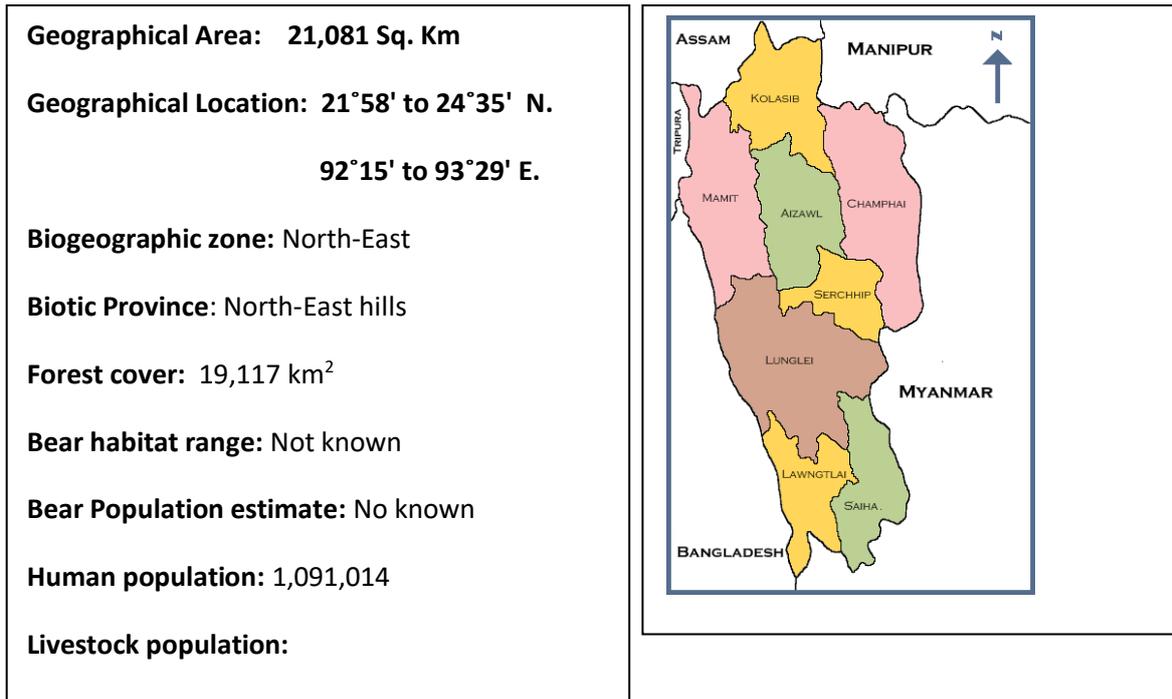


Bear Conservation Action Plan

Mizoram

2012



Introduction

Mizoram is a land of rolling hills, valleys, rivers and lakes. As many as 21 major hill ranges or peaks of different heights run through the length and breadth of the state, with plains scattered here and there. The average height of the hills to the west of the state is about 1,000 meters. These gradually rise up to 1,300 meters to the east. Some areas, however, have higher ranges which go up to a height of over 2,000 meters. Phawngpui Tlang also known as the *Blue Mountain*, situated in the south-eastern part of the state, is the highest peak in Mizoram at 2,210 meters. Most prominent hill ranges are oriented in a north-south fashion providing two prominent aspects, the east facing and the west facing.

Mizoram, one of the seven sisters of the North Eastern Region of India, has a geographical area of 21,081 km². Ninety one percent of its geographical area (19,117 km²) is covered by forest (Department of Environment and Forest, Mizoram 2012). It has sub tropical temperate climate. The annual rainfall is 2000-3000 mm.

Based on past studies as well as from the field observations, Singh et al. (2002) described the forest types of the state based mainly on altitude, rainfall and dominant species composition. The classification is as follows: 1) Tropical Wet Evergreen Forest, 2) Montane sub-tropical Forest, 3) Temperate Forests, 4) Bamboo Forests, 5) Quercus Forests and 6) Jhumland.

Three species of bears are reported to occur in the state and these are the sloth bear, the Asiatic black bear and the Malayan sun bear.

SLOTH BEAR

Distribution and relative abundance

There are conflicting accounts on the presence of this species from Mizoram. According to Choudhury (2011), there are no reports of the species from anywhere in the state of Mizoram but chances of its presence cannot be ruled out since this species is known to occur in south Assam areas Choudhury (1983) that lie adjacent to Mizoram. It had been reported in the past from the area of Surma or Barak Valley, Assam by Cuvier (in Pocock 1932). However, no specimen has been observed recently. Mishra *et al.* (1994) reported of direct sighting of one individual with a cub in Dampa Tiger Reserve. However, Yoganand *et al.* (2006) felt that the Sloth Bear reports from Mizo Hills need confirmation. The Forest department brochures and reports also continued to mention its occurrence in Dampa but with no supporting material. The camera trappings in Dampa as well as some other areas has not, till date, revealed presence of the Sloth Bear although Malayan Sun Bear has been photographed.

During the survey conducted by Wildlife Trust of India, no forest division or protected area has reported to have sloth bear in their area.

Population estimates

No population estimation of sloth bear has been carried out by the State Forest Department or any other institutions in the state.

Conservation Issues

i. Threats to species

No poaching cases of sloth bear have been reported. There are also no reports of any retaliatory killings (to reduce livestock and crop depredations) of sloth bear in Mizoram.

ii. Threats to habitats

Since the areas of sloth bear distribution are not known, it is difficult to assign threats to its habitats. However, habitats similar to those where this species is found elsewhere suffer from habitat degradation and fragmentation due to extraction of non-timber forest produce, illicit cutting and lopping of trees, fruit collection, plantations, expansion of agriculture and forest fires, especially during the season of *Jhum*.

Management actions taken

i. Protection to species

The sloth bear is listed as "Vulnerable" (International Union for Conservation of Nature and Natural Resources IUCN 2012). It is also listed on Appendix III of CITES (GOI 1992) and on Schedule I of the Indian Wildlife (Protection) Act as amended in 2003 (GOI 1972, 2003). No specific measures for sloth bear have been taken by the state forest department.

ii. Habitat management

If the species occurs in Dampa Tiger Reserve, as has been reported, the habitat is reasonably well protected. Its presence in other areas of the state is doubtful.

iii. Management of bear-human interactions

No specific management action has been taken for sloth bear human interactions in the state. There is no specific report of livestock (cattle, goat and sheep) depredation by sloth bear and also no specific report of injury to any villager, hunter or wood cutters.

iv. Research and monitoring

No targeted work on sloth bear is being undertaken in the state. However, several potential sloth bear habitats in the state are being surveyed/monitored under general surveys (Kaul et al. 1996) or targeted surveys like for those of tigers in Dampa TR.

Limitations

Since there are question marks on its presence in the state, it is very difficult to prepare a plan for its protection/conservation. The key must therefore be to establish its presence or absence.

ASIATIC BLACK BEAR

Distribution and relative abundance

In Mizoram, Asiatic black bear is present in Dampa Wildlife Sanctuary and Tiger Reserve (Green 1993), and is also reported from the Murlen National Park. During the survey conducted by Wildlife Trust of India, all 14 forest divisions and 10 protected areas reported to have black bears in their areas (Table 1 and 2) suggesting a reasonably widespread distribution.

Population estimates

No population estimates for Asiatic black bear are available and as far as is known, none exist.

Conservation Issues

i. Threats to species

The black bear population in Mizoram is under threats of poaching and hunting for local consumption. The level of bear human conflict is also high in the state as reported in 47% of the forest divisions of the state. The protection of black bear populations outside protected areas is almost absent. Low intelligence network is also a reason of threat for black bears as reported by 85% respondents from the forest department.

ii. Threats to habitats

The potential black bear habitats in Mizoram are under threat of habitat degradation and fragmentation due to slash-and-burn or *jhum* cultivation, deforestation and human settlements in forest areas. Large part of the black bear habitat in the state is threatened due to lack of fund and infrastructure for protection and habitat management as reported by a majority of the forest department officials. There is also lack of manpower in the state *Forest Department* because of which habitat protection and management tasks cannot be undertaken *effectively*.

Management actions taken

iii. Protection to species

The black bear is "Vulnerable" to extinction (IUCN 2012). It is also listed in the Appendix I of CITES (GOI 1992) and on Schedule II (pt. II) of the Indian Wild Life (Protection) Act, 1972.

Habitat management

Black bear populations in the state are reported to occur in all the 10 protected areas as a result of which a substantial part of their distribution range seems to be under protection as a result. However, no black bear specific management action has been taken by the state forest department.

iv. Management of bear-human interactions

A total number of ten conflict cases have been recorded by the state forest department in last five years. The forest department has been providing ex-gratia to the *genuine* victims of *unprovoked* human-bear conflict in the state. Eleven applications for compensation have been received in last five years, out of which six applications got sanctioned. Two hundred and forty two cases of crop depredation by black bear and sun bear have been recorded by the state forest department between 2006 and 2011. Eight cases of human attack by black bear and sun bear, including one mortality, has been recorded during this period. However, none of the forest divisions has a conflict management team or specific management plan to mitigate conflict.

v. Research and monitoring

No specific Asiatic black bear related work in the state has been reported although some information has been generated as a result of work on other species and habitats.

vi. Limitations

Lack of data precludes formulation of any effective management or protection plans.

MALAYAN SUN BEAR

Distribution and relative abundance

Probably the earliest reference to the presence of the Malayan Sun Bear close to Mizoram was by Lewin (1869) who mentioned of its occurrence in Chittagong Hill Tracts. In one of the sites, south of Assam's Cachar district, a sun bear was photographed through camera trap set up by the state forest department in February 2009. This area is now Pualreng Wildlife Sanctuary in the Kolasib and Aizawl districts. Prior to that, the species had been photographed by camera trap in Dampa Tiger Reserve in *November 2006*. Forest staff and experienced hunters familiar with the species have reported its presence in Lengteng Wildlife Sanctuary, Murlen National Park, Ngengpui Wildlife Sanctuary and Phawngpui (Blue

Mountains) National Park, besides unclassified forests scattered all over the state including Thorangtlang, Tawi and *Pualreng* Wildlife Sanctuaries. During the survey conducted by Wildlife Trust of India, 13 forest divisions and 10 protected areas reportedly possessed sun bears in their areas (Table 1 and 2).

Table 1. The presence of bear species in different forest divisions in Mizoram

	District	Forest division	Black Bear	Sun Bear	Sloth
1	Mamit	Mamit	Y	Y	N
2	Champhai	Khawzawl	Y	Y	N
3	Lunglei	Lunglei	Y	Y	N
4	Mamit	Dampa	Y	Y	???
5	Lawngtlai	Lawngtlai	Y	Y	N
6	Lunglei	Tlabung	Y	N	N
7	Mamit	Kawrthah	Y	Y	N
8	Aizawl	Aizawl	Y	Y	N
9	Serchhip	N.Vanlaiphai	Y	Y	N
10	Aizawl	Darlawn	Y	Y	N
11	Serchhip	Thenzawl	Y	Y	N
12	Champhai	Champhai	Y	Y	N
13	Saiha	MADC	Y	Y	N
14	Kolasib	Kolasib	Y	Y	???

Table 2. The presence of bear species in different protected areas in Mizoram

	Protected Area	District	Black Bear	Sun Bear	Sloth Bear
1	Phawngpui Blue Mountain NP	Lawngtlai	Y	Y	N
2	Lengteng WLS	Champhai	Y	Y	N
3	Murlen NP	Champhai	Y	Y	N
4	Ngengpui WLS	Lawngtlai	Y	Y	N
5	Pualreng WLS	Kolasib	Y	Y	N
6	Dampa TR & WLS	Mamit	Y	Y	???
7	Khawnglung WLS	Lunglei	Y	Y	N
8	Tawi WLS	Aizawl	Y	Y	N
9	Thorangtlang WLS	Lunglei	Y	Y	N
10	Tokalo WLS	Saiha	Y	Y	N

Population estimates

No population estimation of Sun bear has been carried out by the State Forest Department or any other institutions in the state. However, relative estimates may be available through camera trapping exercises that were undertaken as part of the All India Tiger Estimation exercise.

Conservation Issues

i. Threats to species

In Mizoram, sun bear populations are severely threatened due to poaching for trade in its body parts. Live bear cubs may be kept as pets in villages. In some cases the sun bear suffers from human retaliation as a result of human-sun bear conflict. Poaching of sun bears is a critical problem in their areas of occurrence and was admitted by about 25% respondents comprising of forest officials in questionnaire interviews conducted by Wildlife Trust of India.

Many villagers suffer from both economic loss due to crop damage and human injuries by Sun bear. The questionnaire interviews conducted by WTI also suggested severe crop depredation by sun bears in Lawngtlai and Thenzawl Forest Divisions. In such cases, locals may resort to retaliatory killings impacting sun bear populations. Conflict is reported as a threat to the bear population in Mizoram in 47% forest divisions.

ii. Threats to habitats

Large part of the Sun bear habitat in the state is threatened due to slash-and-burn (*jhum*) cultivation. This activity causes deforestation and fragmentation of habitats. The status and distribution of sun bears depend on the extent of availability of lowland forest habitats. Due to conversion of lowland forests into agricultural areas, plantations and human habitation, most of the suitable sun bear habitats got degraded and fragmented. Bears invade agricultural crop fields for their food requirement and attack people when encountered suddenly. There is also a lack of funds and infrastructure (reported by over 70% forest divisions) and manpower (reported by 30% forest divisions) for protection and habitat management within state *Forest Department*

Management actions taken

i. Protection to species

Sun bear is found only in the north-eastern states in India, and very little management is practiced for protection of its populations. The sun bear is listed as "Vulnerable" in the Red Data Book (IUCN 2012). It is also listed on Appendix I of CITES (GOI 1992) and on Schedule I of the Indian Wild Life (Protection) Act, 1972. Other than this legal protection, no active measures are in place to protect sun-bear populations.

ii. Habitat management

No habitat management practice exists for sun bears in Mizoram. Sun bears are poached regularly for trade in body parts, and they are also killed by villagers in retaliation against crop damage. No specific management action has been taken up by the state forest department for the protection of Sun bear and its habitat. However, all protected areas in the state have sun-bear populations and thus their habitats are relatively free from human disturbance.

iii. Management of bear-human interactions

Human-sun bear interactions include crop depredation by sun bear and retaliatory killing of bear by aggrieved people, poaching of bears for trade in body parts, meat consumption, sale of cubs, human injuries by bear and impacts of human activities or non-timber forest produce collection on bears and habitats. There is also no systematic documentation of such cases. So far, there are no specific management plans for the sun bear-human interactions in the State.

iv. Research and monitoring

There are no regular surveys or monitoring by the State Forest Department or any other institutions/ organization.

v. Limitations

Lack of knowledge and absence of a concerted plan for the species hampers its conservation in a coordinated manner.

Management Actions Proposed

1. Research and monitoring

Surveys should be conducted as a first step to estimate the population of all three bear species. The distribution of bears should be mapped in the entire state. Threats in terms of anthropogenic pressure on habitat, poaching/ hunting pressure must be identified within key bear areas.

2. Protection of bear species

Awareness should be created among local communities on bear conservation. Civil society, security personnel and line departments must be involved for better protection. Adequate skilled and equipped staff must be deputed in all bear ranging areas. Relevant acts like the Wildlife Protection Act (1972), Mizoram Forest Act,

Autonomous DC rules and arms act must be strictly enforced. A wildlife crime control cell must be created to help fight wildlife crime. Enforcement agencies such as police, customs and judiciaries must be sensitized. Shifting cultivation may be reduced in key bear areas and degraded areas should be restored. Appropriate incentives may be required to wean people away from unwanted Jhum. Reward incentives may be institutionalized to community based groups achieving conservation/ protection of important animals including bears.

3. Managing human-bear conflict

Ways how people can co-exist with bears should be propagated through a customised publicity /awareness campaign with clear role for local communities. Ex-gratia payments should be made with faster dispensation which may be possible with creation of a pool of funds. The conflict needs to be managed properly in areas of high conflict with adequately trained teams providing prompt support in situations.

4. Capacity building and infrastructure

The manpower requirements in different protected areas should be met immediately. A cadre of community based foresters may be created to achieve on ground protection. Capacity building programs should be undertaken for frontline staff and community based foresters so that they are technically proficient. Adequate infrastructure may be provided to the staff so that they are able to discharge their duties properly. Rewards/ incentives should be institutionalized to frontline staff for outstanding performance in bear conservation (wildlife conservation).

5. Rescue and rehabilitation

The bear cubs, which are fit for rehabilitation, must be rehabilitated following standard protocols. A rehabilitation/ life time care facility may be created in the state. Rehabilitation staff must be trained properly. The holding facility in the Aizawl Zoo should be increased until life time centre created.

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VISION

Viable population of bears live protected in secure habitats without negative interaction with humans



GOAL

To conserve bears and their habitat and reduce human-bear conflict



Item	Conservation objectives
1	Theme: Research and monitoring Objective: To identify key areas for bear conservation in the state

ACTIONS

No	Activity	Rank	Timeframe
1	Survey, population estimation and mapping	1	
2	Undertake ecological studies for species interaction	2	
3	Identify threats (anthropogenic pressure on habitat, poaching/hunting pressure, etc within key areas)	3	

Item	Conservation objectives
2	Theme: Protection of bear species Objective: To protect bear species and their habitats

ACTIONS

No	Activity	Rank	Timeframe
1	Create awareness among local communities	2	
2	Involve civil society, security personnel and line departments in the protection of bears	3	
3	Depute adequate, skilled and equipped staff	2	
4	Enforce strictly, Wildlife Protection Act, Mizoram Forest Act,	3	

	Autonomous DC rules and Arms act		
5	Create a Wildlife Crime Control Cell in the state	3	
6	Sensitize enforcement agencies (police, customs, judiciary) to seek their help in protection of species	3	
7	Strengthen Intelligence gathering mechanisms within the state to fight and pre-empt wildlife trade	3	
8	Reduce/regulate shifting cultivation in key bear areas and restore degraded areas through community participation	1	
9	Institute rewards- Incentives to community based group achieving conservation/protection	4	

Item	Conservation objectives
3	Theme: Human-bear conflict Objective: To reduce human-bear conflict

ACTIONS

No	Activity	Rank	Timeframe
1	Initiate a public education campaign about importance of bears and the way to co-existence with them amongst local communities, media, police, health dept {through Media, NGOs (eg. YMA, YLA, etc) and Village Council/local council}	1	
2	Create corpus in each division for ex-gratia support (death/ injury/ depredation) utilizing CAMPA money for faster dispensation	1	
3	Maintain prompt conflict reporting systems	3	
4	Publicize the compensation/ ex-gratia scheme so that it has greater utility	1	
5	Institute insurance schemes for crop depredation	2	

Item	Conservation objectives
4	Theme: Capacity building and Infrastructure Objective: To have a skilled and trained manpower in public and private domain with effective and supportive infrastructure

ACTIONS

No	Activity	Rank	Timeframe
1	Recruit the requisite staff		
2	Create a cadre of community based foresters		
3	Build capacity of frontline staff and community based foresters		
4	Place trained staff at suitable places		
5	Create site specific infrastructure (eg staff quarter, approach road, water & power supply, vehicle, communication system,		

	etc)		
6	Institute rewards- Incentives to frontline staff for outstanding performance in bear conservation (wildlife conservation)		

Item	Conservation objectives
5	Theme: Rescue and Rehabilitation Objective: To address welfare concerns of bears rescued from local individuals

ACTIONS

No	Activity	Rank	Timeframe
1	Rehabilitate bears cubs fit for rehabilitation following standard protocols	3	
2	Create rehabilitation/life-time care facility (Nos could be based on requirement)including trained staff to run the facility	1	
3	Increase holding facility in the Aizawl Zoo until life-time centre created	2	