-Optics/Riflescopes/Bresser-TrueView-6-18x40-Riflescope.html viewed November 2015

120. <http://bresserusa.com/blogs/news/15910247-bresser-team-takes-young-cancer-survivor-on-epic-hunting-trip> viewed November 2015

121. <http://bresserusa.com/blogs/news/16050299-hunter-specialties-and-bresser-team-up> viewed November 2015

122. bresserusa.com/collections/riflescopes/products/condor-2-5-10x56-rifle-scope viewed November 2015

123. bresserusa.com/collections/riflescopes/products/hunter-s-specialties-4-16-riflescope viewed November 2015

124. bresserusa.com/collections/riflescopes/products/hunter-specialty-4x32-shotgun-rifle-scope viewed November 2015

125. www.archerywire.com/releases/306925/ viewed November 2015

126. bresserusa.com/blogs/news viewed November 2015

Canon Inc.

“Kyosei: living and working together for the common good.”

Background

Canon Inc. is a Tokyo based company founded in 1937 by a group of scientists, with an initial focus on the production of cameras.

Canon Inc. has now become a globally recognised brand that produces a wide range of products for three key industries: office equipment (55.8% of revenue), imaging equipment (36% of revenue) and industrial equipment (10.7% of revenue). Products include photocopiers, printers, cameras, binoculars, projectors, lenses, semi-conductor equipment, instruments used for eye examinations and photo printers. In 2014 Canon also acquired a company, now known as Canon Nanotechnologies, that makes nanotechnology-based lithography.

In the 2014 financial year Canon employed 26,409 individuals and had a turnover of more than £20 Billion,¹²⁷ 29.3% of which was generated in Europe, 27.8% in the USA, 19.4% in Japan, 23.5% in Asia and Oceania.

In 1988, Canon adopted the corporate philosophy of kyosei: living and working together for the common good. This philosophy was said to guide the company's partnerships and operations. Canon's 2015 Sustainability Report,¹²⁸ was available to download on its website, www.canon.com, and discussed the company's environmental and social policies and practices. Environmental issues discussed included conserving resources, reducing carbon dioxide emissions and energy use, climate change, reducing waste and the use of hazardous chemicals, and the conservation of biodiversity.

Although Canon was not found to produce sport optics specifically marketed at hunters, in 2008 it became the focus of a Greenpeace campaign that tried to pressure the CEO of the company, Fujio Mitarai, into making a public anti-whale-hunting statement. Canon was targeted as the company had sponsored many wildlife advocacy groups and environmental conservation organisations, had promoted the conservation of endangered species, and had run a series of adverts entitled *“Wildlife as Canon sees it”* in the National Geographic Magazine which had a focus on endangered species.¹²⁹ Canon declined to make such a statement.

Shooting accessories

The only sport optics product listed on Canon UK's website, www.canon.co.uk, in November 2015 were binoculars. No further Canon sport optics were found. Canon's binoculars were recommended for four key uses: bird watching, star gazing, marine and spectator sports. Hunting was not mentioned and no promotional text was found that referenced hunting.

No images of game animals or hunters were found on Canon's websites.

127. www.canon.com/corporate/result/summary.html viewed Nov 2015

128. www.canon.com/csr/report/pdf/canon-sus-2015-e.pdf viewed Nov 2015

129. Does Canon support shooting whales? Jan 2008, : viewed Nov 2015 www.greenpeace.org/international/en/news/features/canon-shooting-whales-240108/: viewed Nov 2015

Carl Zeiss Stiftung (Zeiss brand)

“For hundreds of years ZEISS has been giving hunters the confidence with specialist riflescopes, binoculars and spotting scopes for any hunting situation...”

Background

The Zeiss Group is headquartered in Germany and is managed by the holding company Carl Zeiss AG, which is ultimately owned by Carl Zeiss Stiftung (the Carl Zeiss Foundation). The group offers a range of Zeiss branded optic and optic-electronic products which are manufactured and sold in more than 40 countries.

The company started out as a small workshop set up in Jena, Germany, in 1846 by Carl Zeiss. The workshop serviced and manufactured scientific equipment, some custom made, and produced glasses, weighing scales, drawing instruments and telescopes. Encouraging scientific development continues to be a key aim of the foundation.

The company started to rapidly expand its product portfolio from the late 1880s onwards, producing a range of binoculars, medical optics and scientific equipment. World War I forced the company to focus on optic equipment for military use rather than civilian use. Similarly, in World War II, Zeiss products ended up being used by the German armed forces. The splitting of Germany created further problems for the company by essentially creating two competing companies that operated in West and East Germany – both under the name of Carl Zeiss. It was not until after the fall of the Berlin Wall that the two separate companies reunited in 1991. See www.zeiss.com for more detailed information about Zeiss's eventful history.

The Zeiss Group had a turnover of approximately €4.3 billion in 2013-14 and is now comprised of six key business groups: industrial metrology, microscopy, medical technology, vision care, consumer optics and semiconductor manufacturing technology.¹³⁰ Carl Zeiss Stiftung also owns Schott AG, a company that manufactures speciality glass, glass-ceramics and solar panels, amongst other products. In total, the Zeiss Group's product range includes industrial measuring equipment, microscopes, eye lenses, planetariums, camera lenses, binoculars, riflescopes, and spotting scopes.

A section on corporate social 'responsibility' can be found on Zeiss's website, which discusses the company's social and environmental responsibilities to varying degrees of detail. Zeiss monitors key environmental performance indicators (KPIs) which include energy and water use, carbon dioxide emissions, waste water, other waste, and investments in environmental protection initiatives. Performance data for all KPIs are provided on the group's website.



Shooting with Zeiss Optics.

image source: zeiss.com

130. www.zeiss.com/corporate/en_de/about-zeiss/portfolio.html viewed Nov 2015

The company stated that it had spent “over €8 million on global environmental protection measures each year for the past ten fiscal years”, that it used a range of peer-review audits and external audits to monitor its environmental performance, and that 85% of Zeiss's production sites were ISO 14001-certified by the end of 2013.¹³¹

ZEISS stated that it used the Global Compact as a model for developing sustainability initiatives further.

Despite Zeiss's Corporate policy¹³² stating that the company fostered “sustainable business relations with ... external partners”, the company had several partnerships with hunting organisations, including hunting TV shows and Safari Club International.

Shooting accessories

The sport optics section of Zeiss's website, www.zeiss.com, was viewed in November 2015. Products were listed under three key activity areas: hunting, nature observation and outdoors. Riflescopes, binoculars and spotting scopes were listed under 'hunting', with night vision equipment, laser rangefinders and other accessories also included under these product categories.

Images of trophy and game animals were displayed throughout the hunting section of the website and included images of elk, wild sheep, moose and wild hogs. Zeiss's hunting Facebook page – Zeiss Hunting – also contained images of a grizzly bear, elk, wild sheep, wild hogs, red deer, bighorn sheep, and promoted hunting with dogs. Some text also promoted the use of products to hunt large game such as deer. For example:

Victory 8x32 T* FL: “Compact and lightweight, it is your perfect companion for daytime deerstalking or hunting on the move”.¹³³

Promotional text was quite general regarding the type of hunt being targeted:

*“The Victory FL Diavari riflescopes ... identify every detail of the target and can place a shot with precision even on small targets.”*¹³⁴

VICTORY V8 1.1–8x30: “The benchmark for driven hunts”.¹³⁵

VICTORY HT 1.5–6x42: “For stalking game. Whether a driven hunt or stalking game, this compact all-purpose scope will impress you with its fast target acquisition.”¹³⁶

Promotional text primarily highlighted product features that could extend hunting into the twilight and night time hours. For example: “ZEISS VICTORY HT rifle scopes allow you to experience hunting in a whole new dimension. On a hunt, you can observe longer and hunt precisely – even late into twilight and at night”.

Dialyt 8x56 GA T* Binoculars: “For stand hunting of nocturnal game, the Dialyt is a classic companion with a constantly improved optical performance”.¹³⁷

“The Victory NV 5.6x62 T... allows you to observe game even in the light of a new moon and gives you a secure identification; a clear, starry sky is enough to provide the brightest, most detailed images. This makes it possible for you to continue your stand hunting at night.”*¹³⁸

*“The revolutionary light transmission of 95% and more enables hunting deep into the night.”*¹³⁹

131. www.zeiss.com/corporate/en_de/responsibility/environment.html#strategic-approach viewed Nov 2015

132. www.zeiss.com/content/dam/Corporate/rm/download/doc/pdf/Zeiss_policy_en.pdf : viewed Nov 2015

133. www.zeiss.com/sports-optics/en_de/hunting/binoculars/victory-binoculars/victory-fl-binoculars.html#inpagetabs-2%23position-2 : viewed Nov 2015

134. www.zeiss.com/sports-optics/en_de/hunting/riflescopes/victory-riflescopes/victory-fl-diavari-riflescopes.html#features: viewed Nov 2015

135. www.zeiss.com/sports-optics/en_de/hunting/riflescopes/victory-riflescopes/victory-v8-riflescopes.html#inpagetabs-1%23position-2 : viewed Nov 2015

136. www.zeiss.com/sports-optics/en_de/hunting/riflescopes/victory-riflescopes/victory-ht-riflescopes.html#inpagetabs-1%23position-2: viewed Nov 2015

137. www.zeiss.com/sports-optics/en_de/hunting/binoculars/specialist-binoculars/dialyt-binoculars.html#features: viewed Nov 2015

138. www.zeiss.com/sports-optics/en_de/hunting/binoculars/specialist-binoculars/victory-nv-night-vision.html : viewed Nov 2015

139. www.zeiss.com/sports-optics/en_de/hunting/binoculars/victory-binoculars/victory-ht-binoculars.html#features: viewed Nov 2015

Connections to 'sport' shooting

Zeiss was listed as a corporate sponsor of the Rocky Mountain Elk Foundation, www.rmef.org, whose mission statement was to “ensure the future of elk, other wildlife, their habitat and our hunting heritage”. Zeiss was also listed as a corporate sponsor of Safari Club International (SCI), www.scifirstforhunters.org/partners/sponsorship; an organisation committed to protecting hunters' rights. SCI's main focus at the time of writing was to reduce regulations regarding hunting-trophy imports into the USA.¹⁴⁰

SoCal Guided Hunts, a business offering guided hunts in Southern California, also listed Zeiss as a sponsor. A predator hunt (accompanied by an image of a dead coyote) and black bear hunt were amongst those hunting packages listed on SoCal's website, socialguidedhunts.com, when viewed in November 2015.

Zeiss had also sponsored a number of TV shows that promoted hunting, including 'A Hunter's Life' with Larry Weishuhn,¹⁴¹ and 'The Boddington Experience' TV series, aired in 2012, that followed hunter Craig Boddington on various hunting trips around the world.¹⁴²

In 2014 Zeiss also sponsored the hunting TV series 'Under Armour Presents Ridge Reaper' which followed a number of hunters, including Jason Carter, on 'big-game' hunts in North America.¹⁴³

In addition, in December 2014, Zeiss ran a competition to win a 'three-day pronghorn antelope dream hunt' in partnership with Rough Country Outfitters and Friends of NRA.¹⁴⁴

Although Zeiss, as a company group, had many links with hunting, no specific links between Zeiss's staff and sport hunting could be found.

140. www.scifirstforhunters.org/advocacy/trophy: viewed Nov 2015

141. www.outdoorhub.com/news/2011/09/06/zeiss-announces-optics-sponsorship-of-two-sportsman-channel-tv-shows/: viewed Nov 2015

142. www.ammoland.com/2012/07/carl-zeiss-optics-sponsors-the-boddington-experience/#axzz3qpO6wurZ: viewed Nov 2015

143. www.scout.com/outdoors/hunting/bowhunting/story/1487971-zeiss-partners-with-ridge-reaper-tv-show: viewed Nov 2015

144. www.americanhunter.org/articles/2014/12/15/zeiss-announces-pronghorn-dream-hunt-contest/: viewed Nov 2015

Carson Optical

"Whether you're a hunter, birder, sports fan, or concert goer, Carson has the perfect optical product to enhance your viewing experience".¹⁴⁵

Background

Richard Cameron, a former banker, established Carson Optical in 1990 from a basement on Long Island, USA. The business initially focused on importing and exporting products between Japan and the USA. However, outside of the USA, Carson Optical products are now available to buy through a number of online retailers such as opticsplanet.com and amazon.com.

Over time the company's optics range has expanded from its initial focus on binoculars to encompass microscopes, spotting scopes, magnifiers, riflescopes and photographic accessories which are marketed at 'people of all ages and interests', hunters included.¹⁴⁶

Carson Optical Inc. had an estimated annual turnover of £6.49 million according to the corporate database hoovers.com, viewed by Ethical Consumer in October 2015.

No publicly available accounts or environment or supply chain reporting could be found.

Shooting accessories

Hunting was not drawn out as a specific category of products on Carson's website, www.carson.com. Products that could be used for shooting, amongst other activities, included riflescopes, night vision equipment, monoculars and binoculars. However, products were marketed at all users: *"Whether you're a hunter, birder, sports fan, or concert goer, Carson has the perfect optical product to enhance your viewing experience."*¹⁴⁷

Optics products that were recommended for hunting in the company's 2015 catalogue product descriptions included the XM and VP series of binoculars, described as *"Great for hunting, birding or outdoor activities"* JK and Outlaw binoculars, described as *"Ideal for hunting, hiking and any outdoor activities"*. And Hookupz – a binocular adaptor – described as *"Great for hunting, bird watching or even law enforcement surveillance"*.

Carson Optical's Facebook page contained some hunting related posts but hunting was not a dominant theme. For example, a video of New Zealand Red Stags was posted and accompanied by a number of hashtags including #hunting.

145. www.carson.com/images/pdfs/2014-Brochure-Final.pdf viewed Nov 2015

146. www.carson.com/press viewed Nov 2015

147. www.carson.com/images/pdfs/2014-Brochure-Final.pdf viewed Nov 2015

Eschenbach Holding GmbH

"Innovation in Sight"

Background

Eschenbach branded optics are owned by the German company Eschenbach Holding GmbH, a company established in 1913 by Josef Eschenbach that had an annual turnover of €131 million in 2014.¹⁴⁸ In 2007, Barclays Private Equity (now Equistone Partners Europe) acquired a 70% stake in the Eschenbach Group and 20% stake in management.¹⁴⁹

The Eschenbach group now employs over 550 individuals and has subsidiaries based in the following 12 countries: Switzerland, Austria, Italy, Denmark, France, Great Britain, Netherlands, USA, Japan, Spain, Poland and the Czech Republic.

Eschenbach's products fit into roughly three key areas: eyewear, vision technology products and consumer optics. The company sells a range of spectacles under the Brendel, Humphrey's, Tura, Jos, Eschenbach, Freigeist and TITANflex brands in addition to Marc O' Polo, an eyewear brand that Eschenbach now licenses. Eschenbach also sells magnifiers, lamps, meteorological equipment, binoculars, monoculars, spotting scopes and opera glasses.

No environment or supply chain reporting could be found for the Eschenbach group.

Shooting accessories

Eschenbach's website,¹⁵⁰ listed consumer optics products under both product type and 'areas of use'. Activities listed under 'areas of use' included birdwatching and wildlife observation, hiking and trekking, holidays and travel, hunting and safari, sporting events, theatre and concerts.

Products recommended for hunting included spotting scopes and the binocular models Farlux Selector, Regatta, Bison, Trophy, Adventure, Sektor, Vektor and Arena.¹⁵¹

Promotional text did not promote a specific type of hunting and merely highlighted the need for good optics when out hunting, bird watching or playing sport, etc. For example:

*"Sturdy, weather-resistant binoculars are an absolute necessity when you're out hunting or on safari ... When you're out hunting or on safari, poor optics can prove to be disastrous."*¹⁵²

Trophy D8x56: *"Bright images showing every detail: Hunter's binoculars for the discoverer."*¹⁵³

*"The Eschenbach trophy® AS/S can also be used for hunting, in forests and woodland, for bird watching, wildlife and nature observations, for the sport of shooting and also for mountain rescue and coastguard services."*¹⁵⁴

No images of game animals could be found on the company's website or social media sites.

148. www.eschenbach-optik.com/en/Data.406.0.html?&L=2 Viewed January 2016

149. www.equistonepe.com/detail/investment-detail?id=33 Viewed January 2016

150. www.eschenbach-optik.com/en/Binoculars.497.0.html?&L=2 Viewed January 2016

151. www.eschenbach-optik.com/en/Product-table.1800.0.html?&no_cache=1&L=2 Viewed January 2016

152. www.eschenbach-optik.com/index.php?509&backPID=509&L=2&begin_at=9&cHash=cfdc208495

153. www.eschenbach-optik.com/en/trophy.764.0.html?&L=2 Viewed January 2016

154. www.eschenbach-optik.com/en/trophy.764.0.html?&L=2 Viewed January 2016

Fujifilm Holdings Corporation (Fujinon)

“Value from Innovation”

Background

Fujifilm Holdings Corporation is part of the Japanese Fujifilm group and, as of 2006, is the holding company of Fujifilm Corporation, Fuji Xerox and Toyama Chemical Co. Ltd.

The group is based in Japan and was initially founded in 1934 as Fuji Photo Film Co. Ltd., a company that focused on manufacturing photographic film. The company was established as part of government plans to create a domestic photographic film manufacturing industry.

The Fujifilm group now has three key work areas: Imaging Solutions, Information Solutions and Document Solutions.¹⁵⁵ The group’s diverse array of products now includes:

- Imaging Solutions: health care products, optic equipment, colour films, digital cameras, optical devices, photofinishing equipment and colour paper, chemicals and services for photofinishing.
- Information Solutions: equipment and materials for medical systems, life sciences products, pharmaceuticals, equipment and materials for graphic arts, flat panel display materials, recording media and electronic materials.
- Document Solutions: office copy machines, printers, production systems and services, office services, paper and consumables.

As of March 2015, The Fujifilm Holding Corporation had 273 subsidiary companies, had 30,783 employees, had total capital of ¥40 billion, and had a turnover of ¥2492.6 billion in 2014-15.¹⁵⁶

Fujifilm Holdings Corporation’s website contained a section on corporate behaviour and sustainability that presented the group’s ‘charter for corporate behaviour’,¹⁵⁷ its 2015 sustainability report¹⁵⁸ and its sustainability plan for 2016.¹⁵⁹ Environmental issues discussed in these documents included climate change, energy consumption, water conservation, pollution and waste. The company also had a policy that addressed supply chain management issues and human rights, that prohibited discrimination, forced and child labour, and protected the rights of workers to freely associate and collectively bargain.

Shooting accessories

Fujifilm’s Global website, www.fujifilm.com, was viewed by Ethical Consumer in December 2015 and was not found to contain a section dedicated to hunting accessories. The company’s optics products included lenses, cameras and binoculars. Although Fujinon’s binoculars were said to be “a staunch favourite among professionals in the marine and fishing industries”, no products were specifically marketed at hunters and no products were recommended for use when hunting. No images of game or trophy animals were used on the company’s website or social media sites.

155. www.fujifilm.com/about/profile/?_ga=1.119468492.493296880.1450621275 Viewed December 2015

156. www.fujifilmholdings.com/en/about/factsheet/index.html Viewed December 2015

157. www.fujifilmholdings.com/en/about/philosophy/conduct/index.html Viewed December 2015

158. www.fujifilmholdings.com/en/sustainability/pdf/2015/ff_sr_2015_en_all.pdf Viewed December 2015

159. www.fujifilmholdings.com/en/sustainability/valuePlan2016/index.html Viewed December 2015

Hawke

"You can't shoot what you can't see. Now you can see it all"

Background

Hawke optics are distributed by Deben Group Industries in the UK, a company that was founded by Paul Walker in the 1980s and continues to have 'common ownership' with Hawke Sport Optics LLC¹⁶⁰ (Hawke Optics was set up as part of Deben Group Industries). Deben Group Industries is ultimately owned by Avocet Capital Limited, a company whose ultimate controlling parties are PH Walker and SR Walker, who are also directors of Deben Group Industries.

Further details about the 'common ownership' between Hawke Sport Optics and Deben Group Industries could not be found.

Deben Group Industries sells a range of sport optics, including Hawke branded products, lights and lamps (some designed for guns), battery packs, ear defenders, 'ferret and terrier finders' and a range of other shooting accessories.

Hawke sells a range of products that *"appeal to the passionate and emotive side of optics"*, that are sold under the following trademarks: Hawke, Frontier, Endurance, Panorama, Vantage, Sidewinder, Airmax, Nature-Trek, Sapphire and the Hawke logo.

According to Deben Group Industries' 2015 Annual Accounts, the group had a turnover of £5.18 million in 2014 (65% from the UK, 23% from the European Union and 12% from the rest of the World). Hawke Optics LLC had an estimated turnover of £132,000 according to the corporate database hoovers.com (although companies house stated that the company had dissolved).

Although Hawke's headquarters appear to remain in the UK, in Suffolk, the company now operates in more than 60 countries and has established offices in Indiana, USA.

No environment or supply chain reporting could be found.



Hunting using Hawke Optics.

image source: hawkeoptics.co.uk

160. Deben Group Industries 2014 Directors' Report and Financial Statements. Viewed December 2015

Shooting accessories

Hawke's website, www.hawkeoptics.co.uk, was viewed by Ethical Consumer in December 2015. Hawke sold a range of shooting accessories including riflescopes, crossbow scopes, binoculars, spotting scopes, laser rangefinders and ballistic software. Products were listed under two key categories on its website: sport and nature. A 2015 catalogue for each category was available to download from the company's website.¹⁶¹

The sport optics catalogue contained numerous images and quotes that promoted the use of products for trophy hunting. Images of shooters and hunters carrying large antlers in backpacks were dotted throughout the catalogue, in addition to an image of a dead white-tailed deer, and an image of a gun targeting a 'trophy' deer. Images of men carrying large antlers were also used throughout the 'sports' section of the company's website.¹⁶²

The Hawke Endurance series of scopes was introduced with the following text: *"Hunting is serious business. If your optics haven't been specifically designed with hunting in mind, can you trust them when the time comes to take the shot? The Endurance line of scopes feature chassis and reticle designs that have been explicitly engineered for everything from varmint to big game hunting"*.

A quote from the editor of the Predator Extreme Magazine, Mark Olis, was also used to promote Endurance scopes: *"I felt like a shooting pro when I was using the Hawke Endurance 30 4-16x50 SF riflescope on a prairie dog shoot in Montana this past summer. The clarity and magnification made it easy to stay on small targets at 300 and 400 yards."*

Hawke described itself as *"an industry leader in developing specialized optics for serious airgun shooters and hunters"*.

The sport optics catalogue promoted the use of its Endurance spotting scopes for a variety of activities, including hunting: "Whether your interest is in sports, bird watching, wildlife or hunting, Endurance spotting scopes are sure to provide the performance you demand for years to come." The same products were also listed in the nature catalogue, but the promotional text omitted the word 'hunting'.

Connections to 'sport' shooting

A 2014 post on the huntinglife.com website stated that Hawke Sport Optics had "partnered with Jon and Gina Brunson as [a] sponsor of Addicted to the Outdoors", a TV show that follows a family on their hunting trips.¹⁶³

Hawke Optics was also listed as a partner of the hunting TV shows 'Hardcore Hunting' and 'Backwoods Life'. The Backwoods Life website, southernbackwoods.com, was viewed in December 2015 and was found to contain a gallery of dead 'bucks' and trophy animals.¹⁶⁵

Hawke was listed as a partner of Whitetails Unlimited,¹⁶⁶ an educational conservation and hunting organisation, and Delta Waterfowl,¹⁶⁷ a 'duck hunters' organisation' based in North Dakota, USA.

161. www.hawkeoptics.co.uk/hawke-catalogues.html Viewed December 2015

162. www.hawkeoptics.co.uk/sport.html Viewed December 2015

163. huntinglife.com/hawke-sport-optics-partners-jon-gina-brunson-sponsor-addicted-outdoors/ Viewed December 2015

164. www.professionaloutdoormedia.org/node/6737 Viewed December 2015

165. southernbackwoods.com/#show-partners Viewed December 2015

166. www.whitetailsunlimited.com/support/national-sponsors/ Viewed December 2015

167. www.deltawaterfowl.org/about/partners.html Viewed December 2015

Kenko Tokina Co., Ltd.

"In a moment, the breadth and beauty of nature is real, inviting you into its world ..."

Background

Kenko Tokina, established in 1957, is headquartered in Tokyo, Japan. The company specialises in the manufacture of optical products including binoculars, microscopes, filters, photographic and optical accessories, and bags. According to the company's website, production takes place in China, Japan, the Philippines and Thailand, and products are primarily sold in Russia, Europe, India, China, Brazil and the USA. The company sells camera lenses under the Tokina brand, and other optical equipment under the Kenko brand.

The Kenko Tokina website, www.kenkoglobal.com, provided a turnover figure of US\$250 million for 2011 only. According to the corporate database hoovers.com, Kenko Tokina Co Ltd had an estimated annual turnover of £94.93 million. No evidence of environment or social reporting could be found on the company's websites. Some products were labelled as containing 'eco-glass optics' that were said to be arsenic and lead free.

Shooting accessories

Although Kenko sold binoculars and spotting scopes, no product could be found that was specifically marketed at hunters. Most binoculars and scopes were recommended for bird watching. No images of game animals were displayed.

% revenue from shooting product sales

NA. No shooting products could be found on Kenko Tokina's website.

Connections to 'sport' shooting

No criticisms or links between Kenko and its staff and sport hunting could be found.

Kowa

"With an eye on the earth and the future ... a beloved brand from birders to hunters to stargazers."¹⁶⁸

Background

Kowa was founded in 1894 in Japan and initially started out as a wholesaler of cotton fabrics. The company started to produce non-fabric items in 1945 and now manufactures a broad range of products including pharmaceuticals, electronic devices, optical equipment and broadcasting devices. Kowa also sells textiles (including organic cotton), machinery, building materials, chemicals and other consumer products.

The Kowa Group, as of March 2014, had a turnover of ¥434.3billion, had 84 subsidiaries and was affiliated with another 15 companies.¹⁶⁹ Its work focuses on the environment and health, and its operations are primarily based in North America, Japan, Asia, Latin America and Europe.

Kowa started producing sport optics in 1952, which were initially developed for "examining targets in shooting matches".¹⁷⁰ The company's optics products were said to have become popular with bird watchers later on.

Kowa Group's website contained an environmental policy, www.kowa.com/environment, which was said to cover the whole group. Kowa stated that it aimed to establish and implement an environmental management system (EMS) according to ISO 14001 standards. The company's policy contained commitments to reducing energy consumption, increasing its use of renewable energy, conserving resources, reducing chemical pollution and waste. However, quantified reduction targets were not presented.

Shooting accessories

Kowa's optics products include spotting scopes, binoculars, lenses and digi-scopes. No 'hunting section' was provided on any of the company's websites and only one product, the TSN – 82SV Spotting Scope, was specifically recommended for hunting: *"the dream instrument of every bird watcher, hunter, and target shooter."*



Kowa's website homepage.

image source: sportingoptics.kowa-usa.com

Kowa's Sporting Optics Facebook page contained some old posts which recommended the use of other Kowa products for hunting. For example, a January 2012 post stated *"Kowa offers a variety of optics designed to take your hunt to another level"*

An August 2011 post entitled 'Kowa Optics for the Western Hunter' described a new series of binoculars – the Kowa Genesis/XD Series – as providing *"western hunters with the superior viewing capabilities necessary for their style of hunting"*.

Images of common trophy animals such as deer, moose, wolves, bighorn sheep, elk and puma, were displayed throughout the company's consumer websites, but these were not necessarily targeted at hunters and were accompanied by a range of other wildlife photos.¹⁷¹

168. sportingoptics.kowa-usa.com/content/4-about-us: viewed Nov 2015

169. www.kowa-europe.com/home/en/company.php www.kowa.com/group/: viewed Nov 2015

170. sportingoptics.kowa-usa.com/scopes/: viewed Nov 2015

171. sportingoptics.kowa-usa.com/scopes/: viewed Nov 2015

Micro World Corporation (Barska)

“Whether you enjoy bird watching, outdoor observation, hunting, fishing, stargazing, concerts, or sporting events, BARSKA has the products that meet your needs.”

Background

According to the corporate database hoovers.com, and the incomplete website microworldcorp.com, Micro World Corp is the “manufacturer of outdoor, hunting, and sporting equipment sold under the popular brand BARSKA”. Its turnover, according to hoovers.com, is £3.35 million. No further information or publicly available annual accounts or reports for Micro World Corp or Barska Optics could be found.

The ‘about’ section of Barska’s website, www.barska.com, stated that the company was founded in 1994, was based in California, and sold a wide range of sports optical equipment and accessories through a variety of retailers, dealers and distributors in the United States, Asia, Europe, Africa, South America, and Australia. The company specifically mentioned a new warehouse and distribution centre in Shanghai, China.¹⁷²

Barska’s product range included biometric safes, riflescopes, binoculars and spotting scopes, laser sights, telescopes, microscopes, tripods, red dot scopes, monoculars, flash lights, sports watches, metal detectors, trail cameras, safe boxes, loaded gears, jewellery cases and solar chargers with speakers. Products were recommended for a variety of activities including bird watching, outdoor observation, hunting, fishing, stargazing, concerts and sporting events.

Barska brands included Loaded Gear (tactical vests, plate carriers and chest rigs), Winbest (metal detectors), Barska Audio (sound systems) and Aus Vio (silk bedding).¹⁷³

No environmental or supply chain reporting could be found for Barska or Micro World Corp.

Shooting accessories

No specific section of Barska’s website, www.barska.com, was specifically marketed at hunters. Products were listed under product type, and the ‘Optics’ category of products contained numerous shooting accessories that were recommended for use when hunting. Optics products included riflescopes, spotting scopes, monoculars, binoculars, night vision equipment and tactical combos. The company also sold telescopes and microscopes.¹⁷⁴

172. barskaoutdoors.com/about viewed December 2015

173. www.barska.com, viewed December 2015

174. www.barska.com/Products-Spotting_Scopes.html viewed December 2015

The company's monoculars and binoculars were recommended for use when hunting, in addition to golfing and recreation. Similarly, the company's spotting scopes were recommended for hunting in addition to other activities: *"A spotting scope is an indispensable part of the hunter, target shooter, birder or outdoor naturalist's gear"*.

Several binoculars and riflescopes contained 'huntmaster' in their product name, and Barska riflescopes were said to be the *"best rifle scopes for hunting, sport and tactical rifles"*, and *"best bang for [your] buck"*.¹⁷⁵ The company's riflescopes were said to be *"designed for comfort during long hunting sessions"*, and the company claimed: *"from the serious tactical and long-range shooter to the varmint hunter or big-game hunter and recreational target shooter, there's a BARSKA riflescope that's a perfect fit for you and your firearms"*.

Barska stated that it *"firmly believes in the longevity of a productive day of hunting"* and recommended its Contour scopes for a variety of weapons including crossbows and pistols.¹⁷⁶ The 3-12x56 IR Huntmaster Pro Riflescope from Barska is a perfect choice for serious shooters and hunters".¹⁷⁷

A number of scopes were recommended for 'big-game hunting', including the Euro-30 Pro Riflescopes by Barska: *"ideal for big game hunting anywhere on the globe or local general hunting"*.¹⁷⁸

No images of game animals were found on the company's website. Barska's Facebook page did, however, contain images of rifles and deer, and the company's Twitter feed @BarskaOptics contained images of dead trophy animals including male sheep and deer. One post, which was retweeted by Barska, contained an image of a young girl holding a dead deer's antlers and the statement: *"we need more kids holding deer and less game controllers..."*

175. www.barska.com/Products-Riflescopes.html viewed December 2015

176. www.barska.com/Contour_Rifle_Scopes-BARSKA_3-9x42_IR_CONTOUR_SCOPE_PICATINNY_BASE.html viewed December 2015

177. www.barska.com/Huntmaster_Pro_Scopes-BARSKA_3-12x56_IR_Huntmaster_Riflescope.html viewed December 2015

178. www.barska.com/Riflescopes-Euro-30_Pro_Rifle_Scopes.html viewed December 2015

Synta Technology (Celestron brand)

"Explore the cosmos."

Background

Celestron's roots are in the Astro-Optical Division of Valor Electronics, a company founded by Tom Johnson in the 1950s. Celestron is now owned by Taiwan-based Synta Technology, and sells its products globally through its online platforms, international distributors, and in the US and Canada through major retailers and speciality stores.

According to hoovers.com, Celestron had an estimated turnover of £13.24 million in the 2014-15 financial year.

From its early beginnings, Celestron was motivated to make astrology more accessible to the average consumer through affordable telescopes. The company continues to have a focus on producing optics for science education and astronomy, and supports initiatives such as Astronomers Without Borders and the International Dark-Sky Association.

Celestron's products include a range of SMART and non-computerised telescopes, spotting scopes, binoculars and microscopes, GPS devices and related optical accessories.

No environment or social reporting could be found.

Shooting accessories

Celestron's website, www.celestron.com, contained a section on sport optics which had products on sale that were recommended for use when hunting including monoculars, up-close spotting scopes and GPS pocket navigators. For example:

*"The rugged Cavalry Series monocular is designed for hunters, boaters, law enforcement, and military personnel"*¹⁷⁹

*"Upclose spotting scopes: perfect for Outdoor Land and Wild Life observation, as well as Hunting and Target Shooting!"*¹⁸⁰

*"The 50 mm and 60 mm Waterproof Upclose Spotting Scopes are a good choice for bird watching, nature or wildlife observation, hunting, and enjoying scenic views."*¹⁸¹

Unlike Celestron's website, Celestron's 2015 Sport Optics catalogue¹⁸² did not appear to contain any products specifically marketed at sport hunters, and was primarily aimed at astronomers and wildlife watchers. One exception was found – Celestron's LandScout binoculars – which were said to *"meet the needs of every outdoor enthusiast, from birders and hunters to sports fans and travellers"*.

Although some of Celestron's products were recommended for use when hunting, amongst other activities, explicit marketing of products at sport hunters could not be found and no images of hunters or game animals were found in the company's promotional material.

179. www.celestron.com/browse-shop/sport-optics/monoculars/cavalry-8x42-monocular-with-compass-reticle : viewed Nov 2015

180. www.celestron.com/browse-shop/sport-optics/spotting-scopes/series/upclose-spotting-scopes: viewed Nov 2015

181. www.celestron.com/browse-shop/sport-optics/spotting-scopes/series/upclose-spotting-scopes: viewed Nov 2015

182. www.celestron.com/media/153231/2015_sportoptic-catalog_rev_f.pdf: viewed Nov 2015

SOCRATES Private Foundation (Leica brand)

“See more, experience more”

Background

Four independent companies share the Leica brand: Leica Camera, Leica Microsystems, Leica Biosystems and Leica Geosystems. Between the four, a diverse array of products is made under the Leica brand including microscopes, cameras, sport optics and laboratory equipment.

Leica Camera AG, 96.5% of which is owned by the Austrian holding company ACM Projektentwicklung (a subsidiary of SOCRATES Private Foundation),¹⁸³ offers a range of cameras, lenses, projectors, binoculars and photographic accessories. The company's first 35 mm camera was made in 1914 by Oskar Barnack, although it was first sold to the public in –1925 – after World War I.

Leica Camera AG has manufacturing operations in Germany and Portugal and, according to a 2011 press release on Blackstone's website¹⁸⁴ (another key investor in Leica Camera AG), “the company is active in 54 markets internationally and operates branches in England, France, Japan, Singapore, Switzerland, South Korea and the USA”.

Leica Camera AG has a strategic partnership with the Panasonic Corporation which includes a license agreement for use of Leica's trademark on Panasonic's digital camera products and cooperation between the two companies regarding technological expansion.¹⁸⁵

According to hoovers.com, Leica Camera AG had a turnover of £227.39 Million in 2011. No up-to-date turnover figures could be found.

Leica Camera AG's website, www.leica.com, listed a number of partnerships including the Wildfowl & Wetlands Trust (a British organisation dedicated to the protection of wetland habitats), and Magic Safari Lodges, www.magicsafarilodges.com, an organisation that raises awareness of the best hunting and fishing lodges around the world.

No environment or supply chain reporting could be found on Leica's websites.

Shooting accessories

Leica Camera AG's website, www.leica.com, was viewed by Ethical Consumer in October 2015. The home page of the website categorised the company's products into photography and sport optics, under which birding and hunting were listed as key activities. Leica sold a number of products that were recommended for use when hunting: *“Our top-quality riflescopes, binoculars, and spotting scopes with brilliant optics, precise mechanisms, and exceptional craftsmanship are ideally equipped for Hunting”*.

183. www.acm-projekt.at : viewed Nov 2015

184. www.blackstone.com/news-views/press-releases/leica-camera-gains-strategic-investor-in-blackstone: viewed Nov 2015

185. www.bloomberg.com/research/stocks/private/snapshot.asp?privcapId=4509058: viewed Nov 2015

The company also marketed rangefinders under the hunting section of its website.

A video called 'Discover Leica Hunting in Action' used images of deer and bighorn sheep to demonstrate how the company's optic products worked, and Leica had a Facebook page (Leica Hunting), blog (blog.leica-hunting.com) and twitter feed dedicated to hunting stories and news (@Leica Hunting). The company's social media channels contained numerous stories of trophy hunting trips, and images of kills.

Promotional text highlighted the precise nature of equipment which allowed for successful shots. For example:

*“ballistic programmes calculate all parameters needed to deliver a safe and ethically correct shot” and “Successful hunting through precise measurement”.*¹⁸⁶

No specific type of hunting was promoted on Leica's website and equipment, such as riflescopes, were said to be *“for every kind of hunting”*. However, images of trophy animals such as elk, deer and wild sheep were used throughout the hunting section of the company's website¹⁸⁷ and its social media channels were full of trophy hunting news and stories.

Connections to 'sport' shooting

Leica stated on its website: *“for many years, Leica Sport Optics has been a partner of Magic Safari Lodges, who offers their guests the unique experience of Leica riflescopes and Leica binoculars during their stay”*. Magic Safari Lodges promoted the best hunting and fishing lodges around the world through an online catalogue. Magic Safari Lodges' 2015 catalogue contained numerous images of trophy animal kills – including images of male lions, a leopard, numerous antelope, an elephant and buffalo.¹⁸⁸

The LinkedIn profile of Leica Sport Optics' US & Canadian Sales Specialist, Hamilton Boykin, stated that he had an *“extensive background and personal expertise in high-end hunting and specialized outdoor equipment ... [was] a lifelong hunter... [and a] proud member of the Board of Directors for Safari Club International, Low Country Chapter.”*¹⁸⁹

186. uk.leica-camera.com/Sport-Optics/Rangefinders/Leica-Rangemaster viewed Nov 2015

187. blog.leica-hunting.com/?p=1344: viewed Nov 2015

188. www.magicsafarilodges.com/downloads/MagicSafariLodges2015.pdf viewed Nov 2015

189. www.linkedin.com/in/hamiltonboykin viewed Nov 2015

Leupold & Stevens Inc.

"You know us, because we're a lot like you. We work hard. We're innovators. We hunt and shoot, and we generally get out a lot. Above all, we're a family"

Background

The Leupold brand is owned by Leupold and Stevens Inc., a family owned business founded in 1907 in Portland, Oregon, USA. The company was set up by Markus Friedrich (Fred) Leupold, a German immigrant, and his brother-in-law Adam Volpel. The company, initially called Leupold & Volpel, invented, manufactured and sold surveying equipment. Post World War II, the company made its first 'fog-proof' riflescope in 1947.

Since 1947 the company has gone on to manufacture a wide range of sport optics aimed at golfers, wildlife watchers, hunters, shooters and the military. Leupold & Stevens started supplying the US military with optic products in 1985 and continues to supply them to this day.

Leupold's product range currently includes spotting scopes, rangefinders, binoculars, mounting systems, accessories and other scopes.

According to hoovers.com, viewed in October 2015, Leupold & Stevens had an estimated turnover of £69.62 million.

No environmental or supply chain management reporting could be found.

Shooting accessories

Leupold's products are listed under 'activity type' on the homepage of the company's website, www.leupold.com. Products listed under 'Hunting and Shooting' include binoculars, scopes, spotting scopes, rangefinders, mounting systems and other accessories.

Text accompanying several hunting products references trophy hunting in particular. For example:

*"We pushed everything to the limit to make the VX@-3 at home on your favourite rifle, whether you are hunting whitetail from a treestand, or stalking sheep in rugged terrain."*¹⁹⁰

Kenai spotting scopes: *"it's right at home targeting big game across open prairie or spotting varmints at long range."*¹⁹¹



Looking down a Leupold rifle scope.



Leupold's 'pro team'.

images source: leupold.com

190. www.leupold.com/hunting-shooting/scopes: viewed Nov 2015

191. www.leupold.com/hunting-shooting/spotting-scopes: viewed Nov 2015

Quick release mounting system called 'QR Tikka T3/Whitetail Hunter 2-pc.'¹⁹²

*"Setting up for longer shots you'll appreciate the flexibility it affords, and in close up big game or dangerous game situations the quick target acquisition will be the difference maker."*¹⁹³

"For turkey hunting, shotgun slug hunting, or even muzzle-loader hunting – any time the action is fast and close – the Prismatic is an excellent choice."

Images of trophy animals such as antelope and images of antlers were also posted throughout the company's website, www.leupold.com. The company's Facebook page, 'Leupold Optics', and Twitter feed, @LeupoldOptics, also contained numerous images of harvested antlers, bighorn sheep, white-tailed deer and elk.

Other promotional text included:

"Designed specifically for crossbow hunting, Crossbones features..."

GR Spotting scopes: *"Now your hunt can reach further into the twilight than ever before possible ..."*

RX Rangefinders: *"Our proprietary DNA engine responds instantly with crisp precision within 1/10th yard and TBR (True Ballistic Range) gives you all you need to place your shot perfectly."*¹⁹⁴

*"The FX™ Series of riflescopes is made for those hunters and shooters who appreciate the ruggedness, accuracy, bright sight picture, large exit pupil, and of course, the purity of a fixed power riflescope. There's an FX riflescope suited to nearly every shooting sport, and nearly every firearm, from rifles, to shotguns, to handguns."*¹⁹⁵

Vendetta Bow Rangefinders: *"The new Leupold® Vendetta™ bow-mounted rangefinder will*

*revolutionize the way you hunt and dramatically improve your chance of hanging meat on the pole."*¹⁹⁶

Connections to 'sport' shooting

Leupold & Stevens have many historical and current connections with sport hunting through employees and family members. The catalyst for producing the company's first rifle scope was even said to be due to a failed hunting trip: *"Marcus Leupold missed a buck because his scope fogged up. He swore he could make a better scope, and that's just what he did."*¹⁹⁷

Leupold's website listed the Leupold 'pro team'. When viewed in October 2015 team members included: Jim Shockey who had *"hunted in more than 40 countries and on 6 continents, where he has taken over 300 species,"*¹⁹⁸ Jessie Duff, *"an avid whitetail hunter [who has also] hunted Cape Buffalo in Africa",*¹⁹⁹ Eva Shockey, whose profile was accompanied by an image of a dead trophy animal,²⁰⁰ Craig and Brittany Boddington, a *"father and daughter duo ... widely known for big-game hunting and worldly adventures."*²⁰¹

Leupold also had partnerships with a number of different hunting and conservation organisations. Partnerships were listed on the company's website, www.leupold.com, and included The Boone and Crockett Club, the Rocky Mountain Elk Foundation, Safari Club International, the National Wild Turkey Federation, the National Shooting Sports Foundation, the Mule Deer Foundation and the National Rifle Association. All of these organisations were involved in protecting hunting rights and the conservation of habitat to conserve game species.²⁰²

Leupold was the 2015 and 2016 sponsor of 'Gun It' with Benny Spies, an outdoor TV show on the Sportsman Channel that looked at how Americans enjoy the outdoors – through hunting and exploring.²⁰³ Leupold was also the optics sponsor of hunting TV show 'Predator Nation'; hosted by Fred Eichler of whom it was said *"represents the best in American hunting"*.²⁰⁴

192. www.leupold.com/hunting-shooting/mounting-systems/quick-release-mounting-systems: viewed Nov 2015

193. www.leupold.com/hunting-shooting/scopes/crossbow-scopes/crossbones-2-7x33mm: viewed Nov 2015

194. www.leupold.com/hunting-shooting/rangefinders: viewed Nov 2015

195. www.leupold.com/hunting-shooting/scopes/fixed-power-riflescopes/fix-ii-4x33mm: viewed Nov 2015

196. www.leupold.com/hunting-shooting/rangefinders: viewed Nov 2015

197. www.leupold.com/about-us/leupold-living-history: viewed Nov 2015

Meopta – optika, s.r.o.

“A better view of the world.”

Background

Initially established in 1933 (named Optikotechna) as a producer of dark room equipment such as enlargers and lenses, Meopta – optika s.r.o.'s optical product range has varied historically in response to its direct political climate. In 1935 the company started supplying military optical equipment to the Czechoslovakian army. Production of military optical equipment later dominated the business during World War II (1939 -1945) and again in 1971 for the Warsaw Pact armies. Meopta specialised in the manufacture of photo enlargers and cinema projectors in the interim period (1946-1970).

Meopta now offers optical products for a diverse customer base: wildlife watchers, hunters, scientists, medical and military personnel. The company is predominantly based in the Czech Republic with the exception of one key subsidiary – Meopta U.S.A. Inc. Products now include binoculars, spotting scopes, riflescopes, sniper scopes, scope adaptors, loose optic lenses, night vision equipment, periscopes, optoelectronic systems, image intensifiers for X- ray imaging devices and optical tweezers.

The company provides some Corporate Social Responsibility reporting on its website. A brief discussion of its supply chain management and a discussion of the company's “commitment to the environment through its focus on energy efficiency, employee awareness, conservation of natural resources and continual improvement of waste control” is included. However, the discussion surrounding environmental impacts fails to explore the broader impacts of sport hunting on ecosystems and animal populations.

Meopta supported a number of bird conservation initiatives such as the owls and birds of prey protection club in the Czech Republic and the ornithological station in Prerov, Czech Republic.

The company's turnover was £62.24 million in 2014-15 according to the corporate database hoovers.com.

Shooting accessories

Meopta's sport optics website, www.meoptasportsoptics.com, was searched by Ethical Consumer in October 2015. The website was broken down into three core segments which were promoted alongside one another: nature, hunting and tactical (military).

The hunting section's byline stated "From hunting game in the wilderness to an afternoon at the range building your skill. Meopta sports optics assure your success"

Shooting accessories specifically marketed at hunters included spotting scopes and riflescopes, which were accompanied by product overviews. Product overviews contained hunting related references that primarily promoted 'big-game' hunting. For example:

*"Low light? No problem: Designed to be the ultimate low-light choice for big game hunting, the MeoStar R2 2.5-15x56 RD provides crystal-clear resolution and edge-to-edge clarity needed for challenging shooting conditions."*²⁰⁵

*"Perfect for dangerous game hunting applications."*²⁰⁶

*"The ability to have both eyes open for a quick, snap shot can mean the difference between the one that got away and the prize trophy of a lifetime."*²⁰⁷

*"The new benchmark scope for deer hunters."*²⁰⁸

*"The MeoStar 3-10x50 is a superior big game hunting scope."*²⁰⁹

*"The bane of coyotes and wild boars across the globe, the 7x56 combination of magnification and objective lens diameter is the perfect set-up for low-light hunting."*²¹⁰

*"The classic hunting riflescope, appropriate for hunters of all experience levels and the various big game animals they go after. From roe bucks in Central Europe to red deer in New Zealand, the MeoPro 3-9x42 is the versatile choice for the demanding outdoor enthusiast."*²¹¹

Although images of game animals were not displayed alongside shooting accessories, images of elk, boar, and a number of different deer and antelope were displayed throughout the website. Meopta Sports Optics Facebook page and US twitter feed also contained numerous images of dead trophy animals such as elk, buffalo and ibex.

Connections to 'sport' shooting

The 'news' section of Meopta's website, www.meoptasportsoptics.com, included a brief summary of Reinhard Seipp's (Meopta's USA General Manager) trip to Novillos Ranch where he was reported to have made "great use of the MeoStar S2 HD spotting scope as well as MeoStar R1 4-16x44 with McWhorter High Velocity reticle to help take down his first ever South Texas Whitetail!" This trip was to be included in an episode of 'Brush Country Monsters' – a TV series focusing on white-tailed deer hunting.²¹²

Meopta was listed as a sponsor of 'Brush Country Monsters' on its website, www.brushcountrymonsters.com/sponsors, when viewed in October 2015.

In January 2015, Meopta also announced its sponsorship of a new TV series called 'Sheep Shape'. The show was said to follow four hunters on a wild sheep hunting trip.²¹³

An article on the NewsCentral website described the Meopta USA employee, Matthew Parente, as "a life-long hunter who is accomplished with rifles, bows and shotguns. He enjoys hunting a variety of game from deer and bear to hogs and waterfowl."

No further links or information about Meopta staff sport hunting could be found.

205. www.meoptasportsoptics.com/shop/en/r2-2-5-15x56-rd/r2-2-5-15x56rd/ctgRen.html: viewed Nov 2015

206. www.meoptasportsoptics.com/shop/en/r1-1-4x22/meostar-r1-1-4x22/ctgRen.html: viewed Nov 2015

207. www.meoptasportsoptics.com/shop/en/r1-1-4x22-rd-mr/meostar-r1-1-4x22-rd-mr/ctgRen.html: viewed Nov 2015

208. www.meoptasportsoptics.com/shop/en/r1-1-5-6x42-rd/meostar-r1-1-5-6x42-rd/ctgRen.html: viewed Nov 2015

209. www.meoptasportsoptics.com/shop/en/r1-3-10x50/meostar-r1-3-10x50/ctgRen.html: viewed Nov 2015

210. www.meoptasportsoptics.com/shop/en/r1-7x56/meostar-r1-7x56/ctgRen.html: viewed Nov 2015

211. www.meoptasportsoptics.com/shop/en/3-9x42/meopro-3-9x42/ctgRen.html: viewed Nov 2015

212. www.meoptasportsoptics.com/en/news/meoptas-reinhard-seipp-hunts-south-texas-for-his-first-brush-country-monster-1404042935.html: viewed Nov 2015

213. www.meoptasportsoptics.com/us/news/meopta-announces-partnership-with-sheep-shape-tv-1404043680.html: viewed Nov 2015

214. newscentral.exsees.com/item/0134012fe144bed4258bd4c7dc7e6c1b-fd572fcf707a439370dc77205944e6a9: viewed Nov 2015

MINOX GmbH

“Excellently suited for universal application in all fields of hunting and game-keeping, as well as for the observation of flora and fauna in the wild.”

Background

MINOX, known for its small camera and its famous 'spy camera', now offers a range of sport optics and compact digital cameras that are aimed at wildlife watchers, hunters, water sport enthusiasts and security forces.

The first MINOX camera was made in 1936 by the German/Latvian designer Walter Zappl. Since 1936, MINOX branded products have been manufactured in Latvia and then Germany (after World War II), and the company has briefly changed ownership: the MINOX brand was owned by Leica between 1996-2001, after which MINOX bought out the company and became independent again.

No environmental or social reporting could be found on any of MINOX's websites, and no publicly available accounts were found.

Shooting accessories

MINOX's Global website, www.minox.com, was searched by Ethical Consumer in October 2015. The company's products were split into the following categories as tabs on the homepage: nature, hunting, nautical and tactical. Shooting accessories, listed under 'hunting' included riflescopes, binoculars, spotting scopes, night vision equipment, macro scopes, monoculars and surveillance cameras.

Promotional text included the following:

“The excellent optical performance and reliable mechanics perfectly meet the demands of any hunter looking for a quality piece of gear.”²¹⁵

“Incredibly light and uniquely compact for dynamic lowland or mountain hunting.”²¹⁶

“Universal and flexible for short, medium and long ranges in densely wooded and wide open hunting grounds.”

The BF range of binoculars were recommended for use when hunting.

“Excellently suited for universal application in all fields of hunting and game-keeping, as well as for the observation of flora and fauna in the wild.”²¹⁷



MINOX North American Hunting.

images source: Minox Facebook group: facebook.com/MinoxNorthAmericaHunting/photos

215. www.minox.com/index.php?id=riflescopes&L=1 Viewed October 2015

216. www.minox.com/index.php?id=ze_i_series&L=1 Viewed October 2015

217. www.minox.com/index.php?id=bf_series&L=1 Viewed October 2015

“The request of many hunters and nature observers for compact, yet high-quality scopes has now been met by MINOX with the launch of its two new and innovative spotting scopes, the MD 60 Z and the MD 80 Z.”

No images of game animals accompanied products on the company's website. However, MINOX's North American Hunting Facebook page contained numerous images of dead trophy animals – including elk and white-tailed deer.

Connections to 'sport' shooting

MINOX's Facebook page 'MINOX North American Hunting' was viewed by Ethical Consumer in October 2015. The page's news feed contained multiple images of trophy kills, taken by 'MINOX Adventure Team Members.' Trophy animals included an elk, a bear, and a whitetail buck.

Multiple posts about the hunting TV show 'HuntinMotion' were also found on MINOX's Facebook page. HuntinMotion's website, huntinmotion.com/sponsors, was viewed and was found to list MINOX as a sponsor. MINOX was also listed as a sponsor of 'African BBQ Hunter', www.bbqhunter.tv, a TV show that followed the adventures of a South African cook and hunter.

Nikon Corporation

“At the heart of the image.”

Background

Founded in Japan in 1917, the Nikon Corporation has grown into a well-known global optics business with a turnover of £4.83 billion in the 2014-15 financial year (Hoovers, 2015). The company is part of the Mitsubishi keiretsu: a group of businesses linked by cross-ownership.

Best known for its cameras and binoculars, Nikon has developed its product range over the years to offer a wider range of items including photographic equipment, sport optics, photolithography steppers (machines used to create integrated circuit parts), surveying instruments, microscopes, measuring instruments, ophthalmic lenses (lenses used in reading glasses, for example), optical equipment and thin film coatings.

The company's main markets now include Europe (25% of total sales), the USA (23% of total sales), Japan (14% of total sales), China (14% of total sales) and the 'Rest of the World' (24% of total sales). Men in their 40s and 50s constitute Nikon's average customer, however the company is continually striving to reach a younger audience.

Nikon's sale of hunting equipment and the company's promotion of trophy hunting, 'safaris' and 'dangerous game adventure[s] on the dark continent'²¹⁸ have resulted in numerous campaigns against the company. These accuse Nikon of hypocrisy for promoting cameras to wildlife photographers while at the same time promoting hunting through the sale of hunting rifles accessories.

In 2013 Viva! called for a boycott of all Nikon products (cameras, binoculars and scopes) until the company dropped its support for hunting.

Although the company continues to sell hunting accessories, it appears to have stopped using images of trophy animal kills on its website, and has changed the name of its hunting website from www.nikonhunting.com to www.nikon sportoptics.com/en/nikon-products/hunting.

Nikon's 2015 Corporate Social Responsibility (CSR) report²¹⁹ stated that Nikon participated in the UN Global Compact: a voluntary initiative that promoted ten key principles including principle 7: Businesses should support a precautionary approach to environmental challenges; and Principle 8: undertake initiatives to promote greater environmental responsibility.

Nikon's CSR policy contained a detailed discussion of the company's environmental and social impacts and included performance data and future quantified environmental reduction targets. Nikon's Basic Environmental Management policy stated *“Nikon is committed to ... protecting the global environment, including issues related to climate change and biodiversity ... at every stage of production, distribution, use and disposal, we will actively introduce materials and equipments that are effective in protecting the environment, including conservation of biodiversity.”*

A discussion on the impacts of hunting, an activity promoted and sponsored by the company, on biodiversity were not discussed.

Shooting accessories

“Nikon is determined to bring hunters, shooters and sportsmen a wide selection of the best hunting optics money can buy – while at the same time pushing the envelope to create revolutionary capabilities for the serious hunter”.

Nikon Corporation's website, www.nikon.com, had a number of shooting accessories on sale when viewed by Ethical Consumer in October 2015. Hunting accessories were listed under 'Sport Optics' products and 'hunting' and included hunting binoculars, riflescopes, fieldscopes, crossbow scopes, rifle scope mounts, handgun scopes, muzzle-loading riflescopes and rangefinders.

218. www.independent.co.uk/environment/nature/the-wrong-kind-of-photo-shoot-nikon-in-the-line-of-fire-over-rifle-sights-for-big-game-hunting-8556123.html: viewed Nov 2015

219. www.nikon.com/about/csr/report/2015/pdf/csr2015_all.pdf: viewed Nov 2015

Although the company listed its full range of products on its website, photographic and wildlife-watching products appeared more prominent on both its website and in brochures.

For example, Nikon's 2014-15 Sport Optics catalogue omitted hunting products.

Nikon omitted 'hunting' from activities recommended for products listed in its catalogue, despite hunting accessories being listed under 'sport optics' on its website, and several of the catalogue's products were marketed at hunters on its website. These include the PROSTAFF 7i Laser Rangefinder.²²⁰

Although not easy to find on its website, Nikon offered a separate 'hunting optics catalogue', which contained images of hunters, bighorn sheep, white-tailed deer and prairie dogs, amongst other animals. Images of hunted animals, including bighorn sheep, were also posted on Nikon's Facebook page 'Nikon Sport Optics Hunt & Birding Products in CO, ID, MT, NM, UT & WY'.

Some riflescopes were specifically marketed at 'predator hunters' on Nikon's website: *"The Active Target Special features several technology upgrades that will satisfy even the most demanding predator hunters"*.

Other riflescopes were accompanied by images of animals, including prairie dogs²²¹ and white-tailed deer.²²² Promotional text highlighted hunting products' features and benefits, some of which implied they were targeted at trophy hunters. For example:

"DESIGNED FOR SPORTSMEN... A huge ocular, generous field of view and maximum light transmission for dawn to dusk brightness and resolution make this scope the 'must have' for any kind of big game hunting".²²³

"Tested and proven in the field by Nikon PROSTAFF members, these riflescopes will help you bring home

the big bucks without spending them."

Several laser rangefinders were specifically marketed at hunters, for example, the ARROW ID 5000 Laser Rangefinder: *"truly the ultimate bowhunter's rangefinder for real world bowhunting situations... Designed for those who are serious about bowhunting ..."* The PROSTAFF 7i Laser Rangefinder was accompanied by an image of a hunter.

% revenue from shooting product sales

Imaging equipment accounted for 68% of the Nikon's 2014-2015 sales according to hoovers.com, viewed in October 2015. Imaging equipment was said to include sport optics, binoculars, camera lenses, compact cameras, digital cameras, film scanners, and single-lens reflex (SLR) cameras.

Connections to 'sport' shooting

No criticisms or links between Nikon's directors and major shareholders and sport hunting could be found.

Nikon was, however, a sponsor of a number of organisations that promoted or organised hunts. The Texas Trophy Hunters' Association listed Nikon as a sponsor on its website, www.ttha.com/ttha/sponsors, in October 2015. As did McCrea Outdoors, a hunting organisation that offered a number of hunts, including 'exotic hunts', spring turkey hunts, low fence and high fence hunts (where certain animals are enclosed or kept out with the use of fences).²²⁴

Nikon was also listed as a sponsor of the 2015 SCHEELS Federal Hunting Expo in Lincoln, USA,²²⁵ and was listed as a sponsor of the hunting TV shows: 'The Hunt'²²⁶ and 'CRUSH with Lee and Tiffany.'²²⁷

Nikon was also listed as a sponsor of BuckMasters (a company specialising in deer hunting)²²⁸ and was a 2015 partner of 'Raised Hunting', a US show that follows the journey of an American family that *"use hunting as a platform to teach ethics and values to their family"*.

220. www.nikonportoptics.com/en/nikon-products/rangefinders/prostaff-7i-laser-rangefinder.html : viewed Nov 2015

221. www.nikonportoptics.com/en/nikon-products/riflescopes/prostaff-rimfire-ii-3-9x40-bdc-150.html : viewed Nov 2015

222. www.nikonportoptics.com/en/nikon-products/riflescopes/prostaff-7-4-16x42-bdc.html : viewed Nov 2015

223. www.nikonportoptics.com/en/nikon-products/riflescopes/monarch-3-3-12x42-custom-xr-turret.html : viewed Nov 2015

224. mccreaoutdoors.com/sponsors-archery/ viewed 01/10/2015 : viewed Nov 2015

225. lincoln.eventful.com/events/scheels-federal-hunting-expo-/E0-001-086173983-4 : viewed Nov 2015

226. www.millertv.net/sponsors/ : viewed Nov 2015

227. thecrush.tv/gear-and-sponsors/ : viewed Nov 2015

228. buckmasters.com/Sponsors/ : viewed Nov 2015

Olympus Corporation

"Making the invisible visible."

Background

The Olympus Corporation was founded in October 1919 in Japan, with an initial focus on producing microscopes and thermometers. The business now has four key business segments: a Medical Systems Business, Scientific Solutions Business, Imaging Systems Business, and Other (functional organisations). The company continues to be head quartered in Japan but has global reach, with approximately 33% of sales occurring in North America (US and Canada), 26% of sales in Europe (primarily the UK, Germany, and France), 18% in Asia and Oceania (primarily Singapore, Hong Kong, China, Korea, and Australia), and 21% of sales in Japan. The company also has operations in Africa, and Central and South America.²²⁹

Olympus Corporation had a turnover of over £4 billion in 2014-15, and is considered a market leader in digital cameras, endoscopes and other medical equipment. Olympus's Imaging Systems Business accounts for 11% of its total sales (2% of which is 'other imaging', i.e. not from digital cameras), but the vast majority of sales (about 73%) are generated by its Medical Systems Business accounts. Olympus's Scientific Solutions Business accounts for about 14% of sales.²³⁰

In September 2013, the BBC website reported that Olympus and its UK subsidiary Gyrus Group (owned by Sony) were prosecuted by the UK's Serious Fraud Office over charges of providing *"misleading, false or deceptive"* material in accounts for Gyrus Group. The case was reported to be *"one of the biggest financial frauds in Japan's history"*. Three former executives in Japan were given suspended jail terms over the \$1.7 billion (£1.1 billion) accounting scandal which came to light in 2011.²³¹

The company's product range includes digital cameras, binoculars, voice recorders, optical components, gastrointestinal endoscopes, surgical endoscopes, biological microscopes, industrial microscopes, industrial endoscopes and biomedical materials.

Sony Corporation holds 10% of the company's shares. Sony's product range includes a number of hunting video games.

Olympus's website, www.olympus-global.com, contains a section on 'CSR activities' which also contains the company's 2015 CSR report.²³² Both website and report discuss the company's corporate philosophy of 'Social IN', in addition to its environment and social policies and practices. In regard to its environmental policies, the company raised the 'prevention of pollution, sustainable resource use, climate change mitigation and adaptation, and protection of biodiversity' as areas where the company needed to reduce its impact. Environmental performance data was provided, but only greenhouse gas emissions appeared to be independently audited. In addition, Olympus was listed as a member of the pro-nuclear industry lobby group Organization of Canadian Nuclear Industries, www.oci-aic.org, when viewed in January 2016.

Shooting accessories

Olympus's global website was searched in October 2015. Other than binoculars, that were not marketed at hunters, the company did not appear to sell or promote any hunting accessories.

229. Olympus Corporation hoovers family tree, Hoovers.com, viewed December 2015

230. www.olympus-global.com/en/corc/o_top/: viewed Nov 2015

231. www.bbc.co.uk/news/business-23955003 viewed Nov 2015

232. www.olympus-global.com/en/common/pdf/csr_report_2015.pdf: viewed Nov 2015

Optical Hardware (Visionary brand)

“Designing and building products for function not fashion.”

Background

Optical Hardware, a Yorkshire based company, manufactures and distributes the Visionary brand of optics in addition to the Illusion and Ostara brands. Optical Hardware also distributes the Olivon brand of optics in the UK – the trademark of Olivon International.²³³

Optical Hardware's product range includes binoculars, telescopes, spotting scopes, digiscopes, monoculars, tripods and other optical accessories which are suited to a wide range of activities.

Little publicly available information was found about Optical Hardware Ltd. No Corporate Social Responsibility reporting could be found on the company's website and the company was exempt from reporting its full accounts to Companies House due to it having a turnover of less than £6.5 million.

Shooting accessories

Optical Hardware's website did not contain a section specifically on hunting accessories. No images of trophy or game animals were shown and products were not specifically marketed at hunters. Birdwatching, aviation and marine, landscape and long range, astronomy and night sky were the key activities promoted on the website's header.

The company's binocular and telescope (edition number 5) recommended products for a range of activities including: *“Walking, travel, skiing, ships, balloons, camping, mountaineering, hunting, hiking, fishing, landscape or nature viewing and studying architectural detail, the list is endless and so much more enjoyable with a good pair of binoculars.”*²³⁴

233. www.opticalhardware.co.uk/index.htm: viewed Nov 2015

234. www.opticalhardware.co.uk/PDF/information_and_retail_price_lists/binocular_and_telescope_guide.pdf: viewed Nov 2015

Optical Vision Limited (Barr and Stroud)

“Designed for the value conscious outdoor enthusiast and bird watcher ...”

Background

Barr & Stroud Limited was founded in Glasgow in 1913 by Archibald Barr and William Stroud, who started out in the optics industry by developing rangefinders for the British Navy. Barr & Stroud's first pair of binoculars were produced in 1919, and came to be used “almost universally in the Royal Navy during World War II.”²³⁵

Barr & Stroud has since been bought by the Pilkington group (in 1974) and the French Thales Group (in 2000). The Thales group is an electronic systems company that works in defence, aerospace, airline security and safety. In 2001 Barr & Stroud Ltd. became Thales Optronics Ltd.²³⁶

The Barr and Stroud brand name was bought by Optical Distribution Services Ltd. who re-registered as Barr and Stroud Ltd. in 2008. Barr and Stroud optics are now made in China and are distributed by Optical Vision Ltd.

Barr and Stroud's product range includes binoculars, monoculars, spotting scopes and magnifiers. Optical Vision Limited also distributes telescopes, microscopes and optics accessories.

Optical Vision Limited had a turnover of £7,702,045 in 2014, with 50% of sales coming from Europe and 50% from Great Britain. The company distributes optical products worldwide under the Barr and Stroud, Sky-watcher, Helios, Acuter and Zenith brands.²³⁷ The company is owned by Goldfyre Limited whose ultimate parent is Boston Registrars and Nominees Limited.²³⁸

No environmental or supply chain reporting could be found.

Shooting accessories

No specific section of Barr and Stroud's website, www.barrandstroud.com, or Optical Vision Limited's website, www.opticalvision.co.uk, was dedicated to hunting accessories. Products were listed under product type and included binoculars, spotting scopes, spotting scope accessories, monoculars, magnifiers, astronomical telescopes, astronomical accessories, brass telescopes, photo-video tripods and microscopes & meters.

No products listed on www.barrandstroud.com and www.opticalvision.co.uk were marketed at hunters and no images of game animals could be found. Products were primarily targeted at birdwatchers and *“the value conscious outdoor enthusiast”*.

However, Acuter optics, a brand distributed by Optical Vision Limited that appears to be owned by Synta Technology,²³⁹ listed riflescopes on the homepage of its consumer website, www.acuteroptics.com, with an image of a stag. Acuter's riflescope series were promoted with the following statement: *“The feature-rich, heavy-duty Acuter riflescope, engineered to deliver stunning game-time performance, is the final piece to bring the sharp-shooter out of you”*. The header image of the riflescope web-page contained an image of a shooter.²⁴⁰

Acuter also recommended the use of its binocular series for hunting: *“In fact, we are so confident in our products that if you do not find these as the finest hunting binoculars you ever owned, we will buy them back from you!”*²⁴¹

235. www.worldlibrary.org/articles/barr_and_stroud viewed December 2015

236. www.worldlibrary.org/articles/barr_and_stroud viewed December 2015

237. www.opticalvision.co.uk viewed December 2015

238. Optical Vision Limited's 2014 Annual Report, downloaded from Companies House.

239. synta.en.forbuyers.com/about viewed December 2015

240. www.acuteroptics.com/English/ProductList.aspx?parentid=148&bannerID=2 viewed December 2015

241. www.acuteroptics.com/English/ProductList.aspx?parentid=146&bannerID=2 viewed Jan 2016

Opticron

“Sports and Nature optics since 1970: smaller, lighter, brighter, sharper.”

Background

Opticron is a small family-run optics business, founded in the UK in 1970. The company's products are targeted at 'wildlife enthusiasts', and include binoculars, monoculars, telescopes, digi-scoping, tripods and mounts, rangefinders, magnifiers and accessories such as waterproof cases.

The company has an estimated annual turnover of £820,000 according to the corporate database hoovers.com.

No further information was found about the company as no publicly available annual accounts were published and no CSR reporting was available on the company's website.

Opticron was contacted in October 2015 asking for further information about the company. Garin Braska responded stating: *“Opticron is a private partnership so you won't find any financial information about us at Companies House. The company was founded in 1970 by my parents and specialises in the design and marketing of consumer optics (binoculars, monoculars, spotting scopes and accessories) to wildlife watchers the world over. The instruments are made under contract in Japan, Taiwan and China. We employ 20 people in the UK and USA.”*

Shooting accessories

Opticron's website, www.opticron.co.uk, was viewed by Ethical Consumer in October 2015. The website did not have a specific area for hunting accessories and was primarily aimed at wildlife watchers. Its products were listed under product type rather than activity.

A couple of the company's product ranges were said to be suitable for hunting. These included the Tracker 640 Laser Rangefinder. *“The Tracker 670 is a compact easy to use laser rangefinder designed for a range of outdoor activities such as golf, hunting, site surveying, walking and rambling”*. This product was accompanied by an image of a red deer.²⁴²

Trail Finder Binoculars were also marketed as being suitable for hunting: *“Easy to use range of field binoculars suited to all types of wildlife observation as well as more specialist pursuits such as hunting and field archery.”*²⁴³

242. www.opticron.co.uk/Pages/tracker_670.htm: viewed Nov 2015

243. www.opticron.co.uk/Pages/npn.htm: viewed Nov 2015

Ricoh Imaging Company Ltd. (Pentax)

"Guided by the spirit of three loves ..."

Background

Pentax's roots are in Tokyo, where the company started making lenses for eyeglasses in 1919. Its product range has slowly expanded with time to include photographic lenses, binoculars, spotting scopes and lenses that are primarily aimed at "travellers, wildlife adventurers, birders and stargazers".

Ricoh Imaging Company Ltd., part of the Ricoh Group and headquartered in Japan, bought the Pentax brand and camera business from the Hoya Corporation in 2011.^{244,245}

The Ricoh Group was founded in Japan by Kiyoshi Ichimura in 1936, and started out manufacturing sensitised paper and cameras. The company's product range now includes printers, scanners, thermal media, electronic components, digital cameras, binoculars, CCTV and Machine-Vision Lenses. The Ricoh Group operates in over 200 countries, has regional headquarters in Japan, the Americas, Europe, Asia Pacific and China, and had a turnover of ¥2,231 billion as of March 2015.

The group's work is said to be guided by *"The spirit of three loves: love your neighbour, love your country, love your work."*²⁴⁶ The Ricoh Group first established a Corporate Social Responsibility office in 2003 and the company has made available its 2015 Sustainability Report on its website. This contains a detailed discussion of the company's key environmental impacts, environmental performance and reduction targets.²⁴⁷

A 2013 green procurement policy is also available on Ricoh Imaging Company's website, www.ricoh-imaging.co.jp, that includes a toxics policy and highlights the company's commitment to reducing its impacts on the environment and supporting conservation work.²⁴⁸

Shooting accessories

Ricoh Imaging's website, www.ricoh-imaging.co.jp, did not contain a section specifically on hunting products. Products listed under 'sport optics' included spotting scopes, binoculars, and eyepieces for telescopes. Only spotting scopes were recommended for use when hunting: *"Birders and Hunters: we think you'll find exactly what you're looking for"*.

No further text could be found that promoted hunting and no images of trophy animals or game animals could be found on the company's website.

244. www.ricoh-imaging.co.uk/en/about-us.html: viewed Nov 2015

245. www.ricoh.com/IR/financial_data/securities_report/pdf/AnnualSecuritiesReport_114th.pdf: viewed Nov 2015

246. www.ricoh.com/about/company/data/: viewed Nov 2015

247. www.ricoh.com/sustainability/report/download/pdf2015/all_E.pdf: viewed Nov 2015

248. www.ricoh-imaging.co.jp/english/about/procurement/data/RICOH_Imaging_Green_Procurement_Guideline_2013_Revised_EN.pdf: viewed Nov 2015

Swarovski Optik

'Experience the moment. SEE THE UNSEEN.'

Background

Swarovski Optik was founded in 1949 in Austria and is part of the bigger Swarovski group (a family owned company founded in 1895 by Daniel Swarovski). The Swarovski group works across a range of different industries including jewellery and other luxury items (chandelier manufacture, etc.), perfumes, optics, gem stones, concrete sawing and drilling equipment (through the Tyrolit brand), entertainment, and road-safety products (through Swareflex). The Swarovski Group had a turnover of €3.02 Billion in 2013.²⁴⁹

Swarovski Optik produces a range of optic products for hunting, wildlife watching, and travel and leisure. The company sells its products in more than 40 countries and had a turnover of €119 million in 2014.²⁵⁰

Swarovski Group's website, www.swarovskigroup.com, contains a section on Corporate Social Responsibility (CSR) which includes a reasonable supplier code of conduct and an environmental policy. The environmental section of the groups policy reviewed the company's water and energy use and waste, and included performance data but no future targets.^{251,252} The group's independently audited 2013 CSR report was downloaded in October 2015 and contained more detailed information on the company's CSR management processes and performance data for the company's key environmental impacts.

The 'About' section of Swarovski Optik's website also contained a brief environmental policy which highlighted the company's commitment *"towards the preservation of habitats and animal species"*. The company also stated that it put *"its corporate philosophy into practice actively in the form of cooperation with nature conservation and species protection organizations"*.²⁵³

Shooting accessories

Swarovski Optik's website, www.swarovskioptik.com, listed its products under three key categories: hunting, nature, and travel and leisure. Products listed under the hunting section of the company's website included binoculars, riflescopes, spotting scopes and accessories.

The company's 2013 hunting catalogue was downloaded from the company's website.²⁵⁴ The catalogue contained multiple images of trophy animals including elk, wild boar, buffalo and deer. Promotional text used in the catalogue appeared to target trophy hunters. For example: *"You have a buffalo in your sight, which is no small feat. The Z6i 1-6x24 EE offers everything you need to take on even the biggest challenges of safari hunting."*



Images from Swarovski's catalogue.

images source: aa.swarovskioptik.com

249. www.swarovskigroup.com/S/aboutus/Swarovski_Fact_Sheet_2014_EN_2.pdf: viewed Nov 2015

250. uk.swarovskioptik.com/about_swarovski?contentid=10007.210200&SelectedMenuItem=10002.31863: viewed Nov 2015

251. www.swarovskigroup.com/S/aboutus/CoC_for_suppliers_English_01102013.pdf: viewed Nov 2015

252. www.swarovskigroup.com/S/aboutus/ProtectingEnvironment.en.html: viewed Nov 2015

253. uk.swarovskioptik.com/about_swarovski?contentid=10007.210194&SelectedMenuItem=10002.31862: viewed Nov 2015

254. aa.swarovskioptik.com/download/pdf/en_US/Hunting.pdf: viewed Nov 2015

"There are two SWAROVSKI OPTIK products that are especially handy to have in your luggage when you're off hunting. The first recommendation is the Z6i 1-6x24 EE, which is the perfect safari companion. It is particularly well suited to a powerful caliber and offers a broad overview in the dense bush, with sufficient magnification in reserve for hunting antelope on the savannah".

Z6i 1-6x24 EE: *"This scope, specially designed for big-game hunting, as well as still hunting with large-caliber rifles."*²⁵⁵

EL32 Binoculars: *"This handy companion for hunting in the mountains or on safari doesn't miss a thing."*²⁵⁶

One rifle scope's description contained the sub heading 'The Sheep Hunter'.

The company's Facebook page 'Swarovski Optik Hunting' contained a number of images of trophy animals including a moose and a number of antelope and deer species. The company also had a hunting YouTube channel and another separate channel dedicated to its wildlife watching products.

Some of the company's products also had night vision features, for example: *"The EL 50 model is perfect for hunting at twilight and during the night, offering a strong magnification and excellent sharpness of detail."*²⁵⁷

Connections to 'sport' shooting

Swarovski Optik's 2013 hunting catalogue stated: *"Many of our employees are enthusiastic hunters themselves, who bring with them not only the unique experiences they have enjoyed while out hunting near their homes, but also plenty of ideas that are an influence on their daily work."*

Dean Capuano, director of communication for Swarovski Optik North America, was a TV show host on 'Swarovski Optik Quest', according to the outdoor channel website, when viewed in January 2016.²⁵⁸ Dean was said to have *"literally hunted the world"*.

Each episode of 'Swarovski Optik Quest' was described as being *"action packed"* and each episode was said to feature *"a team of SWAROVSKI OPTIK Pro Staffers travelling to the world's most exotic locations in search of the planet's most difficult and sought-after trophies ..."*²⁵⁹ The 2014 Season featured a brown bear and black bear hunt.

Swarovski was listed as a member of several conservation and hunting organisations including the International Council for Game and Wildlife Conservation, www.cic-wildlife.org, and the Boone and Crockett Club, www.boone-crockett.org. The Boone and Crockett Club was said to be the oldest conservation organisation in North America and aimed to *"promote the conservation and management of wildlife, especially big game, and its habitat, to preserve and encourage hunting and to maintain the highest ethical standards of fair chase and sportsmanship in North America"*.

Safari Club International, an organisation committed to protecting hunters' rights, listed Swarovski Optik as a member on its website when viewed by Ethical Consumer in October 2015, www.scifirstforhunters.org. Swarovski Optik was also listed as an international sponsor of the Youth Hunter Education Challenge, a challenge organised by the US National Rifle Association.²⁶⁰

Swarovski was also reported to sponsor Kristy Titus, a hunter and editor for the Western Hunter and Elk Hunter magazines.²⁶¹

255. uk.swarovskioptik.com/hunting/z6i-1-6x24-ee-c20050102/z6i-1-6x24-ee-4-i-p5006202: viewed Nov 2015

256. uk.swarovskioptik.com/hunting/binoculars-c200110 : viewed Nov 2015

257. uk.swarovskioptik.com/hunting/el-50-c20011003/el-10x50-p5222918: viewed Nov 2015

258. outdoorchannel.com/showhosts.aspx?show-id=14778 viewed January 2016

259. outdoorchannel.com/showabout.aspx?show-id=14778 viewed January 2016

260. international-yhec.nra.org/yhec-sponsors.aspx: viewed Nov 2015

261. www.kristytitus.com/kristys-blog/2014/7/31/swarovski-optik-announces-renewed-sponsorship.html: viewed Nov 2015

Vanguard World

“Cutting edge optics, shooting sticks, gun cases, and more ...”

Background

Vanguard World is a Chinese-based company founded in 1986, that describes itself as being “operated and run by women”. Its range of photographic equipment, accessories and optic products are distributed globally, with administrative branches in the UK, Spain, Germany, Japan and the notorious tax haven, Luxembourg.²⁶²

The 'about' section of Vanguard's website, www.vanguardworld.com, contains a brief discussion of the company's sustainability policies. The company states that it complies with certain standards such as the Use of Certain Hazardous Substances (RoHs) in Electrical and Electronic Equipment (EEE) Directive, and its manufacturing facilities were said to be ISO 14001 certified. Although the company stated its environmental performance was audited annually, that it evaluated its environmental impacts and set reduction targets, further information could not be found.²⁶³

No information regarding the company's turnover could be found.

Shooting accessories

Vanguard World marketed its products at three key user groups: photographers, wildlife watchers and hunters. Sport accessories listed included archery bow cases, gun cases, riflescopes, binoculars and spotting scopes.

Promotional text for a couple of products referenced 'big-game' hunting. Certain riflescope models were described as being *“Designed primarily for big game hunting”* such as the Endeavor RS 3-9 X 40 DC.²⁶⁴ The Vanguard Endeavor riflescope series were also said to have: *“High-contrast, bright imagery allow[ing] the user to shoot more accurately with less eye strain, even in low light”*.

However, in general, promotional text was more focused on product features, or made general statements that promoted the use of products for hunting. For example:



Surveying the landscape.

image source: vanguardworld.co.uk

262. www.vanguardworld.co.uk/photo_video_gb/company/about-us/: viewed Nov 2015

263. www.vanguardworld.com/photo_video/company/sustainability/: viewed Nov 2015

264. www.vanguardworld.com/hunting/products/riflescopes/endeavor-rs-351050bdc-3511.html#go-sectionTop : viewed Nov 2015

"Whether you're scanning through nearby brush or glassing a distant open field, Vanguard's binoculars are ideal for any serious hunter".²⁶⁵

"The Endeavor XF [60A] spotting scope boasts excellent optical viewing for nature enthusiasts and hunters."²⁶⁶

Although Vanguard's main website only contained images of shooters and hunters and no images of game animals, the company's hunting blog²⁶⁷ and Facebook page (VANGUARD Hunting) contained numerous images and stories that promoted hunting and the hunting of certain species such as turkeys, elk, red stag and deer. Vanguard's 2015 Hunting Catalogue also contained images and illustrations of commonly hunted animals such as elk, bighorn sheep, a wolf, a bear and a turkey.

Connections to 'sport' shooting

Vanguard was the exclusive optics sponsor of 'Southern Boyz Outdoors', a TV show following the antics of a group of Louisiana outdoor enthusiasts and hunters.²⁶⁸ Vanguard's website also listed a number of other partnerships with hunters involved in TV production such as Julie McQueen and Daniel Lee Martin of Backstage & Backroads Productions.

Vanguard was also the exclusive sponsor of 'Outdoor Option', a TV show aired on the Sportsman channel on Wednesday nights as part of 'Big Game Wednesday',²⁶⁹ and was listed as a sponsor of the hunting TV show 'Forever Wild Outdoors'.²⁷⁰

No further criticisms or links between Vanguard and sport hunting could be found.

265. www.vanguardworld.com/hunting/products.html#go-binoculars: viewed Nov 2015

266. www.vanguardworld.com/hunting/products/spotting-scopes/endeavor-xf-60a.html: viewed Nov 2015

267. www.vanguardworld.com/photo_video/life/hunting: viewed Nov 2015

268. huntinglife.com/vanguard-announces-partnership-southern-boyz-outdoors/ viewed Nov 2015

269. www.vanguardworld.us/photo_video_us/2015/02/27/vanguard-joins-the-outdoor-option-team-as-exclusive-optics-sponsor/ viewed Nov 2015

270. foreverwildoutdoors.com/: viewed Nov 2015

Viking Optical Ltd

“Extend your horizons...”

Background

Viking Optical Ltd. started trading in 1986 and has since become a *“leading independent optical equipment importer in the UK”*, with a net worth of £1,256,676. The company's products include binoculars, monoculars, spotting scopes, tripods, magnifiers and optics accessories such as tripod straps and lens wipes. The company also offers a repair service for optics products.

Viking Optical Ltd. claims to have *“a long history of cooperation with conservation bodies such as the RSPB and BirdLife International”*. The company continues to partner with the RSPB, BirdLife International, The Birdfair, and Seychelles Paradise Flycatcher, all of which were listed as key partners on Viking Optical's website, www.vikingopticalcentres.co.uk, in January 2016. The company also sponsors the Urban Peregrine Project in Norwich and Bath, which uses live and still web cameras to record Peregrines in urban nesting sites.

Viking Optical states that it is the sole optics supplier to the RSPB, and has worked with the bird conservation charity to create 25 retail outlets, the majority of which are based on game reserves.²⁷²

The RSPB has faced criticism from animal rights groups for supporting managed shooting,²⁷³ particularly of pheasants. However, it continues to hold a neutral position on the ethics of shooting,^{274,275} condemning bad practice and illegal hunting but being open to working with hunters in order to protect nature.

No specific environment or supply chain reporting could be found on Viking Optical's websites.

Shooting accessories

Viking's optic product range includes binoculars, monoculars, laser rangefinders, spotting scopes and magnifiers. However, no Viking-branded product was specifically marketed at hunters or shooters, and no images of game animals were found on the Viking Optical website, www.vikingoptical.co.uk. Promotional text and images were primarily targeted at wildlife watchers and environmentalists.

However, Viking Optics Centres, a subsidiary of Viking Optical Limited, sold a range of other optics brands on its website, www.vikingopticalcentres.co.uk, some of which were recommended for use when hunting. For example, Zeiss's Vistry HT binoculars: *“observe for longer than ever before when out hunting”*.²⁷⁶

And Zeiss 8x40 Conquest T: *“Rugged, high-performance model suitable for all-around use, including twilight hunts and observations”*.²⁷⁷

Silver Ranger SL Compass: *“designed for the serious compass user and ideal for the modern day Backpacker, Hiker and Hunter.”*²⁷⁸

271. Viking Optical Limited Abbreviated Accounts, Year ended 31 March 2015, downloaded from Companies House.

272. www.vikingoptical.co.uk/the-rspb/ viewed December 2015

273. www.save-me.org.uk/index.php?option=com_content&view=article&id=160:little-foxes-6&catid=52&Itemid=329 viewed January 2015

274. www.theguardian.com/theobserver/2015/apr/05/the-big-issue-wildlife-birds-environment-countryside January 2015

275. www.rspb.org.uk/community/ourwork/b/martinharper/archive/2015/03/31/the-rspb-and-shooting-separating-fact-from-fiction-2-29-03-2015.aspx Viewed January 2015

276. www.vikingopticalcentres.co.uk/zeiss-victory-ht-8x42-binoculars Viewed January 2015

277. www.vikingopticalcentres.co.uk/zeiss-8x40-conquest-t Viewed January 2015

278. www.vikingopticalcentres.co.uk/quickview/index/view/id/469 Viewed January 2015

Visionking Optical Technology

"Honesty, cooperation and win-win"

Background

The Visionking brand is owned by the Chinese company Visionking Optical Technology Co. Ltd. (Shenzhen). The company was established in 1999 as a manufacturer of budget optics and is headquartered in Guangdong Province, China. Visionking's product range includes rifle scopes, spotting scopes, binoculars, astronomical telescopes, night vision equipment and other optical accessories, which are sold throughout Europe, North America and Southeast Asia.

Very little publicly available information was found for Visionking Optical Technology. No publicly available annual accounts, annual report, environmental or supply chain reporting could be found.

Shooting accessories

No specific section of Visionking's website, www.visionking.com.cn/en, was dedicated to hunting accessories. Products were listed under product type and included riflescopes, spotting scopes, telescopes, binoculars, monoculars, night vision equipment, rangefinders and accessories.

Little promotional text accompanied products, with emphasis being placed on products' technical features rather than use. No text was found that promoted products for use when hunting.

Riflescopes were accompanied by a header image of a shooter targeting a deer.²⁷⁹

279. www.visionking.com.cn/en/products.asp?c_id=1&c_pid=1 Viewed December 2015

Vista Outdoor Inc. (Bushnell and Tasco brands)

“Keeping the outside world thriving

Background

Bushnell is owned by Vista Outdoor Inc. (formerly Alliant TechSystems Inc.), a company founded in 2015 and specialising in the design, manufacture and marketing of consumer goods for outdoor sports and the recreation industry. The company's diverse range of products include sporting ammunition and firearms, outdoor products (including hydration products), outdoor sport optics, golf rangefinders, and performance eyewear; resulting in a customer base that ranges from wildlife watchers and walkers to sport hunters and military personnel. The company's turnover in the 2014-2015 financial year was \$2.08 billion, with the USA accounting for 68% of sales, international customers representing 18% of sales and law enforcement and military professionals representing 14% of sales.

Vista Outdoor Inc.'s brand portfolio includes Bushnell, Bollé, Butler Creek, Serengeti, CamelBak, Hoppe's, Millett, Simmons, Tasco, Primos Hunter, Federal Premium and Night Optics. In 2010 the company acquired Blackhawk, a company providing 'tactical, military and law enforcement' equipment.²⁸⁰ And in 2013 the company acquired Savage Arms, one of the world's biggest manufacturers of hunting rifles and shot guns.

Vista Outdoor Inc. provides some weak environmental and social reporting in its 2015 CSR Report and its 2014 Code of Business Ethics Report, but largely ignores the environmental and social impacts of some of its more controversial sectors – namely its promotion of sport hunting and trophy hunting and design and sale of products to military services.

Vista's 2015 CSR Report²⁸¹ discussed the company's environmental impacts, but had a clear pro-hunting position and consequently emphasised the benefits of sport hunting to conservation efforts, stating: *“Hunters have always been the cornerstone of conservation in America. We support it through hunting license fees and the Pittman-Robertson excise tax, which helps fund wildlife conservation in the United States. The excise tax applies to all commercial sales and imports of firearms and ammunition and is paid by manufacturers, producers and importers ... In [the 2015 financial year], approximately \$82 million in excise taxes came from the sale of Vista Outdoor products”.*



image source: bushnell.com

“Performance is the only thing”, featured on the Bushnell website.

280. www.vistaoutdoor.com/history/ : viewed Nov 2015

281. vistaoutdoor.com/2015/08/vista-outdoor-publishes-2015-corporate-social-responsibility-report/: viewed Nov 2015

In 2014-15, Vista contributed \$670,000 to conservation organisations. However, the conservation organisations highlighted in the company's CSR report (Safari Club International, RMEF, the Mule Deer Foundation, the National Shooting Sports Foundation, Delta Waterfowl, Ducks Unlimited, NWTF, the Congressional Sportsmen's Foundation, Pheasants Forever and Quail Forever, and the Ruffed Grouse Society) were all linked to hunting or protecting hunters' rights.

Shooting accessories

Bushnell's UK and US websites were viewed by Ethical Consumer in October 2015. A number of hunting accessories were on sale, listed under the 'hunting' sections of each website. Products included night vision equipment, riflescopes, spotting scopes, binoculars, laser rangefinders, trail cameras and GPS equipment marketed at hunters. Bushnell also had a 'hunting scopes' 2015 catalogue.

Images of 'trophy' animals were displayed on the company's website alongside hunting accessories, including a lioness, elk, deer and wild pig. Promotional text for some products appeared to be targeting trophy hunters. For example: *"Set your sights on your trophy with lethal precision"*.

"Trophy Cam is packed with technological advancements our competitors and big game across the country are dying for. Trophy Cam HD: Everything you need to plan the perfect shot".

*"A versatile, all-around big game hunting scope."*²⁸³

Some of the company's GPS equipment was also specifically marketed at hunters. For example, GPS Huntrack: *"Keeps you on game and on track. A valuable tool that's made to hunt."*²⁸⁴

Connections to 'sport' shooting

Vista Outdoor Inc.'s website, when viewed by Ethical Consumer in October 2015, had several press releases that 'proudly' highlighted links between the company, its staff and the shooting industry. For example, Vista Outdoors sponsored the annual 'Daughters at the Range event' which aimed to introduce families and their daughters to sport shooting, as well as promoting firearm safety.²⁸⁵

A press release dated May 2015 discussed the commitment of the company's Vice President of Corporate Communications and Government Relations, Amanda Covington, after she went on her first turkey hunting trip in Nebraska.²⁸⁶

Vista Outdoor Inc.'s 2015 CSR report highlighted the company's ongoing partnership with Safari Club International, RMEF, the Mule Deer Foundation, the National Shooting Sports Foundation, Delta Waterfowl, Ducks Unlimited, NWTF, the Congressional Sportsmen's Foundation, Pheasants Forever and Quail Forever, and the Ruffed Grouse Society. All of these organisations were involved to some extent in the management of game populations and their habitat, the promotion of sport hunting and some, such as Safari Club International, were actively involved in lobbying to protect sport hunters' rights.

In addition, Vista Outdoor's CEO, Mark DeYoung, was said to be the chairman of the Congressional Sportsmen's Foundation (CSF), an organisation whose mission is *"to work with Congress, governors, and state legislatures to protect and advance hunting, angling, recreational shooting and trapping"*. Interviews with Mark DeYoung stated that he engaged in shooting and hunting as a hobby and an internet search brought up images of Mark with trophy hunts, including a leopard.^{287,288}

Aaron Oelger, Vista Outdoor's director of marketing for outdoor products, was also said to have joined the Mule Deer Foundation's board of directors. The Mule Deer Foundation described itself as *"a strong voice for hunters in access, wildlife management and conservation policy issues"*.

Vista Outdoor's brand, Federal Premium, was the official ammunition of Pheasants Forever, and the company sponsored a number of hunting shows including 'Bone Collector' (a big-game hunting show), 'Buckmasters' (specialising in deer hunting), and 'Primos' Truth About Hunting' (a *"100% Fun and 100% Fair Chase"* US hunting show).

282. bushnell.com/all-products/trail-cameras/trophy-cam/essential: viewed Nov 2015

283. bushnell.com/hunting/bone-collector/bone-collector-3-9x-40mm: viewed Nov 2015

284. bushnell.com/all-products/gps/huntrack: viewed Nov 2015

285. www.vistaoutdoor.com/2015/08/vista-outdoor-sponsors-daughters-range-event/ : viewed Nov 2015

286. www.vistaoutdoor.com/2015/05/first-time-turkey-hunter/ : viewed Nov 2015

287. www.shootingillustrated.com/articles/2015/2/11/an-interview-with-mark-deyoung/: viewed Nov 2015

288. www.google.co.uk/search?q=Mark+De+Young+sport+hunting&lr=&source=lnms&tbm=isch&sa=X&ved=0CAoQ_

AUoA2oVChMI2cyWs461yAIVAn4aCh2iWQhA&biw=1280&bih=913&gws_rd=cr&ei=-44XVqLgKcema8zet-gG#gws_rd=cr&imgcr=vJiveykPy2MrM%3A: viewed Nov 2015

Vortex Optics DBA Sheltered Wings Inc.

"The force of optics"

Background

Vortex optics is the trading name of the USA-based company, Sheltered Wings Inc.

Vortex Optics was established in 2002 and is described as an *"American owned, veteran owned, family owned and operated business"* on the Vortex Optics website. The company's roots are in a small outdoor retail store, set up in 1986 in Wisconsin, by Margie and Dan Hamilton, who remain the company's owners.

Vortex Optics sells a range of products to wildlife watchers, hunters and military personnel. Products include riflescopes, tripods, rangefinders, binoculars, spotting scopes, monoculars, clothing, and other accessories such as camera adapters, mounts and quick-release plates.

Vortex optics states on its website: *"Wildlife conservation, protecting the second amendment, hunter's rights, and supporting our military and law enforcement personnel – these are things we believe in. That's why we proudly support the following organizations: Association of the United States Army, Honored American Veterans Afield, Mule Deer Foundation, National Rifle Association, National Shooting Sports Foundation, Rocky Mountain Elk Foundation, Safari Club International, Wild Sheep Foundation."* A number of these organisations were directly involved in managing game populations or promoting sport hunting through education, outreach or lobbying.

Sheltered Wings Inc. had an estimated turnover of £61.21 million in 2014-15, according to hoovers.com. No further information could be found about the company, its history or directors. No evidence of Corporate Social Responsibility (CSR) reporting could be found on the company's websites.

Shooting accessories

In October 2015 Ethical Consumer viewed Vortex Optics website, www.vortexoptics.com. The company had a number of shooting accessories on sale including riflescopes, rangefinders, monoculars, spotting scopes, crossbow scopes and binoculars. Hunting accessories were listed on Vortex Optics website and in its 2015 Hunting Catalogue.

289. www.vortexoptics.com/content/about_you: viewed Nov 2015

290. www.vortexoptics.com/uploads/catalog_2015_vtx-hunting.pdf : viewed Nov 2015

The company's 2015 Hunting Catalogue contained numerous hunting images which appeared to have an emphasis on big-game hunting. For example, the catalogue contained an image of people sawing off the antlers of a kill, an image of hunters carrying large antlers in their backpacks, and images of game animals included a wild hog and deer.

Kaibab binoculars were described as offering *“the power and optical features you need to dissect the landscape in search of big game.”*

Sarcastic phrases accompanied hunting products, most notably riflescopes. For example:

“The Diamondback HP is well-equipped for any hunter looking for a 1-inch scope – and a 200-inch deer”.

Diamondback Riflescopes were accompanied by images of hunters with the following statements: *“hunters love it, game animals, not so much”* and *“turns game trails into blood trails”*.

Under the 'Vortex Nation' section of the company's website, www.vortexoptics.com, a 'Trophy Room' displayed images of 'scenes' created by Vortex products. For example, images of landscapes shot by Vortex equipment, animals killed using Vortex products and images of weapons used. The Trophy

Room contained a 'big-game' section which displayed images of trophy hunts, including images of dead elk, caribou, a bull moose, bighorn sheep, black bear, mountain lion, roebuck, buffalo and brown bears. The 'small game' section contained images of dead coyote, boar and turkey amongst other small animals.

Connections to 'sport' shooting

In October 2015, Vortex Optics listed the following conservation and sport hunting organisations as partners on its website www.vortexoptics.com: Mule Deer Foundation, National Rifle Association, National Shooting Sports Foundation, Rocky Mountain Elk Foundation, Safari Club International and the Wild Sheep Foundation. All of these organisations were involved in the management of game populations and their habitat and/or the promotion of sport hunting. Safari Club International was also actively involved in lobbying to protect sport hunters' rights.

Vortex Optics was also listed as a partner of hunting TV show 'Buckventures: The Woodsman.'

No links between the company's owners and sport hunting could be found as very little information, if any, was published about the company's structure, directors or shareholders.

Part 4: Literature review references

A League Against Cruel Sports (ALACS) submission to Environment Minister, Elliot Morley MP, (2004), *The Myth of Trophy Hunting as Conservation*, available online: <http://www.league.org.uk/~media/Files/LACS/Reference-material/League-Against-Cruel-Sports-2004-The-Myth-of-Trophy-Hunting-as-Conservation.pdf>

Bateson, P. and Harris, R (2000) Report of contract 7 on welfare to the Committee of Inquiry into hunting with dogs, Home Office, London.

BirdLife International (2015) IUCN Red List for birds. Downloaded from <http://www.birdlife.org> on 03/09/2015. <http://www.birdlife.org/datazone/speciesfactsheet.php?id=2763>

Birdlife International, August 2015, 'The Killing' www.birdlife.org/sites/default/files/attachments/01-28_low.pdf

Buckley, R. "Mixed signals from hunting rare wildlife." *Frontiers in Ecology and the Environment* 12.6 (2014): 321-322.

Chapin, M. 2004. "A challenge to conservationists". *World Watch* 17(6): 17-31. www.worldwatch.org/system/files/EP176A.pdf

Coltman, D. W., O'Donoghue, P., Jorgenson, J. T., & Hogg, J. T. (2003). "Undesirable evolutionary consequences of trophy hunting". *Nature*, 426(6967), 655.

Cooper, S. M. "Optimal hunting group size: the need for lions to defend their kills against loss to spotted hyaenas." *African Journal of Ecology* 29.2 (1991): 130-136.

Cooper, C., Larson, L., Dayer, A., Stedman, R., & Decker, D. (2015). "Are wildlife recreationists conservationists? Linking hunting, birdwatching, and pro-environmental behavior". *The Journal of Wildlife Management*, 79(3), 446-457.

Culture & Animals Foundation, viewed 18/9/2015, <http://www.cultureandanimals.org/pop1.html>

Economists at Large, 2013. *The \$200 million question: How much does trophy hunting really contribute to African communities? A report for the African Lion Coalition*, prepared by Economists at Large, Melbourne, Australia <http://www.ifaw.org/sites/default/files/Ecolarge-2013-200m-question.pdf>

Etheridge, B., Summers, R. W. and Green, R. E. "The effects of illegal killing and destruction of nests by humans on the population dynamics of the hen harrier *Circus cyaneus* in Scotland." *Journal of Applied Ecology* (1997): 1081-1105.

Frost, P. G. and Bond, I. 2008. "The CAMPFIRE programme in Zimbabwe: Payment for wildlife services". *Ecological Economics* 65:776-787.



- Gordon, I., Hester, A. J. and M. Festa-Bianchet. "Review: the management of wild large herbivores to meet economic, conservation and environmental objectives." *Journal of Applied Ecology* 41.6 (2004): 1021-1031.
- Grandy, J.W., Stallman, E., & Macdonald, D. (2003). "The science and sociology of hunting: Shifting practices and perceptions in the United States and Great Britain". In D.J. Salem & A.N. Rowan (Eds.), *The state of the animals II: 2003* (pp. 107-130). Washington, DC: Humane Society Press.
- Harris, R. B., Wall, W. A., & Allendorf, F. W. (2002). "Genetic consequences of hunting: what do we know and what should we do?" *Wildlife Society Bulletin*, 634-643.
- Holsman, R. H. "Goodwill hunting." Exploring the role of hunters as ecosystem stewards. *Wildlife Soc B* 28.4 (2000): 808-816.
- Kirby, J. S., Stattersfield, A. J., Butchart, S. H., Evans, M. I., Grimmett, R. F., Jones, V. R., O'Sullivan, J., Tucker, G. M. and Newton, I. "Key conservation issues for migratory land-and waterbird species on the world's major flyways." *Bird Conservation International* 18, no. 1 (2008): S49.
- Kurt, F., Hartl, G. B. and Völkl, F. "Breeding strategies and genetic variation in European roe deer *Capreolus capreolus* populations." *Acta Theriologica* 38.2 (1993): 187-194.
- Leader-Williams, N. 2009 "Conservation and Hunting: Friends or Foes?" *Recreational Hunting, Conservation and Rural Livelihoods*: 9.
1. Lindsey, P. A., Frank, L. G., Alexander, R., Mathieson, A., & Romanach, S. S. (2007). Trophy hunting and conservation in Africa: problems and one potential solution. *Conservation biology*, 21(3), 880-883.
 2. Lindsey, P. A., Roulet, P. A. and S. S. Romanach, S. S. "Economic and conservation significance of the trophy hunting industry in sub-Saharan Africa." *Biological conservation* 134.4 (2007): 455-469.
- Loveridge, A. J., Reynolds, J. C., and Milner-Gulland, E. J. "Does sport hunting benefit conservation?" *Key topics in conservation biology* 1 (2007): 222.
- McComb, K., Moss, C., Durant, S. M., Baker, L., & Sayialel, S. (2001). "Matriarchs as repositories of social knowledge in African elephants". *Science*, 292(5516), 491-494.
- Milner, J M., Nilsen, E. B. and. Andreassen, H. P. "Demographic side effects of selective hunting in ungulates and carnivores." *Conservation Biology* 21.1 (2007): 36-47.
- Mutandwa, E., & Gadzirayi, C. T. (2007). "Impact of community-based approaches to wildlife management: case study of the CAMPFIRE programme in Zimbabwe". *The International Journal of Sustainable Development & World Ecology*, 14(4), 336-344.
- Noyes, J. H., Johnson, B. K., Bryant, L. D., Findholt, S. L., & Thomas, J. W. (1996). "Effects of bull age on conception dates and pregnancy rates of cow elk". *The Journal of wildlife management*, 508-517.

Oldfield, T. E., Smith, R. J., Harrop, S. R., & Leader-Williams, N. (2003). "Field sports and conservation in the United Kingdom". *Nature*, 423(6939), 531-533.

Ordiz, A., Støen, O. G., Sæbø, S., Kindberg, J., Delibes, M., & Swenson, J. E. (2012). "Do bears know they are being hunted?" *Biological Conservation*, 152, 21-28.

Pusey, A. E., & Packer, C. (1994). "Infanticide in lions: consequences and counterstrategies. Infanticide and parental care", 277-299.

Slotow, R., van Dyk, G., Poole, J., Page, B., & Klocke, A. (2000). "Older bull elephants control young males". *Nature*, 408(6811), 425-426.

Smith, R. J., Muir, R. D., Walpole, M. J., Balmford, A., & Leader-Williams, N. (2003). "Governance and the loss of biodiversity". *Nature*, 426(6962), 67-70.

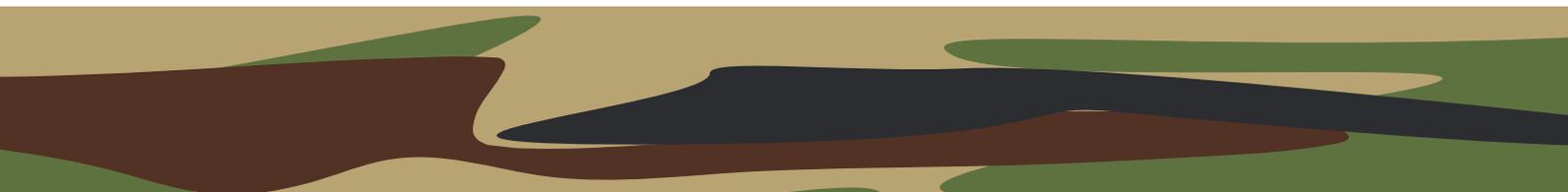
Solberg, E.J., Loison, A., Ringsby, T.H., Sæther, B-E. & Heim, M. 2002: "Biased adult sex ratio can affect fecundity in primiparous moose *Alces alces*". *Wildlife Biology*. 8: 117-128

Swenson, J.E., Sandegren, F., Oderberg, A. S., Bjarvall, A., Franzen, R. and Wabakken, P." Infanticide caused by hunting of male bears", *Nature* 386: 450-451

Wielgusa, R. B. & Bunnell, F. L. (2000). "Possible negative effects of adult male mortality on female grizzly bear reproduction". *Biological Conservation*, 93(145), 154.

Yasuda, A. (2012). "Is sport hunting a breakthrough wildlife conservation strategy for Africa? A case study of northern Cameroon". *Field Actions Science Reports*. The journal of field actions, 6.

Whitman, K, Starfield, A.M., Quadling, H.S., Packe, C. 2004, "Sustainable trophy hunting of African lions", letters to nature <http://faculty.washington.edu/wirsinga/Whitman2004.pdf>



Appendix 1

Paper	Links to hunting?
Harris, R. B., Wall, W. A., & Allendorf, F. W. (2002). "Genetic consequences of hunting: what do we know and what should we do"? <i>Wildlife Society Bulletin</i> , 634-643.	Authors state in opening paragraph "speaking as hunters as well as biologists, we value hunting as an experience of the wild..." At the time the paper was written William was said to be the senior scientist for wildlife conservation for the Safari Club International Foundation, and was developing a conservation hunting program for argali sheep in Central Asia.
Loveridge, A. J., Reynolds, J. C., and Milner-Gulland, E. J. "Does sport hunting benefit conservation?" <i>Key topics in conservation biology 1</i> (2007): 222.	The paper contains quotes that justify hunting despite the paper trying to be balanced, for example: "There is a passion for hunting deeply implanted within the human breast ...'(Charles Dickens, <i>Oliver Twist</i> , 1837–8)"
Wielgusa, R. B., & Bunnell, F. L. (2000). "Possible negative effects of adult male mortality on female grizzly bear reproduction". <i>Biological Conservation</i> , 93(145), 154.	Funding for the research was provided by a number of organisations including the Idaho Department of Fish and Game.
Solberg, E.J., Loison, A., Ringsby, T.H., Sæther, B-E. & Heim, M. 2002: "Biased adult sex ratio can affect fecundity in primiparous moose <i>Alces alces</i> ". <i>Wildlife Biology</i> . 8: 117-128	No specific links found. However, the acknowledgements state: "we wish to thank all the hunters and local managers in the eight study regions who made this study possible through their sampling of data from the moose harvested"
Coltman, D. W., O'Donoghue, P., Jorgenson, J. T., & Hogg, J. T. (2003). "Undesirable evolutionary consequences of trophy hunting". <i>Nature</i> , 426(6967), 655.	Funding came from a number of organisations including the Rocky Mountain Elk Foundation (Canada) – a conservation organisation that also protects hunters' rights.
Yasuda, A. (2012). "Is sport hunting a breakthrough wildlife conservation strategy for Africa? A case study of northern Cameroon". <i>Field Actions Science Reports</i> . The journal of field actions, 6.	No specific links found.
Swenson, J.E., Sandegren, F., Oderberg, A. S. Bjarvall, A., Franzen, R. and Wabakken, P. "Infanticide caused by hunting of male bears", <i>Nature</i> 386: 450-451	No specific links found.
Milner, J. M., Nilsen E. B., and Andreassen, H.P. "Demographic side effects of selective hunting in ungulates and carnivores." <i>Conservation Biology</i> 21.1 (2007): 36-47.	No specific links found.
Frost, P. G. and Bond, I. 2008." The CAMPFIRE programme in Zimbabwe: Payment for wildlife services." <i>Ecological Economics</i> 65:776-787.	No specific links found.
Holsman, R. H. "Goodwill hunting." <i>Exploring the role of hunters as ecosystem stewards</i> . <i>Wildlife Soc. B</i> 28.4 (2000): 808-816.	No specific links found.
Oldfield, T. E., Smith, R. J., Harrop, S. R., & Leader-Williams, N. (2003). "Field sports and conservation in the United Kingdom". <i>Nature</i> , 423(6939), 531-533.	No specific links found.
Kirby, J. S., Stattersfield, A. J., Butchart, S. H., Evans, M. I., Grimmett, R. F., Jones, V. R., O'Sullivan, J., Tucker, G. M. and Newton, I. "Key conservation issues for migratory land-and waterbird species on the world's major flyways." <i>Bird Conservation International</i> 18, no. 1 (2008): S49.	No specific links found.
Cooper, C., Larson, L., Dayer, A., Stedman, R., & Decker, D. (2015). "Are wildlife recreationists conservationists? Linking hunting, birdwatching, and pro-environmental behavior". <i>The Journal of Wildlife Management</i> , 79(3), 446-457.	No specific links found.

McComb, K., Moss, C., Durant, S. M., Baker, L., & Sayialel, S. (2001). "Matriarchs as repositories of social knowledge in African elephants". <i>Science</i> , 292(5516), 491-494.	No specific links found.
Slotow, R., van Dyk, G., Poole, J., Page, B., & Klocke, A. (2000). "Older bull elephants control young males." <i>Nature</i> , 408(6811), 425-426.	No specific links found.
Gordon, I., Hester, A. J. and M. Festa-Bianchet. "Review: the management of wild large herbivores to meet economic, conservation and environmental objectives." <i>Journal of Applied Ecology</i> 41.6 (2004): 1021-1031.	No specific links found.
Grandy, J.W., Stallman, E., & Macdonald, D. (2003). "The science and sociology of hunting: Shifting practices and perceptions in the United States and Great Britain". In D.J. Salem & A.N. Rowan (Eds.), <i>The state of the animals II: 2003</i> pp. 107-130). Washington, DC: Humane Society Press.	No specific links found.
1. Lindsey, P. A., Frank, L. G., Alexander, R., Mathieson, A., & Romanach, S. S. (2007). "Trophy hunting and conservation in Africa: problems and one potential solution." <i>Conservation biology</i> , 21(3), 880-883.	The acknowledgements section of the paper stated "Thanks ... to G. Thornton of Dallas Safari Club, and to Houston Safari Club..." Both organisations supported hunting.
Whitman, K, Starfield, A.M., Quadling, H.S., Packe, C. (2004), "Sustainable trophy hunting of African lions," letters to nature http://faculty.washington.edu/wirsinga/Whitman2004.pdf	No specific links found.
Leader-Williams, N. 2009 "Conservation and Hunting: Friends or Foes?" <i>Recreational Hunting, Conservation and Rural Livelihoods</i> : 9.	No specific links found.
Etheridge, B., Summers, R.W. and Green, R. E. "The effects of illegal killing and destruction of nests by humans on the population dynamics of the hen harrier <i>Circus cyaneus</i> in Scotland." <i>Journal of Applied Ecology</i> (1997): 1081-1105.	No specific links found.
Smith, R. J., Muir, R. D., Walpole, M. J., Balmford, A., & Leader-Williams, N. (2003). "Governance and the loss of biodiversity". <i>Nature</i> , 426(6962), 67-70.	No specific links found.
2. Lindsey, P. A., Roulet, P. A. and Romanach, S. S. "Economic and conservation significance of the trophy hunting industry in sub-Saharan Africa." <i>Biological conservation</i> 134.4 (2007): 455-469.	No specific links found.
Kurt, F., Hartl, G. B. and Völk, F. "Breeding strategies and genetic variation in European roe deer <i>Capreolus</i> populations." <i>Acta Theriologica</i> 38.2 (1993): 187-194.	No specific links found.
Cooper, S. M. "Optimal hunting group size: the need for lions to defend their kills against loss to spotted hyaenas." <i>African Journal of Ecology</i> 29.2 (1991): 130-136.	No specific links found.
Buckley, R. "Mixed signals from hunting rare wildlife." <i>Frontiers in Ecology and the Environment</i> 12.6 (2014): 321-322.	No specific links found.
Mutandwa, E., & Gadzirayi, C. T. (2007). "Impact of community-based approaches to wildlife management: case study of the CAMPFIRE programme in Zimbabwe". <i>The International Journal of Sustainable Development & World Ecology</i> , 14(4), 336-344.	No specific links found.
Noyes, J. H., Johnson, B. K., Bryant, L. D., Findholt, S. L., & Thomas, J. W. (1996). "Effects of bull age on conception dates and pregnancy rates of cow elk". <i>The Journal of wildlife management</i> , 508-517.	Three authors were based at the Oregon Department of Fish and –Wildlife – a conservation organisation that also supports hunters' rights.
Ordiz, A., Støen, O. G., Sæbø, S., Kindberg, J., Delibes, M., & Swenson, J. E. (2012). "Do bears know they are being hunted?" <i>Biological Conservation</i> , 152, 21-28.	The acknowledgements section stated "The Scandinavian Brown Bear Research Project (SBBRP) is funded by the Swedish Environmental Protection Agency, Norwegian Directorate for Nature Management, Swedish Association for Hunting and Wildlife Management, WWF Sweden, Research Council of Norway and the Program 'Adaptive management of fish and wildlife populations'".
Pusey, A. E., & Packer, C. (1994). "Infanticide in lions: consequences and counterstrategies". <i>Infanticide and parental care</i> , 277-299.	No specific links found.