CONSERVING ELEPHANTS AND LIONS IN THE KENYA-TANZANIA BORDERLANDS

Meeting Report,
17th and 18th of March, 2014
Arusha, Tanzania

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CONSERVING ELEPHANTS AND LIONS IN THE KENYA-TANZANIA BORDERLANDS

BACKGROUND

This meeting was organized and hosted by the African Conservation Centre and the Wildlife Conservation Society, with funding from the Liz Claiborne and Art Ortenberg Foundation, and endorsed by the Tanzania Wildlife Research Institute and the Kenya Wildlife Service.

The meeting brought together government agencies, community representatives and conservation and research organizations working in the Kenya-Tanzania borderland to see how they could work collaboratively towards addressing the conservation needs of people, elephants and lions in this remarkable area. This is the second full meeting of stakeholders involved in the Borderland Conservation Initiative, although there have been several smaller government, community and non-governmental organization meetings over the past two years.

GOALS OF THE CONFERENCE

The overall goal of this meeting is to once again bring together government agencies, community representatives and conservation organisations in the Kenya-Tanzania borderlands in order to:

- Assess where the Borderland Conservation Initiative has reached;
- Share what the Initiative has achieved over the past two years;
- Decide on formal arrangements and draw up action plans.

SUMMARY

The Kenya-Tanzania borderland area is one of the richest areas of biodiversity in the world and the birthplace of humankind. The challenge we face now is to maintain the landscapes, biological diversity and cultures that exist in this unique area. Although the area has many National Parks and Reserves, these do not fully protect wildlife, in particular wide ranging species such as elephants (*Loxodonta africana*) and lions (*Panthera leo*). This Borderlands Conservation Initiative is about addressing this challenge by protecting these incredible species and allowing communities to benefit from them.

This challenge brought together over sixty representatives from Kenya and Tanzania including government, communities, conservation and research organisations.

The workshop was opened by the Tanzania Wildlife Research Institute, the Tanzania Wildlife Division and the Kenya Wildlife Service who endorsed the collaborative approach and goals of the Initiative. In particular, they felt that the Initiative was consistent with the goals of each country's elephant and lion management plans and they recognized the importance of including communities in this process. There has been a strong emphasis on integrating the Initiative with

communities since the first meeting in February 2012. This led to a recommendation from the communities that lions should be combined into the Initiative, as to them, they are equally important in terms of both conflict and tourism.

The workshop then moved on to presentations of the Borderland Conservation Initiative's achievements to date. This included presentations on the progress of community-based programs funded as part of the Initiative in Loita and Rombo in Kenya and Ololosokwan (Loliondo), Lake Natron and Lake Chala in Tanzania. The group learned that in Kenya a lot of progress had been made to deploy two groups of community scouts in the Loita region, the first time that the communities there have been willing to seek solutions to the poaching problem. Furthermore in Rombo, there were now several scouts on the ground conducting cross-border patrols and meetings. On the Tanzanian side, elephant security in the Ololosokwan area had been significantly improved with game scouts who have arrested several poachers and confiscated weapons. These actions led to a significant reduction in poaching levels in the area. In the Lake Natron area, although there were some delays due to a changeover of hunting blocks, the rapid response teams made several arrests of smugglers and poachers, along with seizures of weapons and illicit goods. The communities in the area have been very receptive and would like to participate in the monitoring of wildlife in the area in exchange for assistance with crop-raiding elephants. Finally, in Lake Chala the news was not good as the number of elephants using the area has dropped significantly. This is due to a combination of factors, including a fence on the west side of Tsavo National Park which has changed elephant movements, as well as unsustainable levels of poaching.

These reports were followed by a presentation on the recent borderland lion meeting (January 2014) where lion research and conservation organisations came up with a strong Action Plan of objectives they would like to achieve. Currently, priority has been given to setting up a common ID database for the borderland metapopulation; investigating the gaps in knowledge and filling those in; setting up a borderland lion genetic study.

The meeting then moved to presentations of the common database. This part of the Initiative has been very active over the last few months after a meeting of elephant researchers in February 2013. There is now a basemap available to all partners, which includes shared data on land use and elephants. There has been a lot of external interest in this aspect and the Initiative is building partnerships with several other institutions including the National Aeronautics and Space Administration (NASA). The group also heard, through several case studies, the value of collaboration (e.g. data sharing) in achieving the goals of the Initiative.

The breakout discussion groups in the afternoon session covered the topics of 'strengthening and coordinating community conservation'; 'monitoring, research, standards and data integration and access'; 'terms of collaboration, agreements, MOUs and coordination'; and 'integration with government and the East African Community.'
The key points from these breakout groups were presented back to the plenary and then summarized in the final session: it was deemed especially necessary to formulate a structure for the Borderland Conservation Initiative (refer to Figure 7 on page 15 for a diagrammatic representation of what was agreed upon). This would allow for setting up of an overall steering committee with sub-committees to oversee each of the four main sections of the Initiative: government to government collaboration, cross-border community collaboration, cross-border lion

research and conservation, and cross-border elephant research and conservation. Each group would write up an Action Plan and agree on MOUs for collaboration.

It was also acknowledged that community game scouts were an important tool in working with communities to protect wildlife, stem poaching and reduce human-wildlife conflict. The use of new tools such as SMART (Spatial Monitoring and Reporting Tool) can make this process both more efficient and effective.

In terms of data sharing and collaboration, the group felt it was important to develop a secure website platform that would allow partners to share data and communicate amongst themselves, whilst also sharing the Initiative with a global audience.

The group also recognized that the current lack of partnership with relevant sections of the East African Community had to be addressed as the EAC's Transboundary Ecosystems Management Act (2012) could provide a very important legal and governmental framework for this Initiative.

These actions cannot be achieved without funding and therefore the group looked at several funding options including USAID-PREPARED (Planning for Resilience in East Africa though Policy, Adaptation, Research and Economic Development), the J.R.S Biodiversity Foundation, the MacArthur Foundation, the Liz Claiborne Art Ortenberg Foundation, and several others. Additionally, different working groups may want to seek funding individually, for example, National Science Foundation grants for research on lions or elephants, through the Initiative.

The workshop then closed with strong messages from all parties on the necessity for landscape approaches to conservation. Government representatives thanked the organisers of the workshop and emphasized that they would play their role of creating an enabling environment for the success of this Initiative.

Figure 1. Meeting participants (see page 20 – Appendix 3 for full list).

Opening Session

Dr. Julius Keyyu, Director of Research Development and Coordination at the Tanzania Wildlife Research Institute, delivered the welcome address. He noted the importance of the Tanzania and Kenya border region as including some of the best-known protected areas in the world, among them Serengeti-Mara, Mt Kilimanjaro and Amboseli and being crucial to the tourism industries of both countries.

Dr. Keyyu emphasized that the elephant management plans of Kenya and Tanzania both highlight cross-border cooperation as vital for the protection of elephants and their habitats. The Tanzanian Carnivore Action Plan also rests on strong collaboration in the borderlands. This meeting therefore represents an important step in the implementation of the national plans for both species in both countries.

"The elephant management plans of Kenya and Tanzania… and the Tanzanian Carnivore Action Plan also targets improved collaboration in the borderland region. As such, this meeting represents an important step in their implementation." – **Dr. Julius Keyyu, TAWIRI**

Dr. Keyyu also stressed the importance of community support in protecting elephants and lions, their habitats and migration corridors. Such support depends on communities benefiting from elephants, lions and other wildlife on their land. He noted the need for collaboration between the Kenyan and Tanzanian governments and with communities in order to stem the poaching crisis in the borderlands. He cited examples such as Enduimet Wildlife Management Area (WMA) in Tanzania, where a strong community conservation presence has lowered poaching compared to other areas.

Mr. Fredrick Ambwene from the Tanzania Wildlife Division summarized national and international wildlife agreements which Tanzania has ratified, including the East African Community Transboundary Ecosystems Management Act (2012). The Act establishes an institutional framework for the management of transboundary ecosystems; preservation of biological diversity; monitoring environmental change, and ensuring that environmental awareness on transboundary ecosystems is treated as an integral part of education.

Mr. Ambwene summarized the known borderland populations of elephants and lions and noted that the priority issues cited in the Tanzania Elephant Management Plan of 2010, including securing connectivity and ecological viability of habitats; mitigating human elephant conflict; harmonizing research and monitoring; and the protection of elephant populations. He said that the Government of Tanzania sees this meeting as an opportunity to exchange information on many of the listed priorities in the Carnivore and Elephant Management Plans, and to promote collaboration between communities, researchers, non-governmental organisations, and government wildlife authorities.

Dr. Charles Musyoki of Kenya Wildlife Service also stressed that cross-border collaboration as a priority for Kenya. He noted that Kenya's elephant and lion conservation strategies, like Tanzania's, emphasize the importance of the transboundary region. The transboundary wildlife security committees currently in place should be strengthened. He also stressed the need for more cross-border research collaboration and information sharing.

Dr. David Western of the African Conservation Centre gave an overview of the importance of the Kenya-Tanzania Borderland area and a background to the elephant and lion Initiative. This borderland is the birthplace of humankind, one of the richest areas of biodiversity in Africa and among the richest in vertebrates worldwide. The challenge is to maintain these landscapes for the benefit of the biological diversity and the cultures of this region. Although the borderlands include 25 protected areas, these are insufficient to protect wildlife since they do not cover the full

migratory areas of many species and fall short of the space needed for viable elephant and lion populations. Conserving wildlife on community lands in the border region will bring tourism benefits, provide sufficient area for wildlife and reduce pressure on parks.

Following the first elephant meeting held in Arusha in February 2012, the communities noted the importance of including lions in the Initiative and identified the most important areas in need of community conservation efforts as the Loita Hills, Lake Natron, Rombo, Loliondo and Lake Chala.

Dr. Charles Foley of the Wildlife Conservation Society (WCS) presented the goals and agenda of the meeting as taking stock of the progress made since the first meeting in 2012 and planning the next steps in elephant and lion conservation in the borderlands.

PLENARY SESSION: PROGRESS REPORTS ON DEVELOPMENTS SINCE ARUSHA 2012

Community engagement and program activities, Kenya

John Kamanga, Director of the South Rift Association of Land Owners (SORALO), opened the plenary session by reporting on the SORALO meetings held in Longido and Namanga to map and conduct ground assessments of community projects engaged in conservation, develop a Strengths-Weaknesses-Opportunities-Threats (SWOT) analysis of current programs, and to identify gaps and challenges. The communities recommended that lions be combined into the Borderland Conservation Initiative because they are equally important in terms of conflicts and tourism.

Other outcomes of the community meetings included the need to focus efforts on community capacity building; establishing new or bolstering existing conservation areas; greater emphasis on security through game scouts; greater information collection and more data sharing between partners.

Based on the community proposals, the Liz Claiborne Art Ortenberg Foundation funded conservation efforts to stem elephant poaching in the Loita Hills and the Rombo. In the Loitas, questionnaire surveys identified community attitudes and perceptions. The results were presented to the communities and led to the identification of two vital areas in need of anti-poaching – the Loita Forest and Eleng'ata Enterit. Scouts from these areas have been selected and are currently completing an intensive training course. A base station in each area with radio communications and a motorbike is being set up to service scout operations.

In Rombo, SORALO has supported the salaries of scouts, cross-border patrols and meetings, and the purchase of anti-poaching equipment. SORALO has also supported the design of the Noonkotiak resource centre, which is to be set up as the information, communication and planning hub of the Amboseli Ecosystem.

Program activities, Tanzania

Damian Bell, Director of Honeyguide Foundation, presented the programmatic activities of their new program in the Lake Natron area in Tanzania. An expansion of anti-poaching measures in this area was hampered by a change in the land leasee, but has since progressed quickly. The Honeyguide Foundation have been using an informer network to curb poaching activities and the event-book system for wildlife monitoring activities. Damian Bell reported that the highest levels of illegal activity were near the towns of Namanga and Longido. Several poachers have been arrested with firearms, bush meat (mostly giraffe) and marijuana. He reported that communities

in the area agreed to help monitor wildlife and stem poaching in exchange for support in mitigating crop raiding by elephants.

Wayne Lotter, Director of PAMS Foundation, reported on activities in Ololosokwan and Lake Chala. There were some 300 elephants in Chala in 2012 which moved between Lake Chala and Tsavo National Park (Kenya). The area has experienced a great deal of poaching – during 2013 only 48 elephants returned and poaching persisted. Since the elephant fence was built on the Tsavo West border, the area has become isolated and is no longer accessible to elephants.

In Ololosokwan on the northeastern boundary of Serengeti National Park, PAMS Foundation has been working in the Klein's Camp Concession. Elephants were being killed every month at the start of operations. As part of a cross-border operation, poachers were apprehended in Kenya. Poachers were also recently arrested on the Tanzanian side. Poaching had ceased completely for eight months until a recent incident in early March 2014. Game scouts have photographed and reported seeing abundant wildlife, including elephants, lions and wild dogs.

Databases and integration

David Kimanzi from Save the Elephants presented the results of the cross-border base map, used to collate shared data for the Borderland Conservation Iniatiative. At the Lale'enok technical meeting in February 2013, elephant researchers defined the cross-border area to be covered by the map. This area includes over 20 conservancies and 13 National Parks, as well as many national reserves, forest reserves and Wildlife Management Areas. The data layers on the map include protected areas, roads, rivers, data from collared elephants, aerial surveys, and signs and sightings of elephants. More information has been added, including findings from the Loita survey and data from Serengeti/Mara, the South Rift and Amboseli region in Kenya, and northern Tarangire in Tanzania. Roads, rivers and other features in Tanzania have not been adequately classified, complicating accurate geographic determination. A major challenge remains protocols and access rules for sharing data among reciprocating partners and outside users.

Victor Mose of the Amboseli Conservation Program (ACP) presented findings from the National Aeronautics and Space Administration (NASA) in the Kenya-Tanzania borderland area. NASA used satellite imagery calibrated against long-term data from the ACP ground monitoring to plot Normalised Difference Vegetation Index (NDVI) and vegetation changes in the Amboseli region from 2002-2012. The findings detected vegetative declines in the national park due to swamp desiccation and elephant damage, and in pastoral areas due to heavy permanent settlement and charcoaling. NASA also conducted a hydrological mapping exercise of the cross-border region from satellite imagery.

Cross-border Lion Meeting

Dr. Laly Lichtenfeld, Executive Director of the Tanzania People and Wildlife Fund and a Borderland Lion steering committee member, presented results from the "The Cross-border Initiative: Forging a Collaborative Approach for Lions." The meeting took place at the School for Field Studies in Kimana, Kenya, from January 24th to 25th, 2014. It brought together the majority of organisations researching and conserving lions in the Kenya-Tanzania borderlands. The objective of the collaboration is to conserve a large, genetically viable, free-ranging metapopulation of lions along the Kenya-Tanzania borderland through the coordination of conservation efforts and cooperation between key interest groups.

The main outcomes of the meeting were setting up an action plan and a steering committee. Each action point entails several people, including a contact person who will coordinate activities with

the steering committee. Priority was given to setting up a common identification database for northern Tanzania and southern Kenya; investigating the gaps in knowledge and setting up surveys; setting up a borderland genetic study.

The full meeting report was made available to all participants and is also published online at http://issuu.com/borderlandconservation/docs/borderland_lion_meeting_report_janu

Action	Person Responsible	Timeline	Resources
Sharing: Metapopulation Paper and other relevant Scientific Papers	Stephanie Dolrenry (Lion Guardians)	10th February	
Sharing: East African Community Transboundary Ecosystem Management Act 2012	Noah Sitati (AWF)	10th February	
Sharing: Lion survey (call back) of Enduimet and Amboseli NP	Noah Sitati (AWF)	10th February	
Sharing: Preliminary/published Tsavo Survey results	**Stephanie Dolrenry (Lion Guardians)** Leela Hazzah (Lion Guardians)	When it is available	
GIS: Allow others to join GIS Workgroup and provide shape files	**Peadar Brehony (SORALO)** Bernard Kissui (Tarangire Lion Program) Charles Trout (TPW) Maurus Msuha (TAWIRI)	10th February	
Governance Structure: Develop guidelines, statement of commitment List of Data Requirements to be circulated for confirmation and then agreement from all	Leela Hazzah (Lion Guardians) Peadar Brehony (SORALO)	15th February	
Lion ID: Write Concept Note on survey protocols and lion I.D. database	**Lead:** **Stephanie Dolrenry (Lion Guardians)** **Bernard Kissui (Tarangire Lion Project)** Working Group – see below	28th February	
Survey Protocols: Request templates from specialist groups and upload to discussion platform	Stephanie Dolrenry -> P. Henschel Lana Muller -> H. Bauer Guy Western -> C. Sillero-Zubiri	7th March	KWT – if under $3000
Lion ID: Contact Google to see if they would have any interest in the lion I.D. database	Allan Earnshaw (KWT) Lana Muller (MWCT)	31st March	
Joint Advocacy Group: What are the avenues and legal implications?	**John Kamanga (SORALO)** Peadar Brehony (SORALO)	31st March	

Figure 2. An extract of the agreed upon Action Plan from the borderland lion group.

Information coordination and communication

Peadar Brehony of the South Rift Association of Land Owners (SORALO) and African Conservation Centre (ACC) shared the goals and challenges of information coordination and communication among collaborators. He presented the goals of the Borderland Conservation Initiative as conserving a meta-population of elephants and lions, stemming poaching and ensuring that communities benefit from wildlife.

The base map developed for the cross-border area allows researchers, conservationists and community groups to identify gaps in knowledge and protection coverage. Once identified, the Initiative funded and supported action on the ground. This included the Loita area in Kenya where data sharing among partners and working with the communities led to the deployment of two scout teams in areas with the highest poaching levels and community skepticism about wildlife. A rapid questionnaire survey of perceptions highlighted areas where communities believed elephant and lion numbers were either decreasing or increasing. The full report is available online at
http://issuu.com/borderlandconservation/docs/presence_and_perception_of_wildlife
Collaboration between ElephantVoices, Save the Elephants, African Conservation Centre and SORALO mapped data on elephant movements in the Loitas and pinpointed areas for the deployment of scouts – see Figure 3 below.
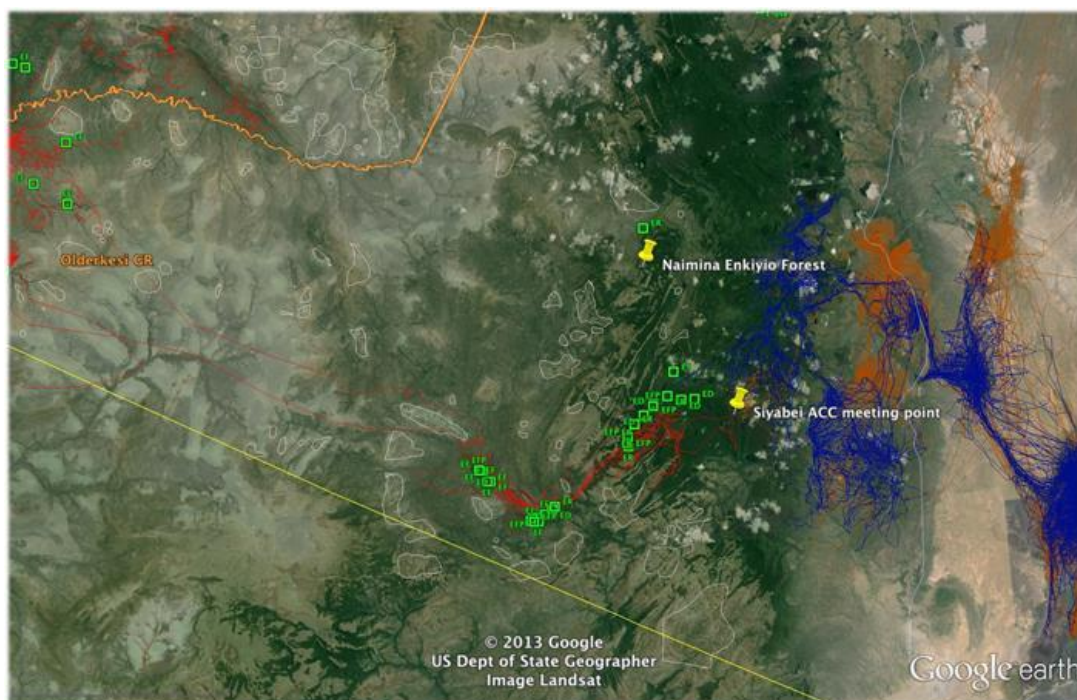
Figure 3. This shows an overlay of ACC elephant collar data from the South Rift (blue and brown lines) with Save the Elephant and KWS collar data from the Mara (red line) and with ground surveys conducted by ElephantVoices (green boxes). The yellow pin marks where elephants from the Mara and South Rift spatially (but not temporally) overlap.

Scouts in the final stages of training have been given instructions in the use the Mara Ele Application, tutored by ElephantVoices. The data logging on smartphones allows instantaneous recording and accessing of elephant signs and sightings. Lions will shortly be added. The close communication and cooperation between partners has greatly increased the speed and efficiency of elephant monitoring and protection in the Loitas.

Peadar Brehony also presented samples of information in the common database. The information included elephant data overlaid on the base maps to ease integration and analysis. The next step is to ensure data are securely stored, protected and made available to collaborators.
A Borderland Conservation Initiative website has been set up online and is undergoing further development (www.borderlandconservation.org). The website will be accessible to a general audience but include a secure login feature to limit access to sensitive data only to approved and verified users. He concluded that the elephant program should emulate the lion program in laying out an action plan and drawing up a Memorandums of Understanding to govern the operations of the Initiative.

General Discussion

The progress reports were followed by plenary discussion led by Charles Foley. He recommended using satellite images to detect land use change over the past 25 years in order to identify conservation gaps and opportunities. Anna Estes of the Serengeti Elephant Project noted that Landsat images are available online from 1984 onwards. David Western stated that aerial

photography gives coverage pre-1980s and allowed for 60 years of habitat change analysis in Amboseli. Julie Fisher of the United States Agency for International Development (USAID) suggested that the Regional Centre for Mapping of Resources for Development (RCMRD) based in Nairobi would be a very valuable partner in mapping, data integration and training.

"Pastoralism is based on coexistence. Pastoralism needs wildlife." – **Johnson Sipitiek, ACC**

In discussions regarding communities, Johnson Sipitiek of ACC pointed out that pastoralism is based on coexistence with wildlife. The community representatives urged that governments recognize the role of pastoralists in conservation and commit to their involvement.

Noah Sitati of the African Wildlife Foundation (AWF) raised the issue of securing corridors. AWF is concerned that the corridor between Amboseli, West Kilimanjaro and Arusha National Park is disappearing. Alfred Kikoti of the World Elephant Centre noted that such corridors call on the combined efforts of many stakeholders, including communities, TANAPA, the Wildlife Division and NGOs. Joyce Poole of ElephantVoices reported that ground-truth surveys she had conducted in the area between the Mara National Reserve and the Loita Forest show a decline in elephant movements due to poaching and settlement.

David Western highlighted the strengths of community resource assessment in Amboseli and the South Rift in Kenya, where resource centres serve as information hubs for collecting, coordinating and disseminating information for community action.

BREAK OUT SESSIONS

The break out session was divided into four topics, with meeting participants joining a particular group for focused discussions:

- Strengthening and coordinating community conservation.
- Monitoring, research, standards and data integration and access.
- Terms of collaboration, agreements, MOUs and coordination.
- Integration with government and East African Community.

After several hours of active discussions, the groups reported back to the plenary on its recommendations for action.

Strengthening and coordinating community conservation

This group made recommendations based on discussions the previous evening with community members on both sides of the border. Community empowerment and community-based institutions were held to be vital to conservation. Tanzanian community representatives recognized that Kenya had well-coordinated community organizations and recommended that similar institutions to SORALO and the Amboseli Ecosystem Trust be established in Tanzania. The representatives also recommended community resource and information centres, similar to Lale'enok Resource Centre, be established in the borderland region of Tanzania. Such centres would give communities access to policy and other information currently unavailable for lack of proficiency in English and technical language. Relevant literature should be made available in Swahili and vernacular languages, with supporting explanations, to help close the information gaps among communities. The results of research conducted in community areas, as well as traditional knowledge, should also be made available to communities at these centres to help maintain healthy rangelands.

"Maasai culture has kept these areas open for wildlife. If that culture is lost, we will also lose the basis for conservation." **John Kamanga, SORALO**

The use of community scouts fits well with traditional methods of patrolling and information collection and helps address human wildlife conflict and poaching on community lands. Maintaining culture and traditional knowledge and practices was also recommended as vital to sustaining open healthy lands and coexistence between people and wildlife.

Monitoring, research, standards and data integration and access

This group discussed coordinating research across the borderland area, and focused on the following topics:

1. Identify areas of institutional overlap and gaps.
   o The approach taken by The Nature Conservancy with the Northern Tanzania Rangelands Initiative is a useful framework that has set up a common map and database.
2. Establish a strong coordination framework.
3. Appoint a point person from each key area in the borderlands to build a network of capable individuals to be trained in MIKE, PIKE, SMART and other protocols and data collection methods.

Essential data collection

1. Based on the action plan drawn up by the lion group meeting in February 2014, recommendations for data collection included surveying data in gap areas and setting up common ID and mortality databases. For elephants, data collection should include presence/absence information and relative densities. The baseline data should help identify core ranges and corridors, all sightings, elephant signs, telemetry and census and mortality data (Monitoring the Illegal Killing of Elephants – MIKE). ID databases for lions and elephants should be shared among neighbouring communities and collaborating organisations.
2. Land Cover and Land Use Change (LCLUC) detection can be used in a number of applications. LCLUC would facilitate suitability mapping of areas where there is little known of elephants and lions, and identify areas where areas of rapid change in habitat and human activity. A useful contact person at Zoological Society of London is Andrew Jacobsen.
3. MIKE data used in conjunction with the recommended data collection would help in a quarterly reconciliation of dead elephant figures under the auspices of the Wildlife Division in Tanzania and the Kenya Wildlife Service in Kenya. Photos distributed to an approved mailing list would help verify reported mortalities and avoid double counting and missing in the national database.
4. A conflict database combined with poaching hotspots would help guide conservation efforts and add to the IUCN African Elephant Specialist Group information log.
5. Expanded genetic sampling should be used in determining the metapopulations of elephants and lions in the borderlands, the historical ranges and the future prospects for population connectivity. Although some genetic sample processing can be done in country, there is still a need of funds to develop gene sequencing for a variety of other applications. Funds should be sought for landscape-level grants of metapopulation analysis of elephants and lions.

Maintaining data bases and protocol sharing

1. A centralised website with secure access should be used as the data repository. Protocols to protect sensitive data should be drawn up. This could entail a two tiered structure: a) national level counts based on a common format; b) site data based on agreed and compatible methodology and reporting procedures.
2. Common datasets should be based on agreed protocols and standards which need to be set. For example in GIS data, a common datum, projection and coordinate system have to be set for shared data.

The action points were summarized as:

→ Recruit and fund a coordinator
→ Agree on standardized data reporting and analysis
→ Set up a Land Cover and Land Use Change working group
→ Define and integrate lion and elephant research priorities
→ Set up census advisory group made available to TAWIRI and KWS for conservation planning

Terms of collaboration, agreements, MOUs and coordination

This group recognized the ambitious challenge of a multi-stake holder, multi-national, multi-species program. To keep the Initiative going, it recommended setting up a clear organizational structure with assigned responsibilities.

The Borderlands Conservation Initiative is made up of four main groups: government wildlife agencies, NGOs, community-based organisations and researchers. Three subcommittees should be established, one each for elephants and lions and one to coordinate community programs. The sub-committees would act as the steering committee for each group and oversee implementation of its action plans. Each steering committee should include two organisations with one representative each, and a government representative. A coordinator should be appointed for Kenya and Tanzania to coordinate the Initiative in each country (see Figure 7, page 15).

The group suggested that, as the lion group have done, it is essential to have a separate meeting of the core elephant research and conservation organisations to establish action plans. The action plans should be based on the existing national Elephant Management Plans for Tanzania and Kenya. Data sharing is important to the success of the Initiative. MoUs should be drawn up among partners, which should cover information ownership, use conditions and accountability. Successful sharing will encourage broader participation and better application of the data.

Finally the group focused on the organization and administration of the Initiative, given the complexity of managing so many players over such a large area. The Liz Claiborne Art Ortenberg Foundation through ACC, was identified as the best organisation to provide umbrella support for the Initiative, given its role in stimulating the program, pulling together players and filling gaps.

Integration with government and the East African Community

This group reported that the Kenya Wildlife Service and an appropriate Tanzanian wildlife agency should work with the East African Community (EAC) Transboundary Ecosystems Management Act committee. It further recommended that an action plan be drawn up, based on a harmonizing of the Elephant Management Plans of each country, for ratification by the EAC. Other treaties such as the Lusaka Agreement also offer avenues for cross-border collaboration.

Government and conservation organisations should ensure that communities are benefitting from wildlife by helping them address human wildlife conflict and developing sustainable and effective land-use plans. The two governments and communities should hold regular cross-border meetings to share information and intelligence. A legal expert should be consulted on the implication and applications of the Transboundary Ecosystems Management Act for intergovernmental collaboration. It was noted that other cross-border collaborative groups such as the World Wide Fund for Nature (WWF)-led Serengeti-Mara elephant program were underway and should be included in the Borderland Conservation Initiative.

Figure 4. Break out group discussing integration with government and the East African Community.

SPECIAL SESSION: COMMUNITY-BASED WILDLIFE SECURITY

Increasing Effectiveness and Reducing Costs of Anti-poaching on Community Lands

Damian Bell from Honeyguide Foundation gave a presentation on how to reduce costs and increase effectiveness in community-based wildlife security. He showed that 80 percent of a Wildlife Management Area's (WMA) operational costs are for protection, and in the case of Enduimet WMA, those costs are 98 percent of the total budget. Some 90 percent of WMA funding comes from external sources. The high costs are attributed to smarter poachers, better infrastructure easing access for poachers, and new technology such as mobile phones and motorcycles. The most effective protection method outside national parks is to use a community-based approach. Communities are the eyes and ears of security operations. The Enduimet WMA has set up an informer network - costing only 1 percent of the protection budget, informers account for 99 percent of arrests.

Communities must be a part of the solution in all respects, including employment and deployment, information gathering and dissemination, and decision-making. Government and NGOs should show their willingness and commitment to local interests by tackling issues of high priority to the community, including human-wildlife conflict.

Enduimet WMA has set up a Rapid Response Unit covering 1,000 km². A highly trained, well equipped and incentivized team of eight rangers (out of 40 rangers total) has been responsible for 95 percent of all arrests. The costs include ~$70,000 for a vehicle, ~$15,000 for annual running costs and additional costs for food rations and salaries. Tactics deployed by the rangers include parking the car to make it "disappear", to keep poachers guessing on its location, the use of sniffer dogs, confusing poachers with false information and random scheduling, and the use of technology, such as SMART, to increase efficiency and coverage.

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Law Enforcement Monitoring Using SMART

Valeria Shirima from the Wildlife Conservation Society gave a presentation and demonstration on how to use the Spatial Monitoring and Reporting Tool (SMART). The software combines information on patrols sightings of animals and illegal activities and intelligence, including informer reports and aerial surveillance to ensure good coverage and high efficiency of protection. Operations are continually improved through feedback information and adaptive management.
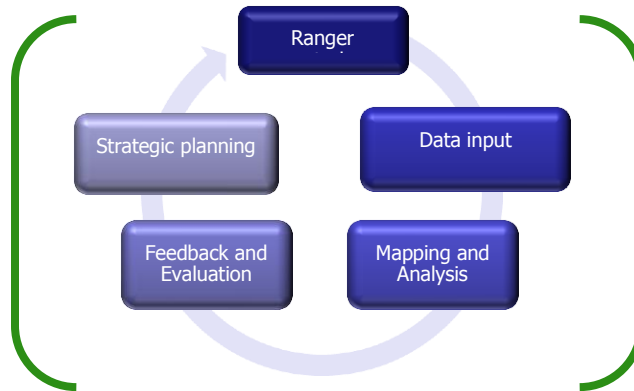

Figure 5. The adaptive management cycle of SMART.

The software works on the basis that all observations are recorded and geo-referenced. The information can be collected on data sheets or on mobile devices such as cybertrackers. Referencing observations with photos adds valuable information and improves reliability. SMART is open source and flexible. It can be modified to suit many different applications. For example, SMART is available in several languages and can quickly be modified to new ones. It has been designed with compatibility in mind. SMART output provides information for information-based transparent decision-making, including improved patrol and monitoring efforts, tracking the routes and effectiveness of patrol teams and individuals and monitoring illegal activities and wildlife observations.

Currently SMART is being tested in Ruaha and Katavi National Parks (Tanzania), as well as Waga Wildlife Management Area. The training includes three days on data collection and four days on database management and software applications.

Figure 6. Valeria presents SMART to the attendees during the Special Session. The presentation was followed by a practical demonstration using smart tablets.

THE WAY FORWARD

From discussion to action

The session, chaired by David Western, reviewed the recommendations of the breakout groups and deliberated on the organizational structure and action points for the Borderlands Conservation Initiative (see Figure 7, below).
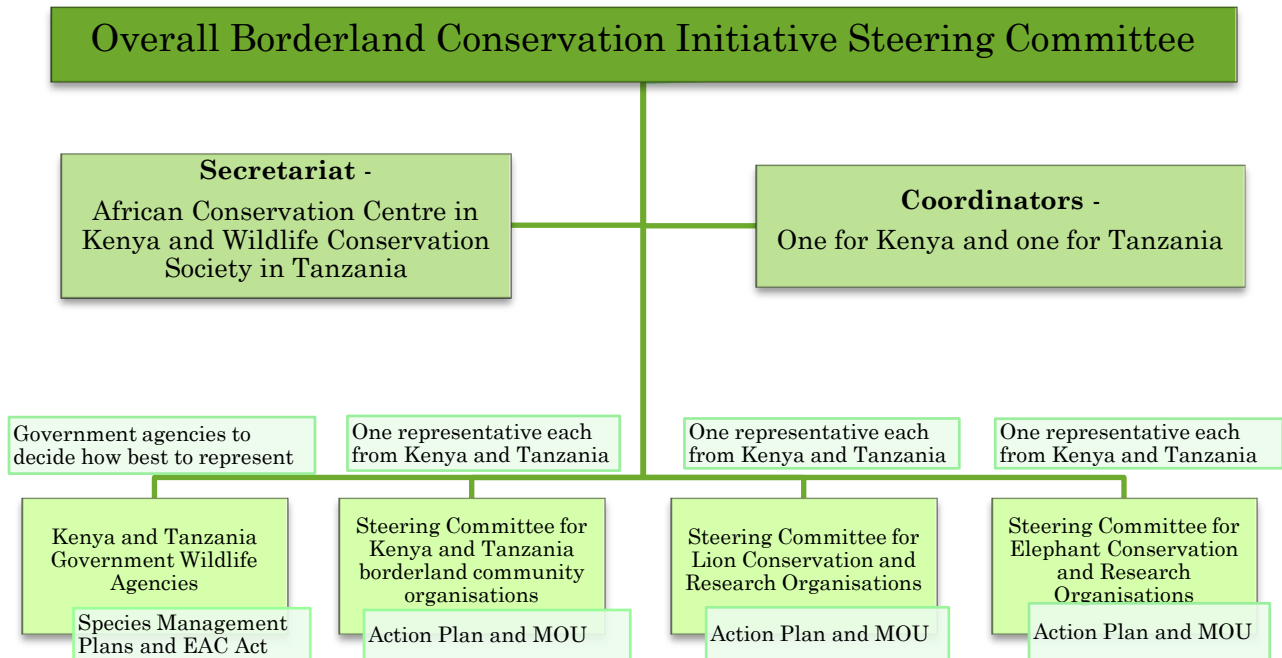

Figure 7. A rough outline of the proposed structure for the Borderland Conservation Initiative.

There was considerable discussion on the representation from the Tanzanian government, given several Tanzanian government agencies have jurisdiction over wildlife and wildlife research. It was agreed that the Tanzanian representatives, led by the Tanzania Wildlife Division would consult with other agencies and report back. The Kenya Wildlife Service is the sole government wildlife agency in Kenya. The African Conservation Centre and Wildlife Conservation Society will serve as the secretariat and help support a coordinator in Kenya and Tanzania, respectively. Terms of Reference for the roles of the steering committees and coordinators should be drawn up and MoUs signed by participating partners on each of the steering committees. The MoU drawn up by the lion group provides a useful template.

Several other suggestions were made during the plenary discussions to improve the framework and way forward: The Northern Tanzania Rangelands Initiative (NTRI) should be viewed as an important partner in Tanzania, given its role in bringing together conservation organisations and communities. Community game scouts should form the foundation of wildlife security outside parks. In Tanzania, the role of scouts should be integrated with district authorities and the Wildlife Division. SMART should be adopted as a common platform for increasing the efficiency and reducing the costs of protection and coordinating activities. Ruth Starkey of the Wildlife Conservation Society (Ruaha Program) may be available to help with training. The website should employ a secure login and an ArcGIS online platform. Google groups can be used by working groups for communicating activities. The East African Community, through the Transboundary Ecosystems Management Act, provides a means of coordinating intergovernmental activities and raising funds for government conservation efforts. The committees should draw up a schedule of meetings. A full meeting of all stakeholders will be held

in Kenya in 2016 to review progress and plan the next phase of the Borderland Conservation Initiative.

Funding Opportunities

Lucy Waruingi of African Conservation Centre chaired a session on the funding opportunities for the Borderland Conservation Initiative.

Julie Fisher of USAID said that the United States government and USAID are keenly interested in the Initiative, through channels such as PREPARED (Planning for Resilience in East Africa though Policy, Adaptation, Research and Economic Development). PREPARED is interested in funding biodiversity in trans-boundary ecosystems. Ramzy Kanaan of PREPARED explained that 10 percent of its budget goes to local grants. Requests for concept notes will be circulated in April 2014. The grants typically range up to $150,000 to cover 12 months. Larger and longer projects will be considered.

USAID has already provided direct assistance to regional bodies, including the East African Community and Regional Centre for Mapping of Resources for Development (RCMRD). Sam Weru of USAID stated that the cross-border working groups will be very important in encouraging governments to work closely with the East African Community.

The J.R.S. Biodiversity Foundation was suggested as another possible funding source. J.R.S. have expressed interest in regional collaborations on biodiversity informatics using interoperable platforms and information sharing. The MacArthur Foundation have also called for proposals in the Lake Victoria basin area. The basin area extends to western rift. Priority will be given to proposals covering areas of high biodiversity, threatened habitats and innovative livelihoods linked to biodiversity.

Honeyguide Foundation and Big Life Foundation have funding to develop SMART and offered to work with other partners in rolling out the system, based on matching funds. Save the Elephants offered training in MIKE protocols. Other funding possibilities include research grants from the National Science Foundation and other agencies. The Liz Claiborne Art Ortenberg Foundation (LCAOF) has funded the formation and development of the Borderlands Conservation Initiative to date and is open to further grant proposals based on widening the base of support.

CLOSING REMARKS

Fredrick Ambwene from the Tanzania Wildlife Division expressed gratitude to all the organisers and sponsors of the meeting. He urged that in future the meetings include an East African Community representative to help clarify questions that have been left unanswered. Florence Kulecho from the Kenya Wildlife Service then gave a word of thanks to LCAOF, TAWIRI, ACC and WCS. She stressed that in an Initiative like this, we need to work together and share our learning, and learn from our sharing.

> "Conservation today needs a large, landscape approach."
> – David Western, ACC

In his closing remarks David Western reiterated that the Kenya-Tanzania borderland is vital for elephant and lion conservation. Conservation of such large wide-ranging species calls for a large, landscape approach and crowd sourcing among conservationists, governments, communities and NGOs, based on clear collaborative agreements and sound science. The protection of large landscapes can only succeed if communities are the primary custodians of conservation. Governments have a vital role to play in creating the enabling environment for collaborative conservation. All of the work and most of the funds for conserving elephants, lions and other wildlife in the borderlands is provided by the partners, including governments, NGOs, researchers and communities. The collaboration ensures that additional donors can be assured of the long-term sustainability of the Borderland Conservation Initiative and effective use of their funds.

APPENDIX 1

Acronyms and Abbreviations

Full Name	Acronym
African Conservation Centre	ACC
Amboseli Conservation Program	ACP
Amboseli Ecosystem Trust	AET
Amboseli Trust for Elephants	ATE
African Wildlife Foundation	AWF
Frankfurt Zoological Society	FZS
Kenya Wildlife Service	KWS
Planning for Resilience in East Africa Through Policy, Adaptation, Research and Economic Development	PREPARED
School for Field Studies	SFS
South Rift Association of Land Owners	SORALO
Save The Elephants	STE
Tanzania National Parks Authority	TANAPA
Tanzania Wildlife Research Institute	TAWIRI
The Nature Conservancy	TNC
Tanzania People and Wildlife Fund	TPWF
Ujamaa Community Resource Trust	UCRT
United States Agency for International Development	USAID
Wildlife Conservation Society	WCS
Tanzania Wildlife Division	WD
Wildlife Management Area	WMA
Zoological Society of London	ZSL

APPENDIX 2

Workshop Agenda

Conserving Elephants and Lions in the Tanzania-Kenya Borderlands
Arusha
17th & 18th March, 2014

Monday 17th March

Opening session		Chair: *Charles Foley*
08.30	Welcome address	*Tanzania Wildlife Research Institute*
08.50	Conservation priorities for elephants and lions in the borderlands region	*Fredrick Ambwene, Tanzania Wildlife Division*
09.10	National conservation priorities in the borderlands region	*Charles Musyoki, Kenya Wildlife Service*
09.30	Overview of the Cross-border Initiative	*David Western, African Conservation Centre*
09.45	Goals and agenda of the workshop	*Charles Foley, Wildlife Conservation Society*
10.00	Tea break	
Plenary Session: **Progress report on developments since Arusha 2012**		Chair: *Johnson Sipitiek*
10.30	Community engagement and program activities, Kenya	*John Kamanga, South Rift Association of Land Owners*
10.50	Program activities, Tanzania	*Damian Bell, Honeyguide Foundation and Wayne Lotter, PAMS Foundation*
11.10	Databases and integration	*David Kimanzi, Save The Elephants and Victor Mose, Amboseli Conservation Program*
11.40	Lion meeting	*Laly Lichtenfeld, Tanzania People and Wildlife Fund*
12.00	Information coordination and communication	*Peadar Brehony, South Rift Association of Land Owners*
12.30	General discussion & setting up breakout groups	
13.00	Lunch Break	
Breakout Sessions		Chair: *Rose Mosha*
14.00	Parallel breakouts:	
•	Strengthening and coordinating community conservation	Chair: *Edward Loure*
•	Monitoring, research, standards and data integration and access	Chair: *Lucy Waruingi*
•	Terms of collaboration, agreements, MOUs and coordination	Chair: *John Kamanga*
•	Integration with government and East African Community	Chair: *Dennis Ikanda*
16.00	Tea Break	
Plenary Session		Chair: *Charles Trout*
16.30	Presentation of breakout reports	
17.00	Discussion of recommendations	
17.30	End of session	
Special Session on Community-based Wildlife Security		
18.00	Increasing effectiveness and reducing costs of anti-poaching activities on community lands	*Damian Bell, Honeyguide Foundation*
18.30	SMART Monitoring (Spatial Monitoring and Reporting Tool)	*Valeria Shirima, Wildlife Conservation Society*

Conserving Elephants and Lions in the Tanzania-Kenya Borderlands
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Tuesday 18th March

	Plenary session	Chair: *David Western*
08.30	Summary recommendations from breakout sessions	
09.00	Discussion and distillation of action plans	
09.30	Collaboration, roles and coordination	
10.30	Tea Break	
	Closing session	Chair: *Lucy Waruingi*
11.00	Program partnerships and funding.	*Open discussion*
11.45	Closing remarks: Borderlands Initiative	*David Western, African Conservation Centre; Charles Foley, Wildlife Conservation Society*
12.00	Closing remarks and vote of thanks	*Florence Kulecho, Kenya Wildlife Service*
12.15	Closing remarks	*Tanzanian government*
	Lunch and Departures	

Appendix 3

Meeting Attendees

Organisation	Name	E-mail
African Conservation Centre	David Western	jonahwestern@gmail.com
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Tanzania People and Wildlife Fund	Charles Trout	trout@afrpw.org
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Tanzania Wildlife Research Institute	Rose Mosha	carnivoreaction@habari.co.tz
Tanzania Wildlife Research Institute	Alex Lobora	alexlobora@gmail.com
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Absent with Apology		
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United States of America Department of State	Elizabeth Wharton	whartones@state.gov
US AID	Mary Hobbs	mhobbs@usaid.gov

APPENDIX 4

Information about key organisations

The Liz Claiborne Art Ortenberg Foundation is a private body devoted to the conservation of nature and the amelioration of human distress. The Foundation seeks to redress the breakdown in the processes linking nature and humanity. It concerns itself particularly with matters of species extinction, habitat destruction and fragmentation, resource depletion and resource waste. It favours solutions that directly benefit local communities and serve as exemplars for saving species and wildlands. It recognizes the imperative to reconcile nature preservation with human needs and aspirations.

The Foundation devotes a substantial portion of its funding to developing countries. It therefore recognizes the destructive connection between poverty, over-population, high infant mortality, cultural traditions that dehumanize women, inequitable land distribution and the subsequent degradation of the land and the systems the land supports.
The Foundation emphasizes conservation through cooperation, persuasion and the development of sustainable economic alternatives to resource depletion.

African Conservation Centre (ACC) is a not-for-profit Non-Governmental Organization dedicated to the development of African conservation excellence. ACC places emphasis on a three tier approach of integrating Knowledge, Environment and Livelihoods in resolving principal problems facing Biodiversity Conservation in East Africa. To achieve this, ACC serves a number of complimentary functions: Forging interdisciplinary approaches to Conservation advanced training, Research into issues with broad application and policy implications
.
In its formative years, ACC pioneered research methods in Ecosystems research and Ecotourism. It also pioneered Community-based Conservation concepts and practices. ACC selects pilot Conservation projects with a high chance of success and broad application in these areas ACC believes in saving African wildlife through sound Science, local initiatives, and good Governance. A primary aim is to bring together the people and skills needed to build East Africa's capacity to conserve Wildlife.

ACC achieves its Mission through programs that conserve Ecosystems and maintain continuous and open Landscapes and those that improve the incomes and Livelihoods of local Communities through the sustainable utilization of Wildlife and Natural Resources.
ACC also seeks to establish strong Community-based institutional structures that address common and salient conservation and livelihood challenges. ACC's conservation programs are based on a multi-pronged approach. Although the African Conservation Centre's core mandate is conservation, this cannot take place in a vacuum. Communities impacted by conservation activities must become part and parcel of the total Conservation efforts. To this end, Scientists studying the conservation of Fauna and Flora or any other Natural Resources increasingly engage with Communities that share the relevant Ecosystems with the subjects of Conservation.

The Wildlife Conservation Society (WCS) was founded in 1895 and has its headquarters at the Bronx Zoo in New York, USA. WCS works globally to save wildlife and wild places, and currently manages about 500 conservation projects in more than 60 countries.

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Mission statement: The Wildlife Conservation Society saves wildlife and wild places worldwide. We do so through science, global conservation, education and the management of the world's largest system of urban wildlife parks, led by the flagship Bronx Zoo. Together these activities change attitudes towards nature and help people imagine wildlife and humans living in harmony. WCS is committed to this mission because it is essential to the integrity of life on Earth.

WCS in Tanzania: WCS has been active in Tanzania for nearly 60 years (since 1956), supporting over 140 projects that encompass training, research, monitoring, institutional support, education, and the gazettement and extension of National Parks and Nature Reserves. WCS employs its traditional strengths in Tanzania such as a focus on fieldwork, science, and solid community and government partnerships, and is helping to develop community-based initiatives through which local people will benefit from key habitats, and thus have an interest in their long-term survival and integrity. WCS is also committed to supporting government and non-government institutions manage and monitor key landscapes and species.

The WCS Tanzania Program has regional offices in Arusha, Iringa, Mbeya and Zanzibar. There are currently four site-based landscape projects: the Southern Highlands, the Tarangire-Simanjiro Ecosystem, the Ruaha Landscape and the Zanzibar Forests. In addition there are research projects nationwide including in the Serengeti, Rukwa, Udzungwa Mountains and the Indian Ocean reefs, as well as national programs that focus on wildlife corridors, elephant conservation management, human-wildlife conflict, remote sensing, geographical information systems and education. WCS also supports and works alongside the Tanzanian Wildlife Research Institute (TAWIRI), Tanzania National Parks (TANAPA) and the Divisions of Forestry and Beekeeping (FBD), and Wildlife Division (WD).

ACKNOWLEDGEMENTS