

Survival Blueprint

White-winged Flufftail, *Sarothrura ayresi*



© Henok Samson

Compiler: Bruktawit Abdu Mahamued

Contributors: Samson Zelleke, Henok Samson, Claudia Gray, Caleb Ofori

Suggested citation: Mahamued, B.A., Zelleke, S., Samson, H., Gray, C. and Ofori, C. 2020. A Survival Blueprint for the conservation and management of the White-winged Flufftail, *Sarothrura ayresi*, in Ethiopia. An output from the EDGE of Existence fellowship, Zoological Society of London.



1. STATUS REVIEW

1.1 Taxonomy:

Sarothrura ayresi (Gurney, 1877)

Class: Aves

Order: Gruiformes

Family: Rallidae

Genus: *Sarothrura*

Species: *ayresi*

Common Name: White-winged Flufftail

The White-winged Flufftail (*Sarothrura ayresi*) was first described in 1877 by Gurney as *Coturnicops ayresii* in South Africa (Dowsett and Forbes-Watson, 1993). It was later placed in the genus *Sarothrura* (Heine, 1890). *Sarothrura ayresii* under the Order Gruiformes and the Family Rallidae (del Hoyo et al., 2014). The birds in Ethiopia were first described in 1911 by Bannerman as *Ortygops macmillani* (Sibley and Monroe, 1993).

The bird is also called the White-winged Crake. In *Oromiffaa*, the local language spoken in the regional state where the bird occurs in Ethiopia, (Berga), it is referred to as Simbirro Bargaa, which is literally translated as the bird of Berga. Berga is the name of the river that runs through the birds' wetland habitat at this locality.

The genus *Sarothrura* comprises seven species that are all found in Africa. *Sarothrura ayresi* is the only flufftail with white wing patches on its inner flight feathers or its' secondaries. The adult males have a chestnut head, upper back and breast, while in the female this colouration is restricted to the neck and sides of breasts (Keith, 1986). Both sexes have a black-barred chestnut tail and white wing-patches on the secondary flight feathers (Redman et al., 2009).

1.2 Distribution and population status:

The species (*Sarothrura ayresi*) is known to occur in South Africa, Zimbabwe and Ethiopia. The birds in Ethiopia were first described in 1911. The species was known from Sululta plain in Ethiopia in the 1930s and 1940s. Sululta is in Oromia region, Central Ethiopia about 20km north of Addis Ababa. *Sarothrura ayresi* was re-discovered again in 1995 in Sululta in a certain locality called Weserbi. Their breeding was confirmed in July and August of the same year at the Weserbi locality (Atkinson et al., 1996). Due to this reason the Sululta site was designated as an Important Bird Area in 1996. However, the species has not been found there in recent times (Tilahun et al., 1996).

In 1997, several breeding pairs (about 200) of the White-winged Flufftail were found in the Berga wetlands. Berga is in Oromia region, Central Ethiopia about 70km west of Addis Ababa. The Berga site was soon designated as an Important Bird Area (IBA) following this significant finding of the species at the site. During 1999, the first nest was found in the area further confirming that it is breeding at this site. The Berga wetlands continues to be an important stronghold for the species even in recent years.

The species has also been found in Bilacha located in Oromia region, Central Ethiopia, close to the Berga wetlands. In 2017 and 2018, a couple of pairs and one nest was found at Bilacha while conducting surveys as part of my EDGE fellowship activities. However, in 2019



we were not able to find a single individual or any signs of its' breeding activities at this site. During the 2019 survey, we realized that the area had been grazed very low and disturbed as compared to the previous years.

The White-winged Flufftails seen in Ethiopia and South Africa were recently found to be the same population (Dalton et al., 2017). The current estimate of the global population of the species is less than 250 individuals (BirdLife International, 2015) which has resulted in the upgrade of the species IUCN Red List status to Critically Endangered since 2013 (BirdLife International, 2018).

1.2.1 Global distribution:

Country	Population estimate (plus references)	Distribution	Population trend (plus references)
Ethiopia	50 – 249 individuals (BirdLife International, 2020)	Oromia region	Decreasing (BirdLife International, 2020)
South Africa	50 – 249 individuals (BirdLife International, 2020)	Middlepunt wetland, Wakkerstroom, Steenkampsberg and Bedford wetland	Decreasing (BirdLife International, 2020)
Zimbabwe	50 – 249 individuals (BirdLife International, 2020)	Harare (Monavale, Marlborough)	Decreasing (BirdLife International, 2020)
Zambia	50 – 249 individuals (BirdLife International, 2020)	Chingola, Solwezi?	Decreasing (BirdLife International, 2020)

1.2.2 Local distribution:

Country	Region / province	Site	Level of Protection	Population size	Reference(s)	Notes
Ethiopia	Oromia	Berga	IBA with no protection	50 – 249 individuals	(BirdLife International, 2020)	Birds still present at current time
Ethiopia	Oromia	Bilacha	No protection	Not known		The bird has not been recorded since 2018.
Ethiopia	Oromia	Weserbi	IBA with no protection	Not known		No recent records since late 1990s



1.3 Protection status:

Since the realization that Ethiopia is an important site for the species, the Ethiopian Wildlife and Natural History Society (EWNHS) along with the Middlepunt Wetland Trust and BirdLife South Africa have initiated several research and conservation works at the Berga site. This has resulted in the advancement of knowledge about the species, community development work in the area including the digging of new water wells, construction of a school, and the establishment of a strong Site Support Group (SSG) at Berga. An SSG is a local conservation group that is usually set up by BirdLife International partners in order to conserve a threatened bird species and its habitat. In this particular instance, the SSG undertake several conservation activities such as protecting the core habitat of the species by making sure that grasses in these core habitat areas are not harvested during the birds breeding season. The SSG also helps to raise awareness about the species in the local community.

Two of the sites (Berga and Weserbi) in Ethiopia are Important Bird Areas but do not have legal protection. At Berga, some 400 hectares of land is owned by the Holeta Agricultural Research Centre, which is used for breeding cattle. The organization does not allow grazing on this land from June until December, which synchronizes with the time the species inhabits Ethiopia. The rest of the grasslands are unregulated communal and private grazing areas.

Weserbi has become quite degraded over recent years and is therefore not suitable for the species. Unless grazing pressure is significantly reduced, this site will no longer be able to support the species into the future.

Bilacha is a relatively small area and it is mostly communal grazing land with some fenced off private grazing areas. Some individuals who own small pieces of the wetland have erected fences to prevent other cattle from grazing on private property (land) and not necessarily to protect the bird's habitat.

1.4 Ecology, behaviour and habitat requirements in Ethiopia:

Behavior– The White-winged Flufftail is a secretive and a very small bird measuring about 14cm and weighing about 30gm (Redman et al., 2009). They are ground-nesting birds that forage by cryptically moving through longer grasses, which makes it difficult to see them (Sande et al., 2008). They usually flush when approached (Allan et al., 2006). This is the main means of detecting the species whilst undertaking surveys although they may also be spotted through nest encounters. During the EDGE fellowship, it was observed that the birds aggressively defend their nest when incubating. They display aggression by showing the white patches on their wings and charging towards the intruder whilst making hissing sounds in the process.

Habitat requirements – In Ethiopia, the species occurs in seasonally flooded vegetation (Sande et al., 2008) in high altitude wetlands above 2,000 meters above sea level. According to data gathered at Berga as part of this EDGE fellowship activities (2018, 2019), the White-winged Flufftails were found in areas with mean water level of 5.45cm (Table 1). It appears that the species preference for water spans from as low as 2cm to as high as 8cm. The species is usually found in areas with taller grasses (mean grass height of 30.69cm and a range of 25 - 35cm). Regarding their preference or tolerance of bare ground, we have found the Flufftail mainly in areas with 10 to 18% bare ground coverage.



Table 1. The mean, standard deviation, min and max values of the habitat variables measured at Berga, Ethiopia, in locations where the White-winged Flufftails were sighted.

	Water Level (cm)	Grass Height (cm)	Bare ground (%)
Mean Value	5.30	30.69	14.92
Standard Deviation	3.89	8.34	8.23
Max	12	45.67	40
Min	0	16.67	5

Regarding the vegetation types, the Flufftails were found in areas that had a combination of grass and sedge species. There were 13 species of plants that were found in the vicinity of Flufftail habitat. Eight of the most commonly found plant species are listed in Table 2. *Ashufe*, *Balemi*, *Chefe Guba*, *Kuni* and *Chilimo* are found in higher abundance in the sites where the White-winged Flufftail has been recorded, indicating their suitability for the species.

Table 2. The local and scientific names of plant species mainly seen in Berga where White-winged Flufftails were sighted.

	Local name (Oromiffa)	Scientific name
1.	Ashufe	<i>Eragrostis tenuifolia</i>
2.	Balemi	<i>Andropogon dummeri</i>
3.	Chefe Guba	<i>Ranunculus multifidus</i>
4.	Kuni	<i>Cyperus rigidifolius</i>
5.	Chilimo	<i>Cyperus atronervatus</i>
6.	Buski	<i>Cyperus dichrostachyus</i>
7.	Amakyta	<i>Trifolium wartinianum</i>
8.	Welebo	<i>Crinum abyssinicus</i>



1.5 Threat analysis:

Threat	Description of how this threat impacts the species	Intensity of threat <i>(low, medium, high, critical or unknown)</i>
Habitat loss and degradation	<p>Expansion of Agriculture including eucalyptus plantations is one of the main causes of the loss of the species habitat.</p> <p>Subsequent soil erosion following habitat conversion decreases the availability of good quality grass species that the Flufftail can use to feed and/or to nest.</p> <p>Overgrazing by cattle can also affect the amount of suitable grass that is available for the Flufftail.</p> <p>The birds' habitat is degraded by trampling of grass by people and cattle.</p> <p>Grazing exposes areas near the birds' nests to predators and to further trampling as they often open up new foraging paths.</p>	Critical
Trampling by cattle	During grazing cattle could directly trample on the birds' nests. This lowers the nest survival rates.	Critical
Human disturbance during breeding season	<p>Cutting of grass decreases the amount of suitable grass available for the Flufftail to breed and feed in. Grass cutting at breeding site is usually for a traditional Ethiopian coffee ceremony. This indirectly decreases the nest survival rates.</p> <p>In addition, when people regularly pass through the core breeding area of the bird, they may trample on the nests or trample on suitable grass (as mentioned above) and thus decrease the birds nesting success.</p>	High
Absence of laws to regulate and sustainably manage the grasslands for the White-winged Flufftail at the local and national level	Increases the likelihood of habitat loss, degradation and destruction in the area and hence the amount of habitat available for the species to breed.	Critical



Low interest of the local community towards the conservation of the species	If the local community were more aware of the current situation and given alternative means of livelihood and better community services, they would be highly interested to help the conservation of the species.	Critical
Climate change	Changes in rainfall regimes could affect the birds' migration and breeding.	High
Absence of consistent population data to inform and influence decisions	The actual population of the Flufftails needs to be regularly monitored in order to make informed decisions. Otherwise it may lead to wastage of resources.	High

1.6 Stakeholder analysis:

Country	Stakeholder	Stakeholder's interest in the species' conservation	Current activities	Impact (positive, negative or both)	Intensity of impact (low, medium, high or critical)
Ethiopia	Site Support Group (SSG) at Berga	The group was set up as a local volunteer group to help conserve the White-winged Flufftail. They take pride in the birds' conservation because the birds are primarily found in the Berga wetland (their community land).	Informally raising awareness about the importance of the site for the species. Surveying the species alongside other researchers. Previously the SSG has been involved in patrolling the core breeding area of the species.	Positive	High
Ethiopia	Ethiopian Wildlife Conservation Authority (EWCA).	African Eurasian Waterbird Agreement (AEWA) representative.	They work with the national and local government to influence the protection and restoration of Flufftail habitat.	Positive	High
Ethiopia	Ethiopian Wildlife and Natural History Society (EWNHS).	Fulfilling its purpose as a BirdLife partner in Ethiopia.	They support the SSG to implement its' conservation work.	Positive	High
Ethiopia	Cattle rearing state farm.	They use the majority of the wetland (species habitat) as grazing ground for their cattle during the dry season.	Prohibiting grazing in 400ha of land that it administers. They specifically conduct daily patrols from June – December to monitor and stop illegal grazing on their land. By controlling and managing grazing activities	Positive	Critical



			on their land, they indirectly preserve some comparably suitable habitat for the species.		
Ethiopia	Local community.	Local pride.	When convinced the local people positively influence the breeding success of the species by not grazing livestock or cutting grass near the nest sites.	Both	Critical
Ethiopia	Herders and young children.	They seek acknowledgment of their efforts at protecting the species and take local pride that the species occurs in their community.	They are very good at finding nests and can help the research team to locate nests. They have helped to protect nests till the chicks fledge by halting grazing in that area. They can also influence the community.	Both	Critical
Ethiopia	Local government	Local pride.	None	Both	Critical
Ethiopia	Regional government	Local pride.	None	Both	Critical
South Africa	BirdLife South Africa.	Fulfilling its purpose as a BirdLife partner.	Supports research and conservation work in South Africa and Ethiopia.	Positive	Critical
South Africa	Middlepunt Trust.	Wildlife conservation trust established to conserve the species.	Owns and protects one of the species' breeding areas in South Africa. Supports ongoing community work in Ethiopia.	Positive	High

N.B. The threat and stakeholder analysis as well as the action program (except for objective 8) are written aimed at the Berga site.



1.7 Context and background information that will affect the success of any conservation action for this species:

	Description	Threats	Opportunities
Socio-cultural effects and cultural attitudes	Local community are accustomed to cutting grass from the area during the breeding season for coffee ceremonies. During the ceremony, coffee is brewed in a clay pot on top of a small furnace and the cut grass is placed over the floor especially near the furnace. This ceremony takes place in most days of the year.	This activity can negatively impact the species by increasing the chances of trampling and disturbance of the nesting sites. This could decrease its breeding success.	When the community feel their concerns and priorities are addressed and heard they can do a lot to support the conservation efforts in the area.
Economic implications	The community has in the recent past started planting eucalyptus trees as a means of income generation. Farming is also slowly rising in the area.	This will affect the habitat structure and the water content of the area.	Providing other means of diversified community income instead of overgrazing the area.
	Cutting grass like <i>ashufe</i> (<i>Eragrostis tenuifolia</i>) is also used to generate income by selling as fodder for cattle.	This is one of the suitable grasses used by the species to as nesting habitat. Thus overharvesting this species will decrease its nesting success.	Maybe able to use some of the grass after the chicks have fledged.



	Grass like <i>migra</i> (<i>Pennisetum schimperi</i>) are used for making handicrafts like sewed containers.	If not sustainably used this grass type may not be found in abundance and thus slightly affect the livelihoods of the community.	The handicrafts could be sold when tourism activities start in the future or just to support the conservation activities.
	Tourism is not allowed but tourists sometimes come and try to illegally see the species as it is a very rare species.	No protocols set in place so it could affect the survival of the species. If several tourists come, it could get out of hand and nesting could be disturbed.	New means of income for people.
Existing conservation measures	<p>The area that is owned by the cattle rearing state farm (400ha of the core area) helps to minimize grazing and trampling in the area.</p> <p>The SSG sometimes attempts to protect the breeding area at Berga which is less than 5km².</p>	The area does not cover all the suitable sites for the species at Berga. Furthermore, there are instances when some people would illegally cut grass and cattle would graze in the area. Some of the cattle of the state farm are allowed to graze to the west of the river and this could affect the species.	The state farm conducts patrols from June to December to prohibit illegal grazing, which will be very beneficial for increasing the nesting success of the species.
Administrative/political set-up	Local administrative government are aware of the importance of the Berga site for the survival of the species.	They have other priorities and usually do not work towards its conservation.	If they get to prioritize it they can make a huge difference in the conservation of the species.



Local expertise and interest	Members of the SSG have very good experience in locating the flufftails as well as their nests. They also advocate for the protection of the birds habitat.	Some other inhabitants in the area may not share the same ideas and may believe that the SSG members are involved in conservation activities because there are still direct beneficiaries of projects connected to the species.	Strong foundation in place for SSG to assist with future conservation efforts
Resources	There are limited resources for the conservation of the species by the government or other in-country bodies.	The government may not consider the species as a priority to invest conservation resources.	If resources can be secured it would be easier to support the species' conservation.
School Kids	In 2019, four school kids have received awards from my EDGE project for locating and caring for nests from disturbances like trampling.	Without training, other kids could maybe trample on nests trying to locate more nests.	The awards will inspire more kids to find and protect nests to help the species and be recognised as conservation leaders.
Local community	Some people know about the benefits gained because of the White-winged Flufftail like schools built, water wells, improved cattle breeds, etc. And they have seen that some kids have been awarded and parents praised and recognized.	They will not cooperate on further conservation efforts for the species unless they see benefits that are more immediately tangible for them.	Communities will see the long term benefits of protecting the species, and will cooperate and even lead the conservation activities.



2. ACTION PROGRAMME

Vision (30-50 years)	
The White-winged Flufftail's long-term conservation in Ethiopia is ensured	
Goal(s) (5-10 years)	
Recovery of the population of the White-winged Flufftail through community support and through increased availability of suitable breeding habitat in Ethiopia	
Objectives	Prioritisation <i>(low, medium, high or critical)</i>
Halt degradation and promote rehabilitation of the White-winged Flufftail's habitat at Berga, Ethiopia	High
Reduction of overgrazing, trampling by cattle and human disturbance of White-winged Flufftail habitat at Berga, Ethiopia	Critical
Increase the involvement of local and national government in the conservation of White-winged Flufftail	High
Assess the population trend of the White-winged Flufftail at the species habitat at Berga, Ethiopia	High
Promotion of an educational/awareness program on the plight of the White-winged Flufftail at a local and national level in Ethiopia	High
Introduction and promotion of diversified livelihoods for the community heavily dependent on the species habitat at the Berga wetland	High
Protect nest sites at Berga, Ethiopia, during the breeding season from July to October	Critical
Assess the species habitat at Bilacha and Weserbi, Ethiopia, for the presence of the White-winged Flufftail	High
Increase suitable habitat for the White-winged Flufftail at the Bilacha and Weserbi sites in Ethiopia by influencing rehabilitation of some degraded habitats	High



Activities	Country / region	Priority (low, medium, high or critical)	Associated Cost	Time scale	Responsible stakeholders	Indicators	Risks	Activity type
Objective 1: Halt degradation and promote rehabilitation of the White-winged Flufftail's habitat at Berga, Ethiopia								
Revise local land use plans	Ethiopia/ Oromia	High	2,000 Pounds/year	1-3 years	Local and national government officials, EWCA	Copies of new land use plans drafted	Government is not prioritizing the plans	Land management and advocacy
Enforce newly developed land use plans	Ethiopia/ Oromia	High	4,000 Pounds/year	2-5 years	Local and regional land use office, local community, GIS experts	Records of zero land conversion rates after 2020	Local government and community do not agree with the plans	Land management
Stop further habitat conversions to agriculture and eucalyptus plantations	Ethiopia/ Oromia	Critical	4,000 Pounds/year	2-5 years	Local land use office, local community, GIS experts	Records of zero land conversion rates	Local community does not agree with the plans	Land management



Activities	Country / region	Priority (low, medium, high or critical)	Associated Cost	Time scale	Responsible stakeholders	Indicators	Risks	Activity type
Soil conservation work to improve the grassland quality	Ethiopia/ Oromia	High	5,000 Pounds/year	2-10 years	Local agricultural office, local community	New soil conservation structures built and grassland (key grassland species abundance) improvement monitored	Local government does not see soil conservation as a priority	Land management
Reseeding of key areas at Berga with suitable grassland species for the Whit-winged Flufftail	Ethiopia/ Oromia	High	3,000 Pounds/year	1-5 years	Researchers, local experts, officials and local community	Reports, pictures and GIS maps	Area not safe to do reseeded activities due to local conflicts or unrest	Land management
Objective 2: Reduction of overgrazing, trampling by cattle and human disturbance of White-winged Flufftail habitat at Berga, Ethiopia								
Facilitate the drafting of local by-laws that reduce disturbance at the species breeding site at Berga	Ethiopia/ Oromia	Critical	2,000 Pounds/year	1-5 years	Local community, local government, SSG group, state cattle rearing farm	Bylaws drafted	Community is not interested in halting the disturbance	Meetings and communication



Activities	Country / region	Priority (low, medium, high or critical)	Associated Cost	Time scale	Responsible stakeholders	Indicators	Risks	Activity type
Regular patrolling of the breeding sites at Berga	Ethiopia/Oromia	High	3,000 Pounds/year	1-10 years	Local community, SSG group, state cattle rearing farm	Reports of locations and current states of suitable habitats and nests sites.	Community does not support the patrolling	Nest Protection
Design an awareness raising campaign to promote the bylaws and to award the people who have abided by them and those who have supported the nest protection efforts	Ethiopia/Oromia	Critical	2,000 Pounds/year	1-10 years	Local community, children and/or herders, SSG group, state cattle rearing farm	Awareness raising campaign plan. Materials for promotion. Measurements of the amount of grass allowed to grow by land owners. Number and condition of nests protected. Reports about the good deeds done and the awards given	Community is not interested in halting the disturbance	Meetings and acknowledgements
Conduct monitoring and evaluation	Ethiopia/Oromia	High	1,000 Pounds/year	1-10 years	Local community, SSG group, state cattle rearing farm	Reports of meeting conducted, M&E report and indicators	Community is not interested in halting the disturbance	Meetings, monitoring and evaluation



Activities	Country / region	Priority (low, medium, high or critical)	Associated Cost	Time scale	Responsible stakeholders	Indicators	Risks	Activity type
Objective 3: Increase the involvement of local and national government in the conservation of the White-winged Flufftail								
Hold discussions with stakeholders on the importance of the Berga site for the protection of the species	Ethiopia	Critical	5,000 Pounds/year	1-5 years	Local and national government, local community, EWCA, SSG, EWNHS, researchers	Report from meetings conducted	Government is not prioritizing the species protection	Advocacy
Raise awareness on the significance of the species protection	Ethiopia/Oromia	High	5,000 Pounds/year	2-10 years	Local and national government, EWCA, SSG, local community	Reports of events held	Government and other groups do not prioritize the conservation of the species	Advocacy
Designate the species habitat at Berga as a protected site or a community conservation area	Ethiopia	High	10,000 Pounds/year	2-5 years	Local and national government, EWCA	Draft of site protection	Local government and community do not understand the significance of species protection	Land use and management



Activities	Country / region	Priority (low, medium, high or critical)	Associated Cost	Time scale	Responsible stakeholders	Indicators	Risks	Activity type
Objective 4: Assess the population trend of the White-winged Flufftail at the species habitat at Berga, Ethiopia								
Design monitoring protocols	Ethiopia/Oromia	Critical	4,000 Pounds/year	1-3 years	Researchers, SSG, local government, EWCA, EWNHS, BirdLife South Africa	Draft of monitoring protocols	Stakeholders do not reach an agreement	Discussing and testing protocols
Acquire necessary survey equipment	Ethiopia/Oromia	High	4,000 Pounds/year	2-4 years	Local and national government, EWCA, EWNHS, SSG, researchers	List of acquired survey equipment	Equipment are not available in time for surveys	Conservation finance
Conduct surveys at least once a year	Ethiopia/Oromia	High	3,000 Pounds/year	1-10 years	SSG, researchers	Survey reports	Area is unsafe to conduct any surveys	Survey
Analyse data and report to relevant stakeholders	Ethiopia/Oromia	High	1,500 Pounds/year	1-10 years	SSG, researchers	Compiled reports	Area is unsafe to conduct any surveys	Report writing



Activities	Country / region	Priority (low, medium, high or critical)	Associated Cost	Time scale	Responsible stakeholders	Indicators	Risks	Activity type
Objective 5: Promotion of an educational/awareness program on the plight of the White-winged Flufftail at a local and national level in Ethiopia								
Design educational programme	Ethiopia/Oromia	High	2,000 Pounds/year	1-2 years	Education professionals, local government, researchers	Draft of educational programme manual, including plan	Stakeholders do not reach an agreement	Discussing and testing methods
Undertake educational programme focusing on school children	Ethiopia/Oromia	Critical	5,000 Pounds/year	2-10 years	Education professional, SSG, researchers	Number of students and teachers trained/educated, proportion of local schools reached	School administrators are not allowing the programme	Education
Conduct awareness program at local and national level for local communities and government officials	Ethiopia/Oromia	High	7,000 Pounds/year	2-10 years	Local and national government, EWCA, EWNHS, SSG, researchers	Reports of awareness programs held and their impact	Participants are not taking the program seriously	Awareness



Activities	Country / region	Priority (low, medium, high or critical)	Associated Cost	Time scale	Responsible stakeholders	Indicators	Risks	Activity type
Objective 6: Introduction and promotion of diversified livelihoods for the community heavily dependent on the species habitat at the Berga wetland								
Hold discussions with local communities and government officials and experts who can identify potential to diversify livelihoods	Ethiopia/ Oromia	High	5,000 Pounds/year	1-3 years	Local government, local community	Report of assessment of diversified livelihood potential	Stakeholders are not interested to participate in the meetings	Meetings and communication
Build capacity of local people to adopt alternative livelihoods	Ethiopia/ Oromia	High	5,000 Pounds/year	2-5 years	Local community, youth groups, local government	Number of people trained	Some trainees might move elsewhere before businesses open	Training
Open new business for trained groups	Ethiopia/ Oromia	Critical	5,000 Pounds/year	2-5 years	Local community, youth groups,	Number of people trained and list of equipment bought	Businesses might not be very successful	Empowerment



Activities	Country / region	Priority (low, medium, high or critical)	Associated Cost	Time scale	Responsible stakeholders	Indicators	Risks	Activity type
Implement community development projects (bridges, school) to instil a sense of ownership	Ethiopia/ Oromia	Critical	40,000 Pounds/year	2-10 years	Local government, different funding organizations, local community	Type and number of infrastructure or facility built	People might not agree on the type of community work to be delivered	Community work
Objective 7: Protect nest sites at Berga, Ethiopia, during the breeding season from July to October								
Identify and mark nest sites	Ethiopia/ Oromia	Critical	5,000 Pounds/year	1 – 10 years	Researchers, SSG, EWNHS	Map and description of nests marked	Area is not safe to conduct any surveys	Survey
Hold discussions with land owners and herders	Ethiopia/ Oromia	High	3,000 Pounds/year	1-10 years	Local community, researchers, SSG, EWNHS	Report from conducted meetings	Stakeholders are not interested in the discussions	Advocacy
Patrol the sites to avoid disturbance	Ethiopia/ Oromia	Critical	2,000 Pounds/year	1-10 years	Local community, researchers, SSG	Reports and pictures during the patrols	Local community does not allow the patrols on their land	Patrolling
Objective 8: Assess the species habitat at Bilacha and Weserbi, Ethiopia, for the presence of the White-winged Flufftail								
Conduct survey of the White-winged Flufftail at least twice a year in Bilacha and Weserbi	Ethiopia/ Oromia at Bilacha and Weserbi	High	5,000 Pounds/year	1-10 years	Researchers, local experts	Survey reports	Area is not safe to conduct any surveys	Survey



Activities	Country / region	Priority (low, medium, high or critical)	Associated Cost	Time scale	Responsible stakeholders	Indicators	Risks	Activity type
Carry out interviews with local community and experts on recent sightings of the Flufftail	Ethiopia/ Oromia at Bilacha and Weserbi	Medium	2,000 Pounds/year	1-10 years	Researchers, local community and local experts	Reports and audio recordings	Participants are not willing to be interviewed	Data collection
Objective 9: Increase suitable habitat for the White-winged Flufftail at the Bilacha and Weserbi sites in Ethiopia by influencing rehabilitation of some degraded habitats								
Conduct surveys to understand the current habitat condition of the Bilacha and Weserbi sites	Ethiopia/ Oromia at Weserbi and Bilacha	High	2,000 Pounds/year	1-2 years	Researchers and local experts	Survey reports and GIS maps	Area is not safe to conduct any surveys	Survey
Hold discussions with stakeholders on the importance of site rehabilitation for the species	Ethiopia/ Oromia at Weserbi and Bilacha	High	2,000 Pounds/year	1- 5 years	Local government and community, EWCA, EWNHS, researchers	Report from conducted meetings	Government is not prioritizing the species protection	Advocacy



Activities	Country / region	Priority <i>(low, medium, high or critical)</i>	Associated Cost	Time scale	Responsible stakeholders	Indicators	Risks	Activity type
Reseeding of some areas with suitable grass species for the Whit-winged Flufftail	Ethiopia/ Oromia at Weserbi and Bilacha	High	3,000 Pounds/year	1- 5 years	Researchers, local experts, officials and local community	Reports, pictures and GIS maps	Area is not safe to do reseeded activities	Land management
Decrease grazing by patrolling the rehabilitated areas to allow Flufftails to nest	Ethiopia/ Oromia at Weserbi and Bilacha	Critical	2,000 Pounds/year	1-10 years	Researchers, local experts, officials and local community	Reports and pictures during the patrols	Local community is not allowing the patrols on their land	Patrolling



3. LITERATURE CITED

- Allan, D.G., McInnes, A.M. and Wondafrash, M. 2006. White-winged Flufftail *Sarothrura ayresi* in Ethiopia: notes on the habitat, densities, morphometrics, nests and eggs and associated waterbirds. *Bulletin of African Bird Club* 13: 25-36.
- Ash, J., and Atkins, J. (2009). *Birds of Ethiopia and Eritrea: An Atlas of Distribution*. Christopher Helm, London.
- Atkinson P, Robertson P, Dellelegn Y, Wondafrash M, Atkins J. 1996. The recent rediscovery of White-winged Flufftails in Ethiopia. *Bull. Afr. Bird Club* 3(1): 34 - 36.
- BirdLife International 2015. *Sarothrura ayresi*. The IUCN Red List of Threatened Species
2015:e.T22692245A78899034.<http://dx.doi.org/1.2305/IUCN.UK.20154.RLTS.T22692245A78899034.en>
- BirdLife International 2018. *Sarothrura ayresi*. The IUCN Red List of Threatened Species
2018:e.T22692245A130479784.<http://dx.doi.org/10.2305/IUCN.UK.2018-2.RLTS.T22692245A130479784.en>
- BirdLife International 2020. Species factsheet: *Sarothrura ayresi*. Downloaded from <http://www.birdlife.org> on 24/04/2020.
- Collar, N. J. and Stuart, S. N. 1985 Threatened birds of Africa and related islands: the ICBP/IUCN Red Data Book. Cambridge, U.K.: International Council for Bird Preservation, and International Union for Conservation of Nature and Natural Resources.
- Dalton DL, Smit-Robinson HA, Vermaak E, Jarvis E, Kotzé A. 2017. Is there genetic connectivity among the Critically Endangered Whited-winged Flufftail (*Sarothrura ayresi*) populations from South Africa and Ethiopia?. *African Journal of Ecology* 56: 28-37.
- De Smidt, A. 2003 Ethiopian White-winged Flufftail (*Sarothrura ayresi*) action plan. Johannesburg: BirdLife South Africa.
- Dowsett, R.J. & Forbes-Watson, A.D. 1993 Checklist of birds of the Afrotropical and Malagasy regions. Liège, Belgium: Tauraco Press.
- Guichard, K.M. 1948. Notes on *Sarothrura ayresi* and three birds new to Abyssinia. *Bull. Br. Ornithol. Club* 68: 102 - 104.



- del Hoyo, J., Elliott, A., and Christie, D. 2010. *Handbook of the Birds of the World. Vol 15. Weavers to New World Warblers.*
- Keith, S. 1986. Species Account (Rallidae). In: Urban E.K., Fry C.H. and Keith S. (eds.) *The Birds of Africa. Vol 2: 84 – 131.* Academic Press, London.
- Redman, N., Stevenson, T., and Fanshawe, J. 2009. *Birds of the Horn of Africa.* Princeton University Press, Princeton.
- Sande, E., Ndong'ang'a, P.K., Wakelin, J., Wondafrash, M., Drummond, M. and Dereliev, S. (eds.) 2008. International single species action plan for the conservation of the White-winged Flufftail *Sarothrura ayresi*. BirdLife International Africa Partnership Secretariat.
- Sibley, C.G. & Monroe, B.L. 1993 A supplement to 'Distribution and taxonomy of birds of the world'. New Haven, USA: Yale University Press.
- Shimelis, A., Teferra, A., Wondafrash, M., Coetzee, D., Drummond, M. M., De Smidt, A., and Evans, S.W. (eds.) 2003. *Ethiopian White-winged Flufftail (Sarothrura ayresi) Action Plan.* BirdLife South Africa, Johannesburg, South Africa.
- Taylor, B. 1999. White-winged Flufftails in Ethiopia - Another mystery solved. *Africa - Birds & Birding* 4(5): 23 - 25.
- Taylor, B., Wondafrash, M. and Demek, Y. 2004. The nest, eggs and chicks of the White-winged Flufftail *Sarothrura ayresi*. *Bull. Brit. Ornithol. Club* 124: 233-238.
- Tilahun, S., Edwards, S. & Egziabher, T. B. G. (eds.) 1996. *Important Bird Areas of Ethiopia: A First Inventory.* Addis Ababa: Ethiopian Wildlife & Natural History Society.

