

RE: Tanzania Lion Enhancement Summary Report

INTRODUCTION

This is a summary report of the individual “Operator Enhancement Reports” provided by Tanzanian hunting operators. The information gathered and summarized in this report demonstrates enhancement of *P. l. melanochaita* (African lion). The data is a compilation of pertinent information gathered from individual “Operator Enhancement Reports” submitted by a representative number of Tanzania hunting operators and detailing their anti-poaching, community investment and participation, habitat protection, and, other important information.¹

The reports were provided by a sample of 27 Tanzanian safari operators² owned, managed, and marketed by 13 parent companies.³ The sample hunting operators manage 74 hunting concessions in 49 Game Reserves, 14 Game Controlled Areas, 10 Open Areas, and 1 Wildlife Management Area. The sample operators steward 121,423 km² of the 304,000 km² set aside for hunting concessions in Tanzania (approximately 40%).⁴ The anti-poaching, community investment and participation, and other figures detailed in this summary report under represents the full enhancement provided by safari hunting operators given this is not a complete data set.

These reports demonstrate how licensed, regulated hunting mitigates the three primary threats to lion survival (loss of prey base, loss of habitat, and human lion

¹ The business and personal records in this summary and the “Operator Enhancement Reports” is privileged proprietary information not for public release.

² The 27 companies are: Bushman Hunting Safaris, Rungwa Game Safaris, Tanzania Bundu Safaris, Game Frontiers of Tanzania, Royal Frontiers of Tanzania, Northern Hunting Enterprises, Old Nyika Safaris, Safari Royal Holdings, Robin Hurt Safaris, Tanzania Big Game Safaris, Tandala Hunting Safaris, Tanzania Safaris & Hunting, Tanzania Wildlife Company, Michel Mantheakis Safaris, Kilombero North Safaris, Malagarasi Hunting Safaris, Wembere Hunting Safaris, Mwanauta Company, Tanganyika Game Fishing & Photographic Safaris, Marera Safaris Lodge and Tours, Pori Trackers Africa, East Africa Trophy Hunters, Kiboko Hunting Safaris, Tanganyika Wildlife Safaris Corporation, Bartlette Safari Corporation, Fereck Safaris, and Gerard Pasanisi Safari Corporation.

³ The 13 parent companies are: Bushman Hunting Safaris, Rungwa Game Safaris and Tanzania Bundu Safaris, Game Frontiers of Tanzania, Danny McCallum Safaris, Robin Hurt Safaris, Tanzania Big Game Safaris and Affiliates, Michel Mantheakis Safaris, Kilombero North Safaris, Tanganyika Game Fishing & Photographic Safaris, Marera Safaris Lodge and Tours, Game Trackers Africa, and Tanganyika Wildlife Safaris Corporation.

Please note, Rungwa Game Safaris and Tanzania Bundu Safaris are both owned by Mr. Harpreet Brar, but the companies are marketed and accounted separately. One “Operator Enhancement Report” was drafted that separately detailed the companies’ enhancement methods and expenses.

Also, the lion enhancement data for Mr. Eric Pasanisi’s hunting companies was summarized in the document titled “Tanganyika Wildlife Safari Corporation Ltd Operator Enhancement Summary.” This document is based on the mandatory three-year performance reports submitted to the Tanzania Wildlife Division.

On 2/24/2016, the USFWS was provided a film titled “Custodians of Wilderness” detailing the undertakings of Tanganyika Wildlife Safari Corporation, Robin Hurt Safaris, Danny McCallum Safaris, Rungwa Game Safaris, and Tanzania Bundu Safaris.

⁴ Total of all concessions detailed in individual “Operator Enhancement Reports” and “Tanganyika Wildlife Safari Corporation Ltd Operator Enhancement Summary.”

conflict) identified by the U.S. Fish and Wildlife Service.⁵ The anti-poaching data addresses the loss of lion prey base and incidental loss of lion. The amount of habitat protected corresponds with the habitat made available to lion and lion prey through safari hunting. The measure of operators' community investment and participation serves as an objective indicator or measure of tolerance and reduction of the human-lion conflict threat found by the USFWS. In sum, the survival of lion in the wild is enhanced from the contribution of the safari hunting industry. These reports are evidence of the enhancement.

ANTI-POACHING

All 27 hunting operators deploy anti-poaching units in their hunting concessions. Each hunting operator implements an anti-poaching program addressing the concession's specific poaching threats. All anti-poaching units contain at least one government game scout because only government game scouts have the mandate to arrest poachers.

All the hunting operators maintain year-round anti-poaching operations in their hunting concessions.⁶ Eleven of the operators maintain records of patrol days and recorded 7,170 patrol days in the 2013-2015 period, which represents 19.6 years of anti-poaching patrols.⁷ The average anti-poaching unit has six to eight members. To combat the different forms of poaching in the hunting concessions, the hunting operators have employed diverse tactics:

- Bushman Hunting Safaris and Tanzania Big Game Safaris and Affiliates: Renting a helicopter to monitor the concessions;⁸
- Michel Mantheakis Safaris and Kilombero North Safaris: Purchasing boats to monitor poacher entrance from Lake Rukwa and rivers within the concessions;⁹
- Tanganyika Game Fishing & Photographic Safaris: Hiding game cameras along paths previously used by poachers to determine poacher location and times of movement;¹⁰
- Eight operators have established a network of informants in the villages and provide informants with rewards for information leading to arrest of poachers or seizure of contraband;¹¹ and

⁵ Endangered and Threatened Wildlife and Plants; Listing Two Lion Subspecies; Final Rule.

⁶ Bushman Hunting Safaris, "Operator Enhancement Report"; Danny McCallum Safaris, "Operator Enhancement Report"; Game Frontiers of Tanzania, "Operator Enhancement Report"; Game Trackers Africa, "Operator Enhancement Report"; Kilombero North Safaris, "Operator Enhancement Report"; Marera Safaris Lodge and Tours, "Operator Enhancement Report"; Michel Mantheakis Safaris, "Operator Enhancement Report"; Robin Hurt Safaris, "Operator Enhancement Report"; Rungwa Game Safaris, "Operator Enhancement Report"; Tanganyika Game Fishing & Photographic Safaris, "Operator Enhancement Report"; Tanganyika Wildlife Safaris, "Operator Enhancement Summary"; and Tanzania Big Game Safaris and Affiliates, "Operator Enhancement Report."

⁷ Robin Hurt Safaris, Game Frontiers of Tanzania, Michel Mantheakis Safaris, Danny McCallum Safaris, Tanganyika Game Fishing & Photographic Safaris, and Game Trackers Africa.

⁸ Bushman Hunting Safaris and Tanzania Big Game Safaris and Affiliates.

⁹ Michel Mantheakis Safaris and Kilombero North Safaris.

¹⁰ Tanganyika Game Fishing & Photographic Safaris.

- Robin Hurt Safaris: Sending all company anti-poaching scouts to the Pasanisi Wildlife College for training.¹²

Twenty-three companies keep records of poacher arrests and seizures. The 23 report the following from 2013-2015:

Anti-Poaching Arrests and Seizures 2013-2015 for Sample Companies Reporting¹³

Anti-Poaching Particular	Quantity
Poachers Arrested	1,409
Snares and Gin Traps	6,223
Firearms	171
Rounds of Ammunition	1,557
Bicycles	670
Vehicles	22
Motorcycles	12
Assortment of Knives, Machetes, Spears, Bows, and Arrows	1,118
Canoes	65
Fishing Nets	216

Operators fund their anti-poaching primarily from their hunting revenue and secondarily from client contributions. Three of the parent companies, representing nine Tanzanian hunting operators, have created foundations by which conservation-driven individuals may donate to anti-poaching and community investment.¹⁴ The foundations are almost totally funded by their hunting clients and revenue.

Anti-poaching expenses include: vehicles (Land Cruisers, motorcycles, boats, custom anti-poaching vehicles, etc.¹⁵), fuel, vehicle maintenance, cell and satellite phones, high frequency radios, salaries, uniforms, firearms, tents, rations, road maintenance, bonuses, and rewards for informants, among other things. And this represents only a portion of the expenses, as operators tend to overlook some of their common costs reporting their anti-poaching to the Ministry of Natural Resources and Tourism and may not have reported all costs here, because they are so diverse. One of the most overlooked anti-poaching costs is road opening and maintenance, which is essential for providing anti-poaching teams' access throughout the concessions.

¹¹ Robin Hurt Safaris, Game Frontiers of Tanzania, Michel Mantheakis Safaris, Bushman Hunting Safaris, and Danny McCallum Safaris.

¹² Robin Hurt Safaris.

¹³ Robin Hurt Safaris, Game Frontiers of Tanzania, Michel Mantheakis Safaris, Bushman Hunting Safaris, Rungwa Game Safaris, Danny McCallum Safaris, Tanganyika Game Fishing & Photographic Safaris, Game Trackers Africa, Kilombero North Safaris, and Tanzania Big Game Safaris and Affiliates.

¹⁴ Robin Hurt Safaris, Tanzania Big Game Safaris and Affiliates, and Tanganyika Wildlife Safari Corporation.

¹⁵ The following parent companies have purchased custom anti-poaching vehicles for their respective anti-poaching operations: Robin Hurt Safaris, Kilombero North Safaris, Michel Mantheakis Safaris, Game Frontiers of Tanzania, Game Trackers Africa, and Tanganyika Wildlife Safari Corporation.

From 2013-2015, the sample hunting operators together spent \$6,717,160.65 on anti-poaching and road opening.¹⁶

Anti-Poaching and Road Opening Expenses 2013-2015 for Sample Companies Reporting¹⁷

	2013	2014	2015	2013-2015
Anti-Poaching & Road Opening Contribution	\$1,683,268.00	\$2,724,113.99	\$2,309,778.66	\$6,717,160.65
Average Spent Per Operator	\$62,343.25	\$100,893.11	\$85,547.35	\$248,783.72
Average Spent Per Concession	\$22,746.86	\$36,812.35	\$31,213.22	\$90,772.44

A few representative anti-poaching contributions and expenditures include:

- Bushman Hunting Safaris: \$31,350.00 equipment donation (GPS, high frequency radios, motorcycles, digital cameras) in 2015 to the Maswa, Rungwa, and Selous Game Reserves;¹⁸
- Rungwa Game Safaris: Donation of four motorcycles (worth \$4,375.00) to Rungwa Game Reserve, donation of 7,000 liters of diesel (worth \$9,000.00) to the Rungwa and Kizigo Game Reserves, and construction of a bridge (cost \$4,418.00) allowing access to the Makawasa Game Post;¹⁹
- Game Frontiers of Tanzania and Rungwa Game Safaris: Combined \$15,000.00 donation to Tanzania Wildlife Research Institute, allowing Captain Anna Titus Laroya to attend a training program at the American Flyers School in Addison Texas;²⁰ and
- Tanganyika Wildlife Safaris (Eric Pasanisi): In 2014, purchased an airplane and provided a pilot to conduct anti-poaching monitoring in the Selous Game

¹⁶ Road opening and block development are part of anti-poaching because they allow for patrols throughout the concessions. The yearly rains wash away roads and cause the roads to be overgrown. Road opening teams are deployed in advance of the hunting season. Without road opening and expansion of the road network, poacher movement is increased because anti-poaching movement is decreased. With road opening, operator-funded patrols have greater access throughout the concession to interdict poacher movements. Road opening figures were provided by the following parent companies: Danny McCallum Safaris, Tanzania Big Game Safaris and Affiliates, Tanganyika Game Fishing & Photographic, Robin Hurt Safaris, and Tanganyika Wildlife Safari Corporation.

¹⁷ Three parent companies reported their anti-poaching figures as a 2013-2015 total. Annual spending was simply estimated by dividing the totals by three. These parent companies were Tanganyika Game Fishing & Photographic Safaris, Game Frontiers of Tanzania, and Game Trackers Africa.

¹⁸ Bushman Hunting Safaris.

¹⁹ Rungwa Game Safaris.

²⁰ Game Frontiers of Tanzania and Rungwa Game Safaris.

Reserve (cost \$80,636.00) and paid the salaries of 100 game scouts to patrol the Selous Game Reserve (cost \$265,727.00).²¹

The operators' payments of government fees are also a contribution to anti-poaching that enhances the survival of lion in the wild because these fees underwrite most government anti-poaching and law enforcement. From 2013-2015, the sample operators paid \$28,338,792.00 in government fees.²² These fees are used to fund the Tanzania Wildlife Division's operating budget and fund approximately 80% of the ordinary government anti-poaching in the country.²³

COMMUNITY INVESTMENT AND PARTICIPATION

The sample operators have implemented a two-tiered system of anti-poaching and community investment and participation by which they enforce wildlife laws and apprehend poachers while simultaneously incentivizing compliance with wildlife regulations through benefits, employment, and community education.

The Wildlife Conservation (Tourist Hunting) Regulations of 2015 require all hunting operators to contribute a minimum of \$5,000.00 towards community investment and participation per concession per year.²⁴ The sample operators far exceed this minimum. They contribute towards health care, education, village governance, water infrastructure; they make extensive contributions of game meat, they employ community members both full-time and seasonally; they hold conservation workshops to educate rural residents about the value of their wildlife resources; and they make cash donations for specific projects and to improve community livelihoods. Examples are described below.

From 2013-2015, the sample operators have spent \$3,125,830.00 on community investment and participation.²⁵

²¹ Tanganyika Wildlife Safari Corporation. Since 2003, the company (through the Wildlife Conservation Foundation of Tanzania) has donated 28 fully equipped Toyota Land Cruisers to the Wildlife Department at a cost of \$2,600,000.00.

²² See "Government Fees" Section.

²³ Tanzania Country Report, African Wildlife Forum (Nov. 2015).

²⁴ See The Wildlife Conservation (Tourist Hunting) Regulations of 2015 § 16 (c) ("The Hunting Block Advisory Committee shall evaluate the application for renewal in consideration of the following: ... whether the applicant has been contributing to the villages within and adjacent to his hunting block an amount of not less than USD 5,000.00 for each hunting block annually as contribution to the implementation of various community development projects").

²⁵ This sum was reached by adding the community investment and participation expenditures detailed in each "Operator Enhancement Report" and the "Tanganyika Wildlife Safari Corporation Ltd Operator Enhancement Summary." Additional community investment and participation was documented by the Friedkin Conservation Fund (<http://allafrica.com/stories/201606280520.html>). In order to calculate the dollar value of Tsh 2,040,000,000/-, an average three year exchange rate from 2013-2015 was applied (Tsh 1,713/- to \$1). This equates to \$1,190,892.00 from 2013-2015 or \$396,964.00 annually.

Community Investment and Participation Expenditures 2013-2015 for Sample Companies Reporting

	2013	2014	2015	Total
Community Participation and Investment Contribution	\$969,546.00	\$1,083,042.00	\$1,073,242.00	\$3,125,830.00
Average Spent Per Operator	\$35,909.11	\$40,112.66	\$39,749.70	\$115,771.48
Average Spent Per Concession	\$13,101.97	\$14,645.70	\$14,503.27	\$42,240.94

The sample operators who provided specifics on their projects have spent \$254,238.00 on health care related community investment and participation activities, such as: construction of two clinics and two medicine dispensaries, providing solar lighting and a solar water heater for a maternity ward, providing medicine for a village medical dispensary, and providing supplies for a health clinic.²⁶ The Robin Hurt Wildlife Foundation has been strongly committed to improving health and wellness in the communities surrounding and within their concessions for many years. Since 2013, the Robin Hurt Wildlife Foundation has provided 254 sets of eye-glasses, treated 1,575 eye ailments, and established a network of “Village Health Workers” conducting monthly health clinics in the communities. The Conservation Foundation Trust, the foundation for Tanzania Big Game Safaris and Affiliates, has donated over 1,000 wheel chairs to disabled rural Tanzanians over the course of its existence, and Bushman Hunting Safaris has provided health insurance to rural Tanzanians.²⁷

The operators have made education a focus of their efforts. From 2013-2015, the sample operators who provided specifics have spent \$337,764.00 on education projects, such as: funding \$62,278.00 in school fees for children throughout rural Tanzania;²⁸ supplying classrooms and schools with desks, food, books and other supplies totaling at least \$45,424.00;²⁹ constructing 21 individual classrooms and rehabilitating three classrooms (\$102,769.00);³⁰ constructing and stocking one library (\$33,800.00);³¹ constructing and supplying two school laboratories (\$14,613.00)³² constructing three school latrines (\$12,182.00);³³ constructing one school kitchen (\$10,000.00);³⁴ and

²⁶ Robin Hurt Safaris, Michel Mantheakis Safaris, Danny McCallum Safaris, and Game Trackers Africa.

²⁷ Tanzania Big Game Safaris and Bushman Hunting Safaris.

²⁸ Robin Hurt Safaris, Game Frontiers of Tanzania, Michel Mantheakis Safaris, Danny McCallum Safaris, and Kilombero North Safaris.

²⁹ Game Frontiers of Tanzania, Rungwa Game Safaris, Danny McCallum Safaris, Kilombero North Safaris, Game Trackers Africa, and Tanzania Big Game Safaris and Affiliates.

³⁰ Game Frontiers of Tanzania, Michel Mantheakis Safaris, Bushman Hunting Safaris, Rungwa Game Safaris, Danny McCallum Safaris, Tanganyika Game Fishing and Photographic Safaris, Kilombero North Safaris, Game Trackers Africa, and Tanzania Big Game Safaris and Affiliates.

³¹ Robin Hurt Safaris

³² Robin Hurt Safaris, and Kilombero North Safaris.

³³ Robin Hurt Safaris, Game Trackers Africa, and Kilombero North Safaris.

constructing three teachers housing units for \$56,698.00.³⁵ Again, this is a sample and it under-represents the operators' extensive involvement building and stocking classrooms and libraries, supporting students' tuition, providing transport for students, and much more.

Six of the hunting operators have implemented a system of cash incentives for wildlife conservation.³⁶ A percentage of game fees are provided to the communities surrounding and within the hunting concessions per agreements made between the operators and the communities. The incentive agreements are apart from any revenue sharing or community assistance mandated by Tanzanian law. This system provides another reason for local residents to conserve and protect wildlife and habitat. From 2013-2015, \$231,712.00 has been contributed to the communities under this program.

The operators have also provided community government infrastructure support. This support has taken the form of providing \$24,316.00 towards the construction of six government offices.³⁷

Some specific examples of community empowerment undertaken by the sample operators include: funding an American teacher to conduct English lessons at Olaresh Primary School for one month;³⁸ donating footballs, uniforms, and equipment for the Children's Football Club in the Moyowosi region;³⁹ installing solar power equipment in the villages in the Ugunda Game Controlled Area;⁴⁰ donating one TATA double cabin pickup truck, two motorbikes, and a generator to the Ugunda community;⁴¹ creating the Uhifadhi Football Cup, hosting football matches, and providing footballs and uniforms in the villages (\$24,256.27);⁴² installing solar panels and delivering iron roofing to community members;⁴³ providing thousands of gallons of water during drought from distant boreholes;⁴⁴ and repairing village water wells.

OTHER SOURCES OF COMMUNITY EMPOWERMENT AND ASSISTANCE

Operators have also implemented community empowerment and assistance programs and practices that employ, feed, and educate local residents.

Operators provide significant permanent and temporary employment for rural community members in marginal areas of the country without other employment options.

³⁴ Robin Hurt Safaris.

³⁵ Robin Hurt Safaris, Rungwa Game Safaris, and Tanzania Big Game Safaris and Affiliates.

³⁶ Robin Hurt Safaris, Game Frontiers of Tanzania, and Danny McCallum Safaris.

³⁷ Robin Hurt Safaris, Tanzania Big Game Safaris, and Kilombero North Safaris.

³⁸ Tanzania Big Game Safaris and Affiliates. The cost of funding an American teacher was not included in "Education" community investment and participation.

³⁹ Game Frontiers of Tanzania.

⁴⁰ Game Frontiers of Tanzania.

⁴¹ Game Frontiers of Tanzania.

⁴² Kilombero North Safaris.

⁴³ Kilombero North Safaris.

⁴⁴ Michel Mantheakis Safaris.

The operators' camp staff is comprised on average of 41.5% of residents from local villages.⁴⁵ Twenty-three of the operators reported providing 1,241 permanent jobs.⁴⁶ Furthermore, every hunting operator employs community members for short-term employment to assist the operator in road opening and camp building prior to the season.⁴⁷

Game meat contributions provide much-needed protein for rural residents. This improves their health and quality of life, and also dis-incentivizes bushmeat poaching. Fourteen of the operators reported game meat donations to rural communities.⁴⁸

Finally, 11 operators conduct community conservation workshops near their concessions to raise local awareness of conservation and the value of wildlife and encourage community members not to poach.⁴⁹

HABITAT PROTECTION

The hunting operators combat against loss of habitat through regular anti-poaching monitoring, through community development incentives, and in some specific ways targeted at timber poaching and cattle encroachment.

The operators' anti-poaching units are not solely focused on wildlife poaching but also extend to protecting habitat. The main forms of illegal habitat destruction are timber poaching, charcoal burning, and cattle encroachment. The operator patrols prevent local residents from encroaching on the areas set aside for wildlife and create crucial buffer zones around national parks. Timber poaching is focused at hardwoods such as mninga and ebony. Poachers attempt to cut down mninga trees quickly, immediately cut them into planks, and transport them out of the area. Ebony trees are generally cut into smaller pieces and sold in the markets for curios and other items. Timber poachers are largely limited to bicycles for transporting their loads. Illegal charcoal burning is a process whereby usually medium to large acacia trees are cut and the logs are placed on top of each other in a dug out kiln in the ground. A slow burning fire is started at the base of the kiln and dirt is tightly packed all around the logs with a few air holes poked through. Charcoal burning produces a great amount of smoke and a very distinct and far reaching

⁴⁵ Robin Hurt Safaris, Game Frontiers of Tanzania, Michel Mantheakis Safaris, Bushman Hunting Safaris, Rungwa Game Safaris, Tanzania Big Game Safaris and Affiliates, Game Trackers Africa, Kilombero North Safaris, Tanganyika Game Fishing & Photographic, and Danny McCallum Safaris.

⁴⁶ Robin Hurt Safaris, Game Frontiers of Tanzania, Michel Mantheakis Safaris, Bushman Hunting Safaris, Rungwa Game Safaris, Tanzania Big Game Safaris and Affiliates, Game Trackers Africa, Kilombero North Safaris, Tanganyika Game Fishing & Photographic, Danny McCallum Safaris, Marera Safari Lodge and Tours.

⁴⁷ A very conservative estimate for each hunting concession's annual short term employment is six community members. With 74 concessions sampled, this provides employment to 444 community members each year.

⁴⁸ Game Trackers Africa, Tanganyika Game Fishing & Photographic Safaris, Game Frontiers of Tanzania, Bushman Hunting Safaris, Rungwa Game Safaris, and Tanzania Big Game Safaris and Affiliates.

⁴⁹ Tanzania Big Game Safaris and Affiliates, Rungwa Game Safaris, Bushman Hunting Safaris, Michel Mantheakis Safaris, Danny McCallum Safaris, Tanganyika Game Fishing & Photographic Safaris. Michel Mantheakis Safaris reported the cost of hosting one conservation workshop was \$472.

smell, thus allowing the anti-poaching units and hunters to quickly locate illegal kilns. Illegal cattle incursions are very limited amongst the hunting operators. Those operators experiencing cattle incursions are effectively combatting the threat.

A few operators reported on their timber seizures and encroachment results: 14,687 timber planks,⁵⁰ six trucks loaded with timber planks,⁵¹ 115 logs;⁵² a combination of 97 saws and chainsaws;⁵³ 74,712 head of cattle from the hunting concessions;⁵⁴ and Tsh 231,760,000/- in cattle fines.⁵⁵ More than that, by providing this service, the operators protect the protected areas.⁵⁶ One operator makes the effort to replant trees lost to timber poaching through a tree nursery.⁵⁷

In hunting areas with denser human populations, some operators have taken on different methods in easing human-wildlife conflict for resources. One operator has drilled two boreholes in the bush for exclusive wildlife use, at a drilling, maintenance, and fuel cost (2016-2015) of \$242,000.00.⁵⁸ Another operator has drilled two boreholes in the villages for Masai community use.⁵⁹ Lastly, three water dams were dug in Inyonga Game Controlled Area and Swagaswaga Game Reserve for wildlife.⁶⁰

ADDITIONAL INFORMATION

GOVERNMENT FEES

The Wildlife Division reinvests fees paid by hunting operators into conservation efforts such as law enforcement, surveys, etc.

Government Fees 2013-2015 Paid 2013-2015 for Sample Companies Reporting

	2013	2014	2015	Total
Government Fee	\$10,103,899.00	\$9,572,829.00	\$8,662,064.00 ⁶¹	\$28,338,792.00
Average Spent Per Operator	\$374,218.48	\$354,549.22	\$320,817.18	\$1,049,584.89

⁵⁰ Robin Hurt Safaris, Game Frontiers of Tanzania, Michel Mantheakis Safaris, and Kilombero North Safaris.

⁵¹ Rungwa Game Safaris.

⁵² Danny McCallum Safaris and Kilombero North Safaris.

⁵³ Game Frontiers of Tanzania, Rungwa Game Safaris, Danny McCallum Safaris, Kilombero North Safaris, and Tanzania Big Game Safaris and Affiliates.

⁵⁴ Robin Hurt Safaris, Game Frontiers of Tanzania, Michel Mantheakis Safaris, Tanzania Big Game Safaris and Affiliates, and Bushman Hunting Safaris.

⁵⁵ Michel Mantheakis Safaris and Bushman Hunting Safaris.

⁵⁶ All hunting operators interviewed maintain anti-poaching operations specifically deterring habitat encroachment and protecting vital habitat in the protected areas.

⁵⁷ Robin Hurt Safaris.

⁵⁸ Rungwa Game Safaris.

⁵⁹ Michel Mantheakis Safaris.

⁶⁰ Tanzania Big Game Safaris and Affiliates.

⁶¹ Kilombero North Safaris reported Government Fees only for 2015.

Average Spent Per Concession	\$135,539.17	\$129,362.55	\$117,054.91	\$382,956.64
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There has been a steady decline in government fees paid, most notably from 2014 to 2015. Government fees are a direct indicator of the number of hunts conducted. American lion hunters account for an average of 65.9% of the lion hunters for the 15 operators reporting this information.⁶² Clearly, the American lion hunting market plays a vital role in the hunting operators’ client base and overall revenue base, but that vital market has declined in 2015.⁶³

OTHER LION ENHANCEMENT INFORMATION

Thirteen of the 27 sample operators have implemented restrictions on lion harvest that are more extensive than Tanzania’s already strict six-year harvest restriction.⁶⁴ Some operators have increased the lion harvest age requirement for certain concessions; some impose strict additional financial penalties for harvesting a lion under the age of 6 years old; those who are rehabilitating depleted Open Areas do not allow lion to be harvested in these concessions, some do not allow lion to be harvested in concessions in depleted Open Areas, and most company policies further prohibit the harvest of male lion in prides with sub-adult cubs.

The sample operators employ knowledgeable professional hunters with decades of experience who are well-trained in evaluating maturity in male lion. Further, over 85% of the operators (and potentially all, as not all answered this question) have implemented a lion monitoring program.⁶⁵ These programs all include a record of game camera and live pictures, allowing professional hunters to identify and age lion. Most operators also maintain detailed written reports of lion sighting and locations, and some track live lion or spoor sightings through GIS, GPS, or Google Earth programs. One operator conducted a lion survey in two concessions indicating dense lion populations in Western Tanzania.⁶⁶

⁶² Robin Hurt Safaris, Game Frontiers of Tanzania, Michel Mantheakis Safaris, Bushman Hunting Safaris, Rungwa Game Safaris, Tanzania Big Game Safaris and Affiliates, and Danny McCallum Safaris.

⁶³ Endangered and Threatened Wildlife and Plants; Listing Two Lion Subspecies; Final Rule, p. 80046, “[w]ould also consider how a U.S. hunter’s participation in the hunting program contributes to the overall management of lions within a country.”

⁶⁴ Game Frontiers of Tanzania, Michel Mantheakis Safaris, Bushman Hunting Safaris, Rungwa Game Safaris, Game Trackers Africa, Danny McCallum Safaris, and Tanganyika Game Fishing & Photographic Safaris.

⁶⁵ Robin Hurt Safaris, Game Frontiers of Tanzania, Michel Mantheakis Safaris, Bushman Hunting Safaris, Tanzania Big Game Safaris and Affiliates, Marera Safari Lodge and Tours, Game Trackers Africa, Kilombero North Safaris, Tanganyika Game Fishing & Photographic Safaris, Rungwa Game Safaris, and Danny McCallum Safaris.

⁶⁶ In 2011 and 2012, Robin Hurt Safaris in conjunction with Dr. Arturo Caso of the Caesar Kleberg Wildlife Research Institute of Texas A&M University-Kingsville conducted a large scale lion monitoring and survey study in Luganzo Game Controlled Area and Rungwa South Open Area. The objectives of the survey were to determine the lion population density in the Luganzo and Rungwa areas using call in stations, determine lion and other carnivore density using remote sensing cameras in the study areas, compare lion density results with non-hunting areas, and provide management suggestion to the Tanzanian authorities and hunting operators. The call in stations were placed every 25 square kilometers. The call in stations would play buffalo distress sounds for a one hour period. The remote sensing cameras logged a

At least 10 of the operators have implemented compensation agreements with the communities surrounding and within their concessions.⁶⁷ The agreements deter retaliatory lion killings by compensating community members for livestock killed by lion.

Several conservation organizations and hunting operators have made additional large financial contributions towards lion enhancement in Tanzania by providing the funding for various research and scientific undertakings.⁶⁸

CONCLUSION

The sample hunting operators provide for the enhancement of lion by addressing the three primary threats to lion survival: loss of prey base, loss of habitat, and human lion conflict. The hunting operators have taken on great expense to support anti-poaching, create incentives for rural communities to value and conserve wildlife, and secure large areas of habitat in their hunting concessions.

From 2013-2015, the sample operators reporting here have spent \$6,717,160.65 on anti-poaching and road opening. Anti-poaching mitigates loss of prey base by arresting poachers, constantly monitoring the concessions, and picking up snares and gin traps (among other things). Likewise, anti-poaching prevents habitat destruction as a result of illegal timber poaching, charcoal burning, and cattle encroachment.

Community investment and participation projects incentivize the communities to join the operators in being co-stewards of wildlife and habitat within the concessions. From 2013-2015, the operators have spent \$3,125,830.00 on community investment and participation. Operators also provide game meat donations, direct wildlife incentives, conservation workshops in the communities, and a crucial source of employment. Combined, these efforts give value to wildlife and habitat and the communities are motivated to conserve the concessions.

In short, the attached reports demonstrate that licensed, regulated hunting in Tanzania enhances the survival of lion in the wild.

total of 937 days and a total of 25 camera stations were set up. Stations were placed two to five kilometers apart. The results of the study showed a lion density of 6.4 lion per 100 square kilometers in Rungwa South Open Area and 4.8 lion per 100 square kilometers in Luganzo Game Controlled Area. These results indicate dense lion populations in the hunting concessions. The cost of the lion survey was \$64,000.

⁶⁷ Robin Hurt Safaris, Bushman Hunting Safaris, Rungwa Game Safaris, Kilombero North Safaris, and Danny McCallum Safaris.

⁶⁸ Tanzania Game Tracker Safaris contributed \$250,000.00 to Craig Packer, PhD to establish the six year old lion aging approach in the country. Shikar Safari Club International Foundation contributed over \$100,000.00 per annum for four consecutive years to construct the lion aging system and other lion conservation actions including population surveying in the Selous Game Reserve and multiple lion aging workshops for professional hunter within Tanzania, soon to appear in peer reviewed publications. In 2016 Conservation Force funded the \$6,281.60 in travel and other costs of the independent experts to do the lion trophy aging for 2015. Before that it contracted the publication of the first lion aging guidelines and other publications that followed.

ATTACHMENTS

- Annex 1 Bushman Hunting Safaris Limited, Operator Enhancement Report
- Annex 2 Danny McCallum Safaris, Operator Enhancement Report
- Annex 3 Game Frontiers of Tanzania, Operator Enhancement Report
- Annex 4 Game Trackers Tanzania, Operator Enhancement Report
- Annex 5 Kilombero North Safaris Limited, Operator Enhancement Report
- Annex 6 Marera Safari Lodge and Tours (T) Ltd., Tanzania Lion Report 2013-2015
- Annex 7 Michel Mantheakis Safaris Ltd, Operator Enhancement Report
- Annex 8 Robin Hurt Safaris (Tanzania) Limited, Operator Enhancement Report
- Annex 9 Rungwa Game Safaris, Operator Enhancement Report
- Annex 10 Tanganyika Game Fishing & Photographic Safaris Ltd., Operator Enhancement Report
- Annex 11 Tanganyika Wildlife Safari Corporation Ltd., Operator Enhancement Report
- Annex 12 Tanzania Big Game Safaris Ltd. and Affiliates, Operator Enhancement Report