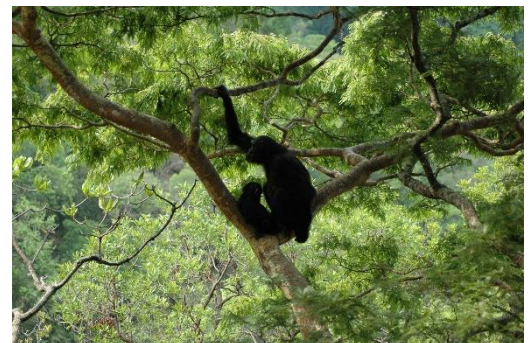
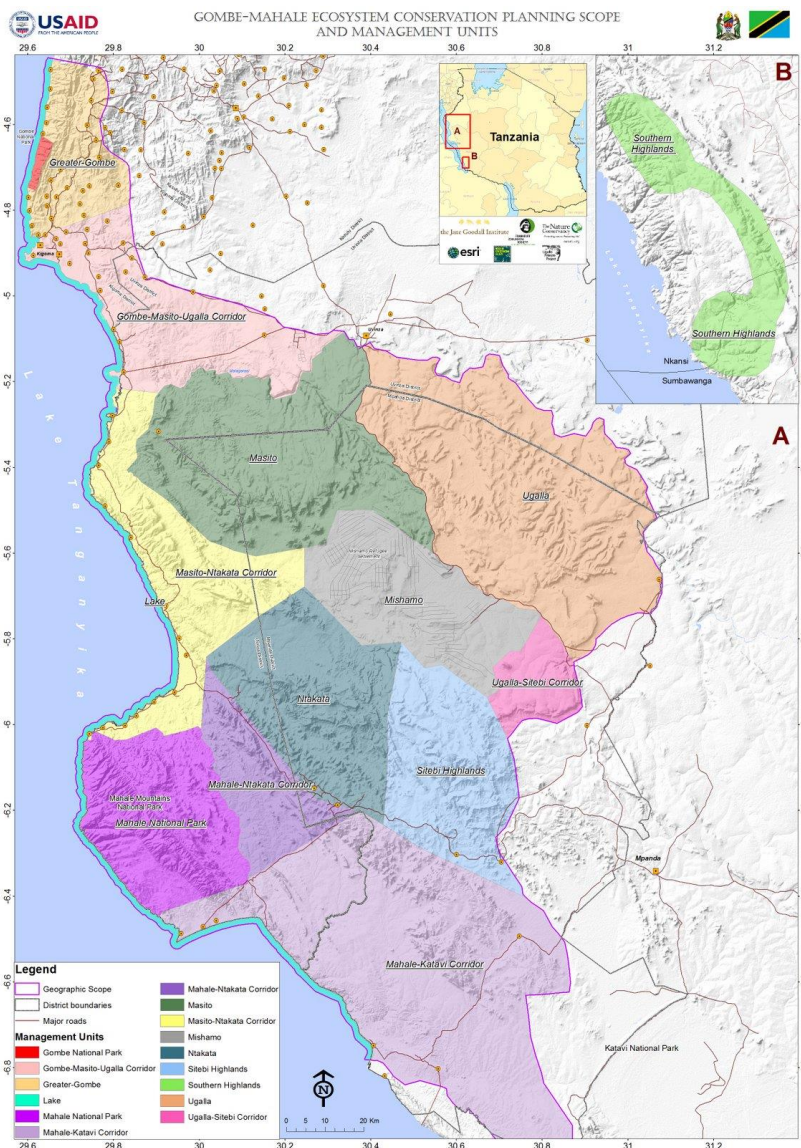




Gombe-Mahale Ecosystem Conservation Action Planning, v 2.0



About this Document

This document contains results from a workshop in March 2015 designed to develop the second iteration of a strategic plan for the Greater Gombe-Mahale Ecosystem (GME). This work is based on several earlier planning efforts based in this region. It follows the general methodology and approach of the [Open Standards for the Practice of Conservation](#), linked to spatial analyses using GIS and remote sensing data. This document contains elements from the high-level plan for the overall program area as well as templates for more specific project-level plans that can be undertaken within the overall program area. This document could also serve as the basis for the next iteration of a Tanzanian National Chimp Conservation Plan.

As with any adaptive management effort, the information in this plan is not set in stone, but is meant to change over time. You can download the latest version of the information in this plan from [MiradiShare.org](#), either as a Miradi file or as a document. In cases in which there are discrepancies between the information in the Miradi file and this document, the Miradi file should be considered the authoritative record.

Acknowledgements

The planning process in March 2015 was made possible by the generous support of the American people through the United States Agency for International Development (USAID). Previous iterations of this planning process was made possible by the generous support from The Great Ape Conservation Fund of the United States Fish & Wildlife Service and USAID. WCS and several other NGOs also provided financial support for this process. The March 2015 workshop was funded by the US Agency for International Development. The contents of this report are the responsibility of the Core Planning Team and do not necessarily reflect the points of view of the USFWS, USAID or the Government of the United States of America.

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Please cite this report as follows: TANAPA, TAWIRI, WD-MNRT, USFWS, USAID, CBSG, FOS, FZS, JGI, TNC & WCS. 2015. Gombe-Mahale Ecosystem Conservation Action Planning, v 2.0. This work is licensed under the Creative Commons **Attribution-ShareAlike 4.0** License. To view a copy of this license, visit <https://creativecommons.org/licenses/by-sa/4.0/>.

Gombe-Mahale Ecosystem Conservation Action Planning, v 2.0

1. Program Scope, Vision & Team

Program Spatial Scope

From 2006-2009, a series of multi-stakeholder meetings were held to develop action plans for conservation for the Greater Gombe, Masito-Ugalla, and the Greater-Mahale Ecosystems. This combined region is home to approximately 95% of the chimpanzees in Tanzania as well as many other key species and ecosystems. In 2010, 40 people who represented 25 institutions from government agencies, local and international NGOs, and key research organisations studying chimpanzees, worked together to review and update information from these regional conservation plans, and used this information to design a suite of measurable conservation strategies to abate the most critical threats to chimpanzee viability, from a national perspective. In March 2015, we convened key experts and stakeholders to systematically revisit these plans and their subsequent implementation to develop a multi-stakeholder shared conservation plan for the greater Gombe-Mahale Ecosystem (hereafter “GME Program Area”).

As outlined in Map 1-1, the scope of this program includes a number of specific project management units. These units were delineated to incorporate key biodiversity areas (determined through a Marxan analysis and participatory mapping exercises with key experts) and meaningful resource management boundaries.

- Gombe National Park
- Greater Gombe Ecosystem (outside of the park)
- Masito Ecosystem (including Uvinza Forest Reserve)
- Ugalla Ecosystem (including Tongwe East Forest Reserve)
- Ntakata Forest
- Mahale National Park
- Mahale-Sitebi Highlands
- Southern Highlands (the area of the Chimp population)

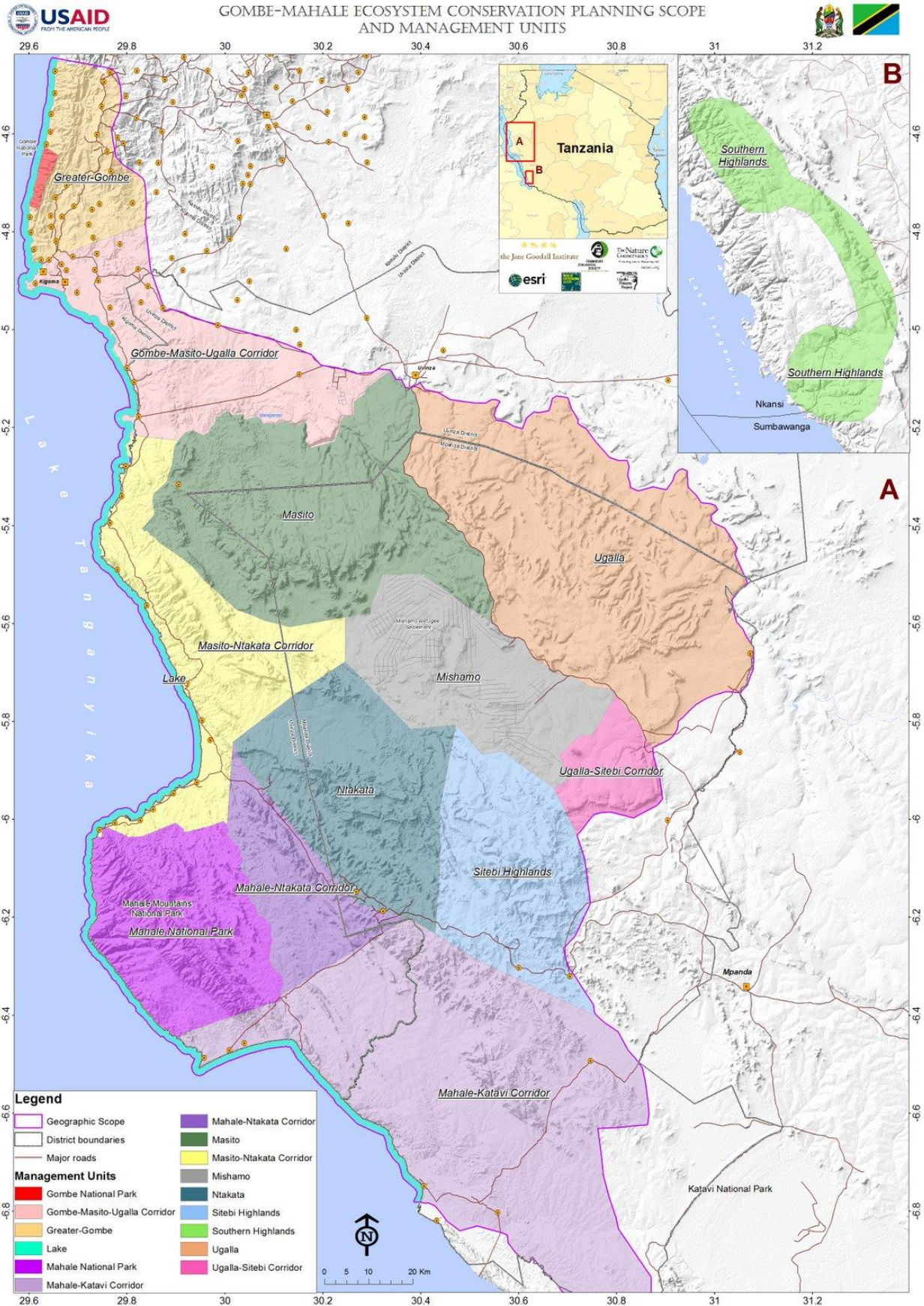
- Greater Gombe – Masito Corridor
- Masito-Ntakata Corridor
- Ugalla-Sitebi Corridor
- Mahale-Katavi Corridor

- Lake Tanganyika to 1.6 km from shoreline adjacent to these Core Conservation Areas

The scope explicitly does not include Katavi National Park, which is an important conservation area in its own right with its own management needs. We still need to decide where the Eastern border of this area should be based on additional research work. Areas with low biodiversity and high human

Map 1-1. Overview of the Greater Gombe – Mahale Ecosystem

See text for description of management units.



impact (e.g. Kigoma, Mishamo Settlement) are within the core scope only as “zones of influence” inhabited by stakeholders who impact our core targets in our scope (the “threat-shed”). This scope intersects with parts of four political districts in Tanzania (Kigoma Rural, Uvinza, Mpanda, and Nsimbo) who are key partners in this work.

Program Long-Term Vision and Temporal Scope

Our vision over the coming decades is:

A greater Gombe-Mahale Ecosystem in which chimpanzees, elephants and other globally important biodiversity and ecosystem functions are conserved, habitat connectivity is maintained, and natural resources are managed in a way that sustains or improves local livelihoods for the benefit of present and future generations.

To reach this long-term vision, we will work in an iterative and adaptive fashion, revisiting this plan in at least 5-year increments.

Program Team

Agencies / organizations involved in developing this plan are shown in Table 1-1. This group is considered the “Program Team” for this work. Key individuals involved in this plan are shown in Annex A.

Table 1-1. Organizations and Agencies Involved in Developing this Plan

Apologies for any inadvertent omissions.

Group	
Conservation Breeding Specialist Group	Nsimbo District Council
Duke University	Roots & Shoots
EARTH	Rukwa Regional Government
Felisa	The Nature Conservancy
Forestry and Beekeeping Division	TONGWE Trust
Foundations of Success	TZ Fisheries Research Institute (TAFIRI)
Frankfort Zoological Society (FZS)	TZ Forest Service Agency (TFS)
Greater Gombe Mahale Katavi Ecosystem (GGMK) Steering Committee	TZ Ministry of Energy
Gombe Stream Research Center	TZ Ministry of Natural Resources
Great Ape Research Institute (GARI)	TZ National Parks (TANAPA)
Great Ape Survival Project (GRASP)	TZ Wildlife Division
IUCN – Primate Specialist Group	TZ Wildlife Research Institute (TAWIRI)
Jane Goodall Institute (JGI)-USA/TZ	Ugalla Primate Project
Katave Regional Government	UN High Commission on Refuges (UNHCR)
Kiogma District Council	University of Minnesota
Kigoma Regional Government	USAID
Kwitanga Prison	USDA Forest Service
Lincoln Park Zoo	Uvinza District Council
Mpanda District Council	Wildlife Conservation Society (WCS)
National Env. Mngmt. Council	

2. Conservation Targets

Ecosystem Targets

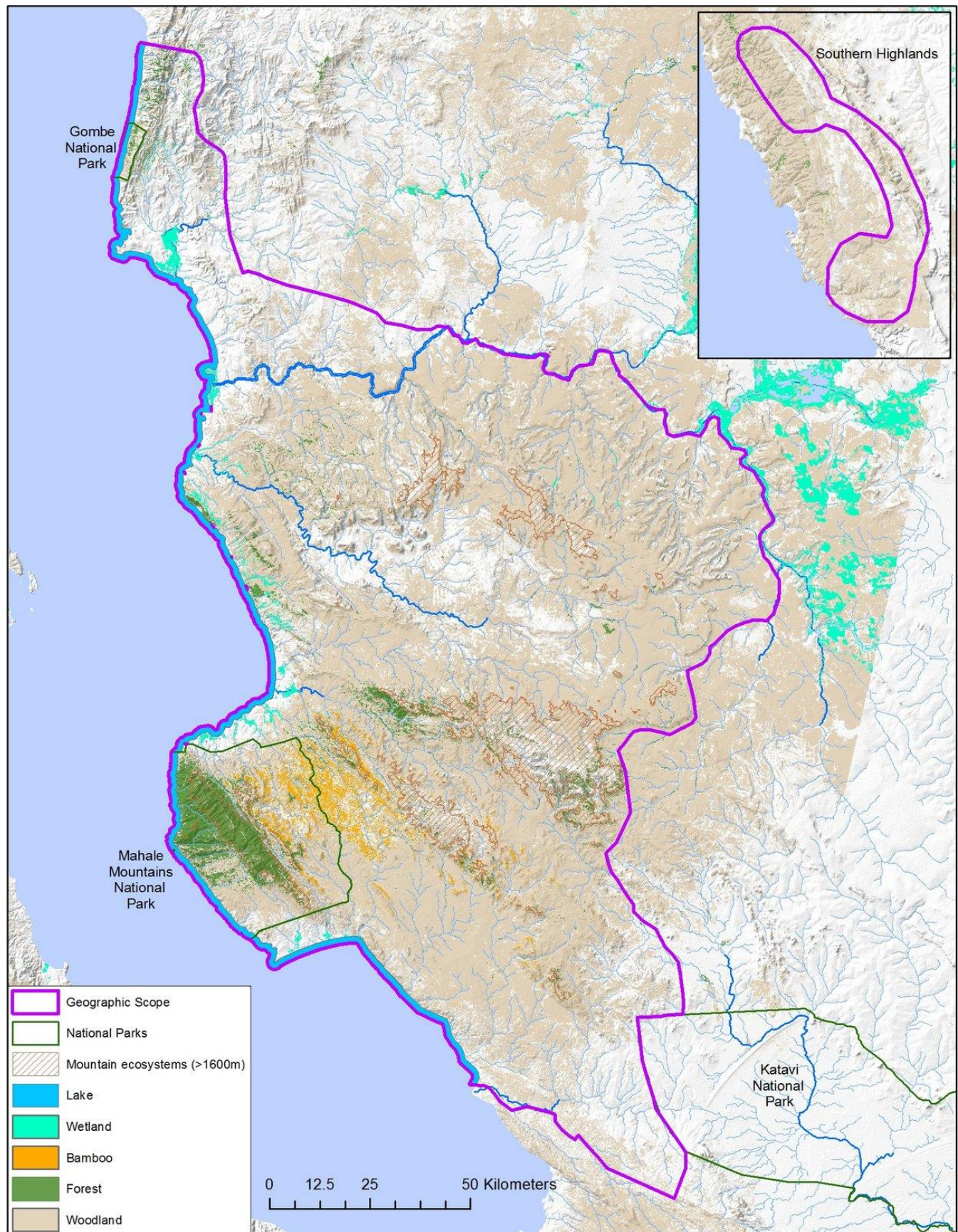
We selected five ecosystem targets (four terrestrial and one aquatic) to represent the major ecosystem types in the GME Program Area as shown in Table 2-1 and Map 2-1. Each of these ecosystems provides habitat for key “nested species.” A detailed map of the Forest and Woodland viability status by management unit is shown in Map 2-2. Detailed viability information is in Annex 3.

Table 2-1. Ecosystem Targets in the GME Program Area

Target	Description	Key Nested Species	Viability Status (Current & Change)	
● Evergreen Forest	Forest ecosystem in which the majority of the trees are non-deciduous. Tends to be wetter. Includes both riverine and upland patches.	Primary chimp habitat for feeding and nesting Red colobus, red-tailed, blue monkeys	Poor	The overall extent of the Evergreen Forest has been substantially reduced, especially outside protected areas. What remains is often fragmented and with large gaps and a heavy presence of invasive species.
● Miombo Woodland	Mixed woodland including genus <i>Brachystegia</i> spp. providing food and shelter for elephants and other species as well as charcoal, wood and NTFPs for local communities.	Elephants for food and cover, antelope diversity Chimpanzees make limited use of this habitat type for nesting/ food	Fair	Extent of Miombo Woodland reduced from charcoal burning, subsistence / refugee agriculture expansion and commercial agriculture. What remains is fragmented and missing key fauna.
● Montane Ecosystems	Higher elevation regions with intact forest providing critical water catchment, evergreen forests (chimp nests in dry season), grasslands.	Habitat for chimpanzees (nesting) and select mammals (e.g. colobus)	Very Good	In general, this ecosystem type is still in reasonably good shape based on area, presence of key orchids, ratio of grasslands to forest mosaic.
● Bamboo Forest (?)	Is not clear whether bamboo is native or an exotic species – additional research is needed.	Foraging habitat for chimps	??	Need to determine whether this is desirable habitat and whether we want it to increase, stay stable, or decrease.
● Rivers & Wetlands	Evergreen gallery forests, Malagarasi, Ugalla & other key rivers and their watersheds. Includes wetlands associated with river systems and associated bird diversity.	Chimpanzee, antelope, elephant, primates	Poor	This ecosystem has been degraded based on % of watershed forested, intactness vegetation in corridor, sedimentation in key fishery habitat areas, water quantity – dry season flow.

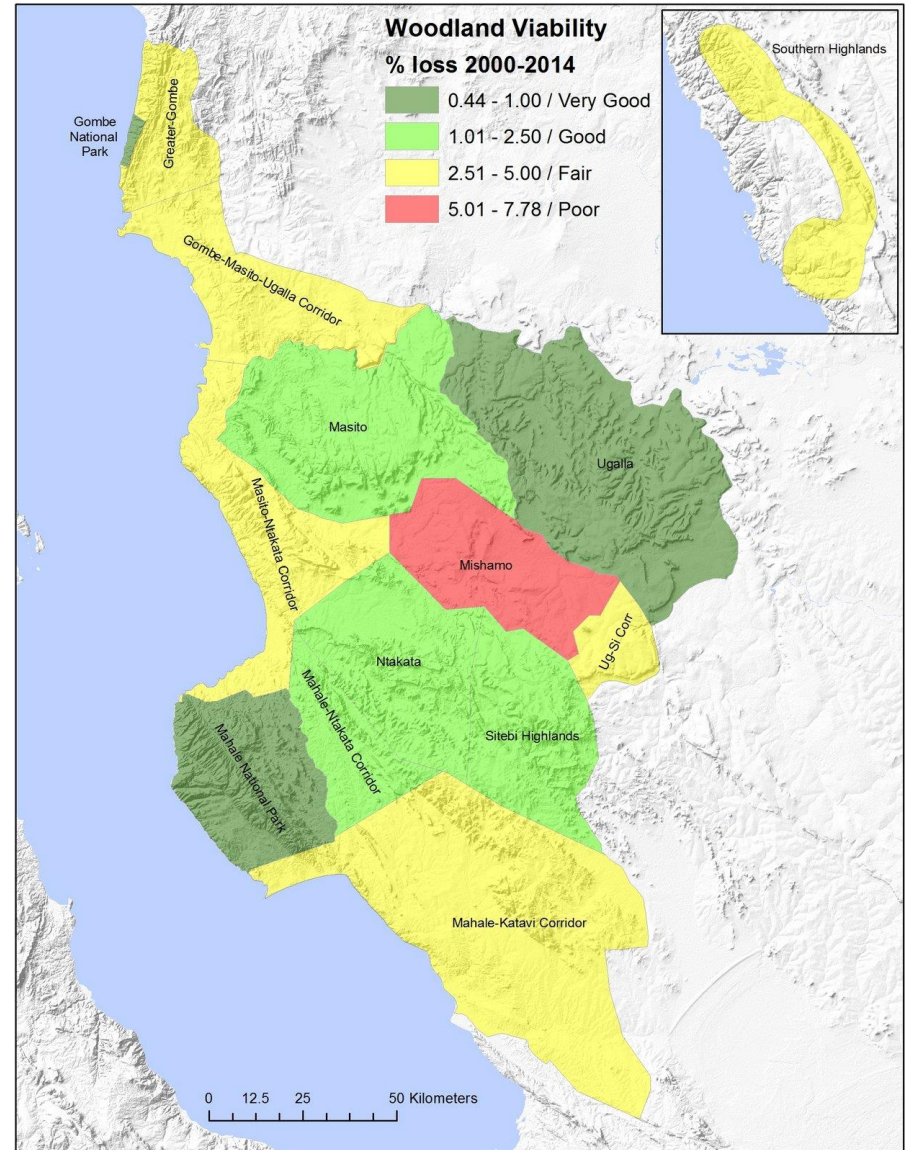
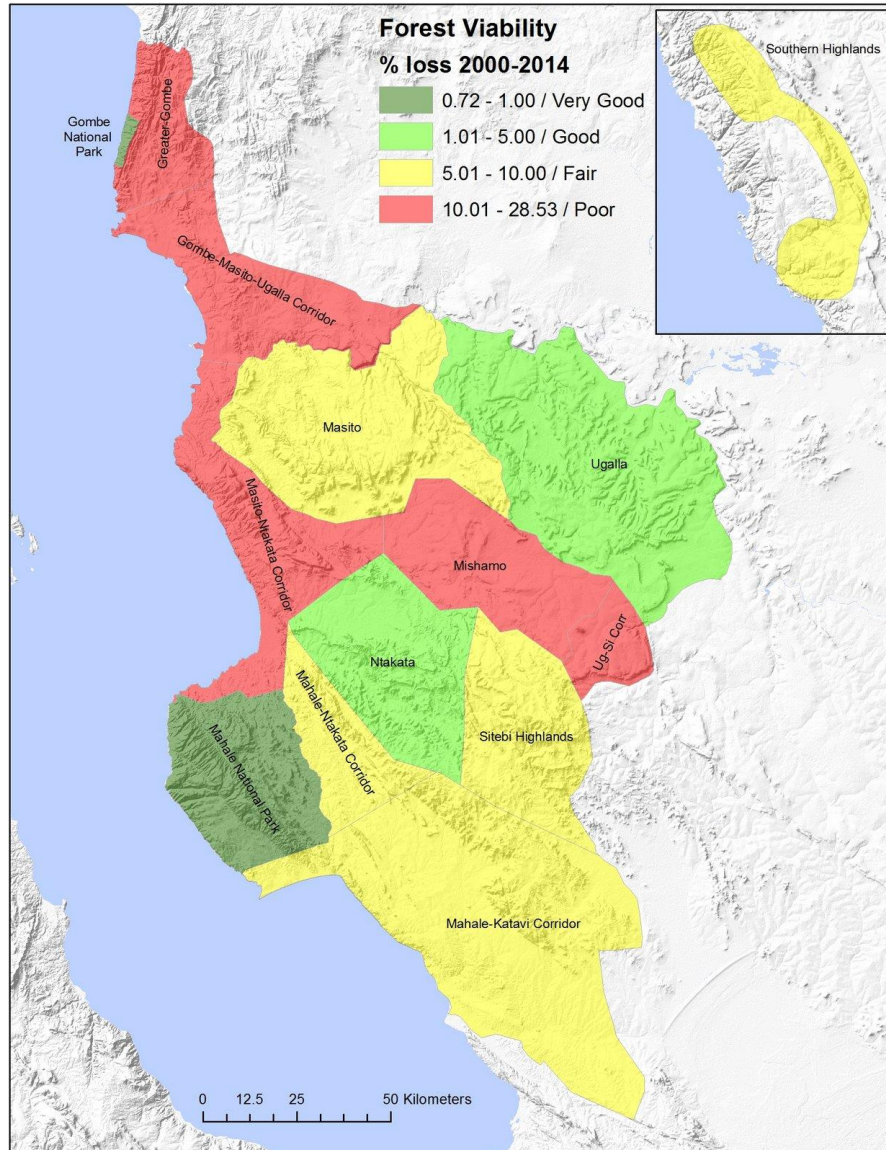
Map 2-1. Overview of Ecosystem Target Footprints in the GME Program Area

This map shows the current spatial distribution of key ecosystem targets in the GME Program Area.



Map 2-2. Viability of Evergreen Forest and Woodland Ecosystem Targets

The following maps show a more detailed breakdown of viability analysis for both evergreen forest and woodland targets. These analyses are based on remote sensing assessments of one KEA – change in extent of forest as measured by % loss of tree cover within the target footprint from 2000 baseline values. Note that over time, we can update these maps to include additional KEAs shown in Annex 3.



Species Targets

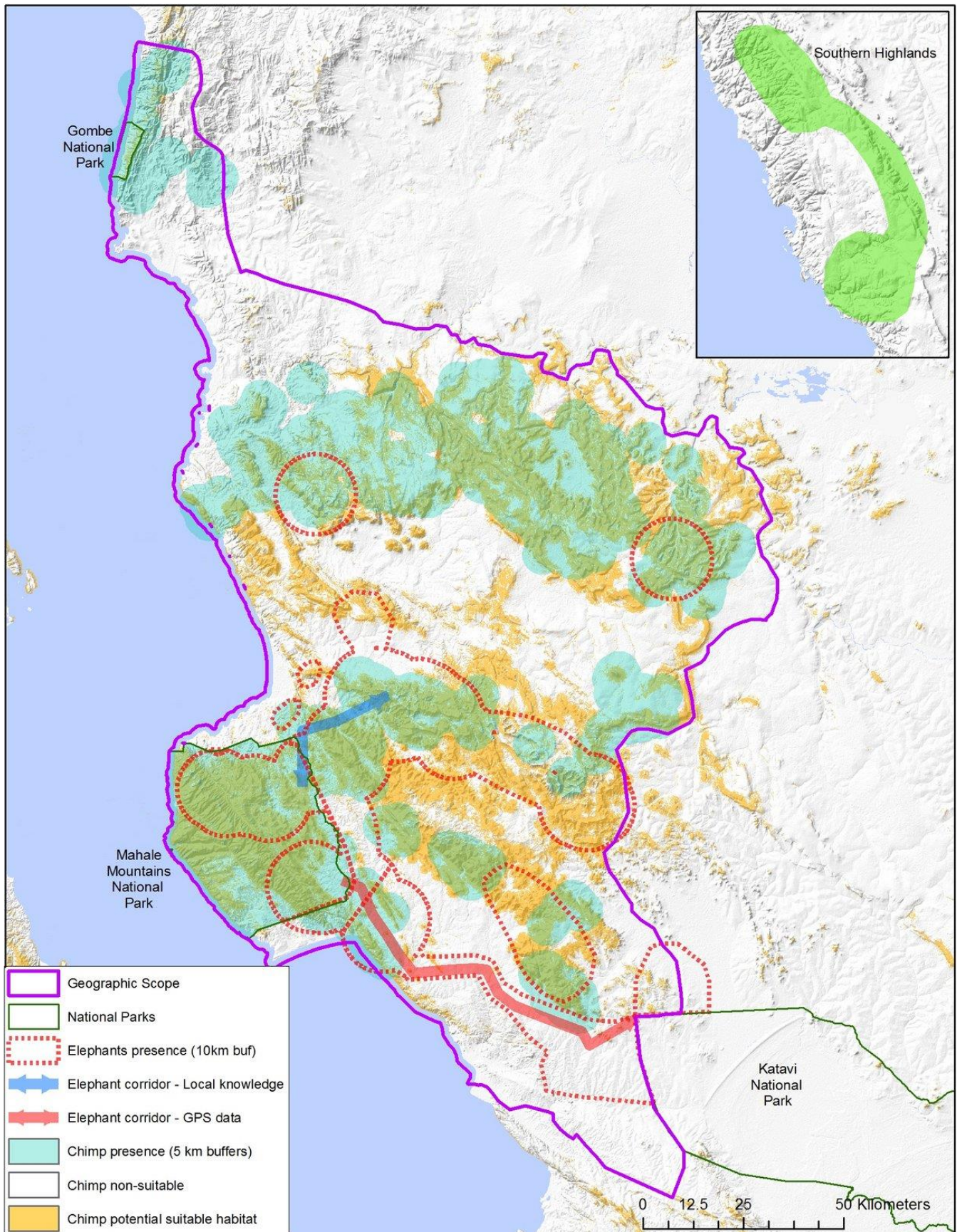
Conservation of the habitat targets listed above should conserve most of the nested species within them. However, we determined that there are at least three taxa that face special conservation requirements and thus are explicit species targets as shown in Table 2-2 and Map 2-3. For these species, we are concerned with the species populations themselves as well as their core habitat and key corridors that allow the species to travel between core habitat areas. For this analysis we have treated the Greater Gombe, Masito-Ugalla, Greater Mahale and Southern Highland Chimp populations as separate targets to maintain continuity with previous CAP analyses. In the future, however, we may wish to have overall chimp and then chimp corridor areas as separate targets, with then sub-targets corresponding to our overall management units for this work (see Annex B2).

Table 2-2. Species Targets in the GME Program Area

Target	Description	Viability Status (Current & Change)	
● Greater Gombe Chimps	Mitumba, Kasekela, Kalande, Kwitanga, and Zashé Chimp Communities in Gombe National Park and surrounding lands. This population is very well studied with detailed life histories of individual animals. In 2010 CAP it was estimated that the habitat could sustain 223 individuals with 2009 estimates at 130 individuals.	Fair ↓	Status of chimps inside park was <i>good</i> in 2010 and is still <i>good</i> in 2015, although there is growing concern based on population size, inter-group dynamics, range habitat availability, and connectivity to metapopulation. Status of chimps outside the park has changed from <i>fair</i> to <i>poor</i> based on increasing human development and habitat loss.
● Masito – Ugalla Chimps	Chimps in this region are generally found in riverine forest and woodland mosaic throughout this area. This population is not well studied except the Issa population. In 2010 CAP, it was estimated that there were 940 individuals. In 2014, the estimate was 576 individuals with an estimated 5,000 km ² of forest habitat available.	Good ↓	Status was <i>good</i> in 2010 for both Masito and Ugalla. In 2015, status of Ugalla remained <i>good</i> but status of Masito was changed to <i>fair</i> based on changes in habitat availability.
● Greater Mahale Chimps	Chimp populations both within Mahale National Park and in surrounding areas east of the park. In 2006, it was estimated that there were about 600 individuals in Mahale NP, 1482 in Mahale East, and over 600 outside the park.	Good ↘	Status was <i>good</i> for both Mahale NP and Ntakata in both 2010 and 2015. Status of the Mahale-Katvai Corridor declined from <i>fair</i> to <i>poor</i> due to loss of habitat and connectivity.
● Southern Highlands Chimps	Isolated and small (estimated in 2010, 60-80 individuals) population to the south of Mahale Ecosystem potentially connected by corridor.	Poor ↓	Status changed from <i>fair</i> in 2010 to <i>poor</i> in 2015 due to shrinking population and loss of habitat. Need to make urgent decision to either invest heavily in this population or triage.
● Elephant Populations	Historically elephants maintained a wide presence in the GME landscape. Elephants play an important ecological role in maintaining landscapes for other species and are facing unique direct threats, particularly poaching.	Poor ↓	Status changed from <i>fair</i> in 2007 to <i>poor</i> in 2015 based on decreasing presence.
● Elephant Connectivity	Elephant populations in Mahale depend on having a critical corridor to Katavi national park. This corridor also serves needs for other species.	Fair ↘	Status changed from <i>good</i> in 2007 to <i>fair</i> in 2015 based on loss of habitat and barriers to elephant “walkability.”
● Fish/Aquatic Biodiversity	Fish diversity both in streams and in the lake are important for assuring protein and income needs are sufficient in order to alleviate pressure on terrestrial wildlife (bushmeat).	Fair ?	Status was set at <i>fair</i> in 2015 based on changes in catch per unit effort for key harvested species and species diversity.

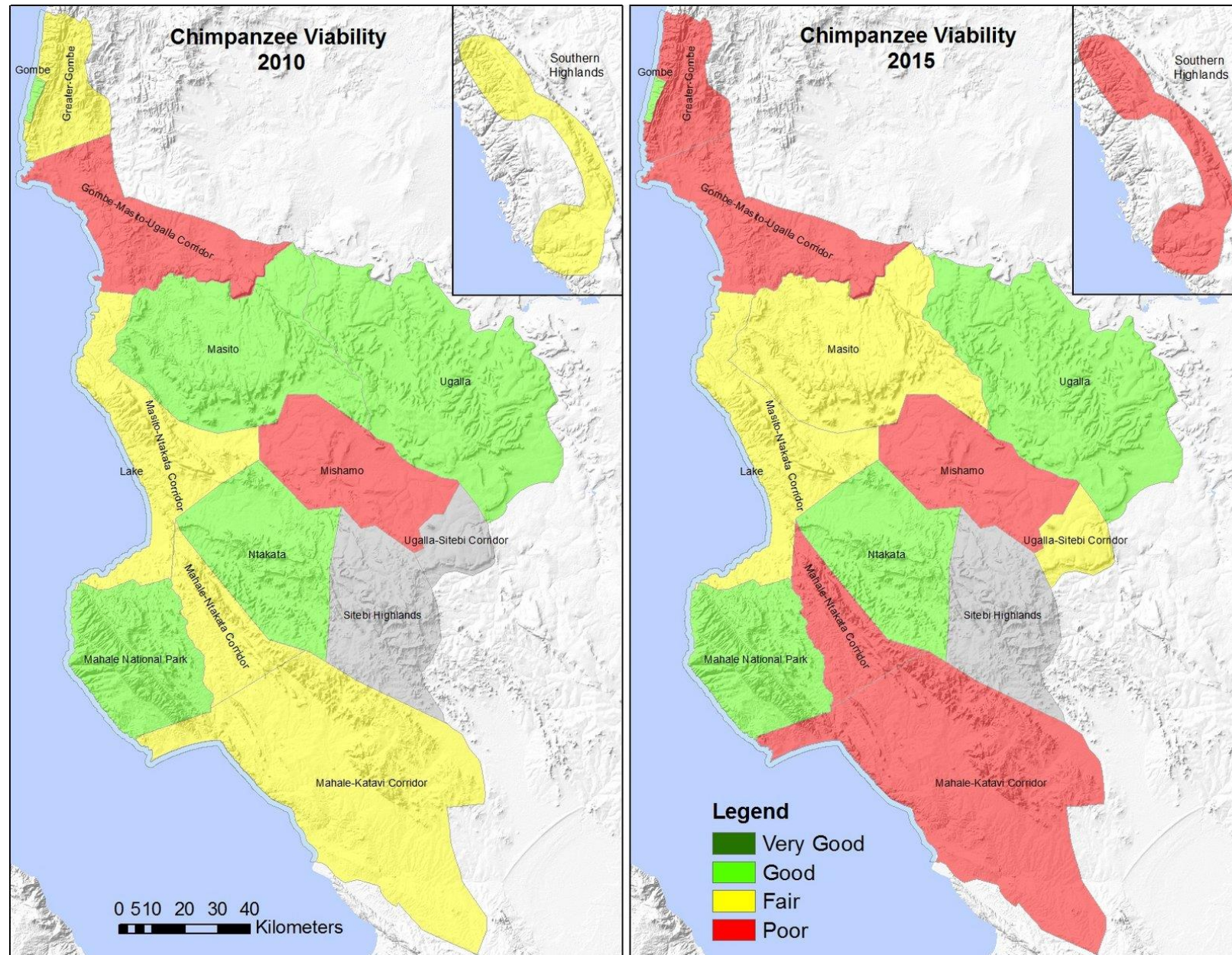
Map 2-3. Overview of Species Target Footprints in the GME Program Area

This map shows the current spatial distribution of key species targets in the GME Program Area.



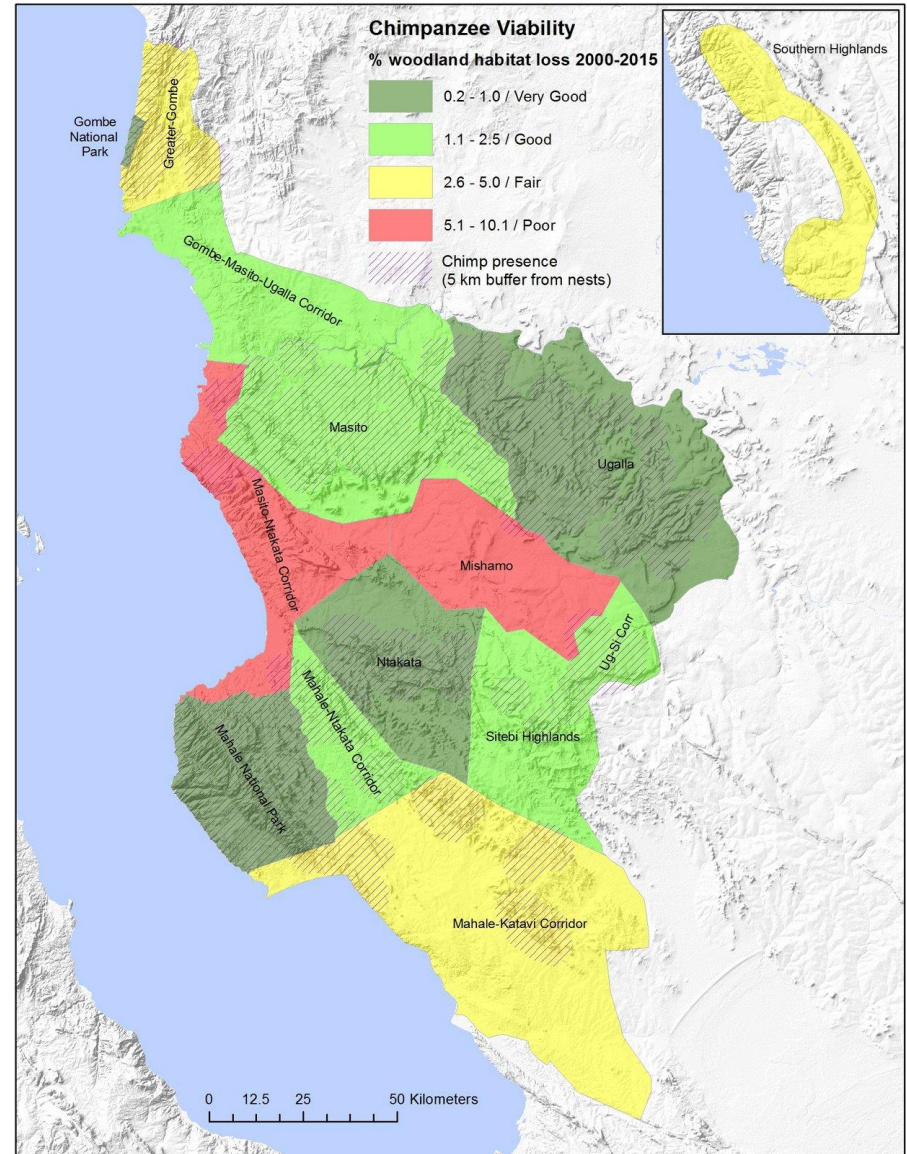
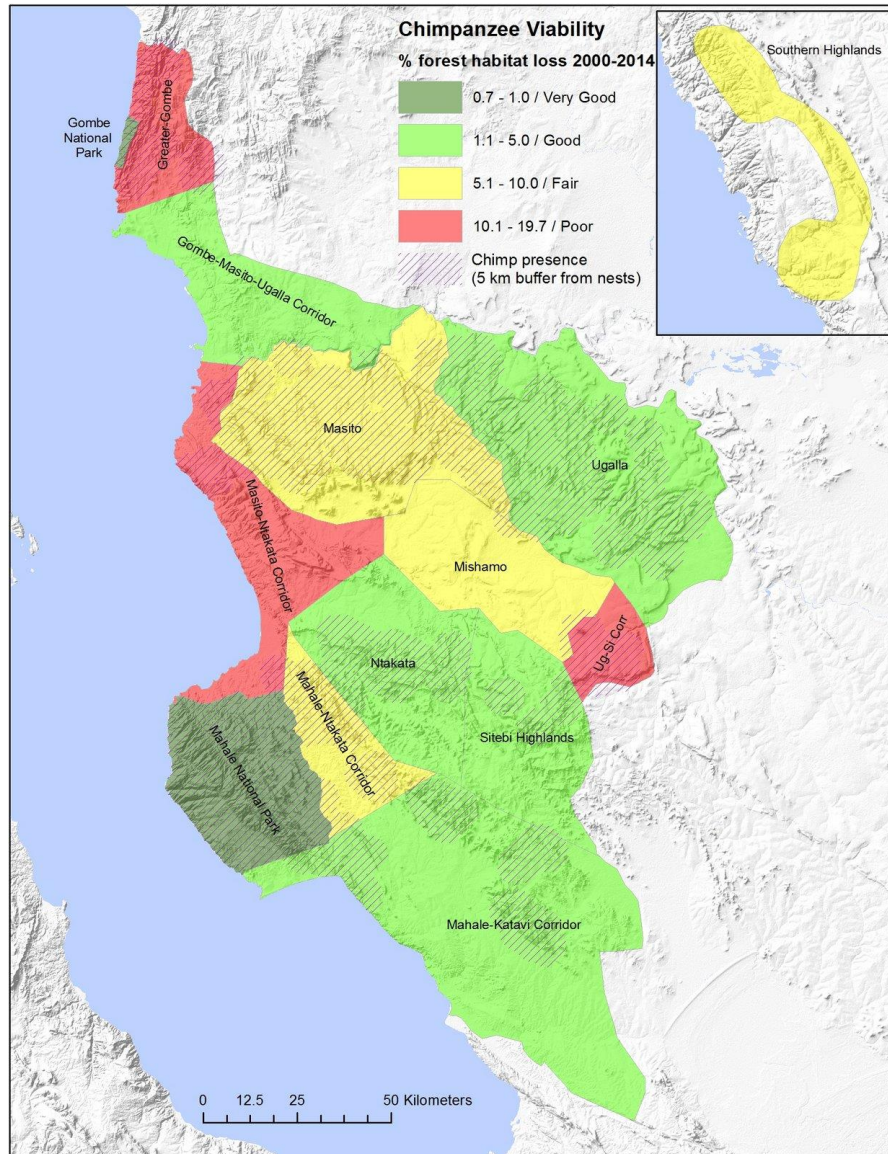
Map 2-4. Comparative Viability Status of Chimpanzees 2010 to 2015

These maps show the viability ratings assigned via expert assessment to chimps in each project area in 2010 compared to 2015.



Map 2-5. Viability of Chimpanzee Specific Habitat

These maps show the viability of evergreen forest and woodland habitat intersected with chimpanzee population footprints within each management unit.



Human Uses of Land and Natural Resources

The GME Program Area is home to many different people who depend on its natural resources for both subsistence and livelihoods. Key land and natural resources that are integral to this system are shown as human wellbeing targets in Table 2-3.

Table 2-3. Human Land and Natural Resource Targets in the GME Program Area

Target	Description & Rationale for Inclusion as Target	Current Viability Status	
● Agricultural Productivity	Majority of communities rely on subsistence agriculture for both food and income. Agricultural productivity depends on having access to fertile soils, sufficient water at the appropriate times, and minimization of human-wildlife conflict.	Fair ?	Status is probably <i>fair</i> based on assessment of farming conditions.
● Forest Natural Resources	Forests provide essential resources for human livelihood including building materials, firewood, medicines, watershed maintenance and others. They are central to the long-term well-being of communities in the region. Some Village Forest Reserves have been established showing positive results for local communities.	Poor	Considerable deforestation rates throughout the GME region for evergreen forests in particular.
● Stable Watersheds	Increasing deforestation leads to watershed instability which causes damaging floods.	Fair ?	Deforestation, overgrazing, burning for charcoal all contribute to destabilizing watersheds
● Clean Water	Access to clean water a priority for communities for overall health and disease management.	Good	Most people still have access to water.
● Sustainable Fisheries	Fisheries in both watersheds and Lake Tanganyika are a core livelihood option for essential income and protein needs in the region. Collapse of fisheries would have considerable impacts on human and wildlife communities as reduction in fisheries would likely increase poaching.	Fair ?	Fish stocks diminishing based on catch-per unit effort assessments.

3. Critical Threats

Direct Threats to Targets

Table 3-1 contains a summary of all the direct threats that we identified for each of our conservation targets, rated in terms of scope, severity and irreversibility. Maps 3-1 to 3-4 contain examples of prioritized threats that have a spatial footprint. Over time, we can use these spatial maps to help calculate the scope and severity of threats to targets in a more precise and granular manner.

Table 3-1. Summary of Threats to Targets in the GME Program Area

Threats \ Targets	Evergreen Fo...	Miombo Woo...	Montane Eco...	Rivers & amp;...	Fish/Aquatic ...	Greater Gom...	Greater Mah...	Masito - Ugall...	Southern Hig...	Elephant Pop...	Elephant Con...	Bamboo Fore...	Summary Threat Rating
Incompatible Community Agriculture	High	High	Low	Very High		Medium	High	Very High	Very High	Very High	Very High	Not Specified	Very High
Deliberate Killing/Poaching						Low	Very High	Very High	Very High	Very High			Very High
Charcoal Production	Medium	High									High	Not Specified	High
Anthropogenic Disease						High	High	Medium	High				High
Uncontrolled Burning	Medium	High	Medium			High	Low	Low	High		Low	Not Specified	High
Increased Floods/ Droughts	High	Medium		High								Not Specified	High
Unsustainable Fishing					Very High								High
Incompatible Commercial Agriculture	Medium	Medium	Not Specified	Low							Very High	Not Specified	High
Inappropriate Livestock / Grazing	Low	High		Medium							Not Specified	Not Specified	Medium
Settlements/ Infrastructure	Medium	Medium		Low							High	Not Specified	Medium
Extraction of Key Species			Medium		Medium								Medium
Mining	Medium	Medium	Low	Not Specified	Not Specified						Not Specified	Not Specified	Medium
Logging, Timber & Firewood	Medium	Medium									Medium	Not Specified	Medium
Changing Temperatures					High							Not Specified	Medium
Sedimentation				Low	High								Medium
Roads	Medium	High									Medium	Not Specified	Medium
"Legal" Capture of Chimps						Low	Medium	Medium	Medium				Medium
Legal Game Hunting	Low	Low											Low
Big Hydro Dam				Low									Low
Oil & Gas Exploration / Development					Medium								Low
Summary Target Ratings:	High	Very High	Medium	High	High	High	High	Very High	Very High	Very High	Very High	Not Specified	Overall Project Rating: Very High

Prioritized Threats

Very High rated threats to the GME Program Area as a whole include:

- **Incompatible Community Agriculture** – This threat (Map 3-1) includes agriculture from both subsistence farmers and smallholder farmers who sell their crops, but does not include large-scale commercial agricultural operations. It includes both the expansion of agriculture into new habitat areas as well as the effects of inappropriate agricultural practices. It has a very high impact on *Rivers & Wetlands* whose fertile soils are sought after by farmers and a high impact on *Evergreen Forest and Miombo Woodland* ecosystem targets. It also has a very high impact on *Chimp* and *Elephant Populations*, especially those located outside of protected areas, because farming both directly affects core habitat but also brings humans into conflict with chimps and elephants who raid their crops. It also has a very high impact on *Elephant Migration Corridors*.
- **Deliberate Killing / Poaching** – This threat involves intentional illegal killing of protected animals such as *chimps* and *elephants*, for commercial trade, subsistence hunting, or as a result of human-wildlife conflict. This threat emerged as a much higher priority than had been expected prior to the workshop, in part due to impacts from refugee settlements (Map 3-4). Incidental death/injury also results from extensive and expanding hunting for bushmeat using snares.

High rated threats to the GME Program Area as a whole include:

- **Charcoal Production** – This threat involves commercial and subsistence production of charcoal from forests and woodlands. Extensive charcoal production networks exist in the GME area and threaten forested landscapes. With the development of road/transport networks and increasing populations in larger human settlements demand continues to increase.
- **Anthropogenic Disease** – This threat involves the transfer of human diseases such as polio, measles, shingles, influenza, and pneumonia to *Chimpanzee Populations*. This threat is increasing due to higher concentrations of humans and their domestic animals living near chimps, tourism, and extensive travel and road networks promoting the movement of people. While the incidence rate may be low it is considered a high level threat because any introduction of disease can have a large and devastating impact on affected populations of chimps.
- **Uncontrolled Burning** – This threat involves unmanaged fires that burn large areas of forest and other ecosystems. These fires come from settlements as well as agricultural practices and charcoal production. It has a high impact on *Miombo Woodlands* as well as on chimpanzees that can get caught in the fires or have critical habitat in their territory severely damaged.
- **Increased Floods / Droughts** – This threat stems from a combination of climate change impacts and deforestation that result in increased variability in rainfall and hydrological flows within the watersheds. These effects particularly threaten *Evergreen Forests* and *Rivers & Wetlands* ecosystem targets.
- **Unsustainable Fishing** – This threat involves overharvesting of fish from rivers and Lake Tanganyika which has an intensive commercial fishery. Most harvested fish is consumed locally but there is also a portion transported to other markets via road and air. The direct impact of overfishing has tremendous potential for negative economic and ecological declines in the region since the fishing industry is currently a major source of livelihood and income for the human populations in the region that would presumably become focused on forest and other natural resources if the fishery resource were to substantially diminish or collapse.

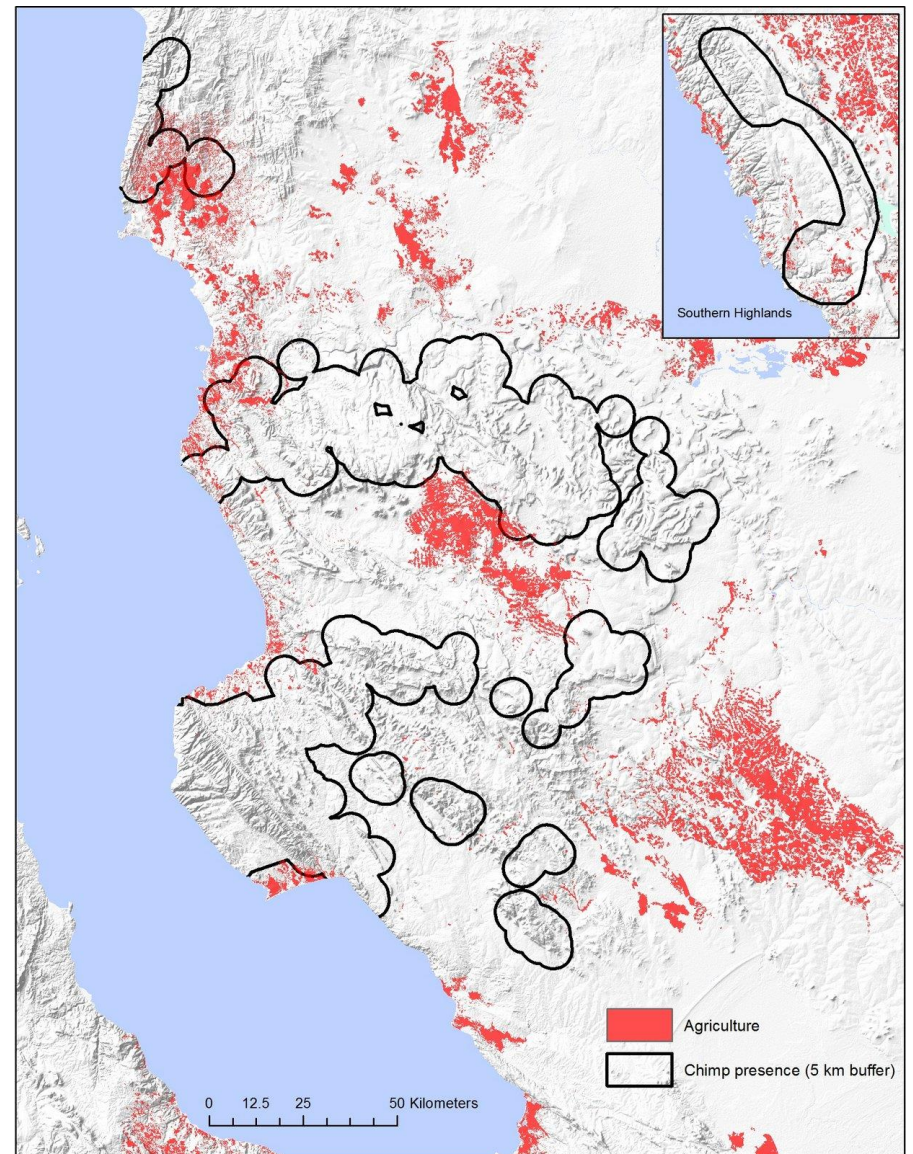
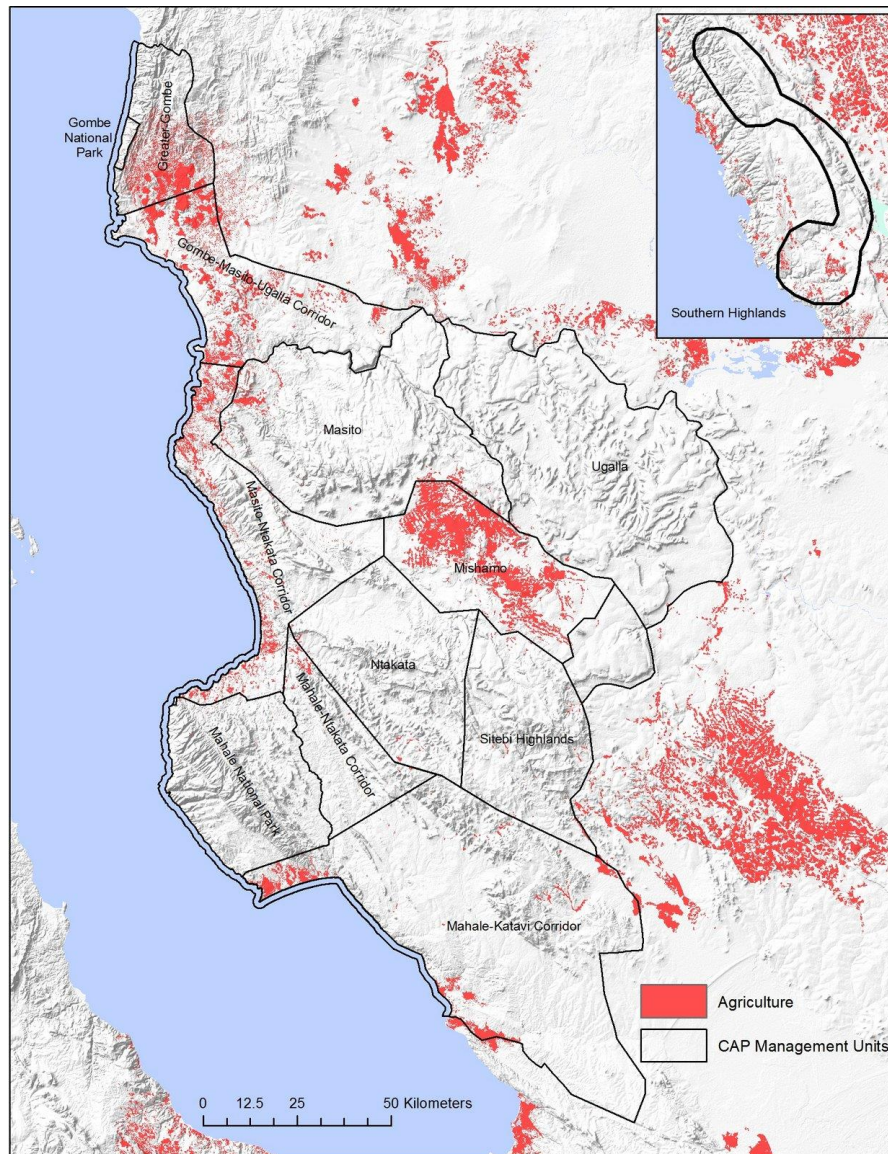
- **Incompatible Commercial Agriculture** – This threat includes larger scale commercial agricultural operations such as oil palm plantations. It was not foreseen when prior CAPs (2008-2010) were compiled, but has emerged on the landscape as a medium threat to both *Evergreen Forests* and *Miombo Woodlands* and a very high threat to elephant connectivity in the region (particularly in the corridor between Katavi and Mahale National Parks).

Medium rated threats to the GME Program Area as a whole that have a **High** impact on at least one target include:

- **Settlements/Infrastructure** – Human towns and villages that are both a threat in their own right, but also lead to many other threats. They particularly impact elephant and chimp corridors (Map 3-3).
- **Inappropriate Livestock Grazing** – This threat includes both direct grazing by cattle, goats and other livestock, their impacts on streams and wetlands, as well as agricultural practices such as burning used by livestock herders. It is a growing threat of considerable concern, particularly for *Miombo Woodland* and *Rivers & Wetlands*. The influx of immigrant pastoralists from the east who come to the region due to poor grazing conditions (driven by climate change, low rainfall) with large herds is adding to this threat.
- **Changing Temperatures** – This is another climate change linked threat which impacts different ecosystems. In particular, as surface temperatures of Lake Tanganyika have [increased over the last century](#) it reduces mixes of oxygen-rich surface water with nutrient-rich deep water that results in reduced primary productivity and overall productivity of the lake. Combined with overharvesting there is a challenge to long-term sustainability of fish stocks to meet demand.
- **Sedimentation** – Deforestation, soil destabilization, agriculture (commercial and subsistence) mining and infrastructure development contribute to increased sedimentation in river systems and Lake Tanganyika. Destabilized watersheds with increased sedimentation significantly impact fish diversity and density (up to 65% species richness declines have been recorded).
- **Roads** – Roads (Map 3-2) are a threat in their own right that destroy habitat, fragment ecosystems, and provide barriers to animal migration corridors. In addition, roads serve as catalysts for many other land use threats – once a road is built in an area, development and exploitation of the natural resources in that area generally follow. This threat will likely increase in the near future.

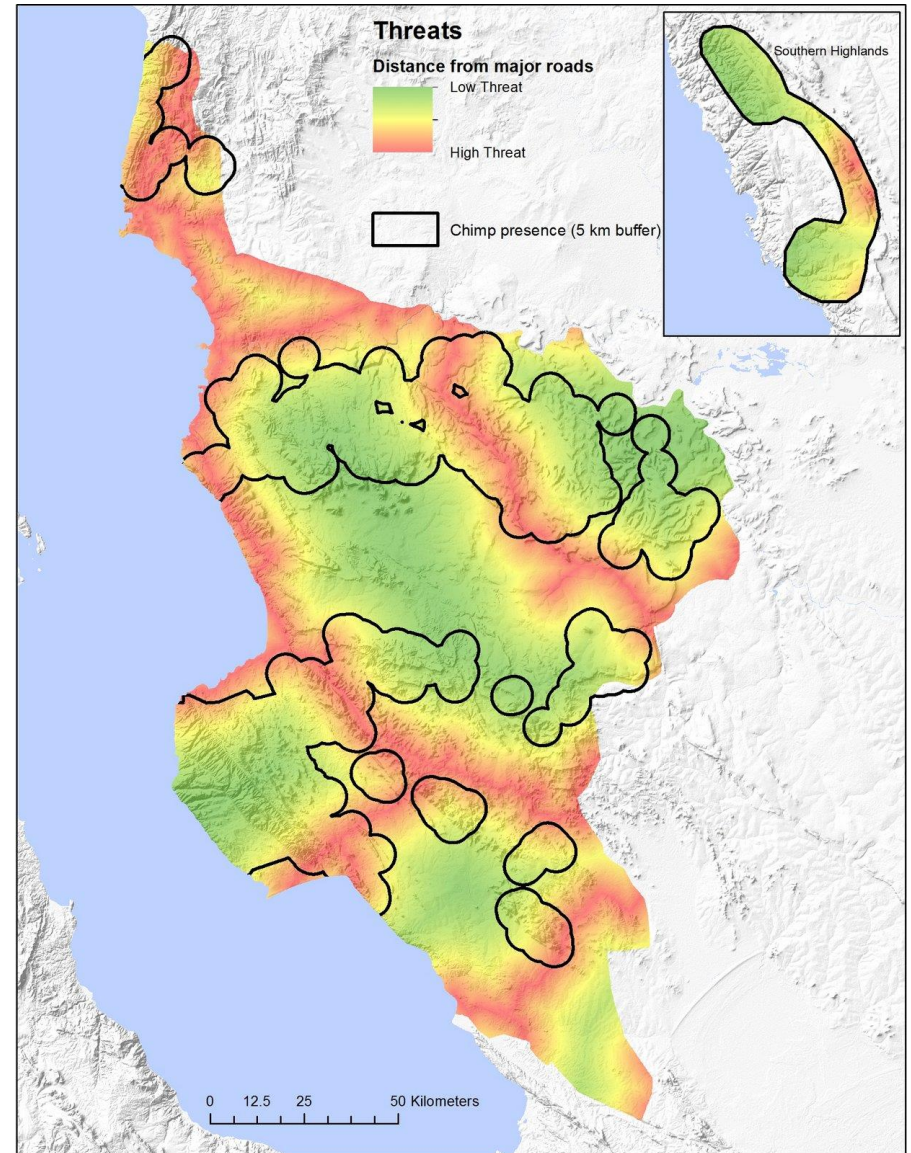
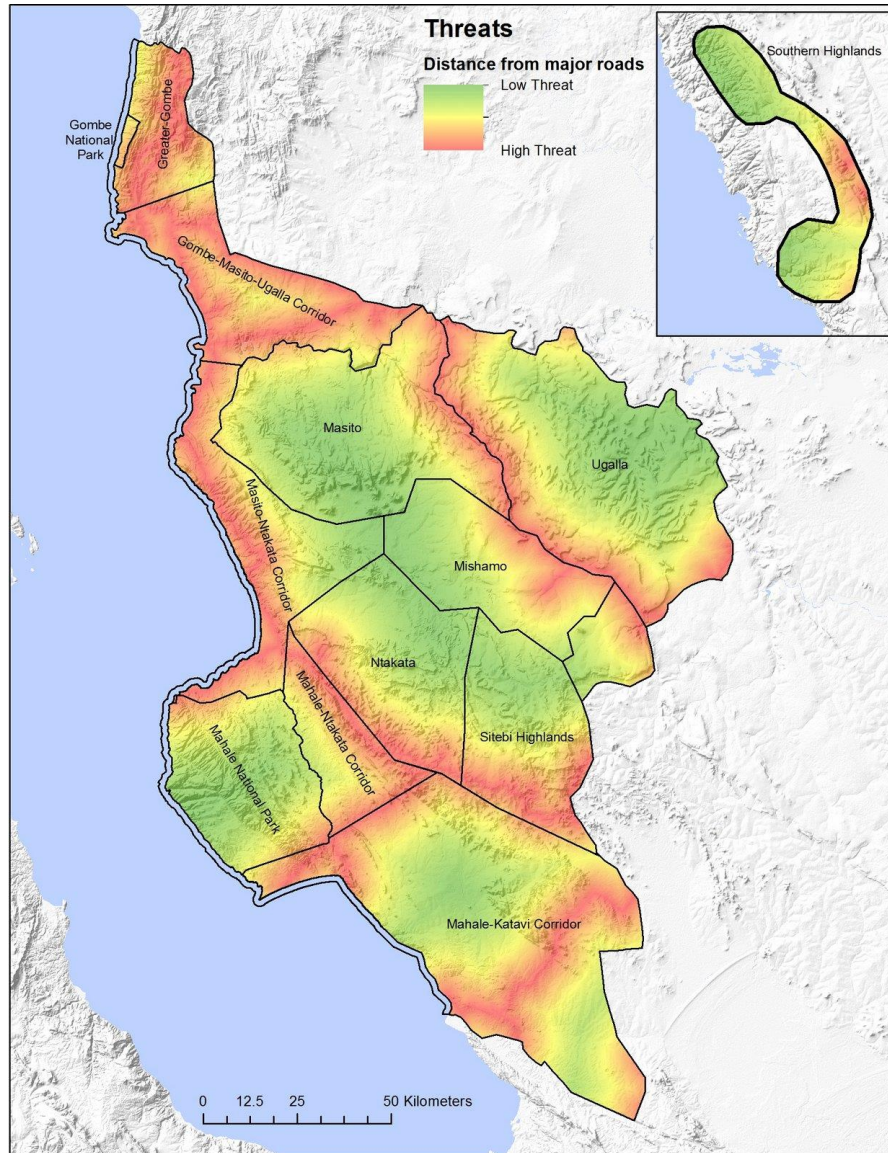
Map 3-1. 2015 Agriculture Threat Footprint in the GME Program Area

These maps show the footprint of agricultural activities across our management units (left) and chimp target footprints (right).



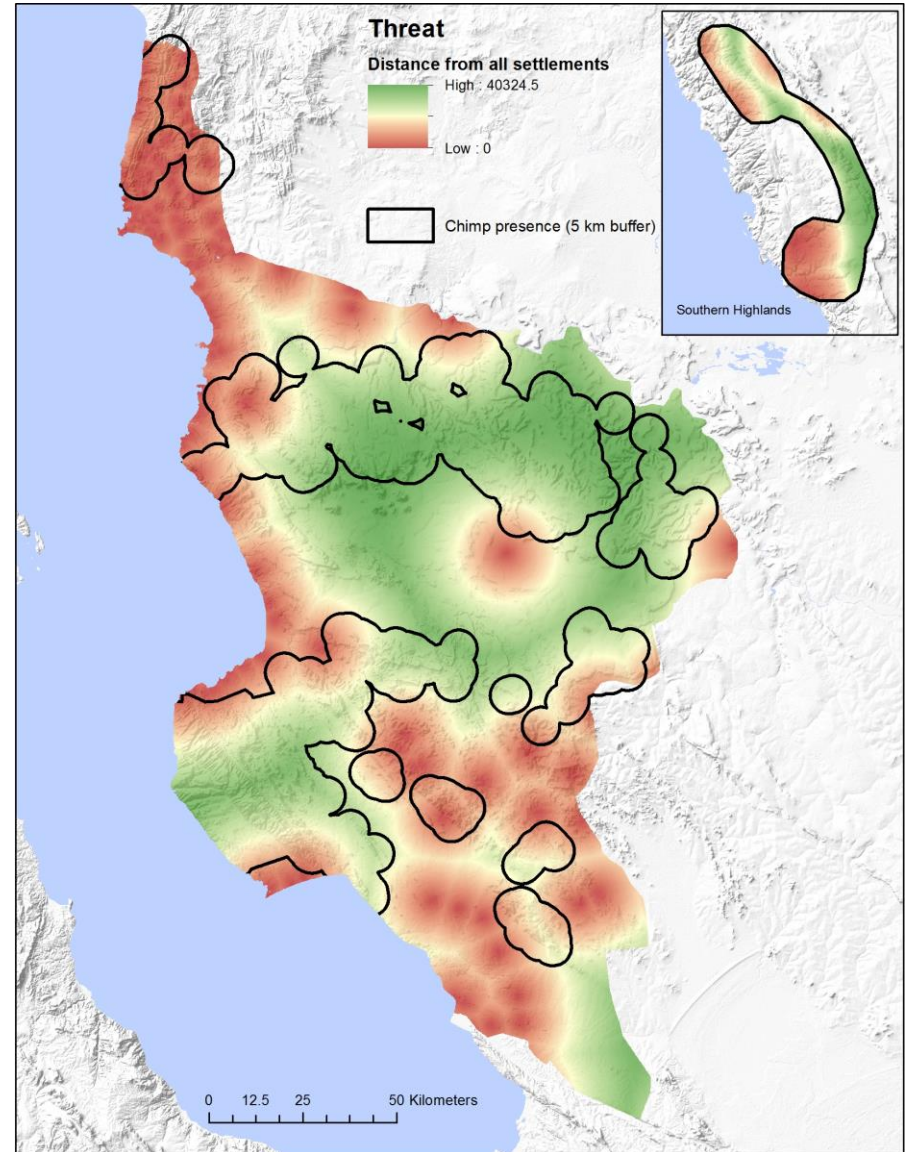
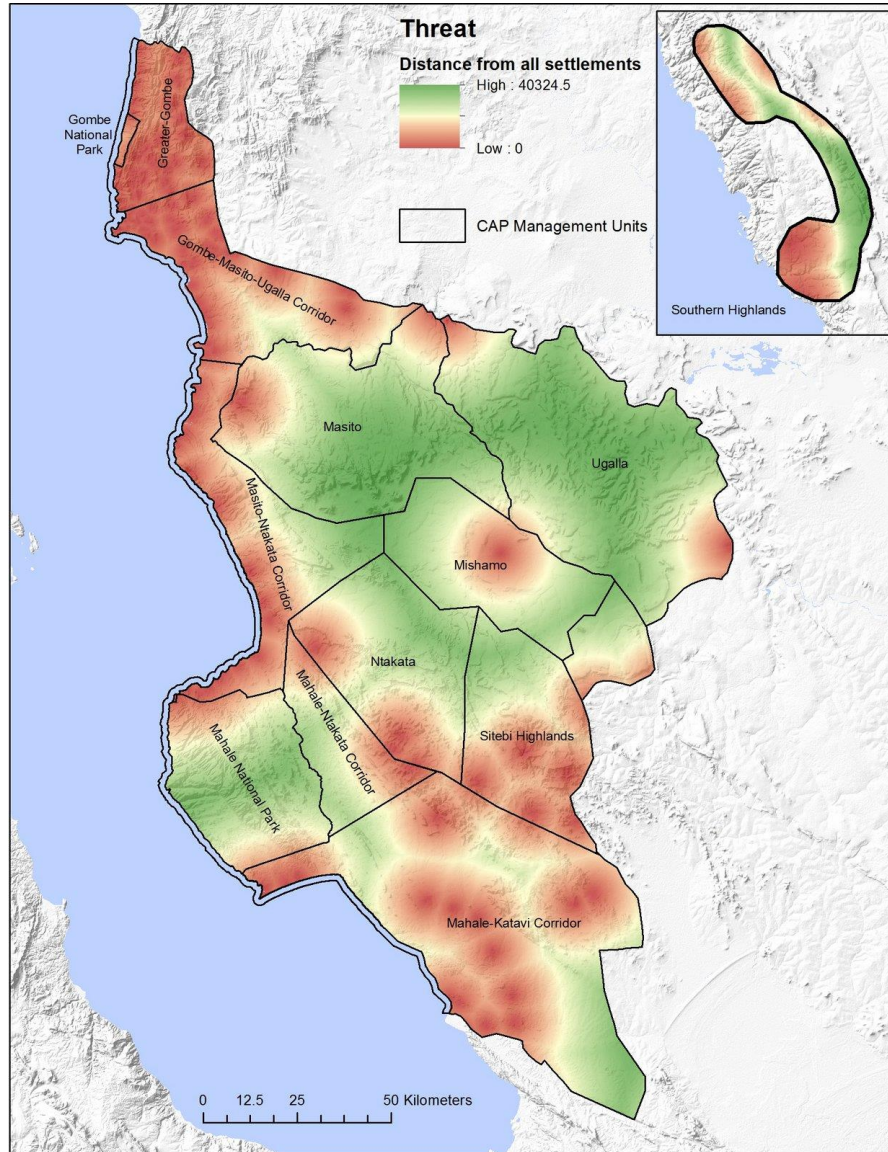
Map 3-2. 2015 Road Threat Footprint in the GME Program Area

These maps show the footprint of roads across our management units (left) and chimp target footprints (right). Colors indicate distance from a road.



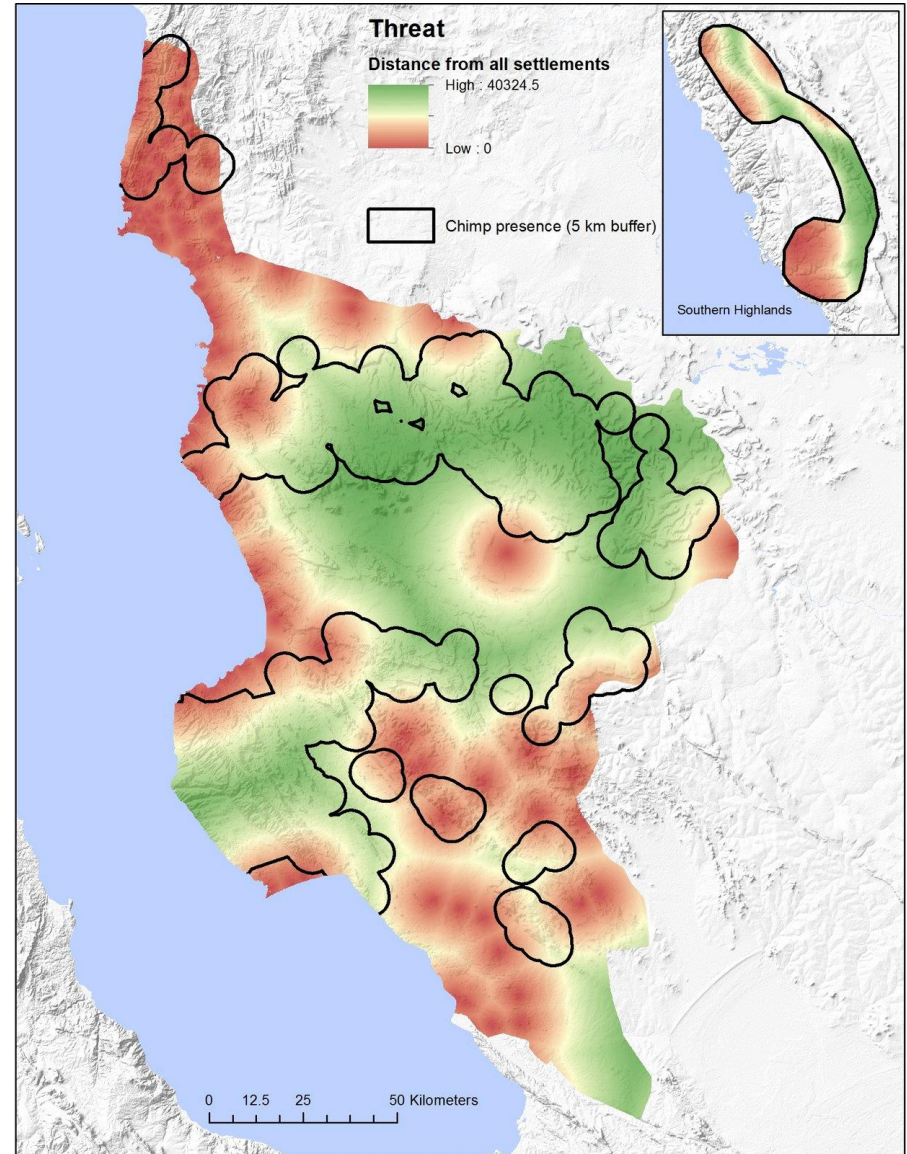
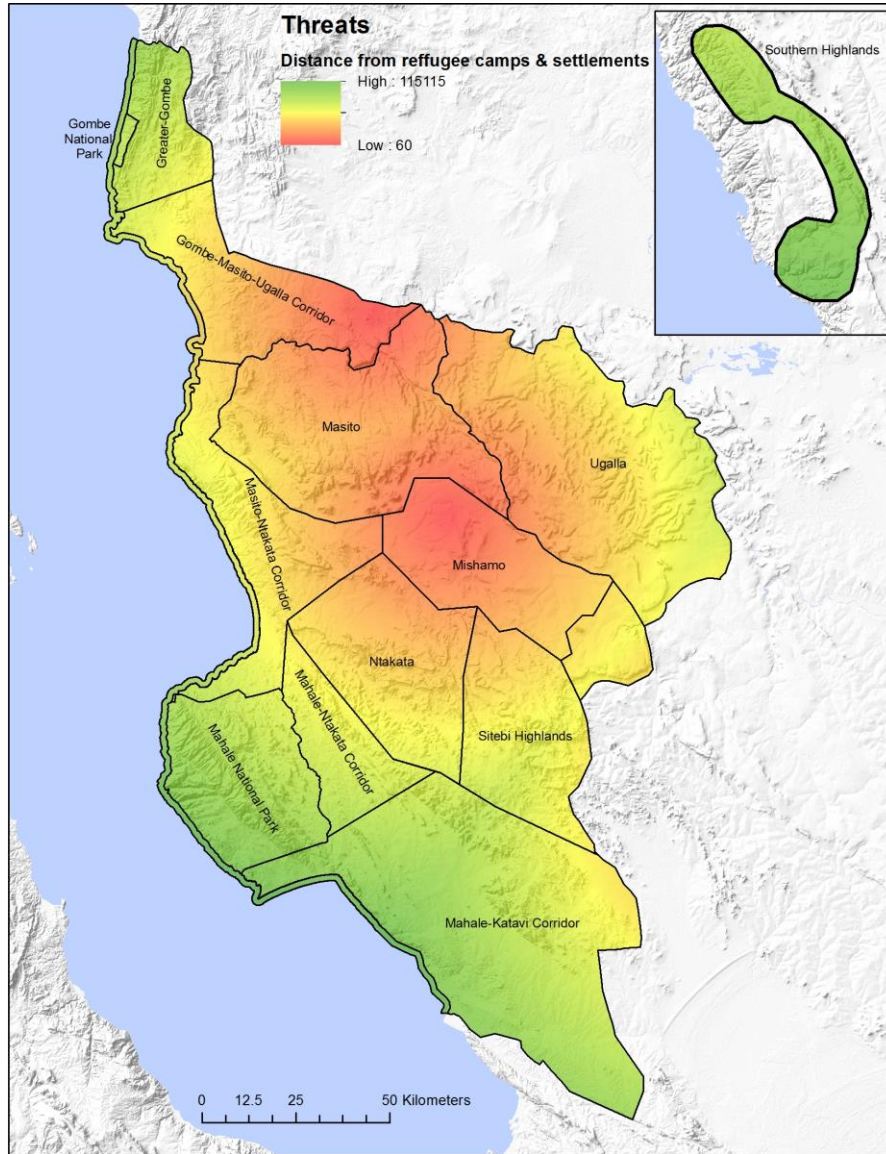
Map 3-3. 2015 Human Settlement Threat Footprint in the GME Program Area

These maps show the footprint of human settlements across our management units (left) and chimp target footprints (right). Colors indicate distance from a settlement, which is often a source of other threats.



Map 3-4. 2015 Refuge Settlement Threat Footprint in the GME Program Area

These maps show the footprint of refuge settlements across our management units (left) and chimp target footprints (right). Colors indicate distance from a settlement, which is often a source of poaching and other threats.



4. Situation Analysis

Figure 4-0. High-Level Situation Analysis for the GME Program Area. See next pages for more detailed analyses.

Key	
Direct Threat	Conservation Target
Contributing Factor	Human Wellbeing Target

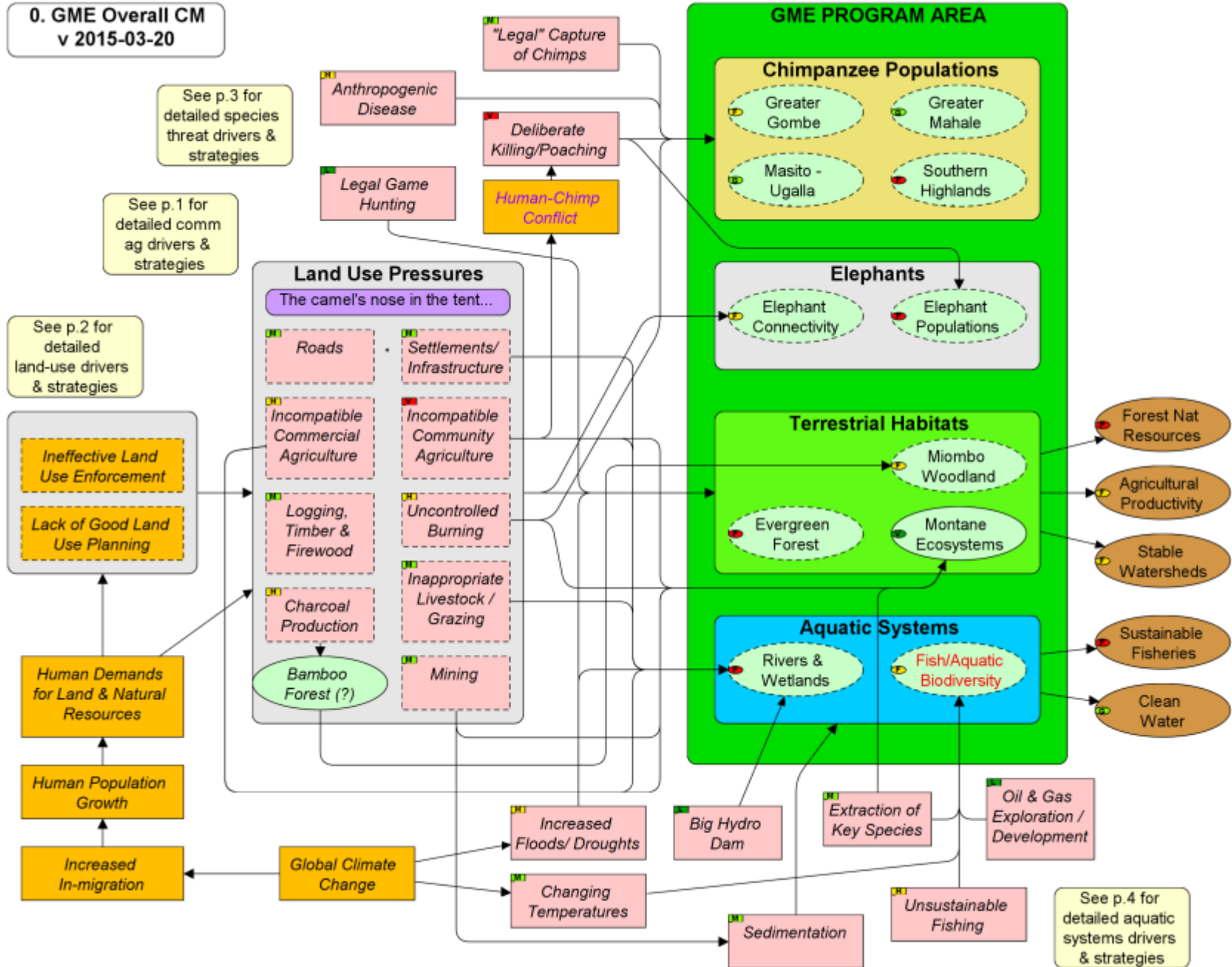
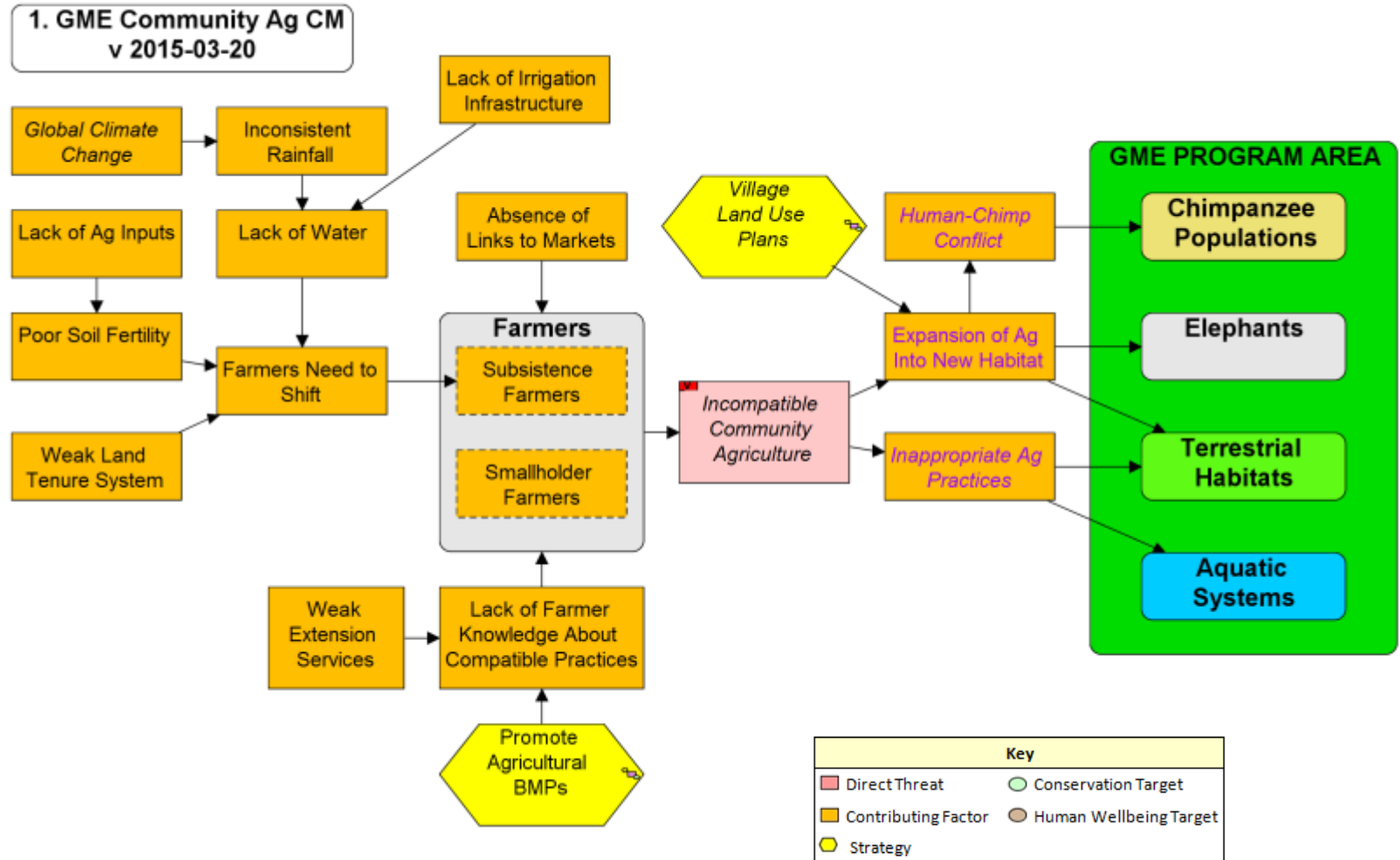


Figure 4-0 shows the overall situation analysis for the GME Program Area. The far right-hand side of this diagram shows the key *conservation targets* (green ovals) and *human well-being targets* (brown ovals) for this program. These targets and their viability status are described in greater detail in Section 2 of this report. These targets are impacted by a number of *direct threats* (pink boxes) which are described in more detail in Section 3 of this report. Many of these threats are different kinds of land use pressures, placed in the grey box in the center of the diagram. These threats are often difficult to disaggregate from one another as they interact with one another – for example mining might lead to roads which in turn might lead to new settlements or expansion of community agriculture. If one of these threats comes to a specific area, it is often “the camel’s nose in the tent” which leads to many other threats coming. Bamboo Forest is shown as a green oval but is placed with the direct threats because it is currently unclear whether it is a target or a threat. The remaining pink boxes show some of the threats that impact specific species and the aquatic systems. The threats are affected by a number of *contributing factors* (orange boxes). For clarity, a number of these factors are placed into more specific diagrams shown on the following pages.

Figures 4-1 through 4-4 show some of the more specific *contributing factors* (orange boxes) that lie behind some of the key threats in the overall situation analysis. These contributing factors can include both indirect threats and opportunities. In addition, these diagrams also show the key *potential strategies* (yellow hexagons) that can be used by the program and project teams to change the situation.

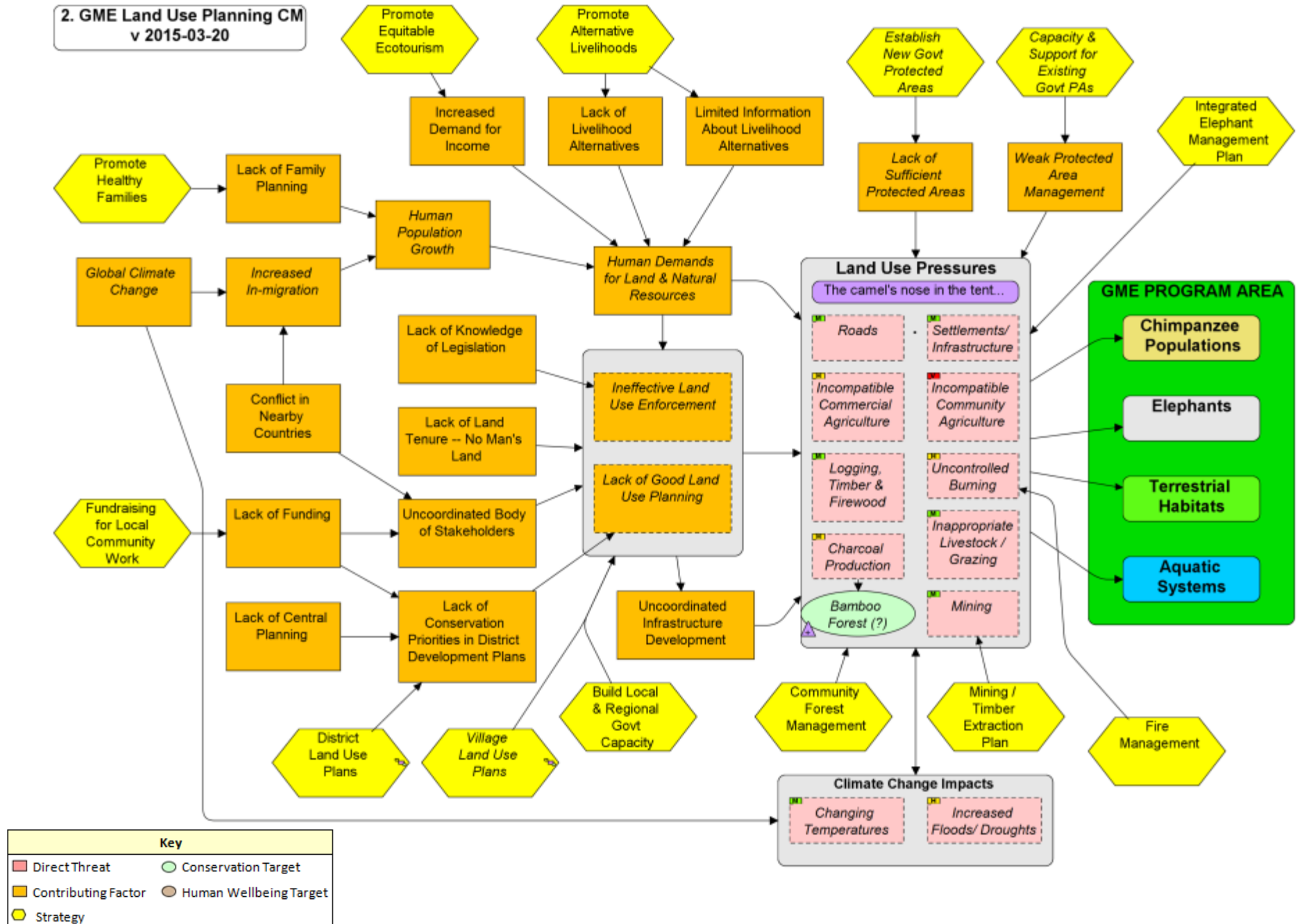
Community Agriculture Drivers & Strategies

Figure 4-1. Key Strategies for Managing the Threat of Community Agriculture in the GME Program Area



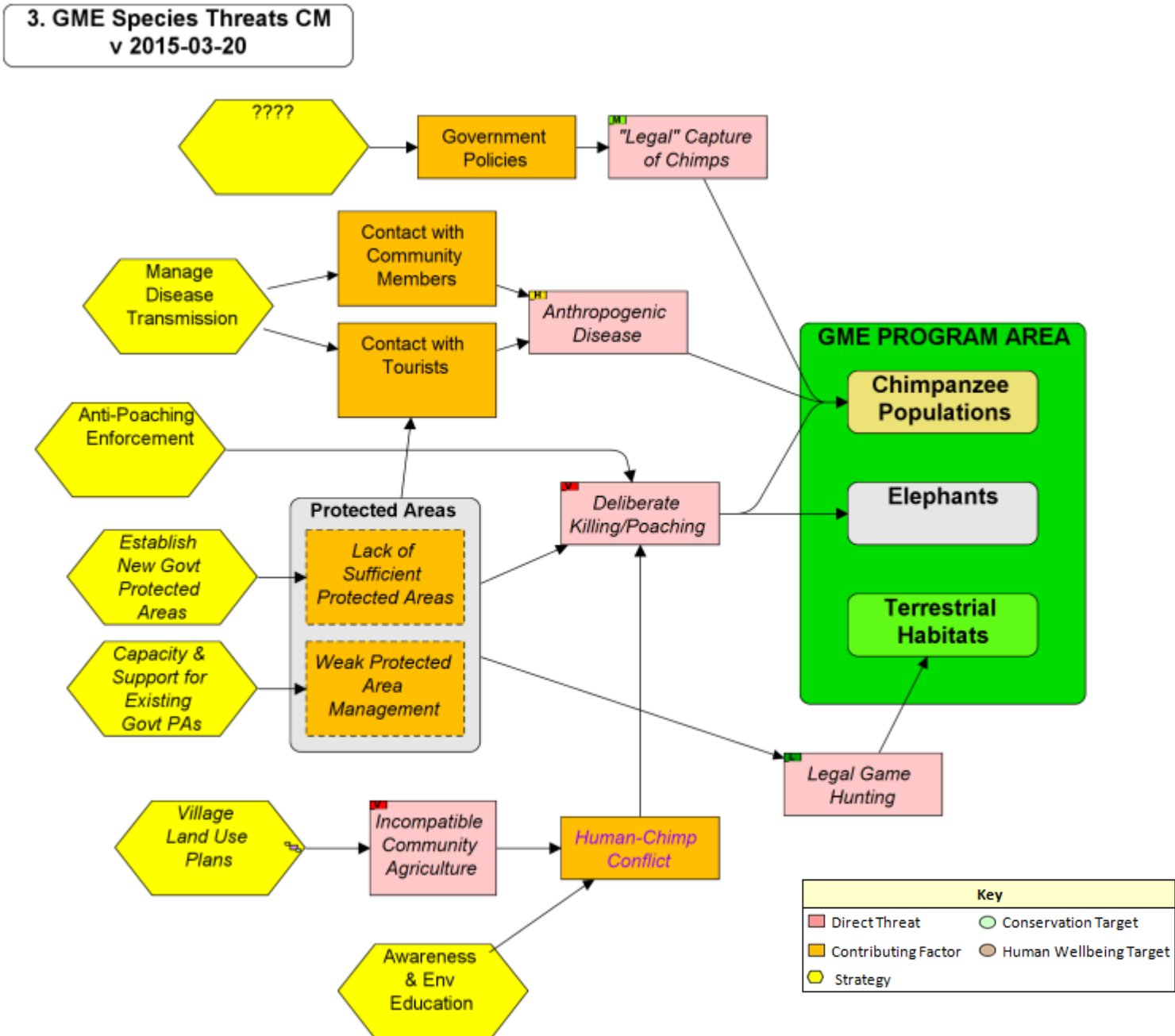
Land Use Pressure Drivers & Strategies

Figure 4-2. Key Strategies for Managing the Land Use Pressures in the GME Program Area



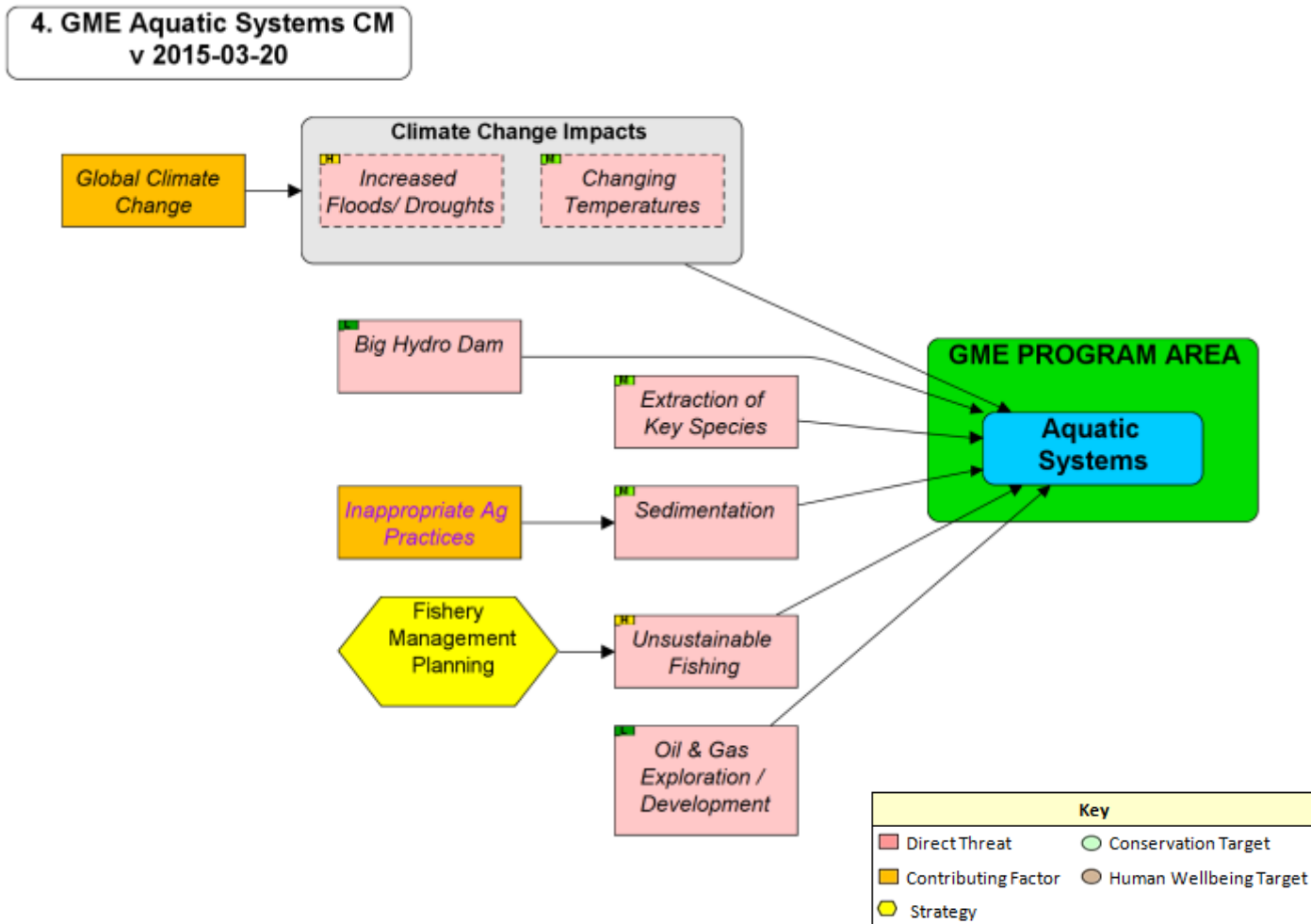
Drivers & Strategies for Species Threats

Figure 4-33. Key Strategies for Managing Species Threats in the GME Program Area



Aquatic Systems Drivers & Strategies

Figure 4-4. Key Strategies for Managing Aquatic Systems Threats in the GME Program Area



5. Strategies



Major Strategies Being Implemented

Table 5-1 shows a list of the major strategies being employed in the GME Program Area. The conceptual intervention points for key strategies are shown in the models in Figures 4-1 to 4-4. The spatial locations of key strategies are shown in Maps 5-1 to 5-3.

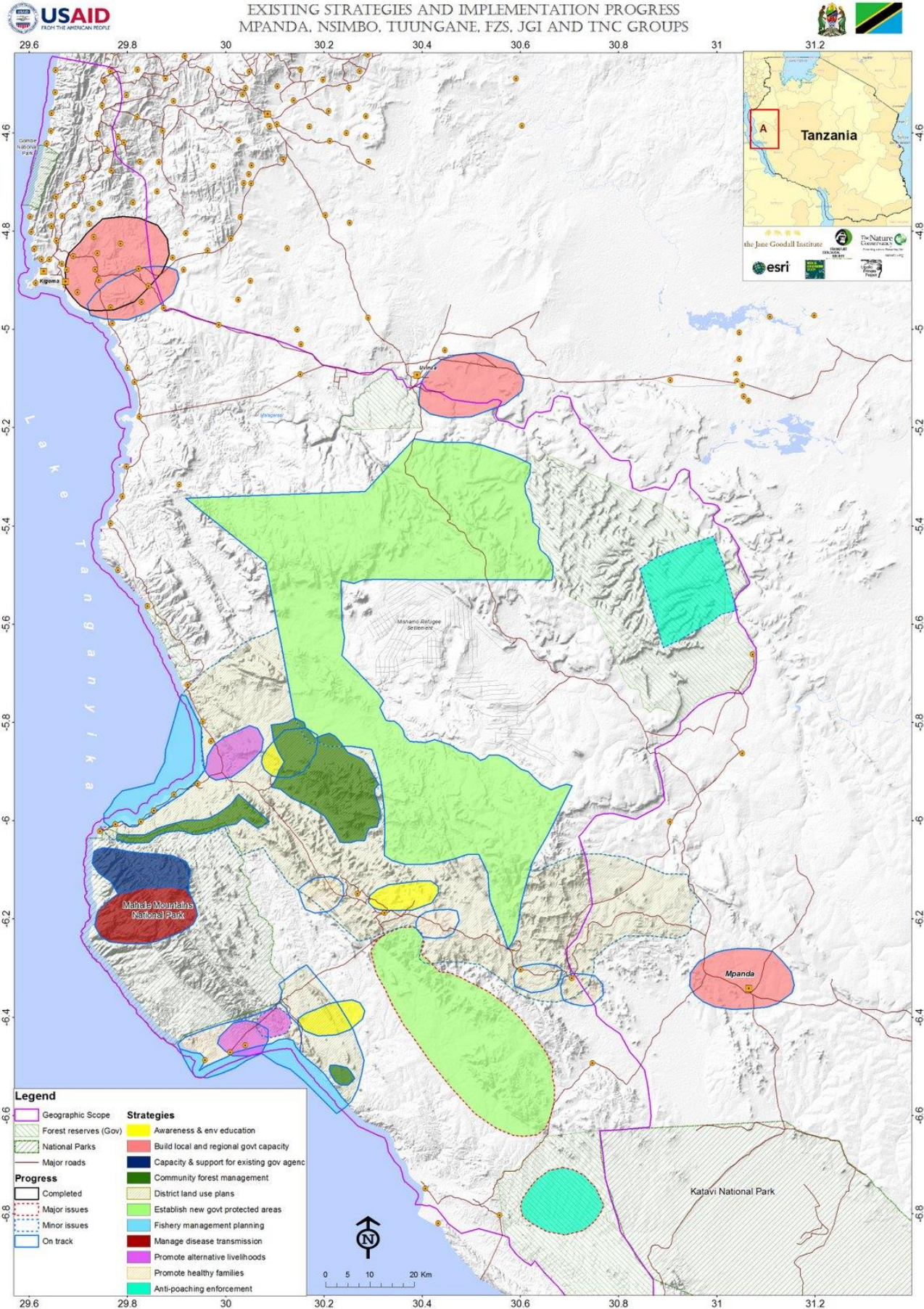
Table 5-1. Summary of Major Strategies Being Used in the GME Program Area

Numbering system refers to IUCN-CMP Action Classification Version 2.0 Beta

Strategy	Description	Key Locations / Who	Progress	Progress Details
2.1. Manage Disease Transmission	Creating separation between humans and chimps; monitoring & treating chimps as needed	[column to be completed]	[column to be completed]	[column to be completed]
3.1. Awareness & Env Education	Promoting awareness of conservation issues among key stakeholders through various means			
4.1. Anti-Poaching Enforcement	Setting up patrols and other means of finding and stopping poachers			
5.1. Promote Equitable Ecotourism	Developing ecotourism so as to provide livelihoods for community members who then perceive benefits of wildlife			
5.2a ?. Promote Agricultural BMPs	Promoting better management practices that reduce impacts of agriculture on key targets			
5.2b. Promote Alternative Livelihoods	Providing livelihood opportunities for key stakeholders to get them to switch from behaviors that have negative impacts on targets			
5.5. Promote Healthy Families	Provide medical services and family planning to ensure health of local communities			
6.1. Establish New Govt Protected	Create and implement new national parks or other forms of			

Strategy	Description	Key Locations / Who	Progress	Progress Details
Areas	protected areas			
 6.3a. District Land Use Plans	Work with district government to create land use plans that seek to balance conservation and human welfare needs			
 6.3b. Village Land Use Plans	Work with village leadership to create land use plans that seek to balance conservation and human welfare needs			
 6.4a. Timber Extraction Plan	Work with relevant authorities to develop plans that reduce impacts of mining and timber production			
 6.4b. Community Forest Management	Work with local communities to develop community forests			
 6.4c. Fire Management	Work with key partners to manage wildfires			
 6.6a. Fishery Management Planning	Work with key authorities and stakeholders to promote more sustainable fisheries			
 6.6b. Integrated Elephant Management Plan	Work with key authorities and stakeholders to develop plan for managing elephants across their lifecycle			
 9.2a. Build Local & Regional Govt Capacity	Invest in the capacity of government agencies so they can do better conservation			
 9.2b. Capacity & Support for Existing Govt PAs	Invest in the capacity of park management so they can do better conservation			
 10.4. Fundraising	Raise funds for key stakeholders such as government agencies			

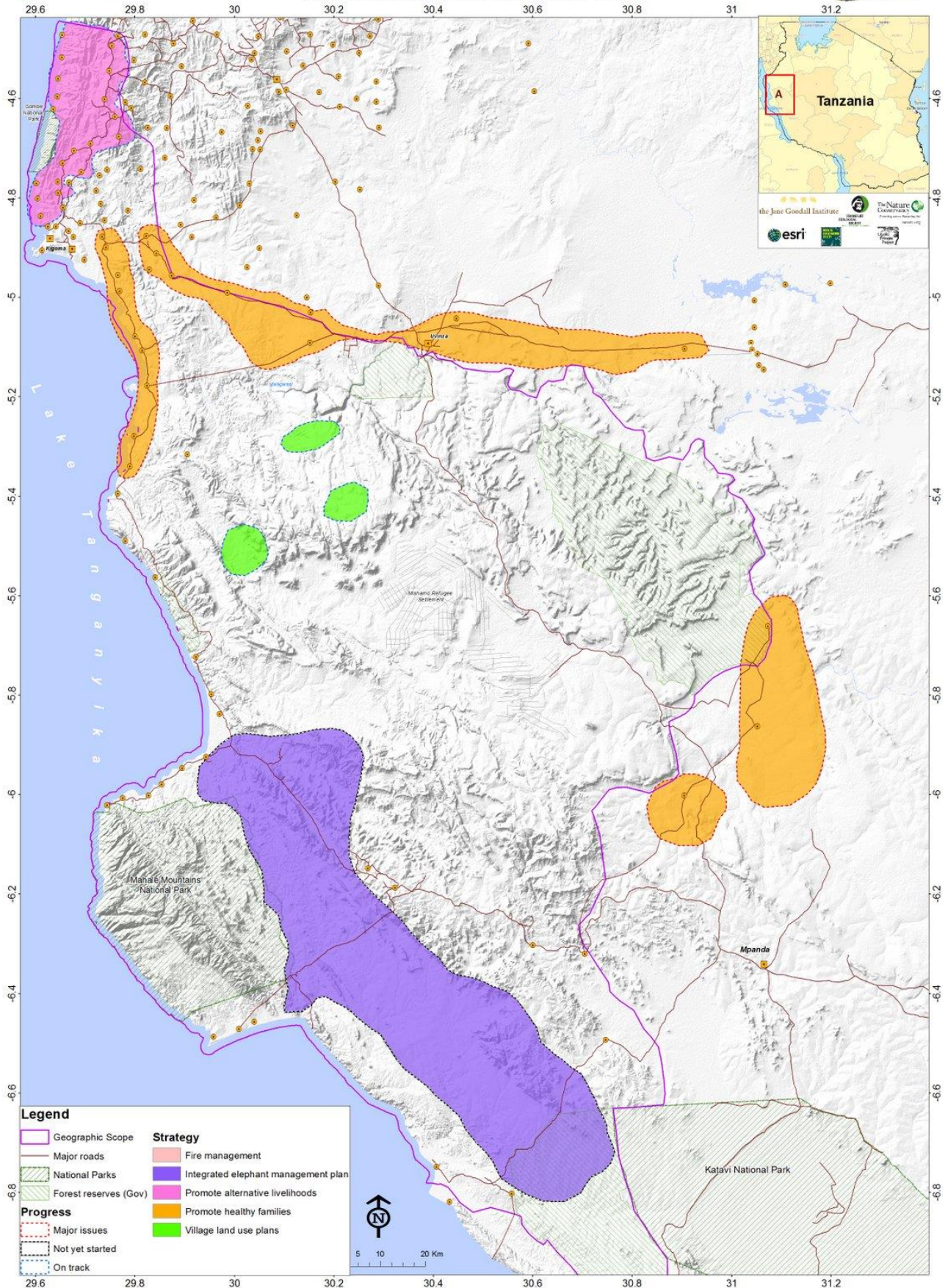
Map 5-1. Key Strategies Being Implemented in Southern Region of GME



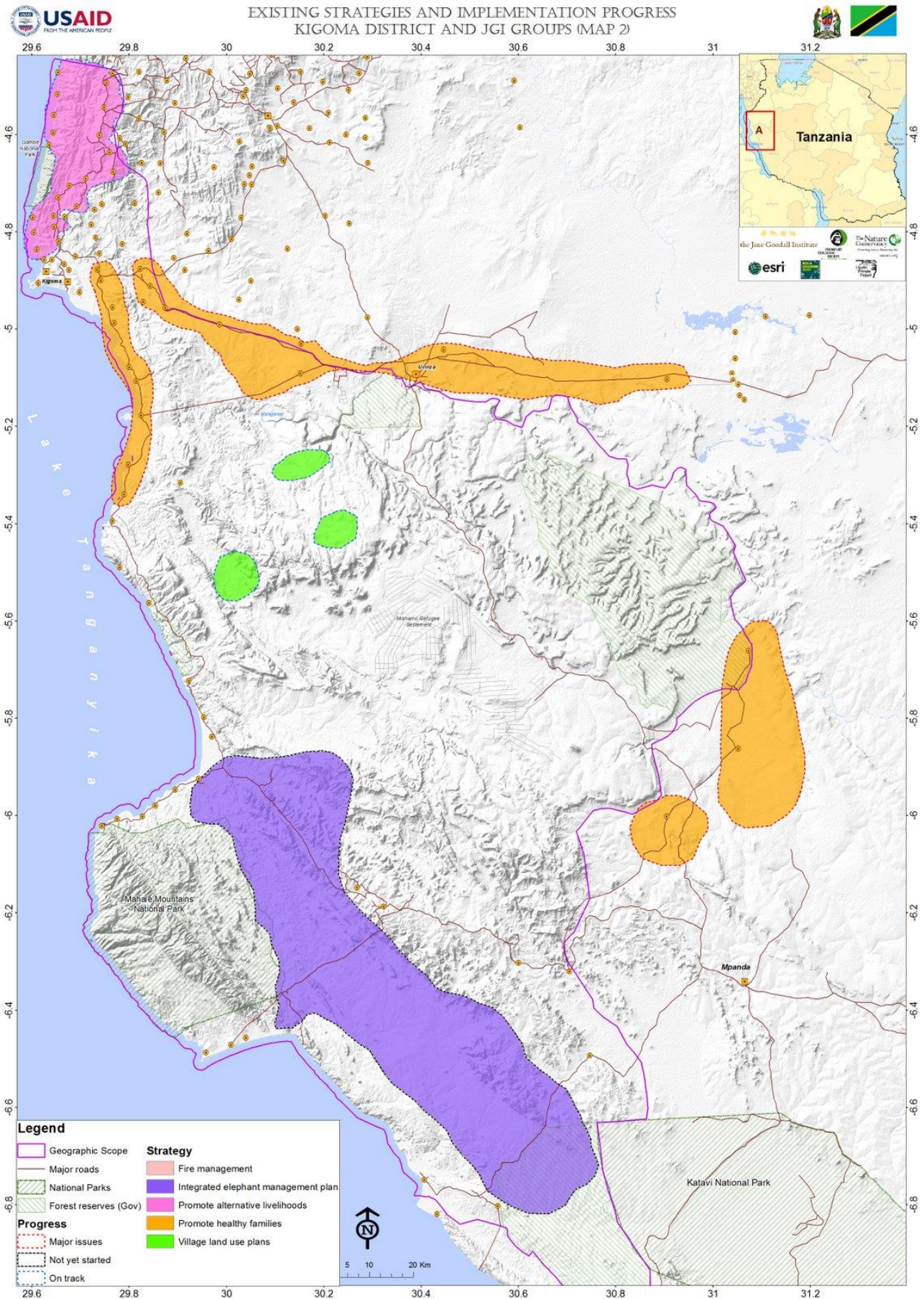
Map 5-2a. Key Strategies Being Implemented in Northern Part of GME



EXISTING STRATEGIES AND IMPLEMENTATION PROGRESS
KIGOMA DISTRICT AND JGI GROUPS (MAP 2)



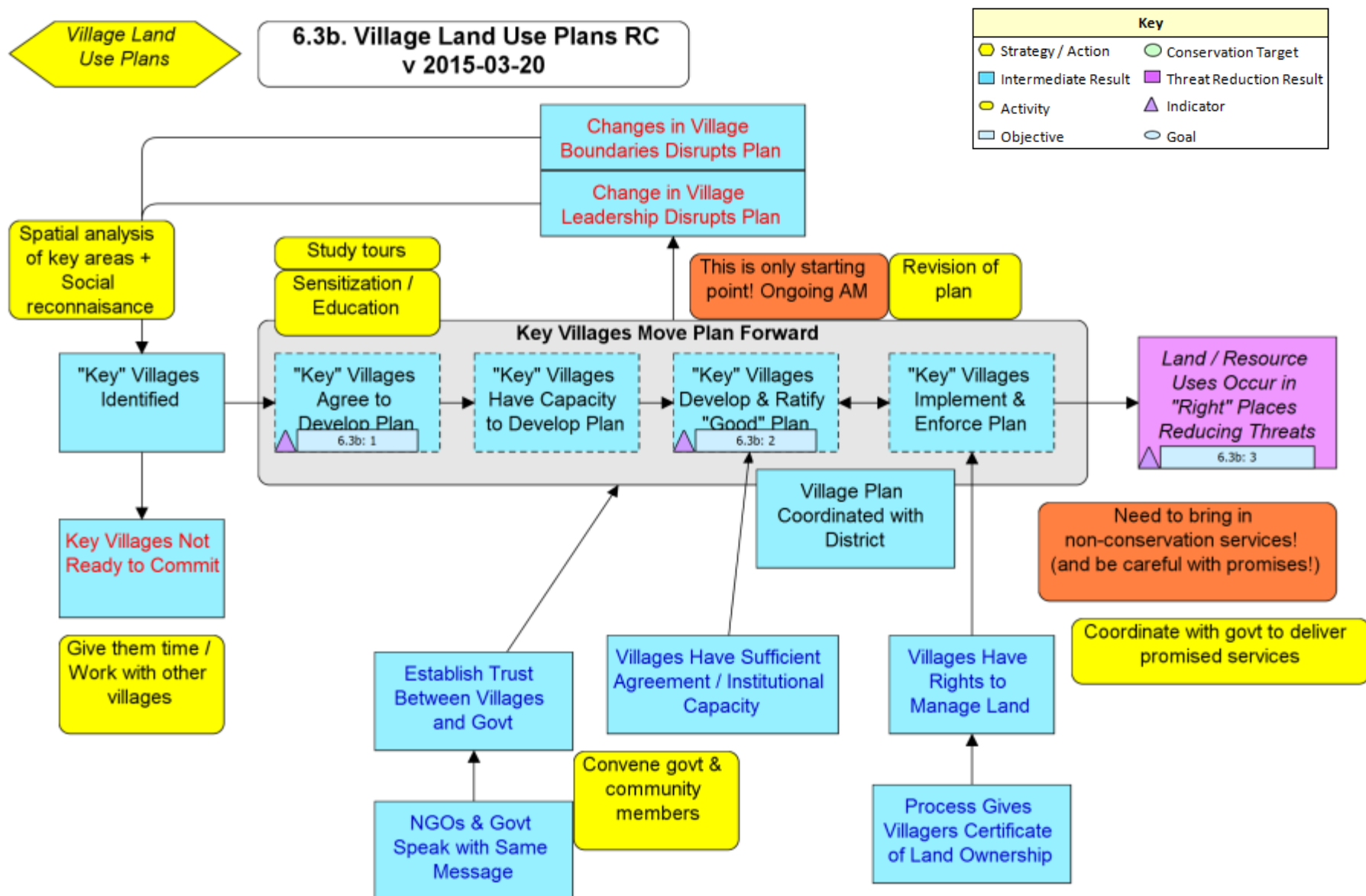
Map 5-2b. Key Strategies Being Implemented in Northern Part of GME, con't



Results Chain & Performance Metrics for Key Strategies








This section contains results chains that show the “theory of change” and performance metrics for two example strategies. Additional results chains in various stages of completion are shown in Annex C for all strategies being used across the GME Program Area.

RC 6.3b. Village Land Use Plans



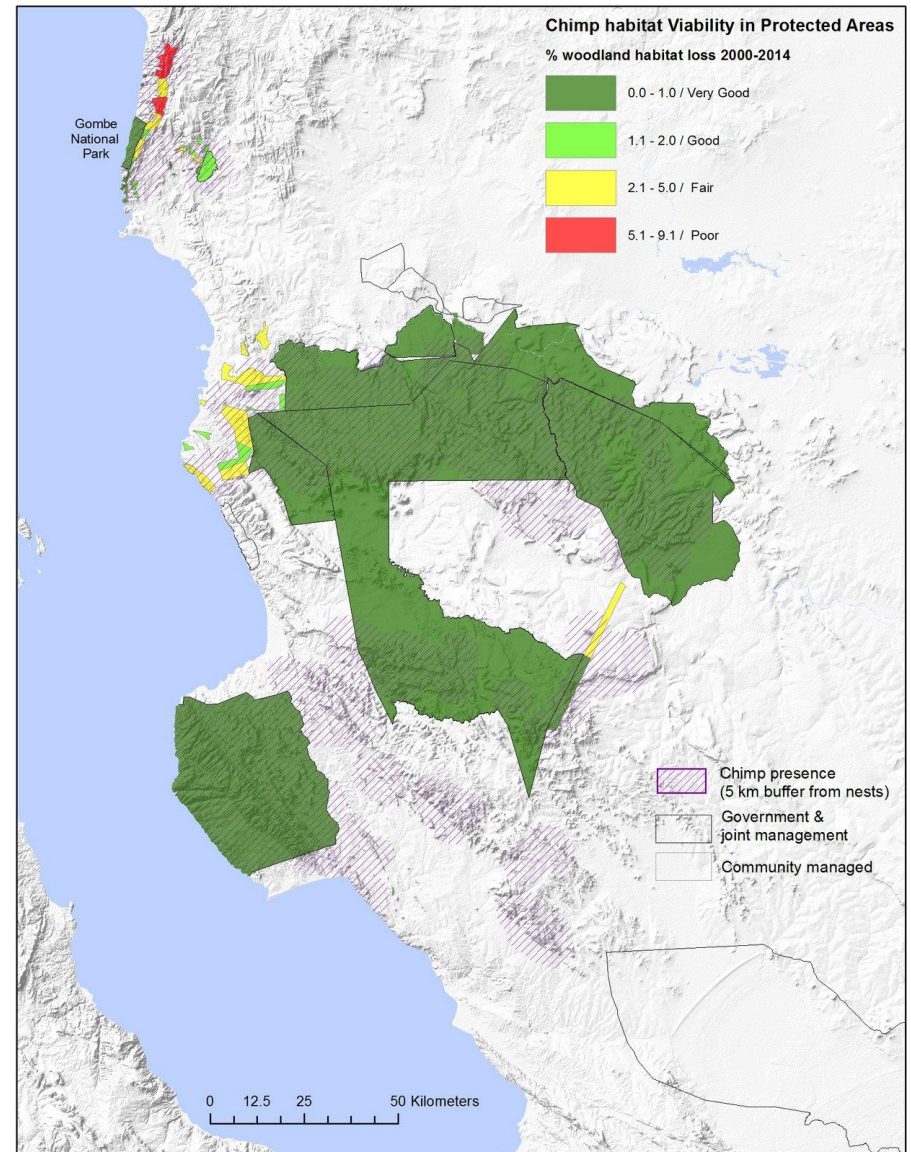
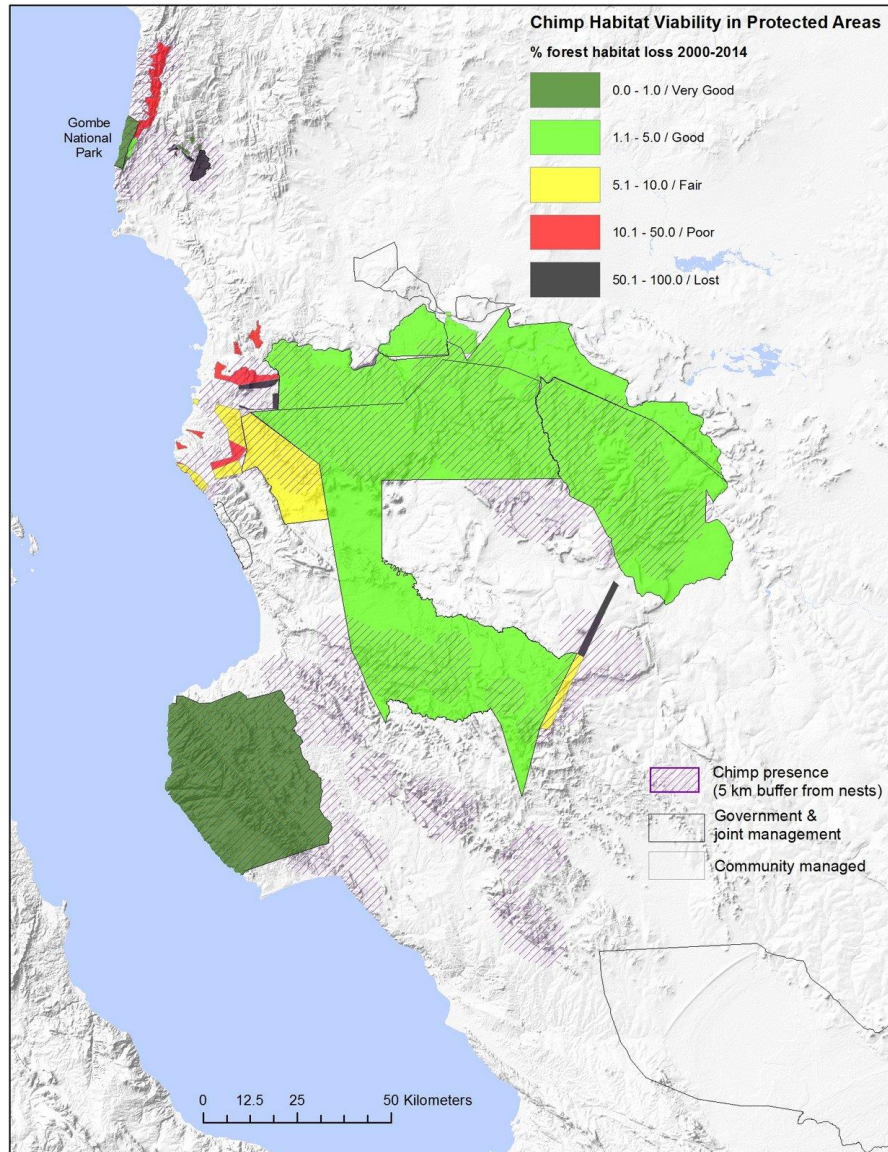
This results chain starts with identifying the “key” villages for land use planning work. Criteria for “key” include that the village is in an important conservation location, is willing to participate in this work, and has sufficient internal leadership. If the village is not willing to commit to this work, then we need to give them time – there is no point working with a village that is not ready. The core box in the center of the diagram shows the next steps that each “key” village must go through including agreeing to develop the plan, getting the capacity to develop the plan, actually developing and ratifying a “good” plan, and then implementing and enforcing the plan. Criteria for a “good” plan include that the plan needs to be written and documented has clear spatial planning (conservation, agricultural lands etc.), has enforceable bylaws, is guided by relevant laws, is owned by community, and is a long-term plan. Finally, if these steps are completed, this work will result in land and resource uses occurring in the “right” places thus reducing threats. As shown by the blue boxes at the bottom of the chain, there are a number of enabling conditions that need to be met. Furthermore, experience has shown that this strategy can also be derailed if there are changes in the village leadership or changes in village boundaries that require going back to the beginning of the process as shown by the boxes with red text on top. The yellow activity bubbles show some of the key work that the team will need to undertake in each village to implement this chain.

Key Objectives and Performance Metrics for RC 6.3b. Village Land Use Plans

Item	Details
 6.3b. Village Land Use Plans	
 6.3b-1. "Key" Villages Agree to Develop Plan	Within 6 months of starting process, the village agrees to develop the plan
 6.3b-1. Documentation of agreement	Copy of official agreement with specific conditions.
 6.3b-2. "Key" Villages Develop & Ratify "Good" Plan	Within 2 years of starting the process, the village has developed and ratified a "good" plan. "good" = needs to be written and documented (VG = clear written, P = not written); needs to have clear spatial planning (conservation, agricultural lands etc) (VG = defined map that reflects different needs, G - only some of the needs, P = none of this); has enforceable bylaws; is guided by relevant laws; is owned by community; is a long-term plan
 6.3b-2. Assessment of Plan Against Criteria	Each criterion converted into assessment scale
 6.3b: 3. Land / Resource Uses Occur in "Right" Places Reducing Threats	Following ratification of the plan, little or no new development happens in sensitive conservation areas AND key sensitive areas restored.
 6.3b-3. Remote sensing assessment	Uses GIS analysis of % of plan implemented and % of total critical habitat covered by plan. As shown in Map 5-3, remote sensing can be used to show the percent of forest and woodland habitats lost in protected areas including community forests.

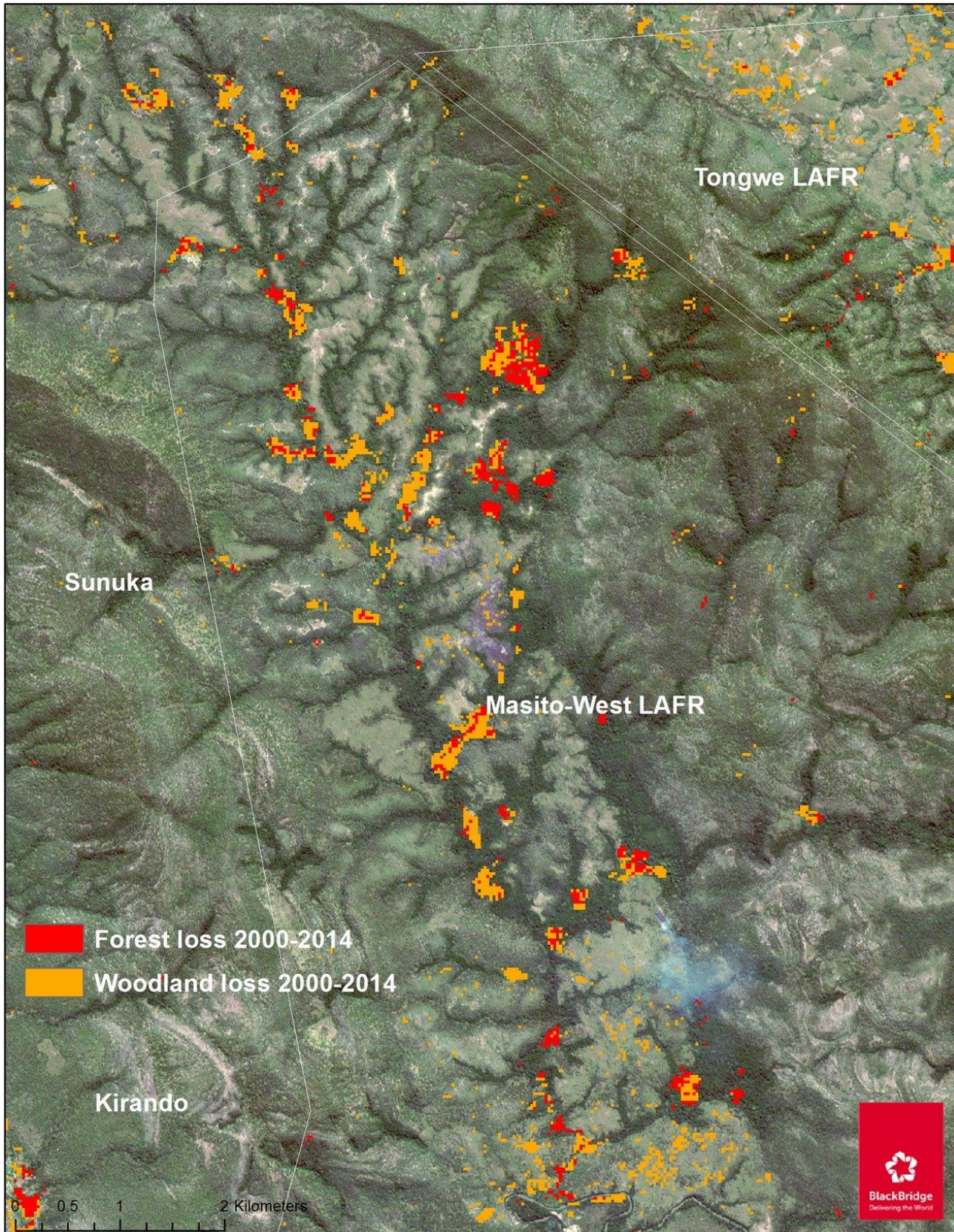
Map 5-3. Changes in Status of Key Habitats in Protected Areas

As shown in this map, the national parks have done a good job of protecting key forest and woodland habitats, some of the smaller community managed protected areas have lost large fractions of these key habitats.

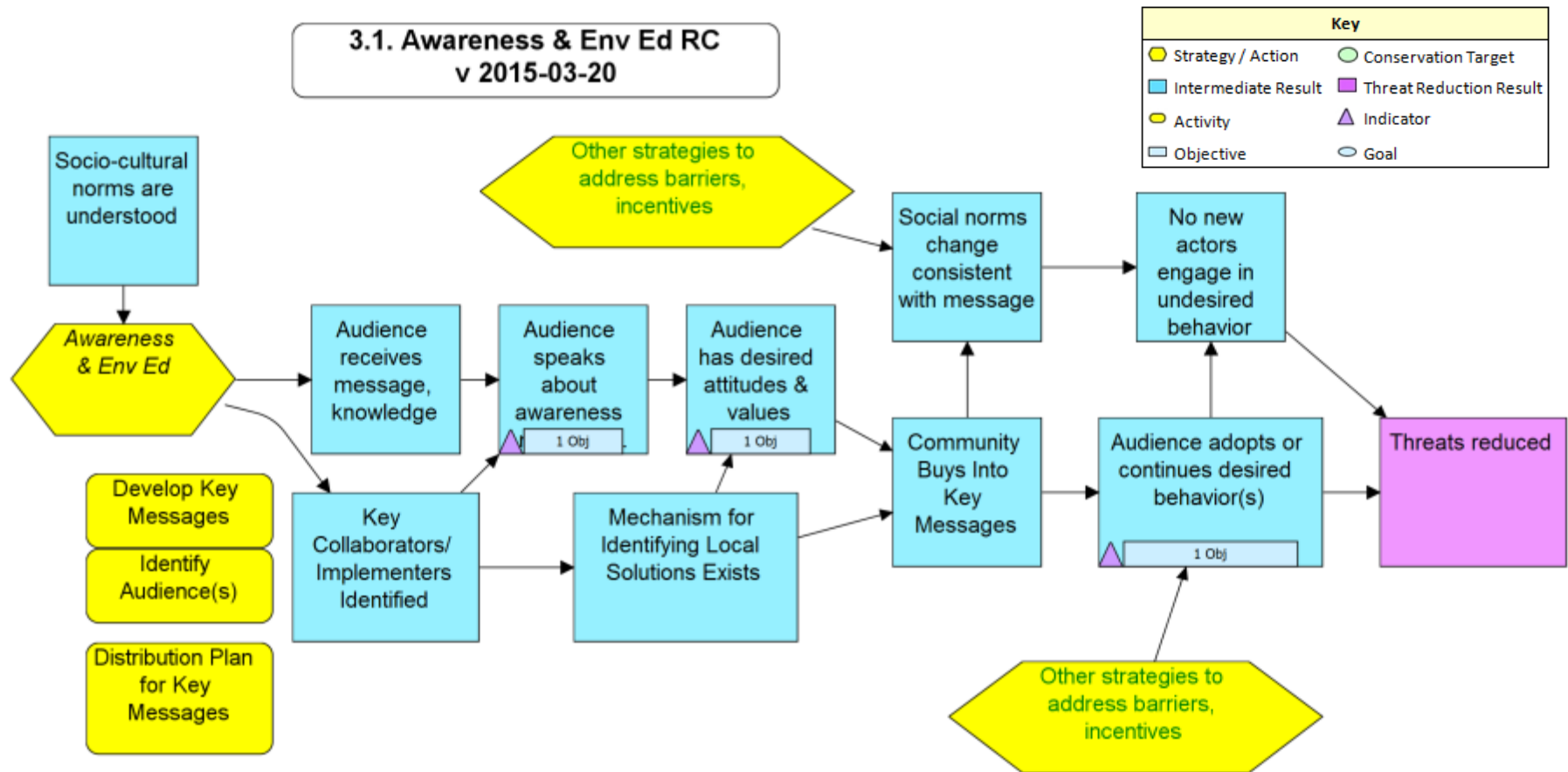


Map 5-4. Detail of Habitat Loss in Protected Areas

The impacts of forest and woodland lost within protected areas can also be seen not at the macro scale, but a more micro scale.



RC 3.1 Awareness & Environmental Education



This results chain starts with identifying the “key” audiences for this awareness work and the messages that we would like to deliver to them. If the communication strategy is adopted, then the audience has the desired attitudes and values. If this occurs, then the community buys into key messages and then the audience adopts or continues the desired behaviors. The yellow activity bubbles show some of the key work that the team will need to undertake in each village to implement this chain.

6. Key Information Needs and Next Steps

Key Information Needs

This document contains a summary of our current collective knowledge about the conservation of the GME Program Area. Going forward, it will be important to not only refine the information at the program level, but also to zoom in to more specific project levels. Current information needs include:

Project and Program Scope

- Determine the final boundaries of the GME Program scope in relation to key political districts
- Agree on project level management units

Conservation Targets & Viability

- Explore creating high level chimpanzee population and corridor targets plus specific sub-targets for key populations and corridor areas
- Research whether Bamboo Forest should be a target
- Apply full viability framework in Annex 3 to all targets

Threats

- Explore using spatial data to revisit more granular threat ratings
- Think about future spatial trajectories of key threats to “get ahead of the curve”

Situation Analyses

- Ensure that key stakeholders vet and agree with analyses

Strategies & Effectiveness Measures

- Refine maps of strategy implementation
- Develop more specific strategy intervention plans for key areas
- Finalize standard results chains and objectives/indicators for key strategies
- Collect monitoring indicators to establish baseline and do ongoing adaptive management

Next Steps

Even more than completing the analyses listed above, the critical next steps are to continue to bring together key stakeholders to own and adaptively implement the plan outlined in this document. To this end, it will be important to make sure that all key parties buy into this work. It will be vital to work at both the level of specific projects and the overall GME Program Area.

ANNEXES

Annex A. Attendees at March 2015 CAP Workshop

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8	Fadhili Mlacha	M	JGI –TZ	0767350666	fabdallah@janegoodall.or.tz
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23	Tammy Palmer	F	JGI	+256 7872109	tpalmer@janegoodall.org
24	Alice Macharia	F	JGI	+971 528642432	amacharia@janegoodall.org
25	Lilian Pintea	M	JGI	+1 7036289220	lpintea@janegoodall.org
26	Nick Salafsky	M	FOS	+ 1 3012632784	nick@fosonline.org
27	Heather Eves	F	FOS		heather.eves@aya.yale.edu

Annex B1. Detailed Viability Framework for Ecosystem Targets






















The following framework can be used as the basis for developing more specific viability assessments for our ecosystem targets. Over time, we may be able to develop more quantitative thresholds to replace the current qualitative ones.

Item	Type	Poor	Fair	Good	Very Good	Source
 H1. Evergreen Forest						
 H1-1. Habitat Size	Size					
 H1-1. % of 2000 baseline area		<<< baseline (> 10% loss)	<< baseline (5 - 10% loss)	< baseline (1 - 5% loss)	≈ or > baseline (< 1% loss)	Onsite Research
 H1-2. Non-Natural Habitat Fragmentation	Condition					
 H1-2. Assessment of fragmentation		high fragmentation	substantial fragmentation	some fragmentation	minimal fragmentation	Rough Guess
 H1-3. % Forest Cover	Condition					
 H1-3. Assessment of intactness		large gaps	somewhat intact	mostly intact	full intact	Rough Guess
 H1-4. Invasive Species	Condition					
 H1-4. Presence of Senna tree		lots	more	tolerable level	absent	Rough Guess
 H2. Miombo Woodland						
 H2-1. Habitat Size	Size					
 H2-1. % of 2000 baseline area		<<< baseline (> 5% loss)	<< baseline (2.5 - 5% loss)	< baseline (1 - 2.5% loss)	≈ or > baseline (< 1% loss)	Onsite Research
 H2-2. Habitat Fragmentation	Condition					
 H2-2. Assessment of fragmentation		high fragmentation	substantial fragmentation	some fragmentation	minimal fragmentation	Rough Guess
 H2-3. Presence of Key Fauna	Condition					
 H2-3. Presence of medium - large animals			absent	present		Rough Guess
 H2-4. Appropriate Fire Regime	Condition					
 H2-4. Assessment of fire regime		huge fires	too much or too little	natural		Rough Guess
 H3. Montane Ecosystems						
 H3-1. Area of Habitat	Size					
 H3-1. % of 2000 baseline		<<< baseline	<< baseline	< baseline	≈ or > baseline	Rough Guess
 H3-2. Ratio of Grassland to Forest in Mosaic	Condition					
 H3-2. Assessment of Ratio		>> or <<	> or <	= historical		Rough

		historical	historical			Guess
🔑 H3-3. Presence of Key Species	Condition					
⚠️ H3-3. Presence of key orchid spp (??)			absent	present		Rough Guess
🟢 H4. Bamboo Forest (?)						
🔑 H4-1. Habitat Size	Size					
⚠️ H4-1. % of 2015 baseline area		>> or <<baseline	> or < baseline	= baseline today	???	Rough Guess
🔑 H4-2. Habitat Fragmentation	Condition					
⚠️ H4-2. Assessment of fragmentation		high fragmentation	substantial fragmentation	some fragmentation	minimal fragmentation	Not Specified
🔑 H4-3. Presence of Key "Good" Indicator Species	Condition					
⚠️ H4-3. ????			absent	present		Not Specified
🟢 Q1. Rivers & Wetlands						
🔑 Q1-1. % of watershed forested	Landscape Context					
⚠️ Q1-1. % of total watershed area		little	some	much	most	Expert Knowledge
🔑 Q1-2. Intactness of Vegetation	Size					
⚠️ Q1-2. Intactness of Vegetation in 60m Corridor		large gaps	somewhat intact	mostly intact	fully intact	Expert Knowledge
🔑 Q1-3. Water Quantity - Dry Season Flow	Not Specified					
⚠️ Q1-3. 5-year running average for low flow		<< historical avg	< historical avg	= historical avg		Expert Knowledge
🔑 Q1-4. Sediment Regime	Not Specified					
⚠️ Q1-4. Sedimentation in key fishery habitat areas?		lots	some	minimal	little or none	Rough Guess
🟢 Q2. Fish/Aquatic Biodiversity						
🔑 Q2-1. Size of Key Harvested Fish Populations	Not Specified					
⚠️ Q2-1. Catch per unit effort (?)		<< historical	< historical	= historical		Rough Guess
🔑 Q2-2. Presence of Key Indicator Species	Not Specified					
⚠️ Q2-2. Presence of xxxxx species			absent	present		Rough Guess

Annex B2. Detailed Viability Information for Species Targets

The following framework can be used as the basis for developing more specific viability assessments for our species targets. Over time, we may be able to develop more quantitative thresholds to replace the current qualitative ones. Note that this proposed framework uses different targets for chimps than the targets presented in the main body of this report.

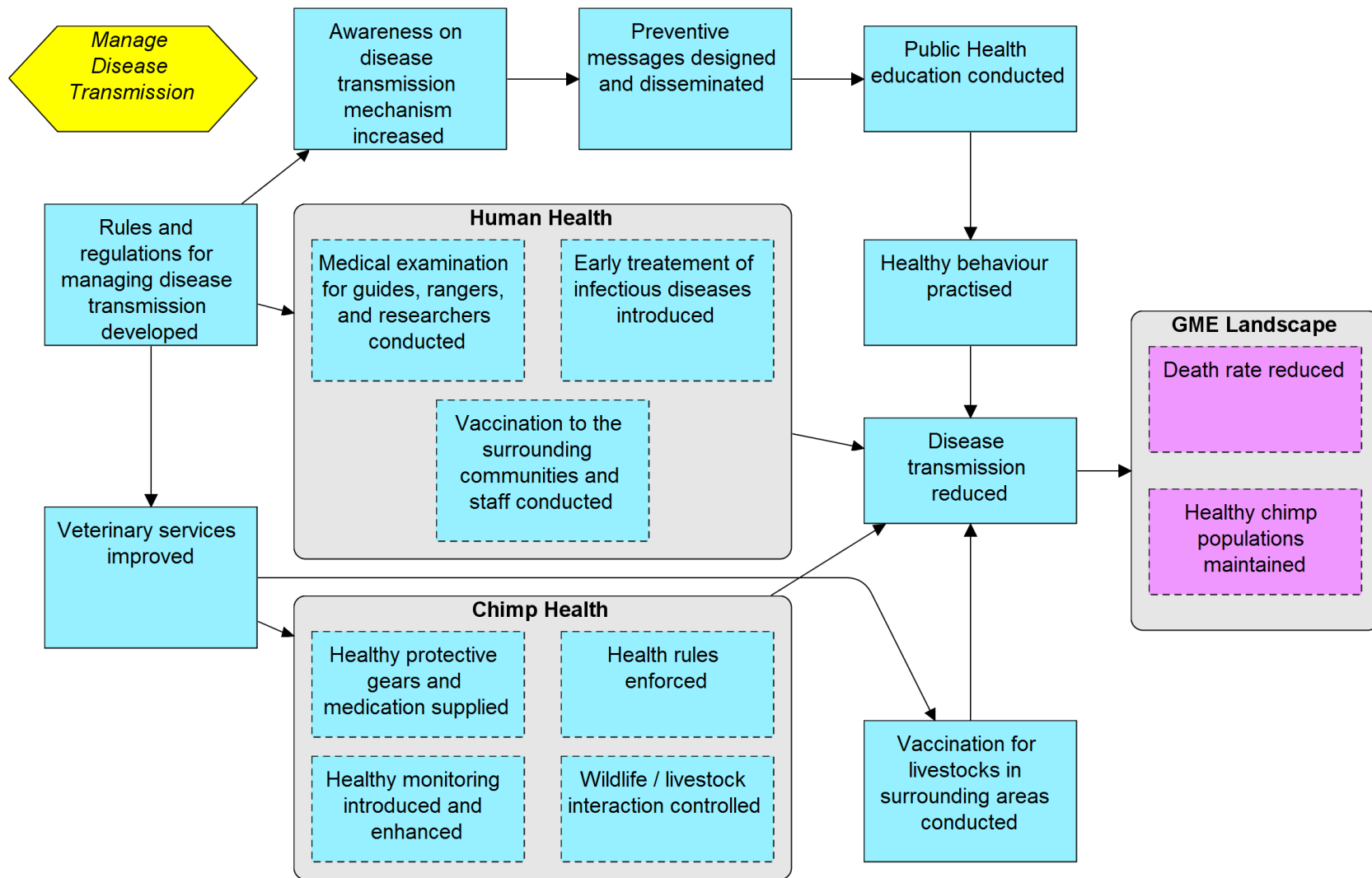
Item	Type	Poor	Fair	Good	Very Good	Source
 C1. Chimpanzee Population						
 C1-1. Population size	Size					
 C1-1a. Number of chimpanzees (set numbers for each mngmt unit)		<200	200-600	700-1000	>1000	Rough Guess
 C1-1b. Density of nests		none	Few	some	many	Rough Guess
 C1-2. Evidence of reproduction	Condition					
 C1-2a. Male / female ratio			< females	1/3 male : 2/3 female		Rough Guess
 C1-2b. Presence of juveniles				some + evidence		Rough Guess
 C1-3. Habitat quality and quantity/size	Condition					
 C1-3. % of habitat meeting suitability threshold		little or none	some	most	almost all	Onsite Research
 C1-4. Presence of disease in pop	Condition					
 C1-4. Presence of epidemic or serious diseases		high disease level	manageable disease level	no disease, but next door	no disease & not next door	Expert Knowledge
 C1-5. Links to Metapopulation	Landscape Context					
 C1-5. Connectivity to viable populations		no connection	minimal connection	good connection	easy connection	Onsite Research
 C2. Chimpanzee Connectivity						
 C2-1. Use of Corridors	Size					
 C2-1. Presence via nests / sign / camera traps		absent	sparse	common	abundant	Rough Guess
 C2-2. Width / Intactness of Corridor	Condition					
 C2-2. Chimp "passability" index		not passable	barely passable	passable	easily passable	Not Specified
 E1. Elephant Populations						
 E1-1. Seasonal Presence / Density	Size					
 E1-1. % Historical Population Size		<< historical level	< historical level	historical level		Expert Knowledge

Item	Type	Poor	Fair	Good	Very Good	Source
○ E2. Elephant Connectivity						
➔ E2-1. Use of Corridors	Size					
△ E2-1. Presence via sign / camera traps / GPS collars		absent	sparse	common	abundant	Rough Guess
➔ E2-2. Width / Intactness of Corridor	Condition					
△ E2-2. Elephant "walkability" index		not walkable	barely walkable	walkable	easily walkable	Expert Knowledge

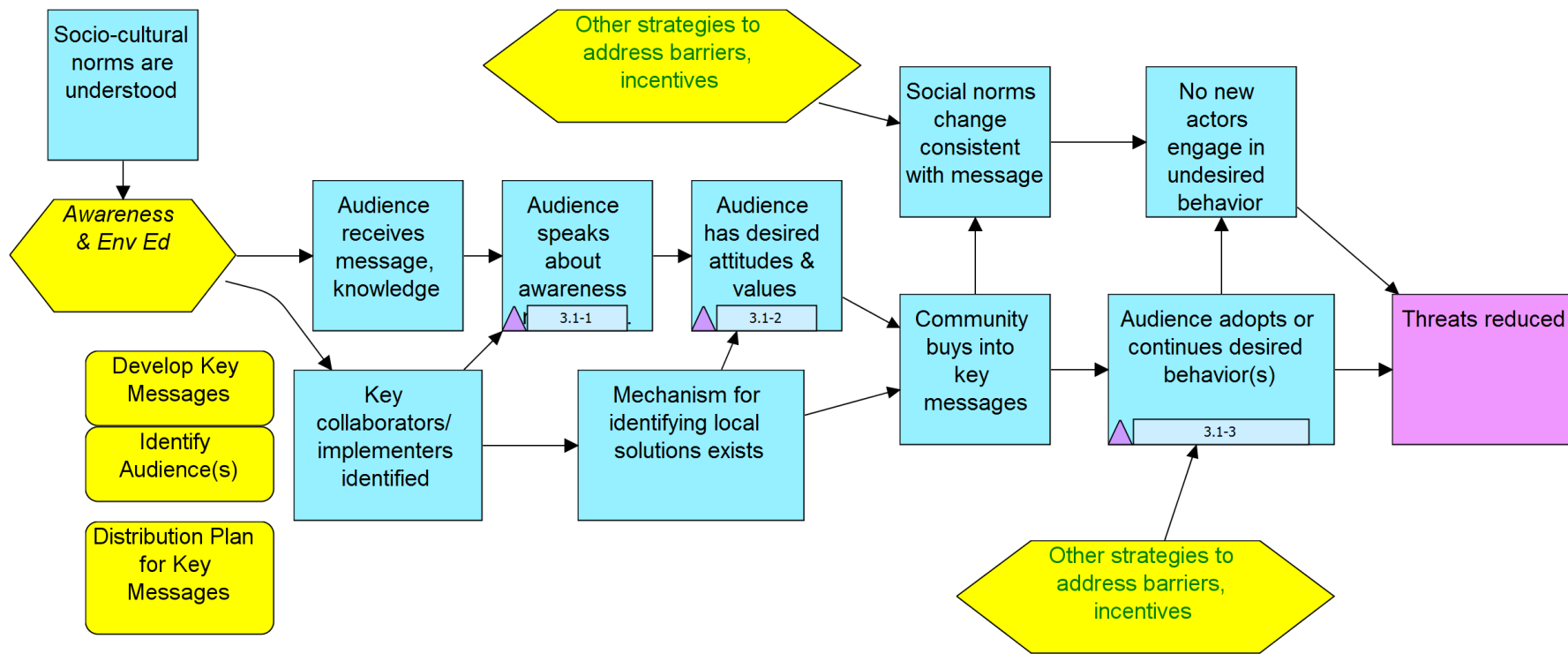
Annex C. Results Chains for Key Strategies

The following results chains have been developed for key strategies listed in Table 5-1.

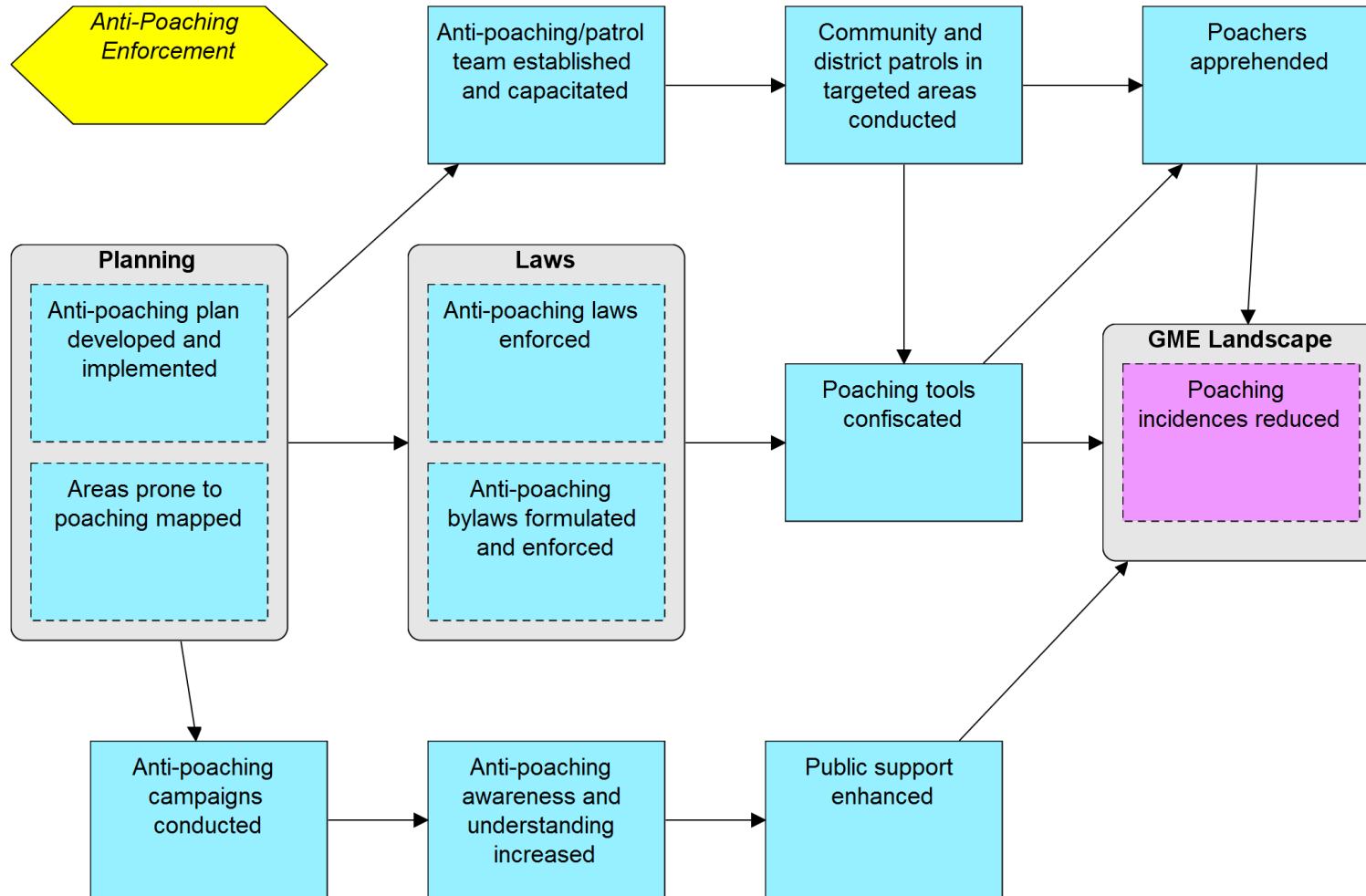
2.1 Manage Disease Transmission RC v 2015-06



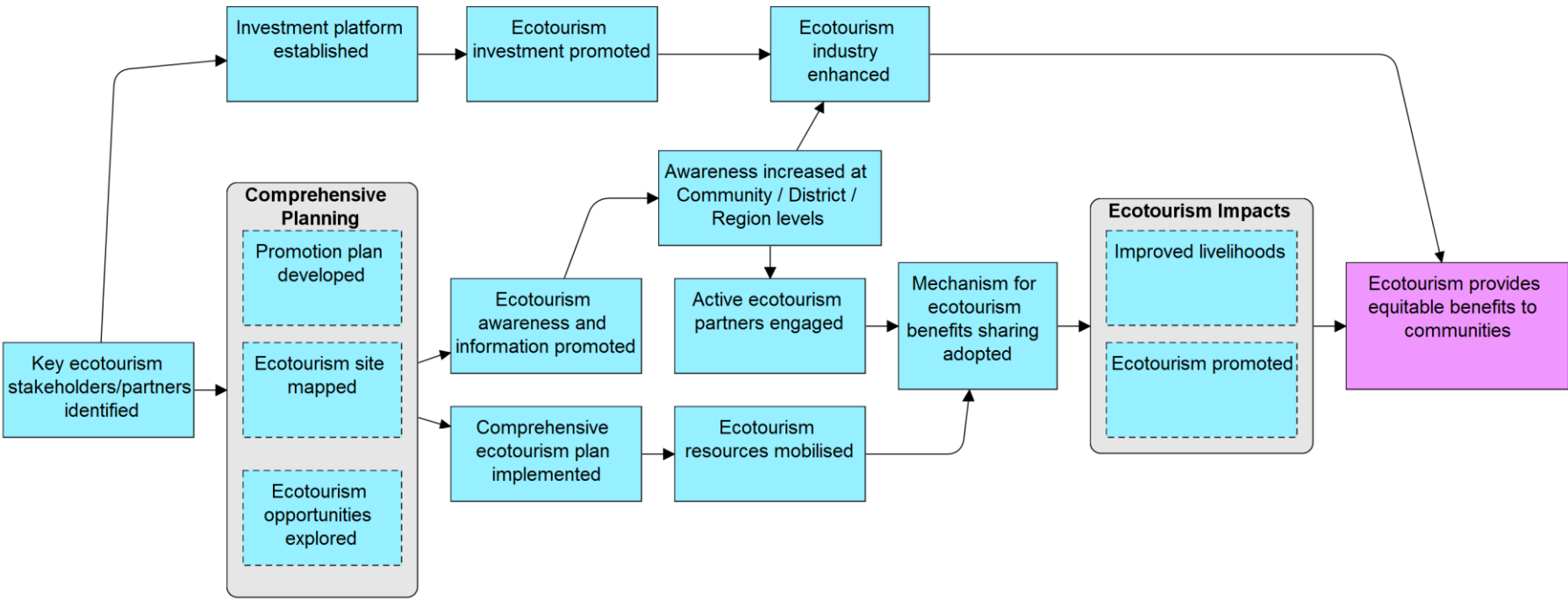
3.1. Awareness & Env Ed RC
v 2015-03-20



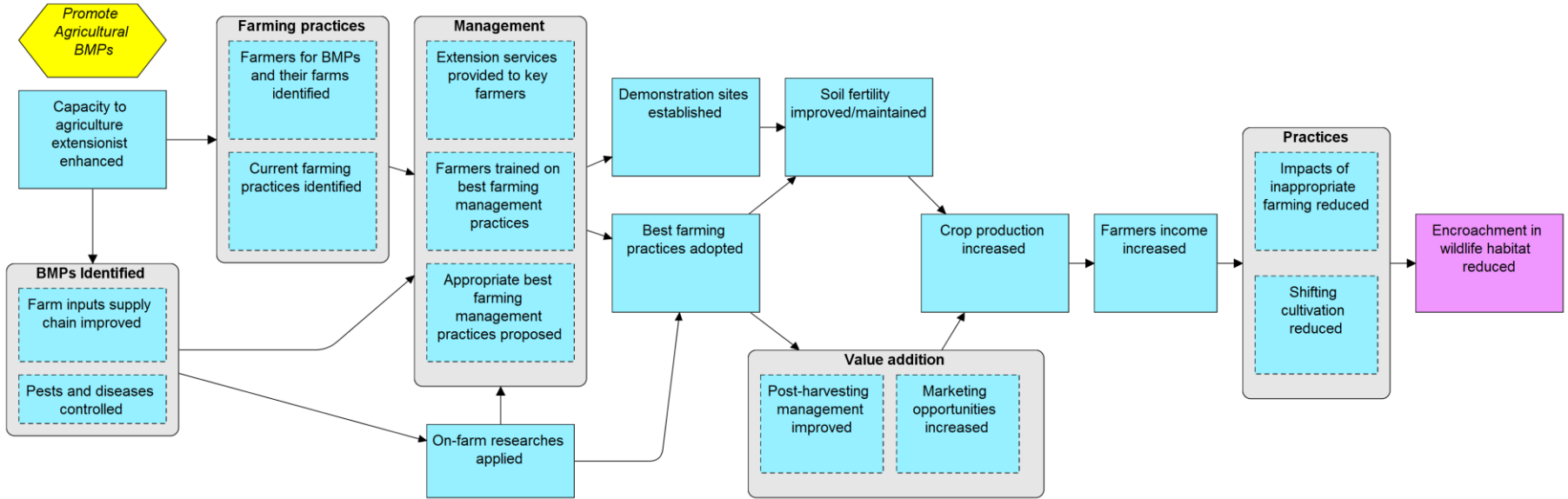
**4.1 Anti-Poaching Enforcement RC
v 2015-06**



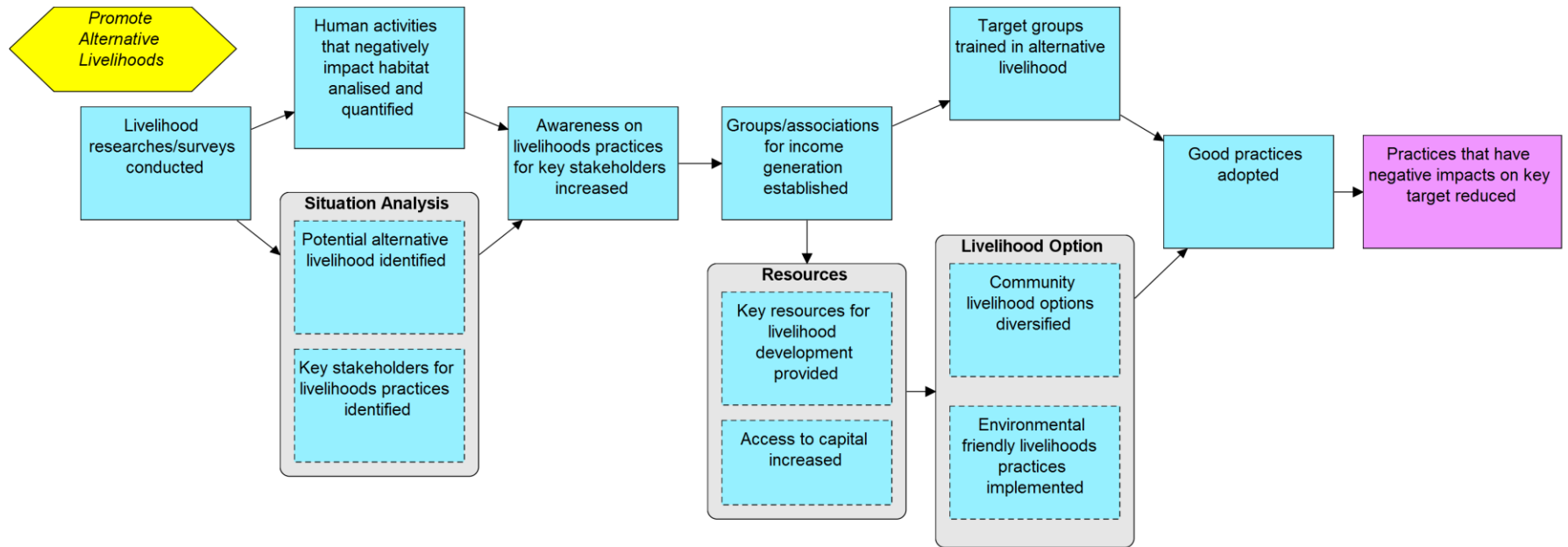
**5.1 Promote Equitable Ecotourism RC
v 2015-06**



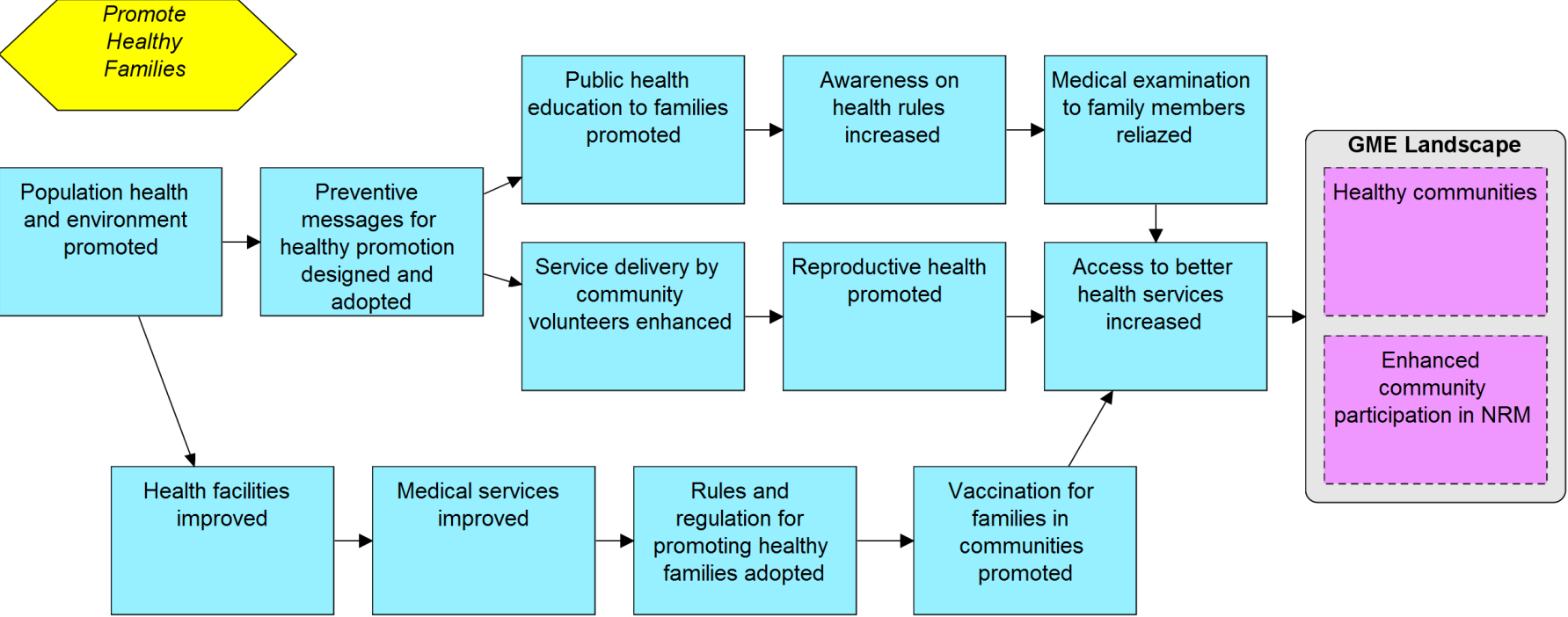
5.2a Promote Agricultural BMPs RC v 2015-06



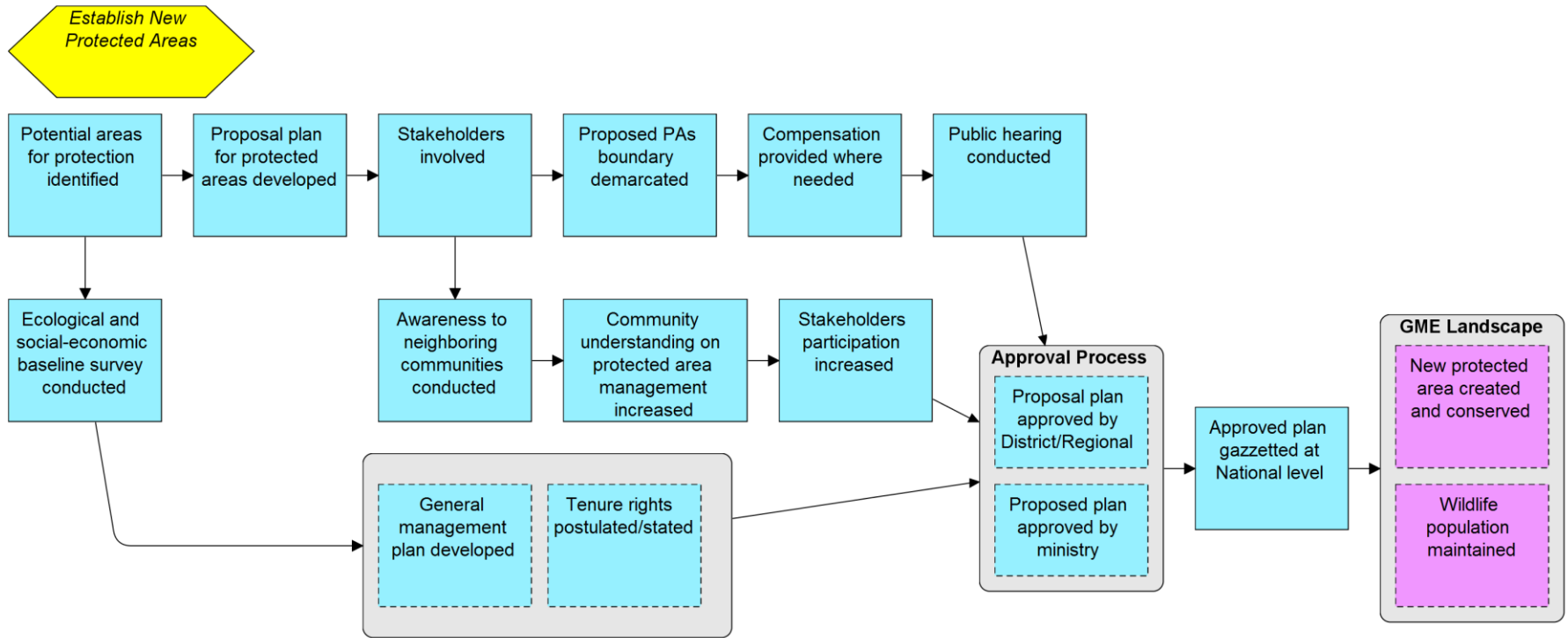
**5.2 Promote Alternative Livelihoods RC
v 2015-06**



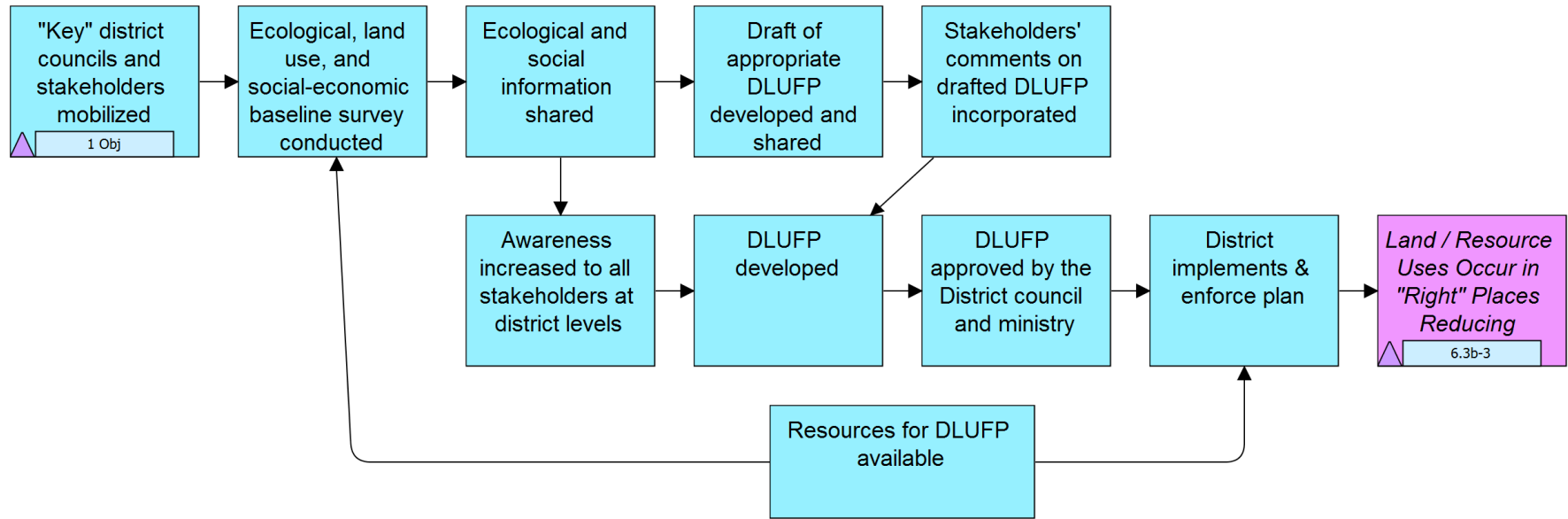
**5.5 Promote Healthy Families RC
v 2015-06**



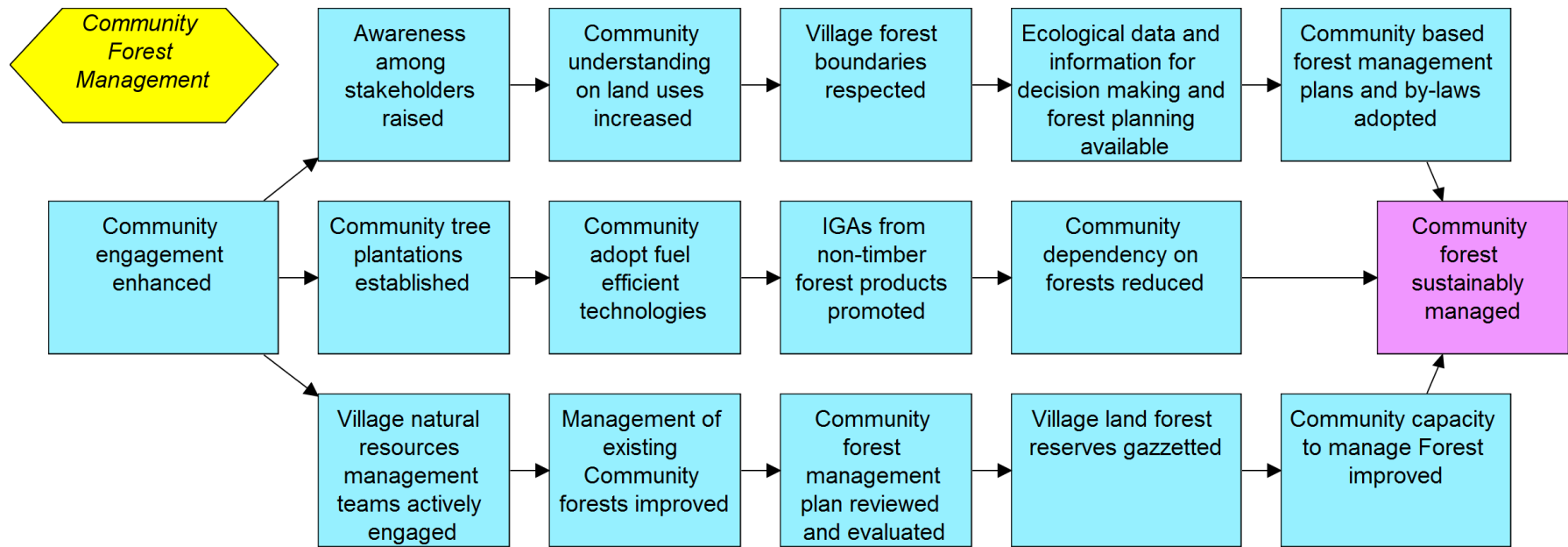
6.1 Establish New Protected Areas RC v 2015-06



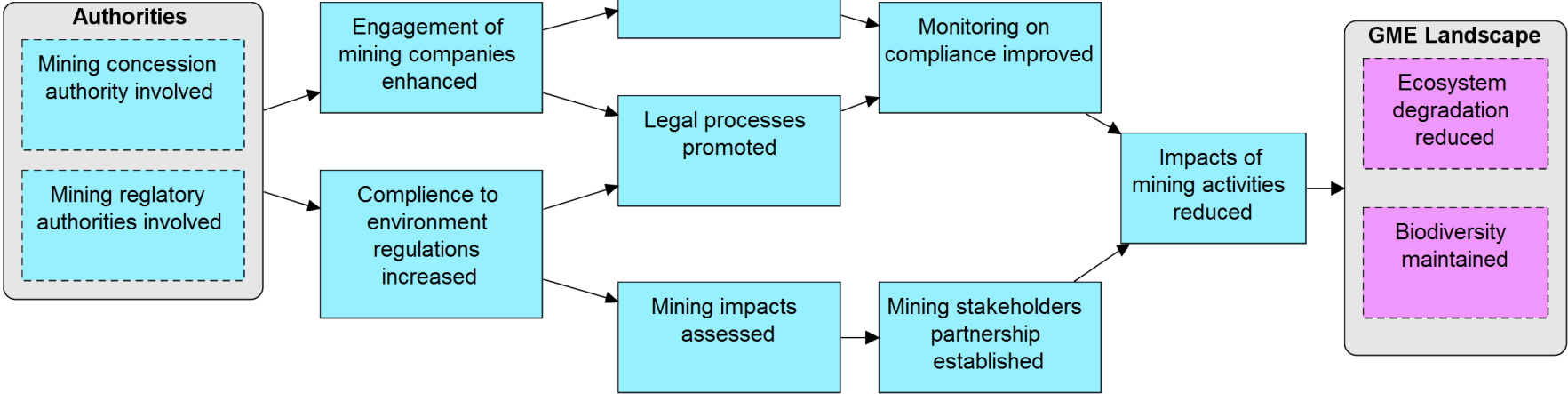
**6.3a District Land Use Framework Plans RC
v 2015-06**



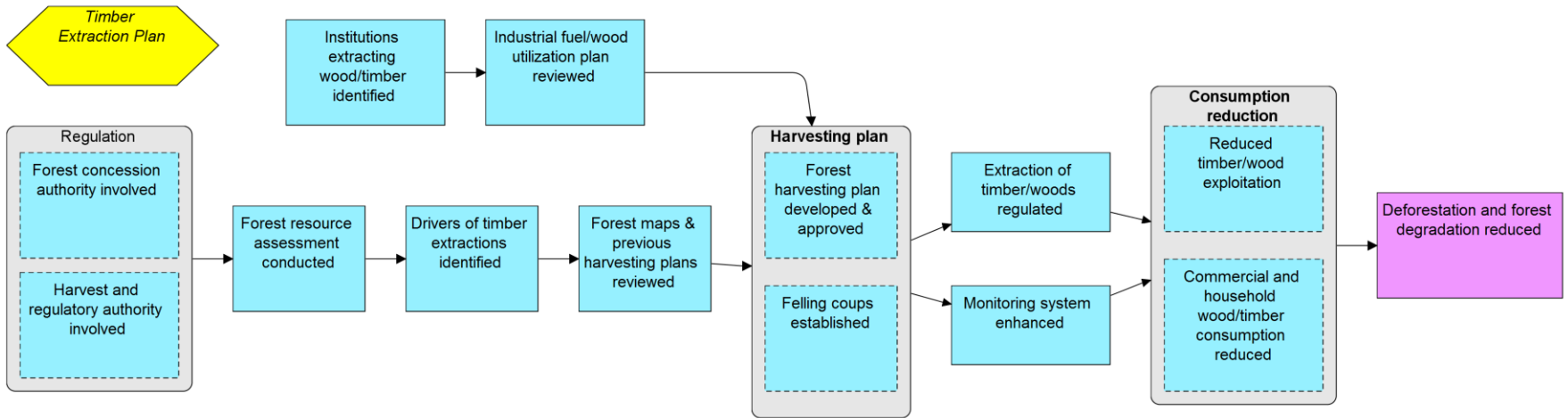
**6.4 Community Forest Management RC
v 2015-06**



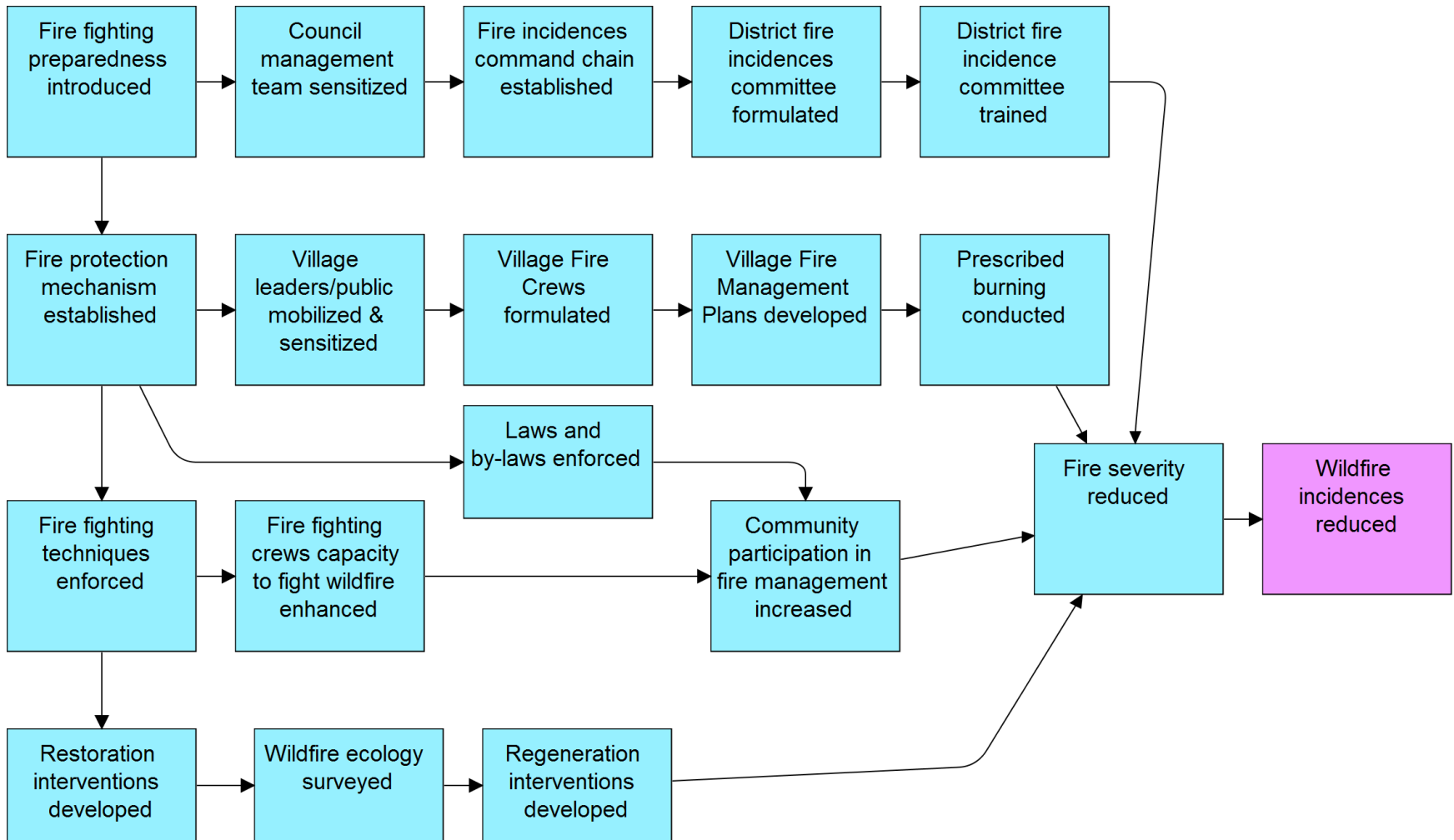
**6.4b Mining Extraction Plan RC
v 2015-06**



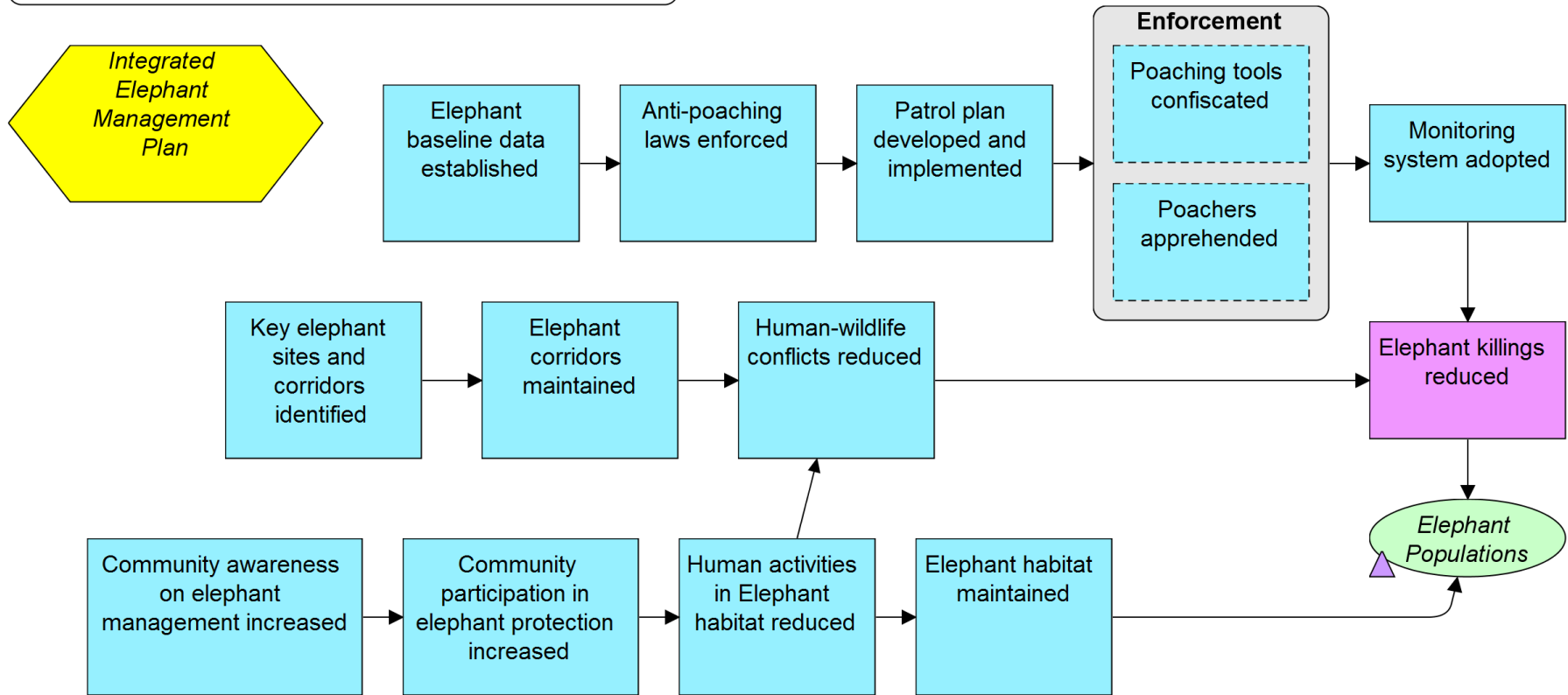
6.4a. Timber Extraction RC
v 2015-06



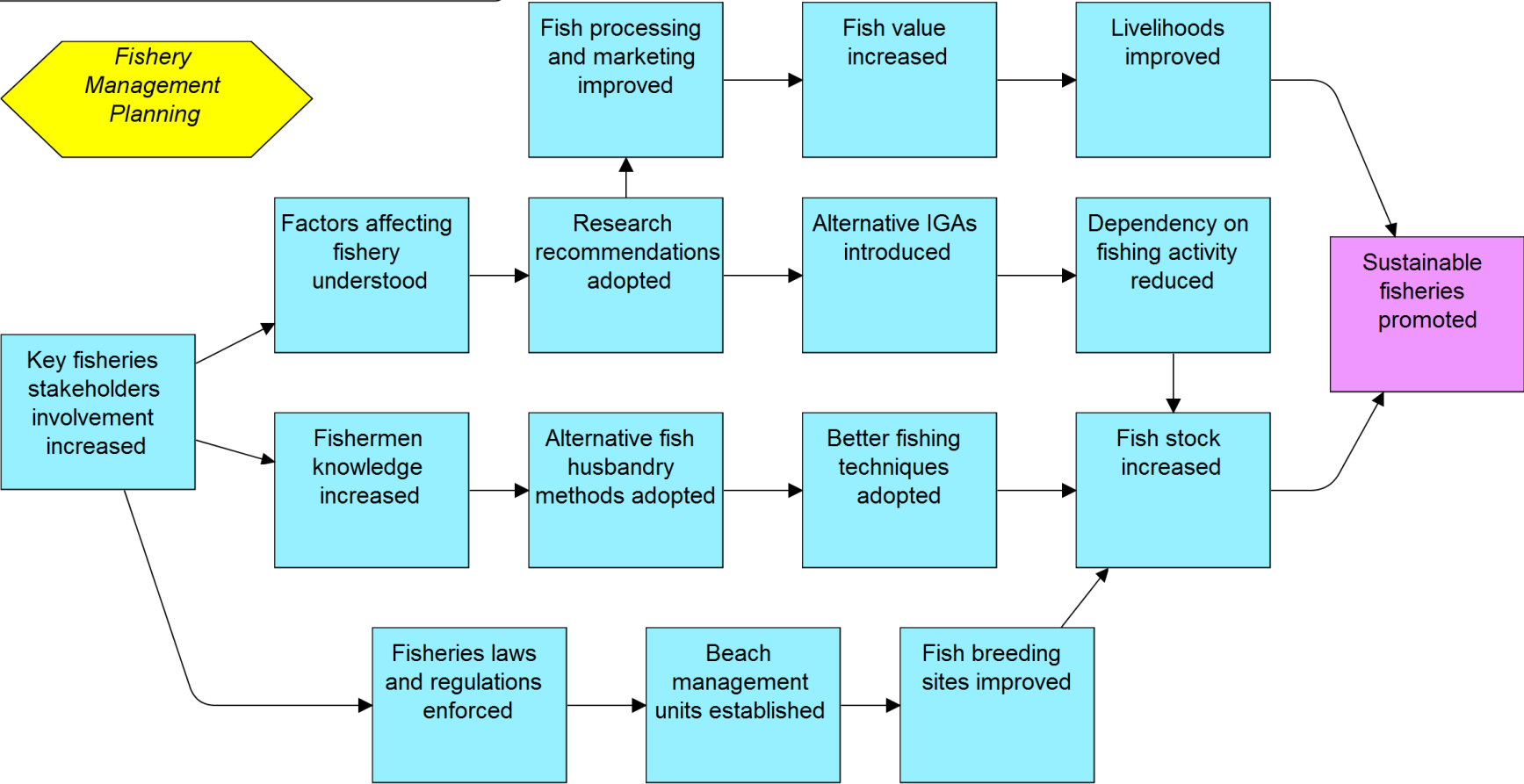
**6.4d Wildfire Management RC
v 2015-06**



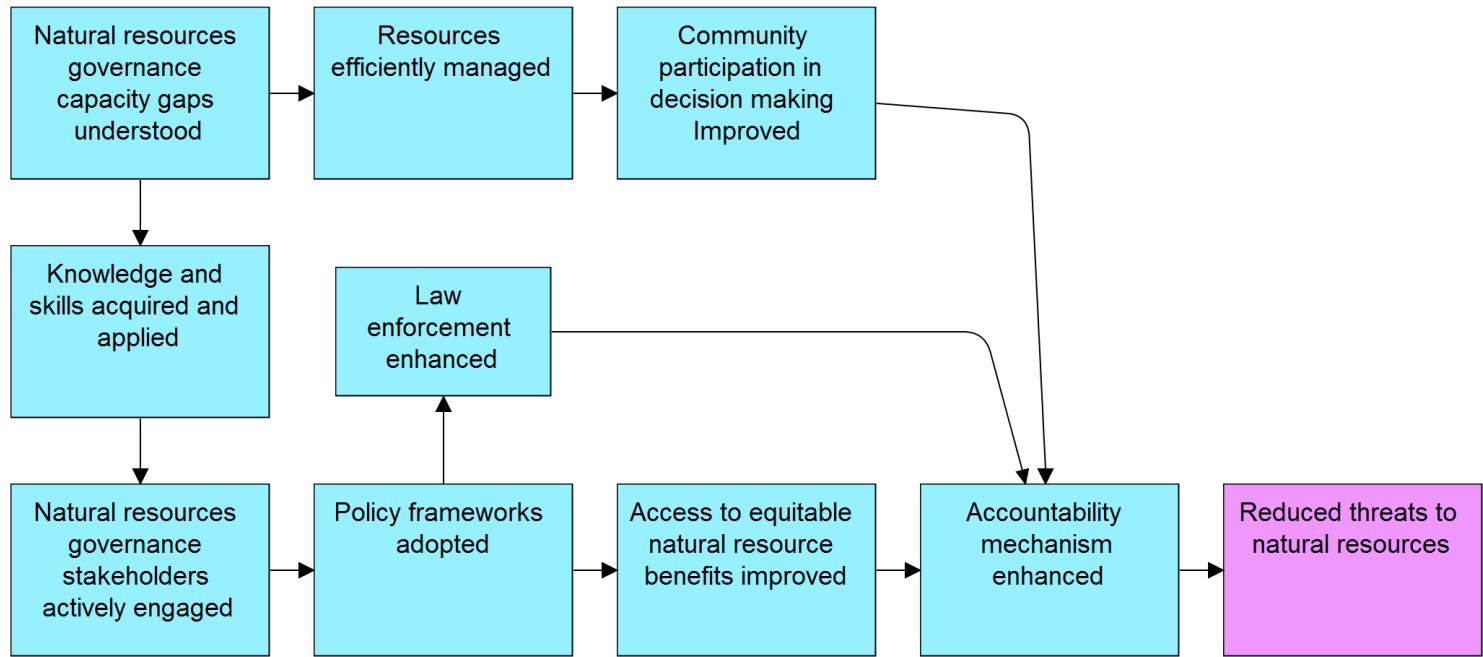
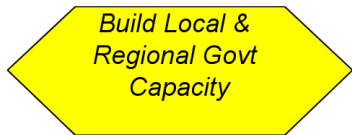
**6.6b Integrated Elephant Management Plan RC
v 2015-06**



**6.6a Fishery Management Plan RC
v 2015-06**



**9.2a Build Local & Regional Govt Capacity RC
v 2015-06**



9.2b Capacity & Support for Existing PAs RC v 2015-06

Capacity & Support for Existing Govt PAs

