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# DIVERSITY OF BIRD SPECIES AND CONSERVATION STRATEGIES IN MANGROVE ECOSYSTEM IN ADO ODO WETLAND OGUNNSTATE SOUTHWEST NIGERIA

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**Abstract:**

Diversity of bird species in Ado odo wetland Southwest Nigeria was examined in this study. Birds of the same species within 10m of each other were counted in the same group. Human threats to the study area were also examined. Forty-two wetlands within the Ado – Odo Wetlands complex were surveyed. Data obtained from the field survey were entered into excel (version 15) spread sheet prior to both descriptive (tables, frequency and percentage frequency, graph, pie and bar charts) and analytical statistics. The computer PAST Model version 3 was used to analyze bird species diversity indices, SHE analysis, and plot generalized linear model graph. A total number of 120 bird spices belonging 39 families and 15 orders were enumerated in the study area.The result indicates that Ardeidae has the highest number of bird species (12), this is followed by Ploceidae with 9 bird species. The result of the relative abundance of bird species in the study area indicates that it was higher in the dry season (0.0055) than the wet season 0.0013). The Shannon diversity index showed that it was higher during the dry season (4.53) than the wet season (4.38). Bird species diversitywere higher in lakes and ponds than marshyland The status of the bird species in the study area indicates that resident bird species were highest (87), followed by Intra Africa Migrants (17) and Palearctic migrants (5). The total number of bird species recorded during the dry season was (81%) while the wet season is (19%)

**Keywords:** Bird species, abundance, diversity, habitat, fragmentation, wetland, mangrove ecosystem, richness, threats

## INTRODUCTION

Most Wetland ecosystems are among the most threatened habitats in the world (Luther and Greenberg, 2009). They are an important source of primary productivity and perform extremely important ecosystem functions and they harbor high diversity of fauna and flora (Bunt, et al, 1991). Wetland are variously referred to as coastal woodland, mangals, tidal forest and mangrove forest (Duke, 1992). Wetland constitute the characteristic vegetation of the intertidal environment on sheltered tropical and subtropical coastlines.The mangrove ecosystem has particular practical and structural characteristics. They consist of rather easy meals containing a combination of marine and terrestrial species, fish nursery grounds and breeding sites for mammals, reptiles and birds, and accumulation sites for sediment, s contaminants, carbon and vitamins (Samant, 1985). Mangrove communities also carry out numerous different critical features in maintaining balance in coastal geomorphology stabilizing coast and estuaries, reclaiming margins, retard tide and cutting-edge erosion impacts (Hogarth, 2007). Notwithstanding the fairly low floral diversity, plants in mangrove have a extensive range of structural and that make safeguard survival and propagation under the cruel situations of the intertidal quarter (Spalding, et al, 1997, Duke et al., 1998). Mangrove bushes have particular morphological, eco-physiological and reproductive trends, inclusive of aerial roots, viviparous embryos, tidal dispersal of propagules, fast fees of cover production, absence of an understory stratum, wood with narrow densely disbursed vessels, lack of boom earrings, an efficient nutrient retention system, and the capacity to address salt and to maintain water and carbon stability (Duke et al., 1998)

Bird fauna in Wetland have been well studied in Australia (Kutt, 2007), Hutchings, 2008), South America (Acevedo, 2009, Rajpar, and Zakaria, 2010) and Africa (Abuodha, 2001, Kairo, 2004 Okosodo et al, 2018), however, in Nigeria species diversity in this ecosystem have not studied extensively.

Despite important ecological functions, in common with tropical rainforest, Wetland are being destroyed globally on a large scale through overexploitation (Hartog, 2000, Ellison, 2008). Loses are reported in every country containing Wetland and rates continue to increase rapidly especially in developing countries where more than 90% of the world's Wetland are located (Duke et al, 2007). In Nigeria the Wetland Forest is threatened by population explosion, industrialization and agricultural intensification, hence the need to carry out bird species abundance and diversity in the study are, as this will provide baseline information for other researchers and help conservation measures of bird diversity to be proposed

## MATERIALS AND METHOD

### Study Area

The Study area is A do-Odo/Ota Local Government in Ogun State, one of the 20 local governments of Ogun state, found in the south west part of Nigeria. The Local Government is the second largest in Ogun State and it's headquartered is at Ota. Ado-Odo/Ota Local Government in Ogun State lies between Longitudes 2°53 E and 3°14 E, and Latitudes 6°39 N and 6°30 N (Mengistu, and Salami .2007). The Local Government covers an area of 1460 square kilometers and share boundaries with Lagos State in the South, Yewa South (Egbado) and Ifo local Government in the West and Ipokia Local Government in the North East. The study area has an estimated population of 527,242, with about Four hundred and fifty (450) towns, villages and settlements (NPC, 2006).The rainy season in the area occurs from March till November while the dry season is from December until February. Annual rainfall ranges from 1700 to 2000 mm. The annual mean temperature in the area is 26°C. Soils are predominantly ferruginous tropical, typical of the variety found in intensively weathered areas of basement complex formations in the rainforest zone of Southwestern Nigeria. The Yewa River with its tributaries forms major part of the wetland. The large areas of wetland are covered with swamp forest. The Raphia palm (Raphiasudanica), the Elaeisguineensis, N*esogordoniapapaverifera, Myrianthuspreussi, Napoleonavogelii* are dominant trees in the study area(Keay, 1989).

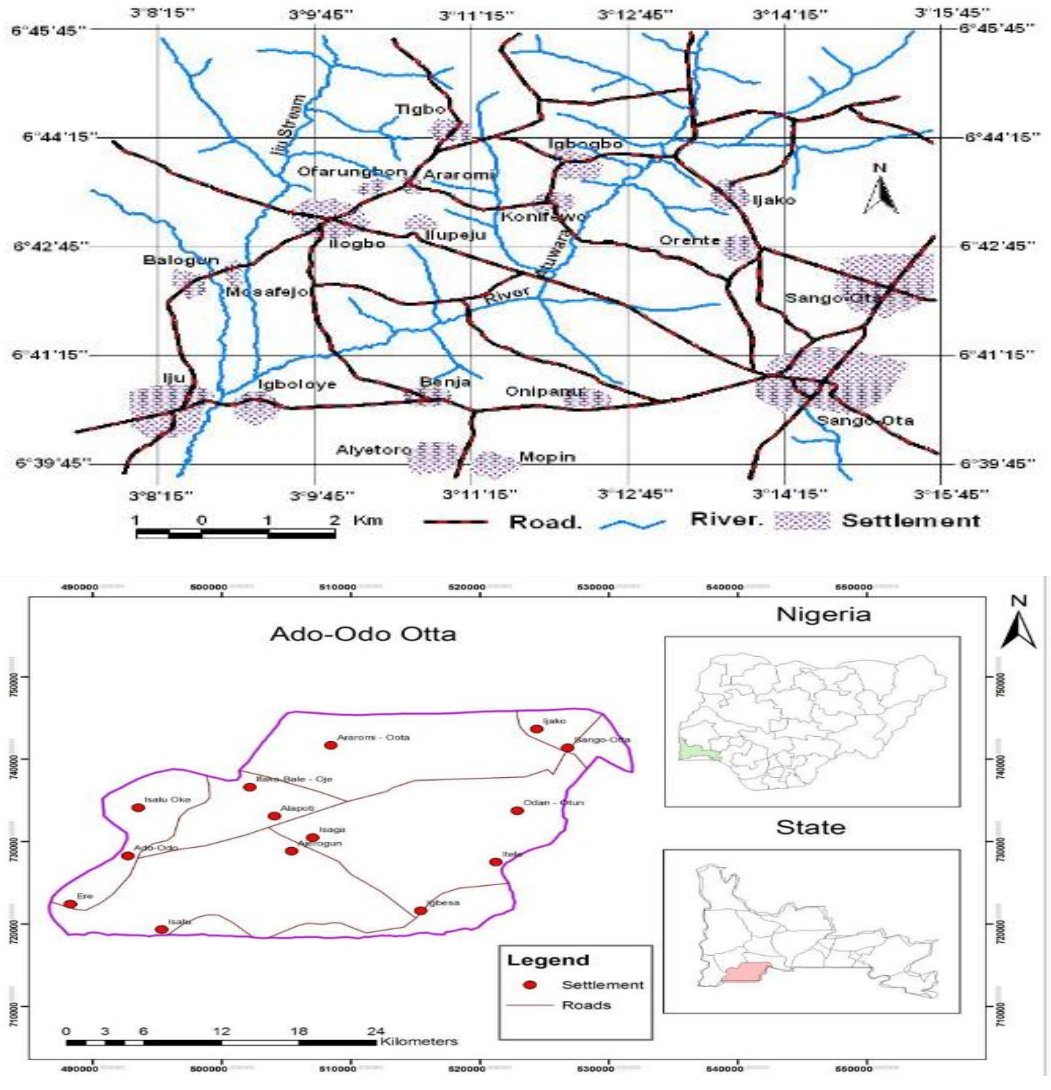


Figure 1, Map of the study area

## DATA COLLECTION

The study was divided into compartments, divided into Lakes and Wetland for the purpose of this research study**.** Line transects (Bibby,*et al*,2000) was used to collect data on bird species diversity, distribution and abundance in the study areas. In all a total of 60 transect linesof 500m long and 200 apart were randomly placed in the study site. At the study site, the programme GPS 2011 Utility (GPSU, 2012) was used to locate the starting and ending points of transects. Transect lines were walked three times a week for three months in both seasons (May, July and September for wet season and November, January and March for dry season) of the year. Survey was conducted between 0.600hours and 10.00hours and 1600 hours to 1800 hours. Transects were walked at an average speed of one kilometre per hour, depending on the terrain and the number of bird species recorded. All birds viewed on the ground or in the vegetation as well as birds that are flying ahead were identified and the number in the group recorded. Birds of the same species within 10m of each other were counted in the same group. A pair of binoculars with a magnification 7x 50 was used in identification of bird species. Bird calls was also recorded with a voice recorder and played back later for confirmation. Physical features of birds sighted but could not be identified immediately were taken and field guide book of West African birds (Burrow and Demey, 2014) was used to identify the bird species. Bird species identified were categorized according to (Burrow and Demey, 2014) as follows: LC= resident; M= intra-African migrant; P= palearctic migrant and V= vagrant These was derived from the season of occurrence of the birds in the study areas.Birds sighted in the wet season and not seen in the dry season was compared with range map of West Africa birds guide as documented by (Burrow and Demey, 2014). Data on the threats to the ecosystem was collected for six months (Ogunjemite, 2005). Field observation of human activities going in the area was collected. It was ranked according to the frequency that the activities was encountered. The activities were, deforestation, agriculture, use of herbicides and chemicals for fishing and soil excavation

Data Analysis: Avian species diversity was calculated using Shannon diversity index, (Usher, 1991) which is given as:

$H^i = - \Sigma Pi \, In \, Pi$

Where: $H^i$ =diversity index

Pi = is the proportion of the ith species in the sample

InPi = is the natural logarithm of the species proportion.

Species Relative Population Density

The relative population density of bird species at various sites and seasons were determined as outlined by Bibbyet al., (1992) as follows:

$D = n_1 + n_2 Log_e [n_1 + n_2]$

$\pi r^2 m \qquad n_2$

where: D = density

r = radius of the first zone

n1 = number of birds counted within zone

n2 = number of birds counted beyond zone and m = number of replicatecount in such area.

## STATISTICAL ANALYSIS

Data obtained from the field survey were entered into excel (version 15) spread sheet prior to both descriptive (tables, frequency and percentage frequency, graph, pie and bar charts) and analytical statistics. The computer PAST Model version 3 was used to analyze bird species diversity indices, SHE analysis, and plot generalized linear model graph.

## RESULTS

A total number of 120 bird spices belonging 39 families and 15 orders were enumerated in the study area. The result indicates that Ardeidae has the highest number of bird species (12), this is followed by Ploceidae with 9 bird species (Figure 2). The result of the relative abundance of bird species in the study area indicates that it was higher in the dry season (0.0055) than the wet season 0.0013(Figure 3). The Shannon_H diversity index showed that it was higher during the dry season (4.53) than the wet season (4.38) (Table 1). The status of the bird species in the study area indicates that resident bird species were highest (87), followed by Intra Africa Migrants (17) and Palearctic migrants (5) (Figure 4). The total number of bird species recorded during the dry season was (81%) while the wet season is (19%) (Figure 5). SHE Analysis of Bird Species Diversity in the Study Area (Figure 6). Bird Species Density and habitat variables land use types in the study area (Figure 7). The result of the threats to the habitat obtained during field observations indicates that deforestation have highest frequency this followed by agricultural activities and the least was collection of non-timber products in the study area Figure, 8.

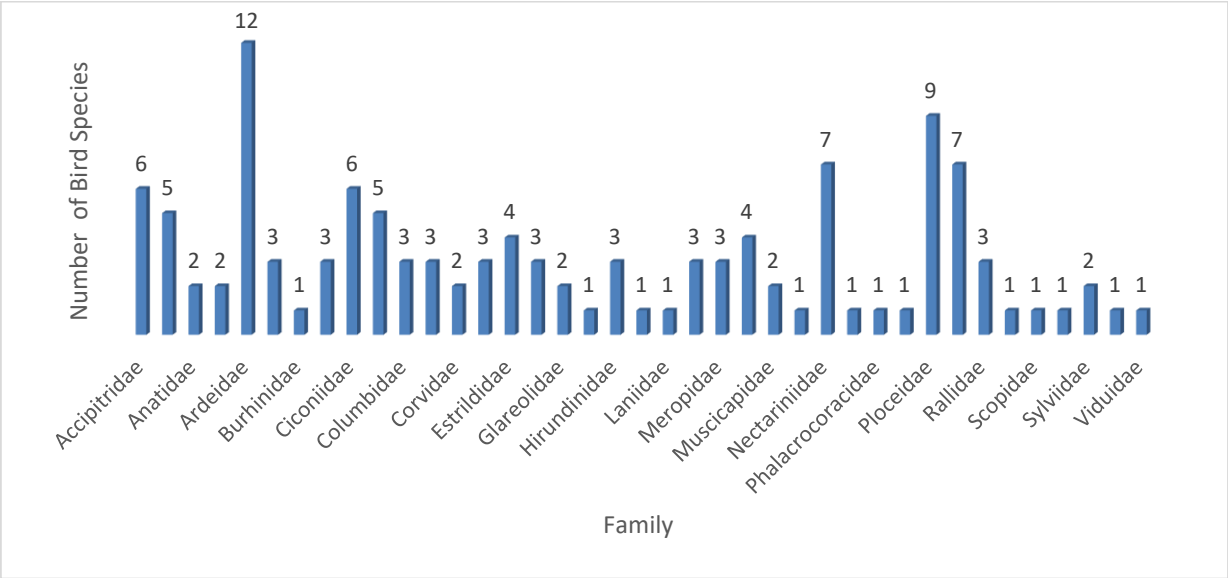


Figure 2 Family Composition of Bird Species in the Study Area

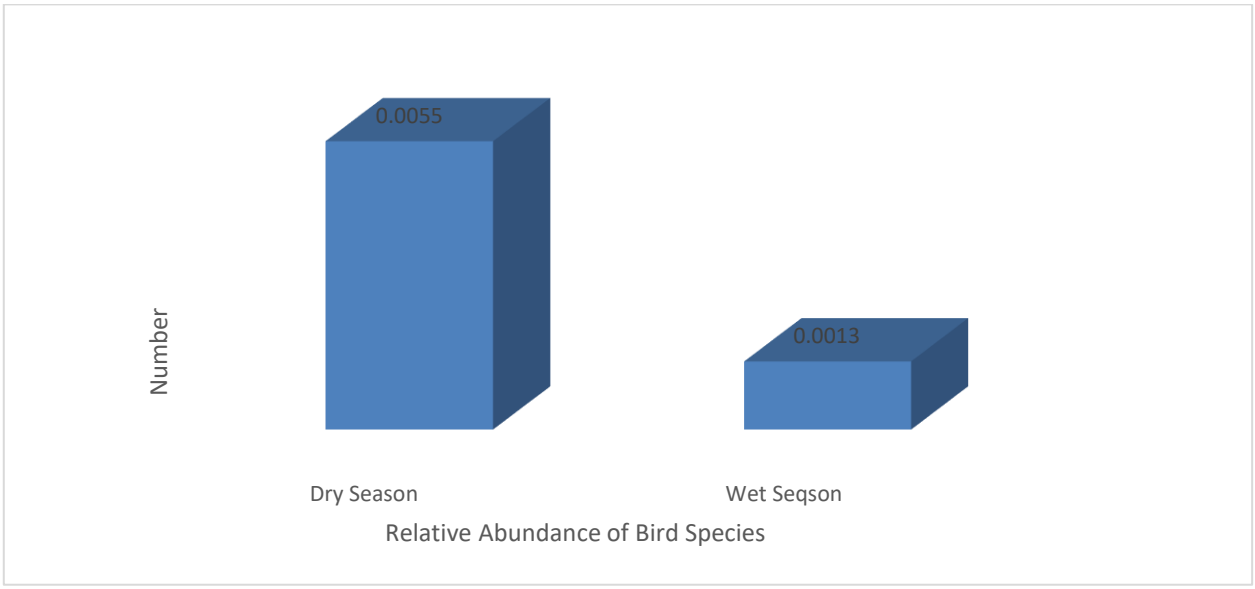


Figure 3 Relative Abundance of Bird Species in the Study Area

**Table 1Diversity Index of Bird Species in the Study Area**

| Diversity Index | Dry Season | Lower | Upper | Wet Season | Lower | Upper |
|---|---|---|---|---|---|---|
| Taxa_S | 120 | 119 | 120 | 99 | 96 | 99 |
| Individuals | 443 | 443 | 443 | 238 | 238 | 238 |
| Dominance_D | 0.0161 | 0.01406 | 0.02119 | 0.01529 | 0.01434 | 0.01864 |
| Shannon_H | 4.53 | 4.404 | 4.537 | 4.389 | 4.29 | 4.411 |
| Evenness_e^H/S | 0.773 | 0.6833 | 0.7797 | 0.8136 | 0.7463 | 0.8345 |
| Brillouin | 4.134 | 4.021 | 4.144 | 3.86 | 3.778 | 3.88 |
| Menhinick | 5.701 | 5.654 | 5.701 | 6.417 | 6.223 | 6.417 |
| Margalef | 19.53 | 19.36 | 19.53 | 17.91 | 17.36 | 17.91 |
| Equitability_J | 0.9462 | 0.9204 | 0.948 | 0.9551 | 0.9362 | 0.9606 |
| Berger-Parker | 0.08126 | 0.05643 | 0.1061 | 0.04202 | 0.03361 | 0.06723 |

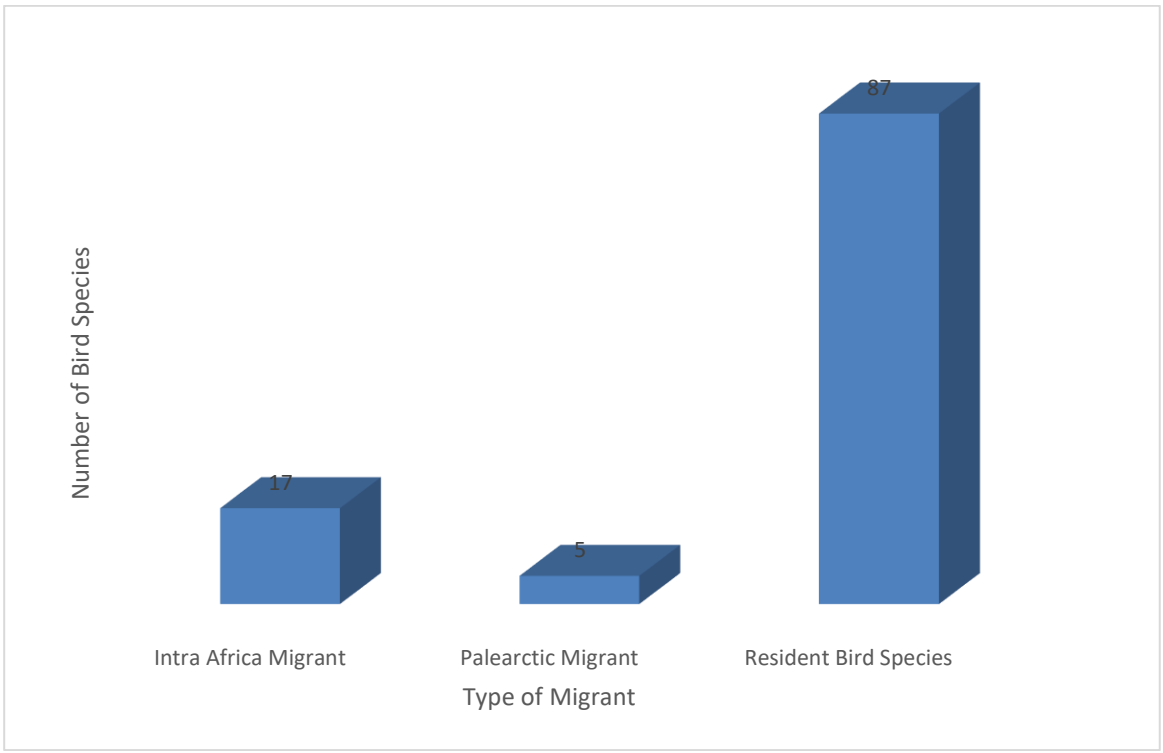


Figure 4 Status of Bird Species in the Study Area

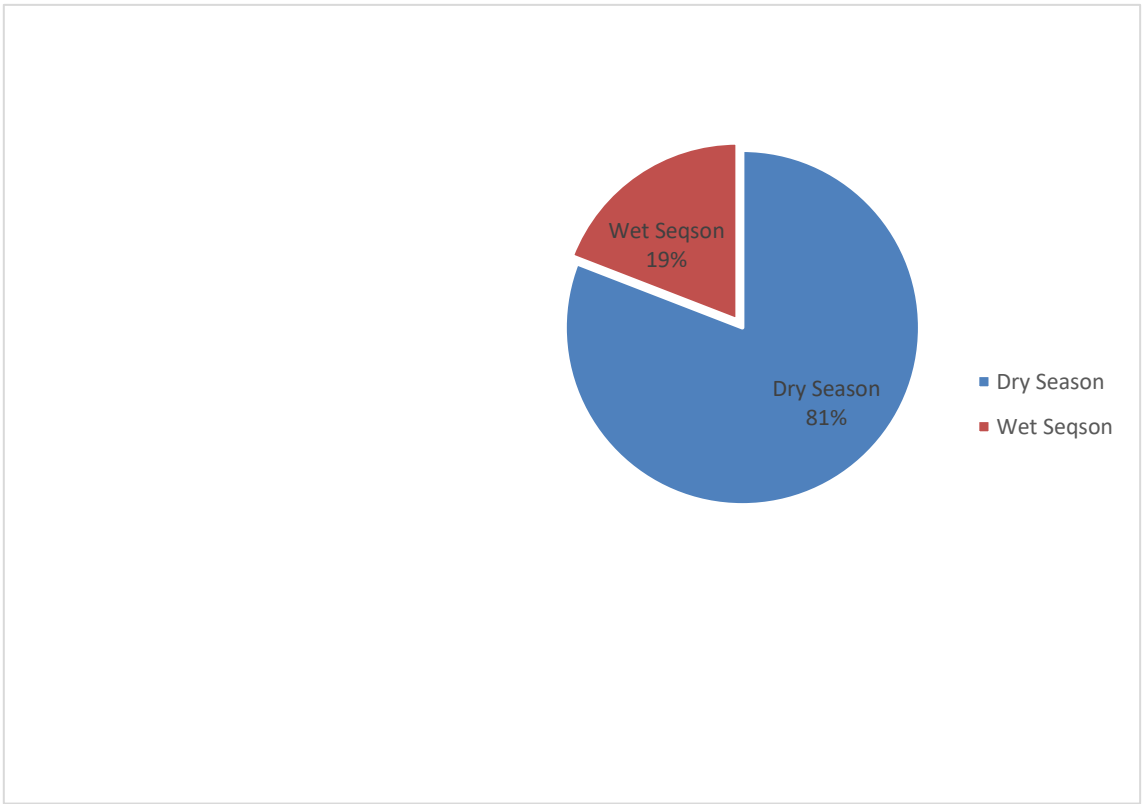


Figure 5 Bird species percentage enumerated in both seasons of the year

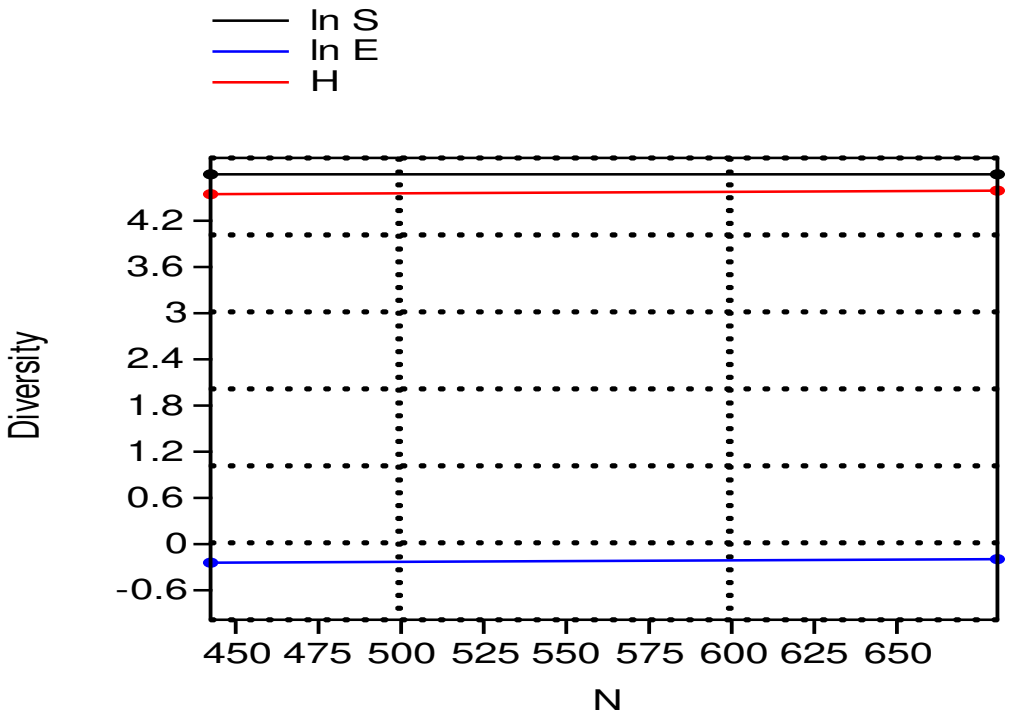


Figure 6: SHE analysis of Bird species richness and evenness in the study area

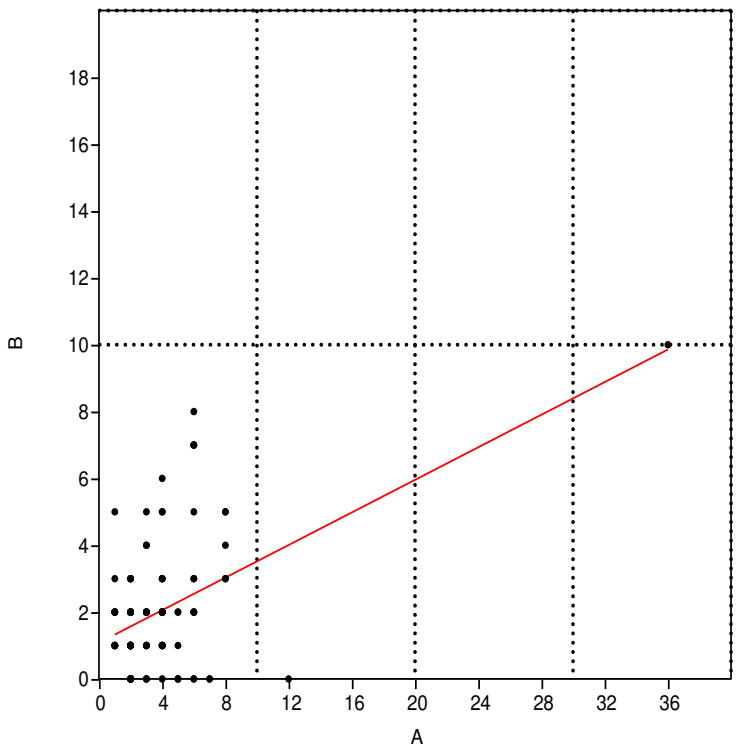


Figure 7 Density of bird species against the habitat variables in the study area

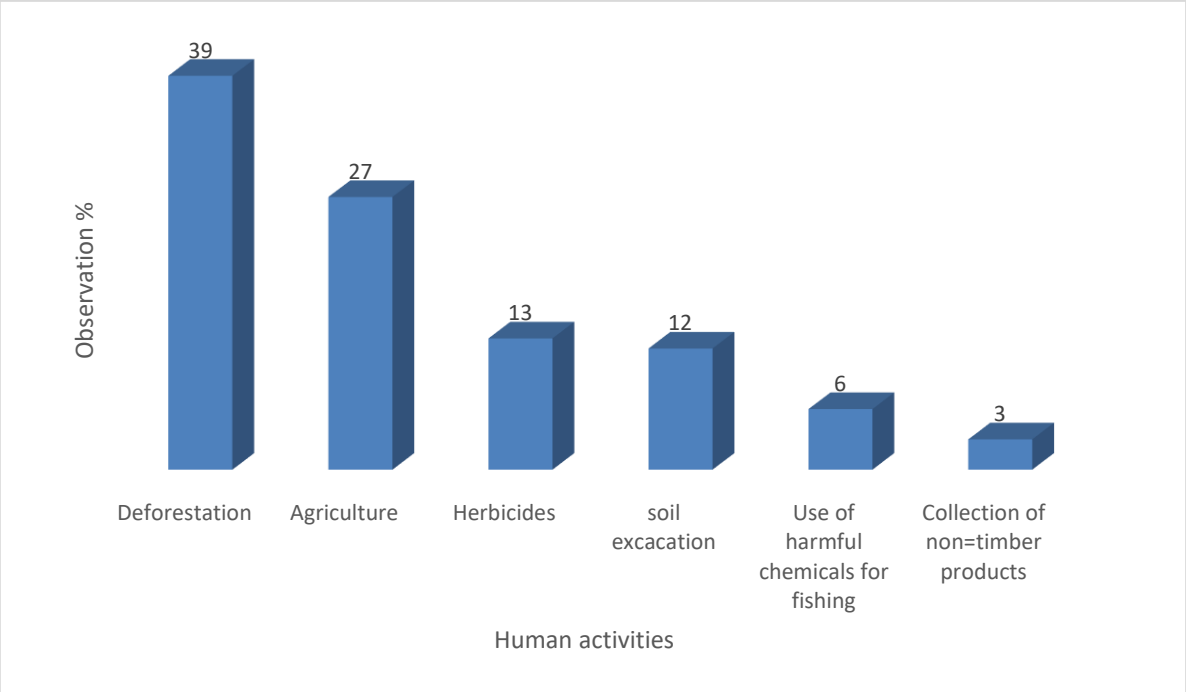


Figure 8, Threats to the study area

## DISCUSSION

It is highly important to monitor the species composition, relative abundance, diversity, and habitats of wetland-dependent birds to examine population trends and thus identify and highlight the main causes of species decline due to growing pressure from anthropogenic activities (Arijesuyo, 2011). In all, one hundred and twenty bird species in thirty-nine families were recorded during the field survey. Forty two percent of the bird species were hydrophanous species. This finding is consistent with Komar, (2006) who reported that wetland bird species are adapted to a semi-aquatic life, being important components of aquatic ecosystems. He further stated that they spend their lives around water that provides food which consists of insects, worms, snails, amphibians, toads, lizards, snakes, mice and fish. Bos, (2009) reported that wetlands are known for their abundance of birds. He stated further that use of wetlands and their resources is widespread among many diverse bird taxa of the world, avian adaptation to utilize wetlands and other aquatic systems are diverse and include anatomical, morphological, behavioral changes. Anatomically, they include designs for diving and swimming, such as body compression to increase gravity, or adaptation for plunge-diving from great heights. However, most bird species were not wetland bird species, Blue Billed Malimbe, Black and White Mannikin, Common Fiscal and Blue Headed Wood Dove. They were probably forced utilizing the wetland because of the massive anthropogenic changes in the area. This finding is supported by who reported that Trainor, (2005) human activities contribute more to habitat destruction. Newton (1988) acknowledged the fact that, in the last 400 years, human actions alone has eliminated about 127 of approximate 9672 species of modern birds.

The relative abundance of bird species estimates was high in the study area in both seasons of the year, though higher during the dry season. This is consistent with the work of other studies which suggested a high-volume availability of preferred food in the Wetland Forest. The arable land provides essential foraging opportunities to many European farmland birds (Robinson, et al, 2001). Non-crop vegetation in the study fields provides an important source of seeds, but perhaps as importantly, it recruits insects Marshall, *et al*, (2003) Different groups of bird species seem to respond differently uses land analyzed. Insectivores are known present marked responses to land use (Matlock Jr, *et al*, 2003) change which was for annual agricultural areas were insectivores mean a number of recordings per visit decayed by 50% in relation controls who reported that size of play a major role in determining the number of bird species per km2, that the larger the size of particular area the smaller the bird species per km2 The Shannon diversity index revealed that it was high in both seasons of the year, most resident were present throughout the period of the year. The presence of intra Africa and Palearctic migrants resulted in the slight difference in the diversity index. This is consistent with Lindenmayer, *et al*, (2010) who reported that diversity increases with the number of layers in the vegetation. Pearson (2011) reported that tropical wet evergreen forest support more rare bird species than other habitats. Metcalfe, (2007) reported that birds select vegetation variables according to the manner by which an individual habitat affects access to food, mates or its vulnerability to predators. This is also in agreement with the report that altering habitats and changing population structure affects avian population. This study indicates that was a positive relationship between bird species recorded and the percentage of land use types. More birds were observed in areas with higher percentage of tree density increased than ground cover as shown in Figure 3. This

observation indicated that some wetland birds used the trees as roosting site. This was observed with some species such as the Egrets, Ibises, Herons and Storks. These species were found during the survey on the bare ground feeding on the mudflats fish and other vertebrate. This finding is supported who Mohd-Azlan*, et, al* (2012) reported that habitat has long been used as a predictor of bird species abundance, and each variety of birds has developed different preferences for habitat. The SHE analysis was used to examines the relationship between richness and the Shannon-Wiener diversity index) and (evenness as measured using the Shannon-Wiener evenness. The result indicates that was positive relationship between the species richness and species evenness in the study area Figure 3

Deforestation such as logging,firewood collection, charcoal making cutting of raffia palm, cutting coco nut, agriculture (bush burning, use of herbicides and destruction of out- growth shrubs) and soil excavation are major activities that caused major changes in the ecosystem. This finding is consisted with for, agriculture, farming, drainage destruction of wetlands, human settlement, the building of infrastructures and industries among others have altered lots of habitats (Ajonina, and Usongo, 2001, Manu, (2000). Myers (2002) reported that the loss of tropical ecosystem is of particular concern because the biome contains over half of the world species. Many studies have examined the impact of habitat loss and fragmentation due to agriculture on tropical bird communities (Hughes et al., 2002, Naidoo, 2004). The problem of forest fragmentation is extremely severe in West Africa due to rapid population growth and land-use changes (Manu *et al.*, 2007). Agricultural encroachment and unsustainable silvicultural practiceshave been implicated for these losses (Blockhuset al., 1992). This also agrees with previous work Kormar (2006) who reported high abundance of bird species in cultivated areas, which could be due to food availability. This is also consistent with the result obtained by Best et al, (2011) that the extent of change in bird species composition and abundance depends on the specificity of each bird species habitat requirement, in other words the species tolerance to changes to its environment. Species with restricted habitat changes pattern are more vulnerable to changes in land use practices than those occupying a wider variety of environment

## CONCLUSION AND RECONMENDATION

This research study suggests that Ado OdoWetlandis rich in bird species although only 42% bird species were hydrophanous species. It is also animportant feeding ground for bird species that belong to the following families (*Ardeidae,Ciconiidae,Threskiornithidae,Scopidae*)which although are not water bird species are utilizing the study dueto invasion farming thatcreates appropriate habitats for them. Anthropogenic changes due to human actives are severely affecting the floristic composition and the structure of the ecosystem and may lead to bird species decline in the study area. The water parameters of the wetlands in this study were not considered; therefore, it is recommended a proper monitoring of the physicochemical properties to be carried out in order to check pollutant influx that may be harmful to the ecosystem. The deforestation, farming, soil excavation currently going on in the area should be restricted as this may severely affects fragile mangrove ecosystem.

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Appendix 1, Checklist of Bird Species in the Study Area

| Name of Bird Species | Sciencetific Name | Family | Order | Status |
|---|---|---|---|---|
| Abyssinian Roller | Coraciasabyssinica | Coraciidae | Coraciformes | M |
| Adim's Stork | Anastomuslamelligerus | Ciconiidae | Ciconiiformes | M |
| African Crake | Crexegregia | Rallidae | Gruiformes | R |
| African Cuckoo Hawk | Avicedaculoides | Accipitridae | Accipitriformes | R |
| African Darter | Anhinga rufa | Phalacrocoracidae | Suliformes | R |
| African Finfoot | Podicasenegalensis | Heliornithidae | Suliformes | R |
| African Grey Hornbill | Tockusnasutus | Bucerotidae | Bucerotiformes | M |
| African Harrier Hawk | Polyboroidestypus | Accipitridae | Accipitriformes | R |
| African Hobby | Falco cuvierii | Falconidae | Falconiformes | R |
| African Jacanna | Actophilornisafricana | Jacanidae | Charadriiformes | R |
| African MuostachedWarbler | Melocichlamentalis | Sylviidae | Passeriformes | R |
| African Openbilled Stork | Anastomuslamelligerus | Ciconiidae | Ciconiiformes | R |
| African Palm Swift | Cypsiurusparvus | Apodidae | Caprimulgiformes | R |
| African Paradise Flycatcher | Terpsiphonevinidis | Musophagidae | Passeriformes | R |
| African Pied Hornbill | Tockusfasciatus | Burcerotidae | Bucerotiformes | R |
| African Wattled Lapwing | Vanellussenegallus | Charadriidae | Charadriiformes | M |

| | | | | |
|---|---|---|---|---|
| Amenthyst Sunbird | Chalconitraamethystinelo | Nectariniidae | Passeriformes | R |
| Bat Hawk | Macheiranphusalanus | Accipitridae | Accipitriformes | R |
| Black and White Mannikin | Spermestes bicolor | Estrildidae | Passeriformes | R |
| Black Crake | Amaurornisflavirostra | Rallidae | Gruiformes | R |
| Black Crowned Heron | Nycticoraxnycticoiax | Ardeidae | **Pelecaniformes** | R |
| Black Crowned Tchara | Tchagarasenegalus | Melaconotidae | Passeriformes | R |
| Black Headed Heron | Ardeamelanocephala | Ardeidae | **Pelecaniformes** | R |
| Black Heron | Egrettaardesiaca | Ardeidae | **Pelecaniformes** | R |
| Black Shouldered Kite | Elanuscaerulus | Accipitridae | Accipitriformes | M |
| Blue Bellied Roller | Coraciascyanogaster | Coraciidae | Coraciformes | R |
| Blue Billed Malimbe | Malimbusnitens | Ploceidae | Passeriformes | R |
| Blue Breasted Kingfisher | Halcyon malimbica | Alcedinidae | Coraciformes | R |
| Blue Headed Wood Dove | Turturbrehmeri | Columbidae | **Columbiformes** | R |
| Broad Billed Roller | Eurystomusglaacurus | Coraciidae | Coraciformes | M |
| Bronze Mannikin | Spermestescucullatus | Estrildidae | Passeriformes | R |
| Buff Throated Sunbird | Chalcomitraadeberti | Nectariniidae | Passeriformes | R |
| Cassin's Flycatcher | **Mussicapacassin** | Muscicapidae | Passeriformes | R |
| Cattle Egret | Bubulcus ibis | Ardeidae | **Pelecaniformes** | R |
| Chocolate Backed Kingfisher | Halcyon badia | Alcedinidae | Coraciformes | R |
| Collard Pratincole | Glareolapratincola | Glareolidae | Charadriiformes | Rxchjjk, . |
| Collard Sunbird | Hedydipnacollaris | Nectariniidae | Passeriformes | R |
| Common Bulbul | Pycnonotusbarbatus | Pycnonotidae | Passeriformes | R |
| Common Fiscal | Laniuscollaris | Melaconotidae | Passeriformes | R |
| Common Kestrel | Falco tinnunculus | Falconidae | Falconiformes | R |
| Common Moorhen | Gallinulachloropus | Rallidae | Gruiformes | R |
| Compact Weaver | Pachyphantessuperciliosus | Ploceidae | Passeriformes | R |
| Dedric Cuckoo | Chrysococcyxcaprius | Cuculidae | Cuculiformes | R |
| Double Spurred Francolin | Francolinusbicalcaratus | Phasianidae | Galliformes | R |
| Egyptian Plover | Pluviarnusaeegypticus | Charadriidae | Charadriiformes | P |
| Giant Kingfisher | Megaceryle maxima | Alcedinidae | Coraciformes | R |
| Great Egret | Egretta alba | Ardeidae | **Pelecaniformes** | R |
| Green Backed Heron | Butoridesstriata | Ardeidae | **Pelecaniformes** | R |
| Green Combec | Sylviettavirens | Sylviidae | Passeriformes | R |
| Green Headed Sunbird | Cyanomitraverticalis | Nectariniidae | Passeriformes | R |
| Green Sandpiper | Tringaochropus | Scolopacidae | Charadriiformes | P |
| Grey Backed Camaroptera | Camaropterabrachyura | Cisticonidae | Passeriformes | R |
| Grey Headead Sparrow | Passer griseus | Passeridae | Passeriformes | R |
| Grey Headed Firefinch | Nigritacanicapilla | Estrildidae | Passeriformes | R |
| Grey Heron | Ardeacinerea | Ardeidae | **Pelecaniformes** | M |
| Grey Pratincole | Glareolacinerea | Glareolidae | Charadriiformes | P |
| Grosbeak Weaver | Amblyospizaalbifrons | Ploceidae | Passeriformes | R |
| Hadada Ibis | Bostrychiahagedash | Threskiornithidae | Charadriiformes | R |
| Harmmerkop | Scopus umbretta | Scopidae | Charadriiformes | R |
| HoneyguideGreenbull | Baeopogon indicator | Pycnonotidae | Passeriformes | R |
| IcterineGreenbull | Phyllastrephalusiterinus | Pycnonotidae | Passeriformes | R |
| Intermidiate Egret | Egrettaintermedia | Ardeidae | **Pelecaniformes** | M |
| Klass Cuckoo | Chrysococcyxklaas | Cuculidae | Cuculiformes | R |

| | | | | |
|---|---|---|---|---|
| Knot Billed Duck | Sarkidiornismelanotos | Anatidae | Anseriformes | M |
| Lanner Falcon | Falco biarmicus | Falconidae | Falconiformes | R |
| Laughing Dove | Streptopeliacapicola | Columbidae | **Columbiformes** | R |
| Lesser Striped Swallow | Hirundoabyssinica | Hirundinidae | Passeriformes | R |
| Little Bee Eater | Meropspusillus | Meropidae | Coraciformes | R |
| Little Bittern | Isobrycusminutus | Ardeidae | **Pelecaniformes** | R |
| Little Egret | Egrettagarzetta | Ardeidae | **Pelecaniformes** | R |
| Little Greenbul | Andropadusvirens | Pycnonotidae | Passeriformes | R |
| Little Palm Swift | Apusaffinis | Apodidae | Caprimulgiformes | R |
| Lizard Burzard | Kaupifalcomonogrammicus | Accipitridae | Accipitriformes | R |
| Malachite Kingfisher | Alcedocristata | Alcedinidae | Coraciformes | R |
| Mouse Brown Sunbird | Anthreptesgabonicus | Nectariniidae | Passeriformes | R |
| Northern Red Bishop | Euplectesfranciscanus | Ploceidae | Passeriformes | R |
| Orange Cheeked Waxbill | Estrildamelpoda | Estrildidae | Passeriformes | R |
| Piapiac | Ptilostomusafer | Corvidae | Passeriformes | R |
| Pied Crow | Corvusalbus | Corvidae | Passeriformes | R |
| Pied Kingfisher | Cerylerudis | Alcedinidae | Coraciformes | R |
| Pin Tailed Whydah | Viduamacroura | Viduidae | Passeriformes | R |
| Pipping Hornbill | Ceratogymnafistulator | Bucerotidae | Bucerotiformes | R |
| Plain Backed Pipit | Anthusleucophrys | Motacillidae | Passeriformes | M |
| Plain Martin | **Ripariapaludicola** | **Hirundinidae** | Passeriformes | P |
| Purple Headed Glossly Starling | Lamprotornispurpureiceps | Sturnidae | Passeriformes | R |
| Purple Heron | Ardeapurpurea | Ardeidae | **Pelecaniformes** | R |
| Red Chested Sswallow | Hirundolucida | **Hirundinidae** | Passeriformes | M |
| Red Eyed Dove | Streptopeliasemitorquata | Columbidae | **Columbiformes** | R |
| Red Headed Malimbe | Malimbusrubricollis | Ploceidae | Passeriformes | R |
| Red Throated Bee Eater | **Meropspusillus** | Meropidae | Coraciformes | M |
| Red Vented Malimbe | Malimbusscutatus | Ploceidae | Passeriformes | R |
| Saddle Billed Stork | Ephippiorhynchussenegalensis | Ciconiidae | Ciconiiformes | P |
| Senegal Coucal | Centropussenegalensis | Cuculidae | Cuculiformes | R |
| Senegal Thick Knee | Burhinussenegalensis | Burhinidae | Charadriiformes | R |
| Simple Leavelove | Chlorocichla simplex | Pycnonotidae | Passeriformes | R |
| Singing Cisticola | Cisticolacantans | Cisticonidae | Passeriformes | R |
| Splendid Sunbird | Cinnyriscoccinigaster | Nectariniidae | Passeriformes | R |
| Spur Wing Lapwing | **Vanellusspinosus** | Charadriidae | Charadriiformes | R |
| Squacco Heron | Ardeolaralloides | Ardeidae | **Pelecaniformes** | R |
| Tawny Flank Prinnia | Priniasubflava | Cisticonidae | Passeriformes | R |
| Tree Pipt | Anthustrivialis | Motacillidae | Passeriformes | P |
| Varriable Sunbird | Cinnyrisvenustus | Nectariniidae | Passeriformes | R |
| Veillot Black Weaver | Ploceuscucullatus | Ploceidae | Passeriformes | R |
| Village Weaver | Ploceuscucullatus | Ploceidae | Passeriformes | R |
| Western Nicator | Nicatorchloris | Pycnonotidae | Passeriformes | R |
| Whinchat | Saxicolarubetra | Muscicapidae | Passeriformes | M |
| Whistling Cisticola | Cisticolalateralis | Cisticonidae | Passeriformes | R |
| White Faced Whistling Duck | Dendrocygnaviduata | Ciconiidae | Anseriformes | R |
| White Stork | Ciconiaciconia | Ciconiidae | Ciconiiformes | P |
| White Throated Bee Eater | Meropsalbicollis | Meropidae | Coraciformes | P |

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|---|---|---|---|---|
| Woodchat Shrike | Lanius senator | Laniidae | Passeriformes | M |
| Woodland Kingfisher | Halcyon senegalensis | Alcedinidae | Coraciformes | M |
| Woolly Necked Stork | Ciconiaepiscopus | Ciconiidae | Ciconiiformes | M |
| Yellow Billed Kite | Milvusmigrans | Accipitridae | Accipitriformes | M |
| Yellow Breasted Apalis | Apalisflavida | Cisticonidae | Passeriformes | R |
| Yellow Crowned Gononek | Lanianiuserytrogaster | Melaconotidae | Passeriformes | R |
| Yellow Mantled WindowBird | Ploceus tricolor | Ploceidae | Passeriformes | R |
| Yellow Throated Longclaw | Macronyxcroceus | Motacillidae | Passeriformes | R |
| Yellow Wagtail | Motacillaflava | Motacillidae | Passeriformes | P |
| Yellow Whiskered Greenbull | Andropaduslatirostris | Pycnonotidae | Passeriformes | R |