Part 02 Calculate LPI

Script para cálculo do LPI baseado nas instruções disponíveis [neste link](https://github.com/Zoological-Society-of-London/rlpi).

Função prepara dados do icmbio e chama funções do pacote rlpi

**Em fase de TESTE**

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### Carregar pacotes

library(here)

## here() starts at D:/git/monitoraFlorestalGlobal

library(tidyverse)

## -- Attaching packages --------------------------------------- tidyverse 1.3.1 --

## v ggplot2 3.3.5 v purrr 0.3.4  
## v tibble 3.1.6 v dplyr 1.0.8  
## v tidyr 1.2.0 v stringr 1.4.0  
## v readr 2.1.2 v forcats 0.5.1

## -- Conflicts ------------------------------------------ tidyverse\_conflicts() --  
## x dplyr::filter() masks stats::filter()  
## x dplyr::lag() masks stats::lag()

library(dplyr)

### Carregar funções

source(here("bin", "lpi\_icmbio.R"))

### Carregar dados

#Versão disponível:  
#dadosICMBio <- readRDS(here("data", "dadosICMBio\_2014a2018.rds"))  
#Versão não disponível  
dadosICMBio <- readRDS(here("data", "dadosICMBio\_2014a2019.rds"))  
mydata <- dadosICMBio

### Contagem de UCs

mydata %>%  
 group\_by(nome\_UC) %>%  
 count()

## # A tibble: 40 x 2  
## # Groups: nome\_UC [40]  
## nome\_UC n  
## <chr> <int>  
## 1 Esec Maracá 167  
## 2 Esec Niquiá 77  
## 3 Esec Serra Geral do Tocantins 12  
## 4 Esec Terra do Meio 1229  
## 5 Flona do Jamari 755  
## 6 Parna Campos Amazonicos 133  
## 7 Parna Chapada dos Veadeiros 11  
## 8 Parna da Amazônia 335  
## 9 Parna da Serra da Bocaina 50  
## 10 Parna da Serra da Bodoquena 126  
## # ... with 30 more rows

### Contagem de espécies

mydata %>%  
 group\_by(binomial) %>%  
 count() %>%  
 arrange(desc(n)) %>%  
 filter(! binomial %in% c(  
 NA,  
 "E",  
 "Tinamidae",  
 "Cracidae",  
 "Sciuridae",  
 "Callitrichidae",  
 "Pitheciidae",  
 "Atelidae",  
 "Cebidae",  
 "Primates",  
 "Felidae",  
 "Bradypodidae",  
 "Cervidae"  
 )  
 ) %>%  
 filter(! grepl('sp.', binomial)) %>%  
 print(n=Inf)

## # A tibble: 151 x 2  
## # Groups: binomial [151]  
## binomial n  
## <chr> <int>  
## 1 Dasyprocta croconota 1897  
## 2 Sapajus apella 1804  
## 3 Myoprocta acouchy 1024  
## 4 Dasyprocta leporina 753  
## 5 Dasyprocta fuliginosa 690  
## 6 Penelope jacquacu 505  
## 7 Mazama americana 404  
## 8 Tinamus major 384  
## 9 Pauxi tuberosa 374  
## 10 Pecari tajacu 371  
## 11 Guerlinguetus aestuans 351  
## 12 Ateles chamek 242  
## 13 Odontophorus gujanensis 236  
## 14 Sapajus macrocephalus 233  
## 15 Saguinus midas 232  
## 16 Lagothrix cana 224  
## 17 Mazama nemorivaga 212  
## 18 Myoprocta pratti 202  
## 19 Psophia crepitans 202  
## 20 Ateles paniscus 197  
## 21 Crax alector 192  
## 22 Nasua nasua 187  
## 23 Pithecia irrorata 174  
## 24 Psophia viridis 169  
## 25 Tayassu pecari 144  
## 26 Chiropotes albinasus 140  
## 27 Cebus unicolor 125  
## 28 Callicebus vieirai 122  
## 29 Saguinus weddelli 114  
## 30 Dasyprocta prymnolopha 111  
## 31 Aburria cujubi 109  
## 32 Psophia dextralis 107  
## 33 Saimiri boliviensis 107  
## 34 Alouatta nigerrima 106  
## 35 Tamandua tetradactyla 99  
## 36 Eira barbara 96  
## 37 Callicebus cupreus 91  
## 38 Mico humeralifer 90  
## 39 Crax fasciolata 88  
## 40 Alouatta macconnelli 87  
## 41 Saguinus imperator 87  
## 42 Ateles marginatus 86  
## 43 Alouatta puruensis 84  
## 44 Saimiri ustus 78  
## 45 Odontophorus stellatus 75  
## 46 Psophia leucoptera 75  
## 47 Callicebus brunneus 61  
## 48 Ortalis motmot 61  
## 49 Callicebus moloch 57  
## 50 Pithecia pithecia 56  
## 51 Chiropotes sagulatus 54  
## 52 Mico melanurus 54  
## 53 Saimiri collinsi 52  
## 54 Sciurillus pusillus 51  
## 55 Callicebus hoffmannsi 49  
## 56 Tapirus terrestris 49  
## 57 Aotus nigriceps 48  
## 58 Cebus olivaceus 48  
## 59 Guerlinguetus ignitus 48  
## 60 Penelope marail 46  
## 61 Urosciurus igniventris 46  
## 62 Sapajus cay 44  
## 63 Microsciurus flaviventer 39  
## 64 Sapajus nigritus 39  
## 65 Ortalis guttata 38  
## 66 Callicebus bernhardi 37  
## 67 Saguinus niger 34  
## 68 Guerlinguetus gilvigularis 32  
## 69 Aburria cumanensis 29  
## 70 Alouatta belzebul 28  
## 71 Mico argentatus 28  
## 72 Myrmecophaga tridactyla 28  
## 73 Panthera onca 28  
## 74 Cebus albifrons 26  
## 75 Saimiri sciureus 26  
## 76 Chiropotes chiropotes 24  
## 77 Mico rondoni 24  
## 78 Puma concolor 21  
## 79 Psophia interjecta 20  
## 80 Ateles belzebuth 18  
## 81 Bradypus variegatus 17  
## 82 Penelope obscura 17  
## 83 Dasypus novemcinctus 16  
## 84 Callimico goeldii 15  
## 85 Dasyprocta cf. fuliginosa 15  
## 86 Leopardus wiedii 15  
## 87 Chiropotes satanas 14  
## 88 Odontophorus capueira 14  
## 89 Cuniculus paca 13  
## 90 Choloepus didactylus 12  
## 91 Lagothrix poeppigii 11  
## 92 Leopardus pardalis 11  
## 93 Tinamus solitarius 11  
## 94 Galictis vittata 10  
## 95 Pithecia monachus 10  
## 96 Cabassous unicinctus 9  
## 97 Alouatta juara 8  
## 98 Callithrix penicillata 8  
## 99 Cerdocyon thous 8  
## 100 Chiropotes utahickae 8  
## 101 Guerlinguetus ingrami 8  
## 102 Psophia obscura 8  
## 103 Cacajao melanocephalus 7  
## 104 Callicebus cinerascens 7  
## 105 Didelphis marsupialis 7  
## 106 Leopardus tigrinus 7  
## 107 Mico emiliae 7  
## 108 Saimiri cassiquiarensis 7  
## 109 Brachyteles arachnoides 6  
## 110 bradypus variegatus 6  
## 111 Dasyprocta azarae 6  
## 112 Dasyprocta iacki 6  
## 113 Nothocrax urumutum 6  
## 114 Puma yagouaroundi 6  
## 115 Saimiri macrodon 6  
## 116 Callicebus baptista 5  
## 117 Coendou prehensilis 5  
## 118 Crax globulosa 5  
## 119 Dasypodidae 5  
## 120 Hydrochoerus hydrochaeris 5  
## 121 Lontra longicaudis 5  
## 122 Priodontes maximus 5  
## 123 Atelocynus microtis 4  
## 124 Pauxi tomentosa 4  
## 125 Alouatta discolor 3  
## 126 Alouatta seniculus 3  
## 127 Callicebus dubius 3  
## 128 Callithrix jacchus 3  
## 129 Canis familiaris 3  
## 130 Cebus kaapori 3  
## 131 Pteronura brasiliensis 3  
## 132 Rhynchotus rufescens 3  
## 133 Alouatta caraya 2  
## 134 Aotus infulatus 2  
## 135 Cyclopes didactylus 2  
## 136 Dasypus kappleri 2  
## 137 Mazama gouazoubira 2  
## 138 Sylvilagus brasiliensis 2  
## 139 Tapirus kabomani 2  
## 140 Tayassuidae 2  
## 141 Alouatta guariba 1  
## 142 Alouatta guariba clamitans 1  
## 143 Callicebus lugens 1  
## 144 Callithrix aurita 1  
## 145 Cebuella pygmaea 1  
## 146 Colinus cristatus 1  
## 147 Lontra longicaudata 1  
## 148 Ozotocerus bezoarticus 1  
## 149 Procyon cancrivorus 1  
## 150 Procyonidae 1  
## 151 Speothus venaticus 1

### Contagem de populações

mydata %>%  
 filter(! binomial %in% c(  
 NA,  
 "E",  
 "Tinamidae",  
 "Cracidae",  
 "Sciuridae",  
 "Callitrichidae",  
 "Pitheciidae",  
 "Atelidae",  
 "Cebidae",  
 "Primates",  
 "Felidae",  
 "Bradypodidae",  
 "Cervidae"  
 )  
 ) %>%  
 group\_by(populacao) %>%  
 count() %>%  
 arrange(desc(n)) %>%  
 filter(! grepl('sp.', populacao)) %>%  
 filter() %>%  
 print(n=Inf)

## # A tibble: 731 x 2  
## # Groups: populacao [731]  
## populacao n  
## <chr> <int>  
## 1 Dasyprocta\_croconota\_259 998  
## 2 Myoprocta\_acouchy\_213 880  
## 3 Dasyprocta\_croconota\_47 334  
## 4 Sapajus\_apella\_259 294  
## 5 Dasyprocta\_croconota\_151 290  
## 6 Dasyprocta\_leporina\_213 264  
## 7 Dasyprocta\_leporina\_1810 231  
## 8 Tinamus\_major\_213 230  
## 9 Dasyprocta\_croconota\_258 225  
## 10 Sapajus\_apella\_213 205  
## 11 Sapajus\_apella\_151 202  
## 12 Ateles\_paniscus\_213 152  
## 13 Dasyprocta\_fuliginosa\_208 148  
## 14 Sapajus\_apella\_47 142  
## 15 Crax\_alector\_213 136  
## 16 Penelope\_jacquacu\_232 128  
## 17 Sapajus\_apella\_169 126  
## 18 Saguinus\_midas\_187 116  
## 19 Tinamus\_major\_187 116  
## 20 Dasyprocta\_fuliginosa\_232 115  
## 21 Dasyprocta\_leporina\_211 114  
## 22 Lagothrix\_cana\_208 112  
## 23 Dasyprocta\_fuliginosa\_281 107  
## 24 Sapajus\_apella\_258 104  
## 25 Psophia\_crepitans\_213 102  
## 26 Sapajus\_apella\_256 101  
## 27 Sapajus\_apella\_281 98  
## 28 Sapajus\_macrocephalus\_232 98  
## 29 Sapajus\_apella\_118 96  
## 30 Ateles\_chamek\_281 94  
## 31 Dasyprocta\_fuliginosa\_118 94  
## 32 Callicebus\_vieirai\_47 92  
## 33 Guerlinguetus\_aestuans\_47 89  
## 34 Myoprocta\_acouchy\_187 89  
## 35 Psophia\_viridis\_259 89  
## 36 Sapajus\_apella\_173 88  
## 37 Penelope\_jacquacu\_274 87  
## 38 Mazama\_americana\_259 86  
## 39 Nasua\_nasua\_259 86  
## 40 Dasyprocta\_leporina\_187 85  
## 41 Alouatta\_nigerrima\_259 82  
## 42 Dasyprocta\_prymnolopha\_207 80  
## 43 Lagothrix\_cana\_281 78  
## 44 Pecari\_tajacu\_232 77  
## 45 Pauxi\_tuberosa\_281 72  
## 46 Mico\_humeralifer\_259 71  
## 47 Penelope\_jacquacu\_208 69  
## 48 Sapajus\_macrocephalus\_222 69  
## 49 Pauxi\_tuberosa\_47 68  
## 50 Myoprocta\_pratti\_173 66  
## 51 Sapajus\_apella\_136 66  
## 52 Odontophorus\_gujanensis\_47 64  
## 53 Saguinus\_midas\_169 61  
## 54 Sapajus\_apella\_188 57  
## 55 Penelope\_jacquacu\_1633 56  
## 56 Psophia\_crepitans\_187 56  
## 57 Saguinus\_midas\_213 55  
## 58 Callicebus\_cupreus\_232 54  
## 59 Chiropotes\_sagulatus\_213 54  
## 60 Penelope\_jacquacu\_222 54  
## 61 Guerlinguetus\_aestuans\_151 53  
## 62 Mico\_melanurus\_281 53  
## 63 Myoprocta\_acouchy\_169 53  
## 64 Myoprocta\_pratti\_232 52  
## 65 Sapajus\_apella\_1810 52  
## 66 Guerlinguetus\_aestuans\_213 51  
## 67 Saimiri\_boliviensis\_232 51  
## 68 Ateles\_chamek\_118 50  
## 69 Dasyprocta\_croconota\_136 50  
## 70 Sapajus\_apella\_187 50  
## 71 Dasyprocta\_fuliginosa\_188 49  
## 72 Penelope\_jacquacu\_173 49  
## 73 Sapajus\_macrocephalus\_1633 49  
## 74 Chiropotes\_albinasus\_259 48  
## 75 Dasyprocta\_leporina\_169 48  
## 76 Guerlinguetus\_ignitus\_232 48  
## 77 Odontophorus\_gujanensis\_258 48  
## 78 Pecari\_tajacu\_259 48  
## 79 Myoprocta\_pratti\_274 47  
## 80 Saguinus\_weddelli\_118 47  
## 81 Cebus\_unicolor\_259 46  
## 82 Pithecia\_irrorata\_259 46  
## 83 Saimiri\_boliviensis\_222 46  
## 84 Chiropotes\_albinasus\_208 45  
## 85 Mazama\_americana\_213 45  
## 86 Sapajus\_cay\_143 44  
## 87 Mazama\_nemorivaga\_259 43  
## 88 Saguinus\_imperator\_222 43  
## 89 Sapajus\_apella\_208 43  
## 90 Pauxi\_tuberosa\_208 42  
## 91 Alouatta\_puruensis\_232 41  
## 92 Cebus\_unicolor\_232 41  
## 93 Dasyprocta\_fuliginosa\_256 41  
## 94 Crax\_fasciolata\_47 40  
## 95 Dasyprocta\_fuliginosa\_222 40  
## 96 Alouatta\_macconnelli\_187 39  
## 97 Callicebus\_hoffmannsi\_259 39  
## 98 Pauxi\_tuberosa\_118 39  
## 99 Sapajus\_apella\_211 39  
## 100 Odontophorus\_gujanensis\_213 38  
## 101 Urosciurus\_igniventris\_173 38  
## 102 Callicebus\_bernhardi\_208 37  
## 103 Callicebus\_cupreus\_222 37  
## 104 Callicebus\_moloch\_258 37  
## 105 Mazama\_americana\_258 37  
## 106 Penelope\_jacquacu\_149 37  
## 107 Ateles\_marginatus\_151 36  
## 108 Mazama\_americana\_208 36  
## 109 Pauxi\_tuberosa\_258 36  
## 110 Psophia\_leucoptera\_232 36  
## 111 Aotus\_nigriceps\_232 35  
## 112 Ateles\_chamek\_208 35  
## 113 Callicebus\_brunneus\_188 35  
## 114 Odontophorus\_gujanensis\_151 35  
## 115 Psophia\_dextralis\_151 35  
## 116 Lagothrix\_cana\_1633 34  
## 117 Tinamus\_major\_169 34  
## 118 Alouatta\_macconnelli\_213 33  
## 119 Psophia\_dextralis\_258 33  
## 120 Alouatta\_puruensis\_222 32  
## 121 Crax\_alector\_187 32  
## 122 Guerlinguetus\_gilvigularis\_1810 32  
## 123 Pauxi\_tuberosa\_151 32  
## 124 Pauxi\_tuberosa\_259 32  
## 125 Sapajus\_nigritus\_172 32  
## 126 Chiropotes\_albinasus\_281 31  
## 127 Dasyprocta\_prymnolopha\_57 31  
## 128 Mazama\_nemorivaga\_208 31  
## 129 Pecari\_tajacu\_213 31  
## 130 Saguinus\_weddelli\_232 31  
## 131 Sciurillus\_pusillus\_169 31  
## 132 Callicebus\_vieirai\_151 30  
## 133 Pithecia\_pithecia\_173 30  
## 134 Psophia\_crepitans\_169 30  
## 135 Tayassu\_pecari\_151 30  
## 136 Ateles\_paniscus\_187 29  
## 137 Odontophorus\_stellatus\_232 29  
## 138 Odontophorus\_stellatus\_274 29  
## 139 Dasyprocta\_fuliginosa\_221 28  
## 140 Mico\_argentatus\_1810 28  
## 141 Pithecia\_irrorata\_274 28  
## 142 Psophia\_viridis\_208 28  
## 143 Saimiri\_collinsi\_47 28  
## 144 Sapajus\_apella\_221 28  
## 145 Ateles\_marginatus\_258 27  
## 146 Psophia\_dextralis\_47 27  
## 147 Saguinus\_imperator\_232 27  
## 148 Saguinus\_niger\_211 27  
## 149 Aburria\_cujubi\_151 26  
## 150 Ateles\_chamek\_188 25  
## 151 Crax\_fasciolata\_151 25  
## 152 Mazama\_americana\_232 25  
## 153 Psophia\_viridis\_281 25  
## 154 Chiropotes\_chiropotes\_189 24  
## 155 Mazama\_americana\_47 24  
## 156 Mico\_rondoni\_118 24  
## 157 Pecari\_tajacu\_151 24  
## 158 Guerlinguetus\_aestuans\_259 23  
## 159 Nasua\_nasua\_232 23  
## 160 Penelope\_marail\_169 23  
## 161 Penelope\_marail\_187 23  
## 162 Aburria\_cujubi\_259 22  
## 163 Mazama\_americana\_211 22  
## 164 Mazama\_nemorivaga\_187 22  
## 165 Odontophorus\_gujanensis\_259 22  
## 166 Pecari\_tajacu\_281 22  
## 167 Saimiri\_collinsi\_211 22  
## 168 Alouatta\_nigerrima\_1810 21  
## 169 Dasyprocta\_fuliginosa\_274 21  
## 170 Guerlinguetus\_aestuans\_207 21  
## 171 Myoprocta\_pratti\_259 21  
## 172 Saimiri\_ustus\_118 21  
## 173 Pithecia\_irrorata\_118 20  
## 174 Psophia\_interjecta\_211 20  
## 175 Mazama\_americana\_281 19  
## 176 Mico\_humeralifer\_136 19  
## 177 Pithecia\_irrorata\_1633 19  
## 178 Aburria\_cujubi\_281 18  
## 179 Dasyprocta\_fuliginosa\_149 18  
## 180 Guerlinguetus\_aestuans\_169 18  
## 181 Guerlinguetus\_aestuans\_173 18  
## 182 Mazama\_nemorivaga\_281 18  
## 183 Microsciurus\_flaviventer\_232 18  
## 184 Pauxi\_tuberosa\_211 18  
## 185 Saguinus\_weddelli\_222 18  
## 186 Ateles\_chamek\_256 17  
## 187 Cebus\_albifrons\_1633 17  
## 188 Dasyprocta\_fuliginosa\_173 17  
## 189 Pithecia\_irrorata\_281 17  
## 190 Saguinus\_imperator\_274 17  
## 191 Aburria\_cujubi\_258 16  
## 192 Ateles\_paniscus\_169 16  
## 193 Crax\_fasciolata\_211 16  
## 194 Guerlinguetus\_aestuans\_211 16  
## 195 Mazama\_nemorivaga\_213 16  
## 196 Pithecia\_irrorata\_208 16  
## 197 Psophia\_viridis\_118 16  
## 198 Saimiri\_ustus\_256 16  
## 199 Sapajus\_macrocephalus\_274 16  
## 200 Tayassu\_pecari\_57 16  
## 201 Alouatta\_belzebul\_207 15  
## 202 Ateles\_belzebuth\_57 15  
## 203 Dasyprocta\_cf. fuliginosa\_274 15  
## 204 Ortalis\_guttata\_222 15  
## 205 Penelope\_obscura\_142 15  
## 206 Alouatta\_macconnelli\_169 14  
## 207 Ateles\_chamek\_149 14  
## 208 Ateles\_marginatus\_47 14  
## 209 Callimico\_goeldii\_232 14  
## 210 Chiropotes\_satanas\_207 14  
## 211 Crax\_alector\_57 14  
## 212 Eira\_barbara\_213 14  
## 213 Eira\_barbara\_232 14  
## 214 Mazama\_americana\_169 14  
## 215 Mazama\_americana\_1810 14  
## 216 Pecari\_tajacu\_118 14  
## 217 Penelope\_jacquacu\_189 14  
## 218 Psophia\_leucoptera\_274 14  
## 219 Saimiri\_ustus\_281 14  
## 220 Tamandua\_tetradactyla\_151 14  
## 221 Tayassu\_pecari\_259 14  
## 222 Tayassu\_pecari\_281 14  
## 223 Callicebus\_brunneus\_118 13  
## 224 Cebus\_olivaceus\_189 13  
## 225 Guerlinguetus\_aestuans\_258 13  
## 226 Mazama\_americana\_151 13  
## 227 Mazama\_nemorivaga\_188 13  
## 228 Nasua\_nasua\_151 13  
## 229 Ortalis\_motmot\_151 13  
## 230 Pecari\_tajacu\_208 13  
## 231 Pecari\_tajacu\_256 13  
## 232 Pecari\_tajacu\_258 13  
## 233 Saguinus\_weddelli\_188 13  
## 234 Sapajus\_apella\_207 13  
## 235 Tayassu\_pecari\_118 13  
## 236 Alouatta\_belzebul\_211 12  
## 237 Cebus\_olivaceus\_60 12  
## 238 Cebus\_unicolor\_222 12  
## 239 Dasyprocta\_fuliginosa\_1633 12  
## 240 Eira\_barbara\_259 12  
## 241 Ortalis\_motmot\_60 12  
## 242 Pecari\_tajacu\_1633 12  
## 243 Pecari\_tajacu\_173 12  
## 244 Pecari\_tajacu\_187 12  
## 245 Pecari\_tajacu\_222 12  
## 246 Tamandua\_tetradactyla\_232 12  
## 247 Aburria\_cujubi\_47 11  
## 248 Aburria\_cumanensis\_149 11  
## 249 Aburria\_cumanensis\_213 11  
## 250 Dasyprocta\_leporina\_189 11  
## 251 Guerlinguetus\_aestuans\_188 11  
## 252 Mazama\_americana\_57 11  
## 253 Mazama\_nemorivaga\_169 11  
## 254 Microsciurus\_flaviventer\_173 11  
## 255 Ortalis\_guttata\_259 11  
## 256 Pauxi\_tuberosa\_1810 11  
## 257 Pecari\_tajacu\_47 11  
## 258 Penelope\_jacquacu\_60 11  
## 259 Pithecia\_irrorata\_188 11  
## 260 Tamandua\_tetradactyla\_208 11  
## 261 Alouatta\_puruensis\_281 10  
## 262 Callicebus\_hoffmannsi\_136 10  
## 263 Guerlinguetus\_aestuans\_187 10  
## 264 Guerlinguetus\_aestuans\_274 10  
## 265 Lagothrix\_poeppigii\_149 10  
## 266 Odontophorus\_stellatus\_222 10  
## 267 Pecari\_tajacu\_207 10  
## 268 Pithecia\_monachus\_149 10  
## 269 Psophia\_crepitans\_57 10  
## 270 Psophia\_leucoptera\_1633 10  
## 271 Saimiri\_sciureus\_213 10  
## 272 Tamandua\_tetradactyla\_213 10  
## 273 Aburria\_cujubi\_211 9  
## 274 Ateles\_marginatus\_1810 9  
## 275 Bradypus\_variegatus\_259 9  
## 276 Callicebus\_brunneus\_256 9  
## 277 Callicebus\_moloch\_1810 9  
## 278 Cebus\_olivaceus\_57 9  
## 279 Chiropotes\_albinasus\_136 9  
## 280 Crax\_alector\_169 9  
## 281 Mazama\_americana\_187 9  
## 282 Mazama\_nemorivaga\_118 9  
## 283 Myoprocta\_pratti\_149 9  
## 284 Odontophorus\_gujanensis\_173 9  
## 285 Ortalis\_motmot\_211 9  
## 286 Pithecia\_pithecia\_187 9  
## 287 Pithecia\_pithecia\_213 9  
## 288 Psophia\_dextralis\_1810 9  
## 289 Saimiri\_sciureus\_169 9  
## 290 Tayassu\_pecari\_211 9  
## 291 Callithrix\_penicillata\_148 8  
## 292 Chiropotes\_utahickae\_211 8  
## 293 Myrmecophaga\_tridactyla\_259 8  
## 294 Nasua\_nasua\_47 8  
## 295 Odontophorus\_capueira\_152 8  
## 296 Odontophorus\_gujanensis\_211 8  
## 297 Pecari\_tajacu\_169 8  
## 298 Pithecia\_pithecia\_169 8  
## 299 Psophia\_leucoptera\_149 8  
## 300 Psophia\_obscura\_207 8  
## 301 Tamandua\_tetradactyla\_259 8  
## 302 Tapirus\_terrestris\_281 8  
## 303 Urosciurus\_igniventris\_57 8  
## 304 Cacajao\_melanocephalus\_173 7  
## 305 Callicebus\_cinerascens\_281 7  
## 306 Chiropotes\_albinasus\_258 7  
## 307 Guerlinguetus\_aestuans\_281 7  
## 308 Mazama\_americana\_207 7  
## 309 Mazama\_americana\_222 7  
## 310 Mazama\_nemorivaga\_1810 7  
## 311 Nasua\_nasua\_118 7  
## 312 Pauxi\_tuberosa\_256 7  
## 313 Pecari\_tajacu\_221 7  
## 314 Pithecia\_irrorata\_221 7  
## 315 Psophia\_leucoptera\_222 7  
## 316 Saguinus\_niger\_207 7  
## 317 Saimiri\_sciureus\_187 7  
## 318 Saimiri\_ustus\_208 7  
## 319 Sciurillus\_pusillus\_187 7  
## 320 Tapirus\_terrestris\_213 7  
## 321 Tayassu\_pecari\_222 7  
## 322 Tayassu\_pecari\_47 7  
## 323 Brachyteles\_arachnoides\_152 6  
## 324 Callicebus\_moloch\_281 6  
## 325 Cebus\_olivaceus\_169 6  
## 326 Cebus\_unicolor\_149 6  
## 327 Cebus\_unicolor\_281 6  
## 328 Dasyprocta\_iacki\_196 6  
## 329 Galictis\_vittata\_259 6  
## 330 Mazama\_americana\_188 6  
## 331 Mazama\_nemorivaga\_173 6  
## 332 Mazama\_nemorivaga\_256 6  
## 333 Mazama\_nemorivaga\_47 6  
## 334 Mico\_emiliae\_151 6  
## 335 Microsciurus\_flaviventer\_274 6  
## 336 Myrmecophaga\_tridactyla\_232 6  
## 337 Nasua\_nasua\_211 6  
## 338 Odontophorus\_stellatus\_149 6  
## 339 Ortalis\_guttata\_136 6  
## 340 Ortalis\_motmot\_57 6  
## 341 Pauxi\_tuberosa\_136 6  
## 342 Pecari\_tajacu\_211 6  
## 343 Pithecia\_irrorata\_256 6  
## 344 Psophia\_viridis\_136 6  
## 345 Saimiri\_boliviensis\_258 6  
## 346 Saimiri\_cassiquiarensis\_173 6  
## 347 Saimiri\_macrodon\_149 6  
## 348 Saimiri\_ustus\_1810 6  
## 349 Saimiri\_ustus\_259 6  
## 350 Sapajus\_nigritus\_152 6  
## 351 Tapirus\_terrestris\_47 6  
## 352 Tapirus\_terrestris\_57 6  
## 353 Aburria\_cumanensis\_143 5  
## 354 Alouatta\_juara\_173 5  
## 355 Ateles\_chamek\_221 5  
## 356 Callicebus\_baptista\_136 5  
## 357 Callicebus\_moloch\_211 5  
## 358 Cebus\_albifrons\_173 5  
## 359 Cebus\_olivaceus\_187 5  
## 360 Cebus\_unicolor\_256 5  
## 361 Choloepus\_didactylus\_259 5  
## 362 Crax\_globulosa\_1633 5  
## 363 Dasypodidae\_259 5  
## 364 Dasyprocta\_azarae\_172 5  
## 365 Dasypus\_novemcinctus\_259 5  
## 366 Eira\_barbara\_118 5  
## 367 Eira\_barbara\_173 5  
## 368 Eira\_barbara\_281 5  
## 369 Eira\_barbara\_284 5  
## 370 Guerlinguetus\_ingrami\_142 5  
## 371 Mazama\_americana\_118 5  
## 372 Mazama\_americana\_149 5  
## 373 Myoprocta\_pratti\_222 5  
## 374 Nasua\_nasua\_169 5  
## 375 Nasua\_nasua\_187 5  
## 376 Nasua\_nasua\_208 5  
## 377 Nasua\_nasua\_213 5  
## 378 Nasua\_nasua\_281 5  
## 379 Odontophorus\_gujanensis\_207 5  
## 380 Odontophorus\_gujanensis\_57 5  
## 381 Ortalis\_motmot\_189 5  
## 382 Ortalis\_motmot\_213 5  
## 383 Panthera\_onca\_259 5  
## 384 Pauxi\_tuberosa\_189 5  
## 385 Saguinus\_weddelli\_256 5  
## 386 Sciurillus\_pusillus\_211 5  
## 387 Tamandua\_tetradactyla\_188 5  
## 388 Tamandua\_tetradactyla\_274 5  
## 389 Tayassu\_pecari\_256 5  
## 390 Tinamus\_solitarius\_172 5  
## 391 Aotus\_nigriceps\_281 4  
## 392 Bradypus\_variegatus\_196 4  
## 393 Cabassous\_unicinctus\_232 4  
## 394 Cebus\_unicolor\_173 4  
## 395 Choloepus\_didactylus\_169 4  
## 396 Didelphis\_marsupialis\_259 4  
## 397 Eira\_barbara\_208 4  
## 398 Guerlinguetus\_aestuans\_221 4  
## 399 Mazama\_americana\_173 4  
## 400 Mazama\_americana\_274 4  
## 401 Mazama\_nemorivaga\_151 4  
## 402 Mazama\_nemorivaga\_211 4  
## 403 Nothocrax\_urumutum\_232 4  
## 404 Ortalis\_motmot\_47 4  
## 405 Panthera\_onca\_187 4  
## 406 Panthera\_onca\_213 4  
## 407 Panthera\_onca\_281 4  
## 408 Pauxi\_tomentosa\_60 4  
## 409 Pecari\_tajacu\_188 4  
## 410 Psophia\_crepitans\_189 4  
## 411 Puma\_concolor\_259 4  
## 412 Saimiri\_ustus\_258 4  
## 413 Tamandua\_tetradactyla\_118 4  
## 414 Tamandua\_tetradactyla\_211 4  
## 415 Tamandua\_tetradactyla\_47 4  
## 416 Tapirus\_terrestris\_259 4  
## 417 Tayassu\_pecari\_169 4  
## 418 Tayassu\_pecari\_208 4  
## 419 Tinamus\_solitarius\_142 4  
## 420 Aburria\_cujubi\_136 3  
## 421 Alouatta\_juara\_274 3  
## 422 Alouatta\_nigerrima\_136 3  
## 423 Alouatta\_seniculus\_57 3  
## 424 Aotus\_nigriceps\_222 3  
## 425 Aotus\_nigriceps\_259 3  
## 426 Ateles\_belzebuth\_189 3  
## 427 bradypus\_variegatus\_259 3  
## 428 Callicebus\_brunneus\_208 3  
## 429 Callicebus\_dubius\_1633 3  
## 430 Cebus\_kaapori\_207 3  
## 431 Cebus\_olivaceus\_213 3  
## 432 Cebus\_unicolor\_274 3  
## 433 Coendou\_prehensilis\_259 3  
## 434 Crax\_fasciolata\_143 3  
## 435 Cuniculus\_paca\_187 3  
## 436 Cuniculus\_paca\_259 3  
## 437 Eira\_barbara\_187 3  
## 438 Eira\_barbara\_211 3  
## 439 Eira\_barbara\_258 3  
## 440 Eira\_barbara\_274 3  
## 441 Guerlinguetus\_ingrami\_152 3  
## 442 Leopardus\_pardalis\_259 3  
## 443 Leopardus\_tigrinus\_232 3  
## 444 Leopardus\_wiedii\_213 3  
## 445 Leopardus\_wiedii\_232 3  
## 446 Leopardus\_wiedii\_259 3  
## 447 Mazama\_americana\_136 3  
## 448 Mazama\_americana\_143 3  
## 449 Mazama\_nemorivaga\_1626 3  
## 450 Mazama\_nemorivaga\_210 3  
## 451 Microsciurus\_flaviventer\_222 3  
## 452 Myrmecophaga\_tridactyla\_213 3  
## 453 Nasua\_nasua\_222 3  
## 454 Nasua\_nasua\_256 3  
## 455 Nasua\_nasua\_274 3  
## 456 Odontophorus\_capueira\_142 3  
## 457 Odontophorus\_capueira\_172 3  
## 458 Ortalis\_guttata\_274 3  
## 459 Ortalis\_motmot\_169 3  
## 460 Panthera\_onca\_232 3  
## 461 Pauxi\_tuberosa\_207 3  
## 462 Pecari\_tajacu\_136 3  
## 463 Pecari\_tajacu\_149 3  
## 464 Pecari\_tajacu\_1626 3  
## 465 Pecari\_tajacu\_172 3  
## 466 Pithecia\_irrorata\_222 3  
## 467 Psophia\_dextralis\_281 3  
## 468 Psophia\_viridis\_188 3  
## 469 Pteronura\_brasiliensis\_173 3  
## 470 Puma\_concolor\_213 3  
## 471 Saimiri\_boliviensis\_1633 3  
## 472 Sciurillus\_pusillus\_259 3  
## 473 Tamandua\_tetradactyla\_187 3  
## 474 Tamandua\_tetradactyla\_222 3  
## 475 Tamandua\_tetradactyla\_256 3  
## 476 Tamandua\_tetradactyla\_281 3  
## 477 Tapirus\_terrestris\_143 3  
## 478 Tapirus\_terrestris\_208 3  
## 479 Tayassu\_pecari\_136 3  
## 480 Tayassu\_pecari\_187 3  
## 481 Tayassu\_pecari\_213 3  
## 482 Tinamus\_major\_189 3  
## 483 Aburria\_cujubi\_1810 2  
## 484 Aburria\_cujubi\_207 2  
## 485 Alouatta\_caraya\_143 2  
## 486 Alouatta\_discolor\_258 2  
## 487 Aotus\_nigriceps\_1633 2  
## 488 bradypus\_variegatus\_169 2  
## 489 Cabassous\_unicinctus\_259 2  
## 490 Callithrix\_jacchus\_196 2  
## 491 Cebus\_albifrons\_136 2  
## 492 Cebus\_albifrons\_274 2  
## 493 Cebus\_unicolor\_136 2  
## 494 Cerdocyon\_thous\_208 2  
## 495 Cerdocyon\_thous\_256 2  
## 496 Cerdocyon\_thous\_259 2  
## 497 Cerdocyon\_thous\_281 2  
## 498 Choloepus\_didactylus\_173 2  
## 499 Crax\_fasciolata\_256 2  
## 500 Crax\_fasciolata\_281 2  
## 501 Cuniculus\_paca\_136 2  
## 502 Cuniculus\_paca\_211 2  
## 503 Dasypus\_novemcinctus\_187 2  
## 504 Dasypus\_novemcinctus\_232 2  
## 505 Dasypus\_novemcinctus\_281 2  
## 506 Didelphis\_marsupialis\_281 2  
## 507 Eira\_barbara\_169 2  
## 508 Eira\_barbara\_1810 2  
## 509 Eira\_barbara\_188 2  
## 510 Eira\_barbara\_207 2  
## 511 Eira\_barbara\_222 2  
## 512 Eira\_barbara\_57 2  
## 513 Eira\_barbara\_60 2  
## 514 Galictis\_vittata\_281 2  
## 515 Guerlinguetus\_aestuans\_196 2  
## 516 Guerlinguetus\_aestuans\_222 2  
## 517 Hydrochoerus\_hydrochaeris\_281 2  
## 518 Leopardus\_pardalis\_281 2  
## 519 Leopardus\_wiedii\_1810 2  
## 520 Leopardus\_wiedii\_258 2  
## 521 Lontra\_longicaudis\_173 2  
## 522 Mazama\_americana\_1633 2  
## 523 Mazama\_americana\_256 2  
## 524 Mazama\_gouazoubira\_76 2  
## 525 Mazama\_nemorivaga\_221 2  
## 526 Mazama\_nemorivaga\_222 2  
## 527 Mazama\_nemorivaga\_258 2  
## 528 Myoprocta\_acouchy\_57 2  
## 529 Myoprocta\_pratti\_281 2  
## 530 Myrmecophaga\_tridactyla\_57 2  
## 531 Nasua\_nasua\_136 2  
## 532 Nasua\_nasua\_143 2  
## 533 Nasua\_nasua\_1810 2  
## 534 Odontophorus\_gujanensis\_187 2  
## 535 Ortalis\_guttata\_232 2  
## 536 Ortalis\_motmot\_1810 2  
## 537 Ortalis\_motmot\_258 2  
## 538 Panthera\_onca\_118 2  
## 539 Panthera\_onca\_208 2  
## 540 Panthera\_onca\_274 2  
## 541 Pauxi\_tuberosa\_232 2  
## 542 Pecari\_tajacu\_143 2  
## 543 Pecari\_tajacu\_1810 2  
## 544 Pecari\_tajacu\_210 2  
## 545 Pecari\_tajacu\_274 2  
## 546 Penelope\_obscura\_152 2  
## 547 Priodontes\_maximus\_281 2  
## 548 Psophia\_viridis\_256 2  
## 549 Puma\_concolor\_136 2  
## 550 Puma\_concolor\_173 2  
## 551 Puma\_concolor\_258 2  
## 552 Puma\_concolor\_47 2  
## 553 Rhynchotus\_rufescens\_76 2  
## 554 Saimiri\_collinsi\_207 2  
## 555 Saimiri\_ustus\_136 2  
## 556 Sciurillus\_pusillus\_136 2  
## 557 Sciurillus\_pusillus\_281 2  
## 558 Tamandua\_tetradactyla\_143 2  
## 559 Tamandua\_tetradactyla\_173 2  
## 560 Tamandua\_tetradactyla\_285 2  
## 561 Tapirus\_kabomani\_188 2  
## 562 Tapirus\_terrestris\_118 2  
## 563 Tapirus\_terrestris\_1633 2  
## 564 Tapirus\_terrestris\_188 2  
## 565 Tayassu\_pecari\_149 2  
## 566 Tayassu\_pecari\_1633 2  
## 567 Tayassu\_pecari\_173 2  
## 568 Tayassu\_pecari\_232 2  
## 569 Aburria\_cumanensis\_232 1  
## 570 Aburria\_cumanensis\_57 1  
## 571 Alouatta\_belzebul\_196 1  
## 572 Alouatta\_discolor\_47 1  
## 573 Alouatta\_guariba clamitans\_152 1  
## 574 Alouatta\_guariba\_142 1  
## 575 Alouatta\_macconnelli\_189 1  
## 576 Alouatta\_puruensis\_188 1  
## 577 Aotus\_infulatus\_151 1  
## 578 Aotus\_infulatus\_169 1  
## 579 Aotus\_nigriceps\_258 1  
## 580 Ateles\_chamek\_1633 1  
## 581 Ateles\_chamek\_259 1  
## 582 Atelocynus\_microtis\_136 1  
## 583 Atelocynus\_microtis\_1626 1  
## 584 Atelocynus\_microtis\_208 1  
## 585 Atelocynus\_microtis\_211 1  
## 586 Bradypus\_variegatus\_151 1  
## 587 bradypus\_variegatus\_211 1  
## 588 Bradypus\_variegatus\_211 1  
## 589 Bradypus\_variegatus\_213 1  
## 590 Bradypus\_variegatus\_274 1  
## 591 Cabassous\_unicinctus\_118 1  
## 592 Cabassous\_unicinctus\_221 1  
## 593 Cabassous\_unicinctus\_281 1  
## 594 Callicebus\_brunneus\_221 1  
## 595 Callicebus\_lugens\_189 1  
## 596 Callimico\_goeldii\_222 1  
## 597 Callithrix\_aurita\_142 1  
## 598 Callithrix\_jacchus\_142 1  
## 599 Canis\_familiaris\_148 1  
## 600 Canis\_familiaris\_152 1  
## 601 Canis\_familiaris\_274 1  
## 602 Cebuella\_pygmaea\_222 1  
## 603 Choloepus\_didactylus\_208 1  
## 604 Coendou\_prehensilis\_222 1  
## 605 Coendou\_prehensilis\_281 1  
## 606 Colinus\_cristatus\_169 1  
## 607 Crax\_alector\_60 1  
## 608 Cuniculus\_paca\_1810 1  
## 609 Cuniculus\_paca\_256 1  
## 610 Cuniculus\_paca\_284 1  
## 611 Cyclopes\_didactylus\_213 1  
## 612 Cyclopes\_didactylus\_259 1  
## 613 Dasyprocta\_azarae\_143 1  
## 614 Dasypus\_kappleri\_211 1  
## 615 Dasypus\_kappleri\_256 1  
## 616 Dasypus\_novemcinctus\_213 1  
## 617 Dasypus\_novemcinctus\_221 1  
## 618 Dasypus\_novemcinctus\_222 1  
## 619 Dasypus\_novemcinctus\_256 1  
## 620 Dasypus\_novemcinctus\_76 1  
## 621 Didelphis\_marsupialis\_47 1  
## 622 Eira\_barbara\_142 1  
## 623 Eira\_barbara\_151 1  
## 624 Eira\_barbara\_152 1  
## 625 Eira\_barbara\_1633 1  
## 626 Eira\_barbara\_210 1  
## 627 Eira\_barbara\_285 1  
## 628 Galictis\_vittata\_213 1  
## 629 Galictis\_vittata\_232 1  
## 630 Guerlinguetus\_aestuans\_118 1  
## 631 Guerlinguetus\_aestuans\_136 1  
## 632 Guerlinguetus\_aestuans\_189 1  
## 633 Hydrochoerus\_hydrochaeris\_118 1  
## 634 Hydrochoerus\_hydrochaeris\_210 1  
## 635 Hydrochoerus\_hydrochaeris\_211 1  
## 636 Lagothrix\_poeppigii\_274 1  
## 637 Leopardus\_pardalis\_1633 1  
## 638 Leopardus\_pardalis\_173 1  
## 639 Leopardus\_pardalis\_187 1  
## 640 Leopardus\_pardalis\_213 1  
## 641 Leopardus\_pardalis\_232 1  
## 642 Leopardus\_pardalis\_57 1  
## 643 Leopardus\_tigrinus\_169 1  
## 644 Leopardus\_tigrinus\_173 1  
## 645 Leopardus\_tigrinus\_259 1  
## 646 Leopardus\_tigrinus\_57 1  
## 647 Leopardus\_wiedii\_169 1  
## 648 Leopardus\_wiedii\_208 1  
## 649 Lontra\_longicaudata\_274 1  
## 650 Lontra\_longicaudis\_1633 1  
## 651 Lontra\_longicaudis\_259 1  
## 652 Lontra\_longicaudis\_274 1  
## 653 Mazama\_americana\_210 1  
## 654 Mazama\_nemorivaga\_136 1  
## 655 Mazama\_nemorivaga\_149 1  
## 656 Mazama\_nemorivaga\_1633 1  
## 657 Mazama\_nemorivaga\_284 1  
## 658 Mico\_emiliae\_47 1  
## 659 Mico\_melanurus\_208 1  
## 660 Microsciurus\_flaviventer\_57 1  
## 661 Myrmecophaga\_tridactyla\_118 1  
## 662 Myrmecophaga\_tridactyla\_188 1  
## 663 Myrmecophaga\_tridactyla\_208 1  
## 664 Myrmecophaga\_tridactyla\_211 1  
## 665 Myrmecophaga\_tridactyla\_222 1  
## 666 Myrmecophaga\_tridactyla\_256 1  
## 667 Myrmecophaga\_tridactyla\_258 1  
## 668 Myrmecophaga\_tridactyla\_281 1  
## 669 Myrmecophaga\_tridactyla\_47 1  
## 670 Nasua\_nasua\_172 1  
## 671 Nasua\_nasua\_207 1  
## 672 Nasua\_nasua\_241 1  
## 673 Nasua\_nasua\_258 1  
## 674 Nothocrax\_urumutum\_173 1  
## 675 Nothocrax\_urumutum\_208 1  
## 676 Odontophorus\_stellatus\_151 1  
## 677 Ortalis\_guttata\_256 1  
## 678 Ozotocerus\_bezoarticus\_1633 1  
## 679 Panthera\_onca\_151 1  
## 680 Panthera\_onca\_284 1  
## 681 Pauxi\_tuberosa\_188 1  
## 682 Pecari\_tajacu\_285 1  
## 683 Pecari\_tajacu\_60 1  
## 684 Pithecia\_irrorata\_136 1  
## 685 Priodontes\_maximus\_211 1  
## 686 Priodontes\_maximus\_213 1  
## 687 Priodontes\_maximus\_232 1  
## 688 Procyon\_cancrivorus\_1626 1  
## 689 Procyonidae\_281 1  
## 690 Puma\_concolor\_118 1  
## 691 Puma\_concolor\_151 1  
## 692 Puma\_concolor\_211 1  
## 693 Puma\_concolor\_232 1  
## 694 Puma\_concolor\_281 1  
## 695 Puma\_concolor\_60 1  
## 696 Puma\_yagouaroundi\_187 1  
## 697 Puma\_yagouaroundi\_208 1  
## 698 Puma\_yagouaroundi\_222 1  
## 699 Puma\_yagouaroundi\_232 1  
## 700 Puma\_yagouaroundi\_259 1  
## 701 Puma\_yagouaroundi\_281 1  
## 702 Rhynchotus\_rufescens\_148 1  
## 703 Saimiri\_boliviensis\_274 1  
## 704 Saimiri\_cassiquiarensis\_57 1  
## 705 Saimiri\_ustus\_151 1  
## 706 Saimiri\_ustus\_221 1  
## 707 Sapajus\_macrocephalus\_189 1  
## 708 Sapajus\_nigritus\_142 1  
## 709 Sciurillus\_pusillus\_188 1  
## 710 Speothus\_venaticus\_232 1  
## 711 Sylvilagus\_brasiliensis\_118 1  
## 712 Sylvilagus\_brasiliensis\_211 1  
## 713 Tamandua\_tetradactyla\_136 1  
## 714 Tamandua\_tetradactyla\_189 1  
## 715 Tamandua\_tetradactyla\_207 1  
## 716 Tamandua\_tetradactyla\_57 1  
## 717 Tapirus\_terrestris\_169 1  
## 718 Tapirus\_terrestris\_187 1  
## 719 Tapirus\_terrestris\_211 1  
## 720 Tapirus\_terrestris\_222 1  
## 721 Tapirus\_terrestris\_258 1  
## 722 Tapirus\_terrestris\_285 1  
## 723 Tayassu\_pecari\_1626 1  
## 724 Tayassu\_pecari\_1810 1  
## 725 Tayassu\_pecari\_207 1  
## 726 Tayassu\_pecari\_258 1  
## 727 Tayassuidae\_1633 1  
## 728 Tayassuidae\_259 1  
## 729 Tinamus\_major\_60 1  
## 730 Tinamus\_solitarius\_148 1  
## 731 Tinamus\_solitarius\_152 1

### Contagem de transectos

mydata %>%  
 distinct(nome\_UC, estacao\_amostral) %>%  
 count()

## # A tibble: 1 x 1  
## n  
## <int>  
## 1 105

### Esforço total

mydata %>%  
 summarize(sum(esforco, na.rm = TRUE)/1000)

## # A tibble: 1 x 1  
## `sum(esforco, na.rm = TRUE)/1000`  
## <dbl>  
## 1 14036.

### Cálculo de esforço anual por UC (Km)

esforco <- mydata %>%  
 group\_by(cnuc, ano) %>%  
 summarize(esforco = sum(esforco, na.rm = TRUE)/1000) %>%  
 filter(esforco > 149)

## `summarise()` has grouped output by 'cnuc'. You can override using the  
## `.groups` argument.

esforco

## # A tibble: 57 x 3  
## # Groups: cnuc [21]  
## cnuc ano esforco  
## <dbl> <dbl> <dbl>  
## 1 47 2016 151.  
## 2 118 2017 150   
## 3 118 2018 150   
## 4 118 2019 155   
## 5 151 2016 150   
## 6 151 2017 170   
## 7 169 2018 150   
## 8 169 2019 155   
## 9 173 2015 150   
## 10 173 2016 155   
## # ... with 47 more rows

##Seleção por critérios ### Selecionar UCs Seleção de UCs com mais de 1 ano de amostragem e mais de 149 km de esforço anual.

ucs\_selecionadas <- esforco %>%  
 group\_by(cnuc) %>%   
 count() %>%  
 filter(n > 1) %>%  
 pull(cnuc)  
ucs\_selecionadas

## [1] 118 151 169 173 187 188 208 211 213 222 232 256 259 274 281  
## [16] 1633 1810

### Filtrar

Filtrar dados mantendo somente UCs selecionadas

mydata <- mydata %>%  
 filter(cnuc %in% ucs\_selecionadas)  
mydata

## # A tibble: 16,665 x 17  
## cnuc nome\_UC estacao\_amostral nome\_ea esforco ano data hora\_inicio  
## <dbl> <chr> <dbl> <chr> <dbl> <dbl> <date> <time>   
## 1 118 Flona do~ 1 Fazenda 5000 2014 2014-04-25 06:18   
## 2 118 Flona do~ 1 Fazenda NA 2014 2014-04-25 06:18   
## 3 118 Flona do~ 1 Fazenda NA 2014 2014-04-25 06:18   
## 4 118 Flona do~ 1 Fazenda NA 2014 2014-04-25 06:18   
## 5 118 Flona do~ 1 Fazenda NA 2014 2014-04-25 06:18   
## 6 118 Flona do~ 1 Fazenda NA 2014 2014-04-25 06:18   
## 7 118 Flona do~ 1 Fazenda NA 2014 2014-04-25 06:18   
## 8 118 Flona do~ 1 Fazenda 5000 2014 2014-04-26 06:18   
## 9 118 Flona do~ 1 Fazenda NA 2014 2014-04-26 06:18   
## 10 118 Flona do~ 1 Fazenda NA 2014 2014-04-26 06:18   
## # ... with 16,655 more rows, and 9 more variables: hora\_fim <time>,  
## # classe <chr>, ordem <chr>, familia <chr>, genero <chr>, binomial <chr>,  
## # n\_animais <chr>, distancia <dbl>, populacao <chr>

Remover especies identificadas apenas ao nível de gênero

mydata <- mydata %>%  
 filter(! grepl('sp.', binomial))  
mydata

## # A tibble: 12,809 x 17  
## cnuc nome\_UC estacao\_amostral nome\_ea esforco ano data hora\_inicio  
## <dbl> <chr> <dbl> <chr> <dbl> <dbl> <date> <time>   
## 1 118 Flona do~ 1 Fazenda NA 2014 2014-04-25 06:18   
## 2 118 Flona do~ 1 Fazenda NA 2014 2014-04-25 06:18   
## 3 118 Flona do~ 1 Fazenda NA 2014 2014-04-25 06:18   
## 4 118 Flona do~ 1 Fazenda NA 2014 2014-04-25 06:18   
## 5 118 Flona do~ 1 Fazenda NA 2014 2014-04-25 06:18   
## 6 118 Flona do~ 1 Fazenda NA 2014 2014-04-26 06:18   
## 7 118 Flona do~ 1 Fazenda NA 2014 2014-04-26 06:18   
## 8 118 Flona do~ 1 Fazenda NA 2014 2014-04-27 06:20   
## 9 118 Flona do~ 1 Fazenda NA 2014 2014-04-27 06:20   
## 10 118 Flona do~ 1 Fazenda NA 2014 2014-04-27 06:20   
## # ... with 12,799 more rows, and 9 more variables: hora\_fim <time>,  
## # classe <chr>, ordem <chr>, familia <chr>, genero <chr>, binomial <chr>,  
## # n\_animais <chr>, distancia <dbl>, populacao <chr>

Esforço anual em km

esforco\_anual <- mydata %>%  
 group\_by(cnuc, ano) %>%  
 summarize(esforco = sum(esforco, na.rm = TRUE)) %>%  
 mutate(esforco = esforco/1000)

## `summarise()` has grouped output by 'cnuc'. You can override using the  
## `.groups` argument.

esforco\_anual

## # A tibble: 72 x 3  
## # Groups: cnuc [17]  
## cnuc ano esforco  
## <dbl> <dbl> <dbl>  
## 1 118 2014 25   
## 2 118 2015 30   
## 3 118 2016 70   
## 4 118 2017 85   
## 5 118 2018 120   
## 6 118 2019 120   
## 7 151 2016 105   
## 8 151 2017 125   
## 9 151 2018 80   
## 10 151 2019 118.  
## # ... with 62 more rows

Esforço anual em formato *wide* (QPEHE)

esforco\_anual\_wide <- esforco\_anual %>%  
 pivot\_wider(names\_from = ano, values\_from = esforco) %>%  
 select(cnuc,  
 `2014`,  
 `2015`,  
 `2016`,  
 `2017`,  
 `2018`,  
 `2019`  
 ) %>%  
 ungroup()  
esforco\_anual\_wide

## # A tibble: 17 x 7  
## cnuc `2014` `2015` `2016` `2017` `2018` `2019`  
## <dbl> <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  
## 1 118 25 30 70 85 120 120   
## 2 151 NA NA 105 125 80 118.  
## 3 169 NA NA 85 85 130 145   
## 4 173 NA 100 110 80 105 100   
## 5 187 10 80 90 125 120 125   
## 6 188 NA NA NA 30 100 75   
## 7 208 NA NA 120 125 155 130   
## 8 211 NA NA 30 75 80 110   
## 9 213 115 125 150 130 145 152.  
## 10 222 NA NA NA NA 140 125   
## 11 232 95 85 90 90 100 105   
## 12 256 NA NA NA 64.2 108. 104.  
## 13 259 50 225 285 405 320 340   
## 14 274 NA NA NA 50 95 65   
## 15 281 NA NA 145 110 90 100   
## 16 1633 NA NA NA 40 140 130   
## 17 1810 NA NA NA NA 120 NA

Número de registros anuais

n\_registros <- mydata %>%  
 group\_by(cnuc, ano, populacao) %>%  
 count() %>%  
 mutate(n = as.numeric(n))  
n\_registros

## # A tibble: 1,508 x 4  
## # Groups: cnuc, ano, populacao [1,508]  
## cnuc ano populacao n  
## <dbl> <dbl> <chr> <dbl>  
## 1 118 2014 Ateles\_chamek\_118 3  
## 2 118 2014 Dasyprocta\_fuliginosa\_118 4  
## 3 118 2014 Guerlinguetus\_aestuans\_118 1  
## 4 118 2014 Mazama\_americana\_118 1  
## 5 118 2014 Mazama\_nemorivaga\_118 1  
## 6 118 2014 Myrmecophaga\_tridactyla\_118 1  
## 7 118 2014 Nasua\_nasua\_118 1  
## 8 118 2014 Pauxi\_tuberosa\_118 5  
## 9 118 2014 Pecari\_tajacu\_118 2  
## 10 118 2014 Pithecia\_irrorata\_118 1  
## # ... with 1,498 more rows

Número de registros anuais em formato *wide* (QPEHE)

n\_registros\_wide <- n\_registros %>%  
 pivot\_wider(names\_from = ano, values\_from = n) %>%  
 select(cnuc,  
 populacao,  
 `2014`,  
 `2015`,  
 `2016`,  
 `2017`,  
 `2018`,  
 `2019`  
 ) %>%  
 replace(is.na(.), 0) %>%  
 ungroup()  
n\_registros\_wide

## # A tibble: 550 x 8  
## cnuc populacao `2014` `2015` `2016` `2017` `2018` `2019`  
## <dbl> <chr> <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  
## 1 118 Ateles\_chamek\_118 3 5 10 10 9 13  
## 2 118 Dasyprocta\_fuliginosa\_118 4 9 29 21 16 15  
## 3 118 Guerlinguetus\_aestuans\_118 1 0 0 0 0 0  
## 4 118 Mazama\_americana\_118 1 0 0 3 1 0  
## 5 118 Mazama\_nemorivaga\_118 1 2 0 0 3 3  
## 6 118 Myrmecophaga\_tridactyla\_118 1 0 0 0 0 0  
## 7 118 Nasua\_nasua\_118 1 1 1 1 3 0  
## 8 118 Pauxi\_tuberosa\_118 5 3 13 5 3 10  
## 9 118 Pecari\_tajacu\_118 2 2 2 5 1 2  
## 10 118 Pithecia\_irrorata\_118 1 2 4 6 4 3  
## # ... with 540 more rows

### Taxa de encontro anual

Estimativa de abundância relativa (número de registros por esforço). Neste caso *NAs* devem ser mantidos! Vai entender…

taxas\_anuais <- data.frame(n\_registros\_wide)  
esforcos\_anuais <- data.frame(esforco\_anual\_wide)  
for(i in 1:nrow(taxas\_anuais)) {  
 cnuc\_temp <- taxas\_anuais[i, "cnuc"]  
 esforco\_temp <- esforcos\_anuais %>% filter(cnuc == cnuc\_temp) %>% select(-cnuc)  
 taxas\_anuais[i, 3:8] <- round(taxas\_anuais[i, 3:8]/esforco\_temp, 3)  
}  
taxas\_anuais <- as\_tibble(taxas\_anuais)  
taxas\_anuais %>%  
 print(n=Inf)

## # A tibble: 550 x 8  
## cnuc populacao X2014 X2015 X2016 X2017 X2018 X2019  
## <dbl> <chr> <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  
## 1 118 Ateles\_chamek\_118 0.12 0.167 0.143 0.118 0.075 0.108  
## 2 118 Dasyprocta\_fuliginosa\_118 0.16 0.3 0.414 0.247 0.133 0.125  
## 3 118 Guerlinguetus\_aestuans\_118 0.04 0 0 0 0 0   
## 4 118 Mazama\_americana\_118 0.04 0 0 0.035 0.008 0   
## 5 118 Mazama\_nemorivaga\_118 0.04 0.067 0 0 0.025 0.025  
## 6 118 Myrmecophaga\_tridactyla\_118 0.04 0 0 0 0 0   
## 7 118 Nasua\_nasua\_118 0.04 0.033 0.014 0.012 0.025 0   
## 8 118 Pauxi\_tuberosa\_118 0.2 0.1 0.186 0.059 0.025 0.083  
## 9 118 Pecari\_tajacu\_118 0.08 0.067 0.029 0.059 0.008 0.017  
## 10 118 Pithecia\_irrorata\_118 0.04 0.067 0.057 0.071 0.033 0.025  
## 11 118 Saguinus\_weddelli\_118 0.12 0.067 0.129 0.153 0.092 0.075  
## 12 118 Sapajus\_apella\_118 0.28 0.067 0.286 0.271 0.175 0.192  
## 13 118 Callicebus\_brunneus\_118 0 0.033 0.043 0.024 0.042 0.017  
## 14 118 Mico\_rondoni\_118 0 0.133 0.057 0.047 0.067 0.033  
## 15 118 Psophia\_viridis\_118 0 0.067 0.043 0.059 0.033 0.017  
## 16 118 Tapirus\_terrestris\_118 0 0.033 0.014 0 0 0   
## 17 118 Eira\_barbara\_118 0 0 0.029 0 0.017 0.008  
## 18 118 NA\_118 0 0 0.014 0 0 0.017  
## 19 118 Saimiri\_ustus\_118 0 0 0.057 0.106 0.017 0.05   
## 20 118 Tamandua\_tetradactyla\_118 0 0 0.014 0.012 0 0.017  
## 21 118 Tayassu\_pecari\_118 0 0 0.057 0.047 0 0.042  
## 22 118 Sciuridae\_118 0 0 0 0.012 0 0   
## 23 118 Sylvilagus\_brasiliensis\_118 0 0 0 0.012 0 0   
## 24 118 Tinamidae\_118 0 0 0 0.153 0.058 0   
## 25 118 Cabassous\_unicinctus\_118 0 0 0 0 0.008 0   
## 26 118 Hydrochoerus\_hydrochaeris\_118 0 0 0 0 0.008 0   
## 27 118 Panthera\_onca\_118 0 0 0 0 0.008 0.008  
## 28 118 Puma\_concolor\_118 0 0 0 0 0 0.008  
## 29 151 Aburria\_cujubi\_151 NA NA 0.057 0.032 0.038 0.11   
## 30 151 Ateles\_marginatus\_151 NA NA 0.133 0.064 0.112 0.042  
## 31 151 Crax\_fasciolata\_151 NA NA 0.029 0.048 0.038 0.11   
## 32 151 Dasyprocta\_croconota\_151 NA NA 0.667 0.688 0.45 0.829  
## 33 151 Guerlinguetus\_aestuans\_151 NA NA 0.114 0.176 0.112 0.085  
## 34 151 Mazama\_americana\_151 NA NA 0.029 0.016 0.025 0.051  
## 35 151 Mazama\_nemorivaga\_151 NA NA 0.029 0 0 0.008  
## 36 151 Mico\_emiliae\_151 NA NA 0.038 0 0.013 0.008  
## 37 151 Nasua\_nasua\_151 NA NA 0.019 0.016 0.088 0.017  
## 38 151 Odontophorus\_gujanensis\_151 NA NA 0.114 0.064 0.088 0.068  
## 39 151 Ortalis\_motmot\_151 NA NA 0.048 0.024 0 0.042  
## 40 151 Pauxi\_tuberosa\_151 NA NA 0.105 0.096 0.038 0.051  
## 41 151 Pecari\_tajacu\_151 NA NA 0.048 0.104 0 0.051  
## 42 151 Psophia\_dextralis\_151 NA NA 0.114 0.064 0.1 0.059  
## 43 151 Sapajus\_apella\_151 NA NA 0.514 0.432 0.5 0.457  
## 44 151 Tamandua\_tetradactyla\_151 NA NA 0.038 0.016 0.05 0.034  
## 45 151 Tayassu\_pecari\_151 NA NA 0.086 0.064 0.062 0.068  
## 46 151 Tinamidae\_151 NA NA 0.01 0 0 0   
## 47 151 Aotus\_infulatus\_151 NA NA 0 0.008 0 0   
## 48 151 Callicebus\_vieirai\_151 NA NA 0 0.24 0 0   
## 49 151 Cracidae\_151 NA NA 0 0.008 0 0   
## 50 151 Eira\_barbara\_151 NA NA 0 0.008 0 0   
## 51 151 Bradypus\_variegatus\_151 NA NA 0 0 0.013 0   
## 52 151 NA\_151 NA NA 0 0 0 0.042  
## 53 151 Odontophorus\_stellatus\_151 NA NA 0 0 0 0.008  
## 54 151 Panthera\_onca\_151 NA NA 0 0 0 0.008  
## 55 151 Puma\_concolor\_151 NA NA 0 0 0 0.008  
## 56 151 Saimiri\_ustus\_151 NA NA 0 0 0 0.008  
## 57 169 Alouatta\_macconnelli\_169 NA NA 0.035 0.047 0.023 0.028  
## 58 169 Ateles\_paniscus\_169 NA NA 0.012 0.035 0.046 0.041  
## 59 169 Cebus\_olivaceus\_169 NA NA 0.012 0 0 0.034  
## 60 169 Crax\_alector\_169 NA NA 0.035 0.012 0.015 0.021  
## 61 169 Dasyprocta\_leporina\_169 NA NA 0.188 0.141 0.092 0.055  
## 62 169 Eira\_barbara\_169 NA NA 0.012 0.012 0 0   
## 63 169 Guerlinguetus\_aestuans\_169 NA NA 0.047 0.035 0.054 0.028  
## 64 169 Mazama\_americana\_169 NA NA 0.024 0.012 0.023 0.055  
## 65 169 Mazama\_nemorivaga\_169 NA NA 0.047 0 0.008 0.041  
## 66 169 Myoprocta\_acouchy\_169 NA NA 0.118 0.118 0.131 0.11   
## 67 169 Nasua\_nasua\_169 NA NA 0.012 0.024 0 0.014  
## 68 169 Ortalis\_motmot\_169 NA NA 0.024 0 0 0.007  
## 69 169 Pecari\_tajacu\_169 NA NA 0.024 0.024 0.008 0.021  
## 70 169 Penelope\_marail\_169 NA NA 0.082 0.024 0.077 0.028  
## 71 169 Pitheciidae\_169 NA NA 0.012 0 0 0   
## 72 169 Psophia\_crepitans\_169 NA NA 0.059 0.059 0.092 0.055  
## 73 169 Saguinus\_midas\_169 NA NA 0.106 0.071 0.231 0.11   
## 74 169 Saimiri\_sciureus\_169 NA NA 0.047 0.024 0.015 0.007  
## 75 169 Sapajus\_apella\_169 NA NA 0.306 0.306 0.3 0.241  
## 76 169 Sciurillus\_pusillus\_169 NA NA 0.071 0.035 0.054 0.103  
## 77 169 Tinamus\_major\_169 NA NA 0.059 0.071 0.069 0.097  
## 78 169 Choloepus\_didactylus\_169 NA NA 0 0.012 0.015 0.007  
## 79 169 Pithecia\_pithecia\_169 NA NA 0 0.012 0.015 0.034  
## 80 169 Tayassu\_pecari\_169 NA NA 0 0.024 0 0.014  
## 81 169 Aotus\_infulatus\_169 NA NA 0 0 0.008 0   
## 82 169 bradypus\_variegatus\_169 NA NA 0 0 0.008 0.007  
## 83 169 Leopardus\_tigrinus\_169 NA NA 0 0 0.008 0   
## 84 169 Colinus\_cristatus\_169 NA NA 0 0 0 0.007  
## 85 169 Leopardus\_wiedii\_169 NA NA 0 0 0 0.007  
## 86 169 Tapirus\_terrestris\_169 NA NA 0 0 0 0.007  
## 87 173 Alouatta\_juara\_173 NA 0.02 0 0.025 0.01 0   
## 88 173 Cacajao\_melanocephalus\_173 NA 0.01 0.036 0.025 0 0   
## 89 173 Cebus\_albifrons\_173 NA 0.02 0.018 0 0 0.01   
## 90 173 Choloepus\_didactylus\_173 NA 0.01 0 0.013 0 0   
## 91 173 Dasyprocta\_fuliginosa\_173 NA 0.05 0.018 0.05 0.029 0.03   
## 92 173 Lontra\_longicaudis\_173 NA 0.01 0.009 0 0 0   
## 93 173 Mazama\_nemorivaga\_173 NA 0.02 0 0.025 0.01 0.01   
## 94 173 Microsciurus\_flaviventer\_173 NA 0.07 0.018 0.025 0 0   
## 95 173 Myoprocta\_pratti\_173 NA 0.13 0.1 0.112 0.124 0.2   
## 96 173 NA\_173 NA 0.01 0.009 0.025 0.019 0.11   
## 97 173 Nothocrax\_urumutum\_173 NA 0.01 0 0 0 0   
## 98 173 Pecari\_tajacu\_173 NA 0.02 0.045 0.025 0.01 0.02   
## 99 173 Penelope\_jacquacu\_173 NA 0.1 0.109 0.15 0.057 0.09   
## 100 173 Pithecia\_pithecia\_173 NA 0.09 0.073 0.025 0.048 0.06   
## 101 173 Puma\_concolor\_173 NA 0.01 0 0 0 0.01   
## 102 173 Saimiri\_cassiquiarensis\_173 NA 0.02 0.009 0.013 0.019 0   
## 103 173 Sapajus\_apella\_173 NA 0.14 0.182 0.325 0.076 0.2   
## 104 173 Urosciurus\_igniventris\_173 NA 0.05 0.1 0.075 0.114 0.04   
## 105 173 Eira\_barbara\_173 NA 0 0.018 0.013 0.01 0.01   
## 106 173 Guerlinguetus\_aestuans\_173 NA 0 0.018 0.038 0.086 0.04   
## 107 173 Leopardus\_pardalis\_173 NA 0 0.009 0 0 0   
## 108 173 Odontophorus\_gujanensis\_173 NA 0 0.018 0.062 0.01 0.01   
## 109 173 Tamandua\_tetradactyla\_173 NA 0 0.009 0 0.01 0   
## 110 173 Tayassu\_pecari\_173 NA 0 0.009 0.013 0 0   
## 111 173 Cebus\_unicolor\_173 NA 0 0 0.038 0.01 0   
## 112 173 Leopardus\_tigrinus\_173 NA 0 0 0.013 0 0   
## 113 173 Pteronura\_brasiliensis\_173 NA 0 0 0.025 0.01 0   
## 114 173 Mazama\_americana\_173 NA 0 0 0 0.01 0.03   
## 115 173 Primates\_173 NA 0 0 0 0.01 0   
## 116 187 Alouatta\_macconnelli\_187 0.1 0.075 0.056 0.04 0.125 0.056  
## 117 187 Ateles\_paniscus\_187 0.1 0.05 0.078 0.064 0.042 0.032  
## 118 187 Dasyprocta\_leporina\_187 0.5 0.212 0.289 0.072 0.083 0.144  
## 119 187 Myoprocta\_acouchy\_187 0.3 0.2 0.233 0.136 0.05 0.208  
## 120 187 Penelope\_marail\_187 0.1 0.075 0.022 0.008 0.067 0.04   
## 121 187 Saguinus\_midas\_187 0.4 0.175 0.256 0.16 0.275 0.176  
## 122 187 Tinamus\_major\_187 0.1 0.112 0.267 0.272 0.15 0.24   
## 123 187 Crax\_alector\_187 0 0.075 0.056 0.056 0.05 0.064  
## 124 187 Mazama\_nemorivaga\_187 0 0.013 0.044 0.032 0.025 0.08   
## 125 187 Nasua\_nasua\_187 0 0.025 0 0.008 0 0.016  
## 126 187 Pecari\_tajacu\_187 0 0.013 0.033 0.04 0.008 0.016  
## 127 187 Psophia\_crepitans\_187 0 0.025 0.156 0.128 0.092 0.104  
## 128 187 Sapajus\_apella\_187 0 0.038 0.1 0.08 0.1 0.128  
## 129 187 Tamandua\_tetradactyla\_187 0 0.013 0.011 0.008 0 0   
## 130 187 Tayassu\_pecari\_187 0 0.013 0 0 0.008 0.008  
## 131 187 Dasypus\_novemcinctus\_187 0 0 0.022 0 0 0   
## 132 187 Eira\_barbara\_187 0 0 0.011 0 0 0.016  
## 133 187 Guerlinguetus\_aestuans\_187 0 0 0.033 0.016 0.025 0.016  
## 134 187 Leopardus\_pardalis\_187 0 0 0.011 0 0 0   
## 135 187 Mazama\_americana\_187 0 0 0.022 0.024 0.017 0.016  
## 136 187 Panthera\_onca\_187 0 0 0.011 0.008 0 0.016  
## 137 187 Pithecia\_pithecia\_187 0 0 0.011 0.024 0.042 0   
## 138 187 Puma\_yagouaroundi\_187 0 0 0.011 0 0 0   
## 139 187 Sciurillus\_pusillus\_187 0 0 0.044 0 0 0.024  
## 140 187 Tapirus\_terrestris\_187 0 0 0.011 0 0 0   
## 141 187 Cebus\_olivaceus\_187 0 0 0 0.008 0.017 0.016  
## 142 187 Cuniculus\_paca\_187 0 0 0 0.016 0 0.008  
## 143 187 Saimiri\_sciureus\_187 0 0 0 0.024 0.017 0.016  
## 144 187 Odontophorus\_gujanensis\_187 0 0 0 0 0.008 0.008  
## 145 187 NA\_187 0 0 0 0 0 0.008  
## 146 188 Ateles\_chamek\_188 NA NA NA 0.2 0.13 0.08   
## 147 188 Callicebus\_brunneus\_188 NA NA NA 0.233 0.1 0.24   
## 148 188 Dasyprocta\_fuliginosa\_188 NA NA NA 0.3 0.15 0.333  
## 149 188 Guerlinguetus\_aestuans\_188 NA NA NA 0.033 0.04 0.08   
## 150 188 Mazama\_nemorivaga\_188 NA NA NA 0.067 0.05 0.08   
## 151 188 Myrmecophaga\_tridactyla\_188 NA NA NA 0.033 0 0   
## 152 188 Pecari\_tajacu\_188 NA NA NA 0.033 0 0.04   
## 153 188 Pithecia\_irrorata\_188 NA NA NA 0.067 0.02 0.093  
## 154 188 Saguinus\_weddelli\_188 NA NA NA 0.067 0.04 0.093  
## 155 188 Sapajus\_apella\_188 NA NA NA 0.1 0.32 0.293  
## 156 188 Alouatta\_puruensis\_188 NA NA NA 0 0.01 0   
## 157 188 E\_188 NA NA NA 0 0.57 0   
## 158 188 Eira\_barbara\_188 NA NA NA 0 0.01 0.013  
## 159 188 Mazama\_americana\_188 NA NA NA 0 0.01 0.067  
## 160 188 Pauxi\_tuberosa\_188 NA NA NA 0 0.01 0   
## 161 188 Psophia\_viridis\_188 NA NA NA 0 0.01 0.027  
## 162 188 Sciurillus\_pusillus\_188 NA NA NA 0 0.01 0   
## 163 188 Tamandua\_tetradactyla\_188 NA NA NA 0 0.04 0.013  
## 164 188 Tapirus\_terrestris\_188 NA NA NA 0 0.01 0.013  
## 165 188 NA\_188 NA NA NA 0 0 0.067  
## 166 188 Tapirus\_kabomani\_188 NA NA NA 0 0 0.027  
## 167 208 Ateles\_chamek\_208 NA NA 0.058 0.032 0.065 0.108  
## 168 208 Callicebus\_bernhardi\_208 NA NA 0.05 0.024 0.065 0.138  
## 169 208 Callicebus\_brunneus\_208 NA NA 0.017 0.008 0 0   
## 170 208 Chiropotes\_albinasus\_208 NA NA 0.075 0.072 0.084 0.108  
## 171 208 Dasyprocta\_fuliginosa\_208 NA NA 0.283 0.216 0.252 0.369  
## 172 208 Eira\_barbara\_208 NA NA 0.008 0 0 0.023  
## 173 208 Lagothrix\_cana\_208 NA NA 0.117 0.12 0.297 0.285  
## 174 208 Mazama\_americana\_208 NA NA 0.083 0.04 0.032 0.123  
## 175 208 Mazama\_nemorivaga\_208 NA NA 0.075 0.048 0.045 0.069  
## 176 208 Nasua\_nasua\_208 NA NA 0.008 0 0.013 0.015  
## 177 208 Pauxi\_tuberosa\_208 NA NA 0.05 0.048 0.084 0.131  
## 178 208 Pecari\_tajacu\_208 NA NA 0.025 0.024 0.013 0.038  
## 179 208 Penelope\_jacquacu\_208 NA NA 0.058 0.176 0.123 0.162  
## 180 208 Pithecia\_irrorata\_208 NA NA 0.05 0.008 0.039 0.023  
## 181 208 Psophia\_viridis\_208 NA NA 0.05 0.048 0.071 0.038  
## 182 208 Saimiri\_ustus\_208 NA NA 0.025 0.032 0 0   
## 183 208 Sapajus\_apella\_208 NA NA 0.1 0.096 0.065 0.069  
## 184 208 Tamandua\_tetradactyla\_208 NA NA 0.008 0.032 0.026 0.015  
## 185 208 Tinamidae\_208 NA NA 0.042 0.12 0 0   
## 186 208 Atelocynus\_microtis\_208 NA NA 0 0.008 0 0   
## 187 208 Cerdocyon\_thous\_208 NA NA 0 0.008 0 0.008  
## 188 208 Mico\_melanurus\_208 NA NA 0 0.008 0 0   
## 189 208 Tayassu\_pecari\_208 NA NA 0 0.008 0.006 0.015  
## 190 208 Callitrichidae\_208 NA NA 0 0 0.019 0   
## 191 208 Myrmecophaga\_tridactyla\_208 NA NA 0 0 0.006 0   
## 192 208 Nothocrax\_urumutum\_208 NA NA 0 0 0.006 0   
## 193 208 Panthera\_onca\_208 NA NA 0 0 0.013 0   
## 194 208 Choloepus\_didactylus\_208 NA NA 0 0 0 0.008  
## 195 208 Leopardus\_wiedii\_208 NA NA 0 0 0 0.008  
## 196 208 NA\_208 NA NA 0 0 0 0.031  
## 197 208 Puma\_yagouaroundi\_208 NA NA 0 0 0 0.008  
## 198 208 Tapirus\_terrestris\_208 NA NA 0 0 0 0.023  
## 199 211 Alouatta\_belzebul\_211 NA NA 0.133 0.04 0.038 0.018  
## 200 211 Crax\_fasciolata\_211 NA NA 0.067 0.027 0.075 0.055  
## 201 211 Dasyprocta\_leporina\_211 NA NA 0.233 0.373 0.35 0.464  
## 202 211 Eira\_barbara\_211 NA NA 0.033 0.013 0.013 0   
## 203 211 Guerlinguetus\_aestuans\_211 NA NA 0.033 0.053 0.038 0.073  
## 204 211 Mazama\_americana\_211 NA NA 0.033 0.147 0.1 0.018  
## 205 211 Mazama\_nemorivaga\_211 NA NA 0.033 0 0.013 0.018  
## 206 211 Myrmecophaga\_tridactyla\_211 NA NA 0.033 0 0 0   
## 207 211 Nasua\_nasua\_211 NA NA 0.1 0 0 0.027  
## 208 211 Odontophorus\_gujanensis\_211 NA NA 0.067 0.013 0.062 0   
## 209 211 Ortalis\_motmot\_211 NA NA 0.067 0.013 0 0.055  
## 210 211 Pauxi\_tuberosa\_211 NA NA 0.133 0.133 0.038 0.009  
## 211 211 Psophia\_interjecta\_211 NA NA 0.133 0.027 0.1 0.055  
## 212 211 Saimiri\_collinsi\_211 NA NA 0.167 0.093 0.025 0.073  
## 213 211 Sapajus\_apella\_211 NA NA 0.2 0.107 0.075 0.173  
## 214 211 Aburria\_cujubi\_211 NA NA 0 0.013 0 0.073  
## 215 211 Callicebus\_moloch\_211 NA NA 0 0.027 0.038 0   
## 216 211 Callitrichidae\_211 NA NA 0 0.013 0 0   
## 217 211 Chiropotes\_utahickae\_211 NA NA 0 0.04 0.05 0.009  
## 218 211 Cracidae\_211 NA NA 0 0.013 0 0   
## 219 211 Cuniculus\_paca\_211 NA NA 0 0.027 0 0   
## 220 211 Hydrochoerus\_hydrochaeris\_211 NA NA 0 0.013 0 0   
## 221 211 Pecari\_tajacu\_211 NA NA 0 0.027 0.025 0.018  
## 222 211 Saguinus\_niger\_211 NA NA 0 0.227 0.05 0.055  
## 223 211 Tayassu\_pecari\_211 NA NA 0 0.107 0.013 0   
## 224 211 Bradypus\_variegatus\_211 NA NA 0 0 0.013 0   
## 225 211 NA\_211 NA NA 0 0 0.062 0.191  
## 226 211 Sciurillus\_pusillus\_211 NA NA 0 0 0.038 0.018  
## 227 211 Tamandua\_tetradactyla\_211 NA NA 0 0 0.013 0.027  
## 228 211 Tapirus\_terrestris\_211 NA NA 0 0 0.013 0   
## 229 211 Atelocynus\_microtis\_211 NA NA 0 0 0 0.009  
## 230 211 bradypus\_variegatus\_211 NA NA 0 0 0 0.009  
## 231 211 Dasypus\_kappleri\_211 NA NA 0 0 0 0.009  
## 232 211 Priodontes\_maximus\_211 NA NA 0 0 0 0.009  
## 233 211 Puma\_concolor\_211 NA NA 0 0 0 0.009  
## 234 211 Sylvilagus\_brasiliensis\_211 NA NA 0 0 0 0.009  
## 235 211 Tinamidae\_211 NA NA 0 0 0 0.064  
## 236 213 Alouatta\_macconnelli\_213 0.043 0.088 0.047 0.023 0.028 0.02   
## 237 213 Ateles\_paniscus\_213 0.235 0.288 0.16 0.146 0.159 0.151  
## 238 213 Chiropotes\_sagulatus\_213 0.078 0.04 0.073 0.046 0.103 0.053  
## 239 213 Crax\_alector\_213 0.165 0.376 0.16 0.108 0.131 0.085  
## 240 213 Dasyprocta\_leporina\_213 0.209 0.472 0.44 0.223 0.241 0.335  
## 241 213 Eira\_barbara\_213 0.009 0.032 0.02 0.023 0.007 0.013  
## 242 213 Guerlinguetus\_aestuans\_213 0.026 0.112 0.187 0 0 0.039  
## 243 213 Mazama\_americana\_213 0.043 0.096 0.047 0.054 0.055 0.039  
## 244 213 Mazama\_nemorivaga\_213 0.009 0.048 0.047 0.008 0 0.007  
## 245 213 Myoprocta\_acouchy\_213 0.609 1.29 1.57 0.731 0.959 1.18   
## 246 213 NA\_213 0.009 0 0 0 0 0   
## 247 213 Nasua\_nasua\_213 0.009 0.008 0.007 0 0 0.013  
## 248 213 Odontophorus\_gujanensis\_213 0.026 0.04 0.027 0.062 0.048 0.072  
## 249 213 Panthera\_onca\_213 0.009 0.008 0.013 0 0 0   
## 250 213 Pecari\_tajacu\_213 0.087 0.04 0.04 0.023 0.014 0.033  
## 251 213 Psophia\_crepitans\_213 0.122 0.2 0.133 0.123 0.097 0.085  
## 252 213 Saguinus\_midas\_213 0.087 0.032 0.087 0.062 0.034 0.098  
## 253 213 Saimiri\_sciureus\_213 0.017 0.016 0.013 0 0.021 0.007  
## 254 213 Sapajus\_apella\_213 0.191 0.272 0.267 0.254 0.276 0.236  
## 255 213 Tamandua\_tetradactyla\_213 0.017 0.008 0.013 0.008 0.028 0   
## 256 213 Tapirus\_terrestris\_213 0.026 0.032 0 0 0 0   
## 257 213 Tinamus\_major\_213 0.27 0.304 0.493 0.2 0.159 0.25   
## 258 213 Aburria\_cumanensis\_213 0 0.024 0 0.054 0 0.007  
## 259 213 Bradypus\_variegatus\_213 0 0.008 0 0 0 0   
## 260 213 Cebus\_olivaceus\_213 0 0.024 0 0 0 0   
## 261 213 Dasypus\_novemcinctus\_213 0 0.008 0 0 0 0   
## 262 213 Leopardus\_wiedii\_213 0 0.008 0.013 0 0 0   
## 263 213 Myrmecophaga\_tridactyla\_213 0 0.016 0.007 0 0 0   
## 264 213 Primates\_213 0 0.008 0 0 0 0   
## 265 213 Puma\_concolor\_213 0 0.016 0.007 0 0 0   
## 266 213 Tayassu\_pecari\_213 0 0.016 0.007 0 0 0   
## 267 213 Bradypodidae\_213 0 0 0.007 0 0 0   
## 268 213 Cyclopes\_didactylus\_213 0 0 0.007 0 0 0   
## 269 213 Pithecia\_pithecia\_213 0 0 0.007 0.015 0.007 0.033  
## 270 213 Priodontes\_maximus\_213 0 0 0.007 0 0 0   
## 271 213 Ortalis\_motmot\_213 0 0 0 0.008 0.007 0.02   
## 272 213 Sciuridae\_213 0 0 0 0.062 0.076 0   
## 273 213 Galictis\_vittata\_213 0 0 0 0 0.007 0   
## 274 213 Leopardus\_pardalis\_213 0 0 0 0 0.007 0   
## 275 222 Alouatta\_puruensis\_222 NA NA NA NA 0.086 0.16   
## 276 222 Aotus\_nigriceps\_222 NA NA NA NA 0.014 0.008  
## 277 222 Callicebus\_cupreus\_222 NA NA NA NA 0.121 0.16   
## 278 222 Callimico\_goeldii\_222 NA NA NA NA 0.007 0   
## 279 222 Callitrichidae\_222 NA NA NA NA 0.007 0   
## 280 222 Cebuella\_pygmaea\_222 NA NA NA NA 0.007 0   
## 281 222 Cebus\_unicolor\_222 NA NA NA NA 0.064 0.024  
## 282 222 Dasyprocta\_fuliginosa\_222 NA NA NA NA 0.157 0.144  
## 283 222 Eira\_barbara\_222 NA NA NA NA 0.007 0.008  
## 284 222 Guerlinguetus\_aestuans\_222 NA NA NA NA 0.007 0.008  
## 285 222 Mazama\_americana\_222 NA NA NA NA 0.036 0.016  
## 286 222 Mazama\_nemorivaga\_222 NA NA NA NA 0.014 0   
## 287 222 Microsciurus\_flaviventer\_222 NA NA NA NA 0.014 0.008  
## 288 222 Myoprocta\_pratti\_222 NA NA NA NA 0.014 0.024  
## 289 222 Nasua\_nasua\_222 NA NA NA NA 0.007 0.016  
## 290 222 Odontophorus\_stellatus\_222 NA NA NA NA 0.043 0.032  
## 291 222 Ortalis\_guttata\_222 NA NA NA NA 0.064 0.048  
## 292 222 Pecari\_tajacu\_222 NA NA NA NA 0.043 0.048  
## 293 222 Penelope\_jacquacu\_222 NA NA NA NA 0.229 0.176  
## 294 222 Pithecia\_irrorata\_222 NA NA NA NA 0.014 0.008  
## 295 222 Psophia\_leucoptera\_222 NA NA NA NA 0.029 0.024  
## 296 222 Saguinus\_imperator\_222 NA NA NA NA 0.157 0.168  
## 297 222 Saguinus\_weddelli\_222 NA NA NA NA 0.043 0.096  
## 298 222 Saimiri\_boliviensis\_222 NA NA NA NA 0.2 0.144  
## 299 222 Sapajus\_macrocephalus\_222 NA NA NA NA 0.286 0.232  
## 300 222 Tamandua\_tetradactyla\_222 NA NA NA NA 0.007 0.016  
## 301 222 Tapirus\_terrestris\_222 NA NA NA NA 0.007 0   
## 302 222 Tayassu\_pecari\_222 NA NA NA NA 0.029 0.024  
## 303 222 Tinamidae\_222 NA NA NA NA 0.029 0   
## 304 222 Coendou\_prehensilis\_222 NA NA NA NA 0 0.008  
## 305 222 Dasypus\_novemcinctus\_222 NA NA NA NA 0 0.008  
## 306 222 Myrmecophaga\_tridactyla\_222 NA NA NA NA 0 0.008  
## 307 222 NA\_222 NA NA NA NA 0 0.096  
## 308 222 Puma\_yagouaroundi\_222 NA NA NA NA 0 0.008  
## 309 232 Aburria\_cumanensis\_232 0.011 0 0 0 0 0   
## 310 232 Alouatta\_puruensis\_232 0.084 0.118 0.078 0.022 0.1 0.038  
## 311 232 Aotus\_nigriceps\_232 0.074 0.106 0.122 0.022 0.03 0.029  
## 312 232 Cabassous\_unicinctus\_232 0.021 0.012 0 0.011 0 0   
## 313 232 Callicebus\_cupreus\_232 0.189 0.129 0.122 0.078 0.05 0.019  
## 314 232 Callimico\_goeldii\_232 0.042 0.024 0.044 0.022 0.01 0.01   
## 315 232 Cebus\_unicolor\_232 0.063 0.047 0.078 0.089 0.07 0.086  
## 316 232 Dasyprocta\_fuliginosa\_232 0.232 0.271 0.256 0.1 0.17 0.2   
## 317 232 Eira\_barbara\_232 0.042 0.024 0.056 0.011 0.01 0.01   
## 318 232 Guerlinguetus\_ignitus\_232 0.105 0.047 0.056 0 0.16 0.124  
## 319 232 Leopardus\_tigrinus\_232 0.032 0 0 0 0 0   
## 320 232 Mazama\_americana\_232 0.074 0.035 0.056 0.033 0.04 0.029  
## 321 232 Microsciurus\_flaviventer\_232 0.021 0.012 0.067 0.022 0.07 0   
## 322 232 Myoprocta\_pratti\_232 0.084 0.141 0.144 0.067 0.07 0.057  
## 323 232 Myrmecophaga\_tridactyla\_232 0.011 0.035 0.022 0 0 0   
## 324 232 Nasua\_nasua\_232 0.042 0.071 0.056 0.033 0.03 0.019  
## 325 232 Odontophorus\_stellatus\_232 0.011 0.059 0.1 0.044 0.07 0.029  
## 326 232 Panthera\_onca\_232 0.011 0.012 0 0 0.01 0   
## 327 232 Pauxi\_tuberosa\_232 0.011 0.012 0 0 0 0   
## 328 232 Pecari\_tajacu\_232 0.168 0.153 0.111 0.111 0.18 0.095  
## 329 232 Penelope\_jacquacu\_232 0.211 0.2 0.178 0.2 0.27 0.286  
## 330 232 Priodontes\_maximus\_232 0.011 0 0 0 0 0   
## 331 232 Psophia\_leucoptera\_232 0.063 0.071 0.111 0.044 0.06 0.038  
## 332 232 Saguinus\_imperator\_232 0.021 0.071 0.056 0.056 0.06 0.029  
## 333 232 Saguinus\_weddelli\_232 0.021 0.059 0.033 0.089 0.09 0.038  
## 334 232 Saimiri\_boliviensis\_232 0.053 0.047 0.167 0.078 0.08 0.114  
## 335 232 Sapajus\_macrocephalus\_232 0.189 0.153 0.2 0.189 0.16 0.152  
## 336 232 Tamandua\_tetradactyla\_232 0.032 0.082 0.011 0 0 0.01   
## 337 232 Leopardus\_wiedii\_232 0 0.012 0 0.011 0.01 0   
## 338 232 Leopardus\_pardalis\_232 0 0 0.011 0 0 0   
## 339 232 Tayassu\_pecari\_232 0 0 0.011 0 0.01 0   
## 340 232 Dasypus\_novemcinctus\_232 0 0 0 0.011 0.01 0   
## 341 232 Galictis\_vittata\_232 0 0 0 0.011 0 0   
## 342 232 Nothocrax\_urumutum\_232 0 0 0 0.011 0.03 0   
## 343 232 Ortalis\_guttata\_232 0 0 0 0.022 0 0   
## 344 232 Puma\_concolor\_232 0 0 0 0 0.01 0   
## 345 232 Puma\_yagouaroundi\_232 0 0 0 0 0.01 0   
## 346 232 Sciuridae\_232 0 0 0 0 0.01 0   
## 347 232 Speothus\_venaticus\_232 0 0 0 0 0 0.01   
## 348 256 Ateles\_chamek\_256 NA NA NA 0.078 0.037 0.077  
## 349 256 Callicebus\_brunneus\_256 NA NA NA 0.031 0.056 0.01   
## 350 256 Cerdocyon\_thous\_256 NA NA NA 0.016 0 0.01   
## 351 256 Crax\_fasciolata\_256 NA NA NA 0.016 0 0.01   
## 352 256 Cuniculus\_paca\_256 NA NA NA 0.016 0 0   
## 353 256 Dasyprocta\_fuliginosa\_256 NA NA NA 0.109 0.139 0.184  
## 354 256 Mazama\_nemorivaga\_256 NA NA NA 0.031 0.009 0.029  
## 355 256 Ortalis\_guttata\_256 NA NA NA 0.016 0 0   
## 356 256 Pecari\_tajacu\_256 NA NA NA 0.031 0.074 0.019  
## 357 256 Pithecia\_irrorata\_256 NA NA NA 0.016 0.009 0.039  
## 358 256 Saguinus\_weddelli\_256 NA NA NA 0.016 0.028 0.01   
## 359 256 Saimiri\_ustus\_256 NA NA NA 0.016 0.056 0.077  
## 360 256 Sapajus\_apella\_256 NA NA NA 0.514 0.297 0.338  
## 361 256 Tamandua\_tetradactyla\_256 NA NA NA 0.031 0.009 0   
## 362 256 Cebus\_unicolor\_256 NA NA NA 0 0.037 0.01   
## 363 256 Dasypus\_kappleri\_256 NA NA NA 0 0.009 0   
## 364 256 Mazama\_americana\_256 NA NA NA 0 0.019 0   
## 365 256 Myrmecophaga\_tridactyla\_256 NA NA NA 0 0.009 0   
## 366 256 Nasua\_nasua\_256 NA NA NA 0 0.009 0   
## 367 256 Pauxi\_tuberosa\_256 NA NA NA 0 0.028 0.029  
## 368 256 Psophia\_viridis\_256 NA NA NA 0 0.009 0.01   
## 369 256 Tayassu\_pecari\_256 NA NA NA 0 0.009 0.039  
## 370 256 Dasypus\_novemcinctus\_256 NA NA NA 0 0 0.01   
## 371 256 NA\_256 NA NA NA 0 0 0.029  
## 372 259 Alouatta\_nigerrima\_259 0.08 0.053 0.035 0.069 0.044 0.041  
## 373 259 Bradypus\_variegatus\_259 0.04 0 0 0.01 0.009 0   
## 374 259 Callicebus\_hoffmannsi\_259 0.06 0.004 0.032 0.027 0.025 0.021  
## 375 259 Cebus\_unicolor\_259 0.02 0 0.014 0.032 0.047 0.038  
## 376 259 Chiropotes\_albinasus\_259 0.04 0.013 0.035 0.049 0.016 0.024  
## 377 259 Dasyprocta\_croconota\_259 0.1 0.529 0.768 0.598 0.584 0.665  
## 378 259 Eira\_barbara\_259 0.04 0.004 0 0.012 0.006 0.006  
## 379 259 Guerlinguetus\_aestuans\_259 0.02 0.044 0.011 0.012 0.006 0.006  
## 380 259 Mico\_humeralifer\_259 0.08 0.013 0.021 0.062 0.053 0.047  
## 381 259 Odontophorus\_gujanensis\_259 0.02 0 0.007 0.012 0.006 0.035  
## 382 259 Pauxi\_tuberosa\_259 0.02 0.018 0.014 0.035 0.013 0.015  
## 383 259 Pecari\_tajacu\_259 0.02 0.022 0.021 0.04 0.034 0.026  
## 384 259 Pithecia\_irrorata\_259 0.08 0 0.011 0.03 0.044 0.038  
## 385 259 Sapajus\_apella\_259 0.16 0.098 0.102 0.22 0.225 0.218  
## 386 259 Dasypodidae\_259 0 0.004 0.014 0 0 0   
## 387 259 Mazama\_americana\_259 0 0.004 0.035 0.049 0.059 0.106  
## 388 259 Myrmecophaga\_tridactyla\_259 0 0.004 0.004 0.01 0.003 0.003  
## 389 259 NA\_259 0 0.004 0 0 0 0.026  
## 390 259 Nasua\_nasua\_259 0 0.009 0.039 0.057 0.081 0.071  
## 391 259 Panthera\_onca\_259 0 0.004 0.004 0 0.006 0.003  
## 392 259 Psophia\_viridis\_259 0 0.036 0.028 0.091 0.059 0.05   
## 393 259 Saimiri\_ustus\_259 0 0.009 0.004 0 0.003 0.006  
## 394 259 Tapirus\_terrestris\_259 0 0.004 0 0.005 0.003 0   
## 395 259 Tayassu\_pecari\_259 0 0.009 0.018 0.005 0.013 0.003  
## 396 259 Tayassuidae\_259 0 0.004 0 0 0 0   
## 397 259 Aburria\_cujubi\_259 0 0 0.007 0.03 0.016 0.009  
## 398 259 Aotus\_nigriceps\_259 0 0 0.004 0.005 0 0   
## 399 259 Ateles\_chamek\_259 0 0 0.004 0 0 0   
## 400 259 Cabassous\_unicinctus\_259 0 0 0.004 0 0 0.003  
## 401 259 Choloepus\_didactylus\_259 0 0 0.004 0.002 0.006 0.003  
## 402 259 Cracidae\_259 0 0 0.021 0.007 0 0   
## 403 259 Cuniculus\_paca\_259 0 0 0.004 0 0.006 0   
## 404 259 Felidae\_259 0 0 0.007 0 0 0   
## 405 259 Galictis\_vittata\_259 0 0 0.007 0.007 0.003 0   
## 406 259 Mazama\_nemorivaga\_259 0 0 0.007 0.03 0.05 0.038  
## 407 259 Primates\_259 0 0 0.007 0 0 0   
## 408 259 Sciuridae\_259 0 0 0.004 0 0 0   
## 409 259 Tinamidae\_259 0 0 0.035 0.007 0 0   
## 410 259 Cerdocyon\_thous\_259 0 0 0 0.002 0.003 0   
## 411 259 Coendou\_prehensilis\_259 0 0 0 0.002 0.003 0.003  
## 412 259 Cyclopes\_didactylus\_259 0 0 0 0.002 0 0   
## 413 259 Didelphis\_marsupialis\_259 0 0 0 0.002 0.003 0.006  
## 414 259 Leopardus\_pardalis\_259 0 0 0 0.005 0 0.003  
## 415 259 Leopardus\_wiedii\_259 0 0 0 0.005 0 0.003  
## 416 259 Lontra\_longicaudis\_259 0 0 0 0.002 0 0   
## 417 259 Myoprocta\_pratti\_259 0 0 0 0.02 0 0.038  
## 418 259 Ortalis\_guttata\_259 0 0 0 0.02 0.003 0.006  
## 419 259 Puma\_concolor\_259 0 0 0 0.007 0 0.003  
## 420 259 Puma\_yagouaroundi\_259 0 0 0 0.002 0 0   
## 421 259 Sciurillus\_pusillus\_259 0 0 0 0.002 0.006 0   
## 422 259 Tamandua\_tetradactyla\_259 0 0 0 0.015 0.003 0.003  
## 423 259 Dasypus\_novemcinctus\_259 0 0 0 0 0.013 0.003  
## 424 259 Leopardus\_tigrinus\_259 0 0 0 0 0.003 0   
## 425 259 bradypus\_variegatus\_259 0 0 0 0 0 0.009  
## 426 274 Alouatta\_juara\_274 NA NA NA 0.02 0.021 0   
## 427 274 Dasyprocta\_fuliginosa\_274 NA NA NA 0.14 0.147 0   
## 428 274 Guerlinguetus\_aestuans\_274 NA NA NA 0.02 0.053 0.062  
## 429 274 Myoprocta\_pratti\_274 NA NA NA 0.06 0.158 0.446  
## 430 274 Odontophorus\_stellatus\_274 NA NA NA 0.04 0.116 0.246  
## 431 274 Ortalis\_guttata\_274 NA NA NA 0.02 0 0.031  
## 432 274 Panthera\_onca\_274 NA NA NA 0.02 0 0.015  
## 433 274 Pecari\_tajacu\_274 NA NA NA 0.02 0 0.015  
## 434 274 Penelope\_jacquacu\_274 NA NA NA 0.2 0.442 0.538  
## 435 274 Pithecia\_irrorata\_274 NA NA NA 0.08 0.137 0.169  
## 436 274 Saguinus\_imperator\_274 NA NA NA 0.06 0.074 0.108  
## 437 274 Tamandua\_tetradactyla\_274 NA NA NA 0.02 0.021 0.031  
## 438 274 Bradypus\_variegatus\_274 NA NA NA 0 0.011 0   
## 439 274 Cebus\_unicolor\_274 NA NA NA 0 0.032 0   
## 440 274 Eira\_barbara\_274 NA NA NA 0 0.011 0.031  
## 441 274 Lontra\_longicaudis\_274 NA NA NA 0 0.011 0   
## 442 274 Mazama\_americana\_274 NA NA NA 0 0.042 0   
## 443 274 Microsciurus\_flaviventer\_274 NA NA NA 0 0.011 0.077  
## 444 274 Nasua\_nasua\_274 NA NA NA 0 0.021 0.015  
## 445 274 Psophia\_leucoptera\_274 NA NA NA 0 0.074 0.108  
## 446 274 Saimiri\_boliviensis\_274 NA NA NA 0 0.011 0   
## 447 274 Sapajus\_macrocephalus\_274 NA NA NA 0 0.095 0.108  
## 448 274 Canis\_familiaris\_274 NA NA NA 0 0 0.015  
## 449 274 Cebus\_albifrons\_274 NA NA NA 0 0 0.031  
## 450 274 Dasyprocta\_cf. fuliginosa\_274 NA NA NA 0 0 0.231  
## 451 274 Lagothrix\_poeppigii\_274 NA NA NA 0 0 0.015  
## 452 274 Lontra\_longicaudata\_274 NA NA NA 0 0 0.015  
## 453 281 Aburria\_cujubi\_281 NA NA 0.069 0.036 0.033 0.01   
## 454 281 Alouatta\_puruensis\_281 NA NA 0.021 0.027 0.022 0.02   
## 455 281 Aotus\_nigriceps\_281 NA NA 0.014 0 0 0.02   
## 456 281 Ateles\_chamek\_281 NA NA 0.179 0.273 0.244 0.16   
## 457 281 Callicebus\_cinerascens\_281 NA NA 0.007 0 0.033 0.03   
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## 459 281 Cebus\_unicolor\_281 NA NA 0.007 0.036 0.011 0   
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## 462 281 Crax\_fasciolata\_281 NA NA 0.014 0 0 0   
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## 464 281 Dasypus\_novemcinctus\_281 NA NA 0.007 0.009 0 0   
## 465 281 Didelphis\_marsupialis\_281 NA NA 0.007 0.009 0 0   
## 466 281 Eira\_barbara\_281 NA NA 0.007 0.018 0.011 0.01   
## 467 281 Galictis\_vittata\_281 NA NA 0.007 0 0.011 0   
## 468 281 Guerlinguetus\_aestuans\_281 NA NA 0.007 0.009 0.033 0.02   
## 469 281 Lagothrix\_cana\_281 NA NA 0.193 0.164 0.267 0.08   
## 470 281 Mazama\_americana\_281 NA NA 0.048 0.073 0.033 0.01   
## 471 281 Mazama\_nemorivaga\_281 NA NA 0.021 0.082 0.067 0   
## 472 281 Mico\_melanurus\_281 NA NA 0.152 0.136 0.133 0.04   
## 473 281 Nasua\_nasua\_281 NA NA 0.014 0 0.033 0   
## 474 281 Panthera\_onca\_281 NA NA 0.014 0.018 0 0   
## 475 281 Pauxi\_tuberosa\_281 NA NA 0.166 0.182 0.211 0.09   
## 476 281 Pecari\_tajacu\_281 NA NA 0.028 0.073 0.056 0.05   
## 477 281 Pithecia\_irrorata\_281 NA NA 0.034 0.027 0.067 0.03   
## 478 281 Priodontes\_maximus\_281 NA NA 0.014 0 0 0   
## 479 281 Procyonidae\_281 NA NA 0.007 0 0 0   
## 480 281 Psophia\_dextralis\_281 NA NA 0.014 0.009 0 0   
## 481 281 Psophia\_viridis\_281 NA NA 0.076 0.064 0.044 0.03   
## 482 281 Puma\_concolor\_281 NA NA 0.007 0 0 0   
## 483 281 Saimiri\_ustus\_281 NA NA 0.028 0.055 0.033 0.01   
## 484 281 Sapajus\_apella\_281 NA NA 0.214 0.291 0.211 0.16   
## 485 281 Tamandua\_tetradactyla\_281 NA NA 0.014 0 0 0.01   
## 486 281 Tapirus\_terrestris\_281 NA NA 0.028 0.018 0.022 0   
## 487 281 Tayassu\_pecari\_281 NA NA 0.055 0.018 0.033 0.01   
## 488 281 Tinamidae\_281 NA NA 0.007 0.009 0.011 0   
## 489 281 Cabassous\_unicinctus\_281 NA NA 0 0.009 0 0   
## 490 281 Cerdocyon\_thous\_281 NA NA 0 0.009 0 0.01   
## 491 281 Coendou\_prehensilis\_281 NA NA 0 0.009 0 0   
## 492 281 Leopardus\_pardalis\_281 NA NA 0 0.018 0 0   
## 493 281 Myoprocta\_pratti\_281 NA NA 0 0.009 0.011 0   
## 494 281 Myrmecophaga\_tridactyla\_281 NA NA 0 0.009 0 0   
## 495 281 Pitheciidae\_281 NA NA 0 0.009 0 0   
## 496 281 Sciurillus\_pusillus\_281 NA NA 0 0.018 0 0   
## 497 281 Hydrochoerus\_hydrochaeris\_281 NA NA 0 0 0.022 0   
## 498 281 NA\_281 NA NA 0 0 0 0.11   
## 499 281 Puma\_yagouaroundi\_281 NA NA 0 0 0 0.01   
## 500 1633 Ateles\_chamek\_1633 NA NA NA 0.025 0 0   
## 501 1633 Callicebus\_dubius\_1633 NA NA NA 0.025 0.014 0   
## 502 1633 Crax\_globulosa\_1633 NA NA NA 0.05 0.007 0.015  
## 503 1633 Lagothrix\_cana\_1633 NA NA NA 0.25 0.064 0.115  
## 504 1633 Mazama\_americana\_1633 NA NA NA 0.025 0.007 0   
## 505 1633 Mazama\_nemorivaga\_1633 NA NA NA 0.025 0 0   
## 506 1633 Pecari\_tajacu\_1633 NA NA NA 0.05 0.05 0.023  
## 507 1633 Penelope\_jacquacu\_1633 NA NA NA 0.225 0.186 0.162  
## 508 1633 Pithecia\_irrorata\_1633 NA NA NA 0.2 0.043 0.038  
## 509 1633 Psophia\_leucoptera\_1633 NA NA NA 0.075 0.014 0.038  
## 510 1633 Sapajus\_macrocephalus\_1633 NA NA NA 0.5 0.079 0.138  
## 511 1633 Tayassu\_pecari\_1633 NA NA NA 0.05 0 0   
## 512 1633 Aotus\_nigriceps\_1633 NA NA NA 0 0.014 0   
## 513 1633 Atelidae\_1633 NA NA NA 0 0.021 0   
## 514 1633 Callitrichidae\_1633 NA NA NA 0 0.007 0   
## 515 1633 Cebidae\_1633 NA NA NA 0 0.007 0.015  
## 516 1633 Cebus\_albifrons\_1633 NA NA NA 0 0.086 0.038  
## 517 1633 Dasyprocta\_fuliginosa\_1633 NA NA NA 0 0.05 0.038  
## 518 1633 Leopardus\_pardalis\_1633 NA NA NA 0 0.007 0   
## 519 1633 Lontra\_longicaudis\_1633 NA NA NA 0 0.007 0   
## 520 1633 NA\_1633 NA NA NA 0 0.007 0.038  
## 521 1633 Ozotocerus\_bezoarticus\_1633 NA NA NA 0 0.007 0   
## 522 1633 Pitheciidae\_1633 NA NA NA 0 0.007 0   
## 523 1633 Saimiri\_boliviensis\_1633 NA NA NA 0 0.014 0.008  
## 524 1633 Sciuridae\_1633 NA NA NA 0 0.007 0   
## 525 1633 Tayassuidae\_1633 NA NA NA 0 0.007 0   
## 526 1633 Tinamidae\_1633 NA NA NA 0 0.064 0   
## 527 1633 Eira\_barbara\_1633 NA NA NA 0 0 0.008  
## 528 1633 Tapirus\_terrestris\_1633 NA NA NA 0 0 0.015  
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## 530 1810 Alouatta\_nigerrima\_1810 NA NA NA NA 0.092 NA   
## 531 1810 Ateles\_marginatus\_1810 NA NA NA NA 0.042 NA   
## 532 1810 Callicebus\_moloch\_1810 NA NA NA NA 0.058 NA   
## 533 1810 Cracidae\_1810 NA NA NA NA 0.008 NA   
## 534 1810 Dasyprocta\_leporina\_1810 NA NA NA NA 0.858 NA   
## 535 1810 Eira\_barbara\_1810 NA NA NA NA 0.017 NA   
## 536 1810 Guerlinguetus\_gilvigularis\_1~ NA NA NA NA 0.083 NA   
## 537 1810 Mazama\_americana\_1810 NA NA NA NA 0.075 NA   
## 538 1810 Mazama\_nemorivaga\_1810 NA NA NA NA 0.025 NA   
## 539 1810 Mico\_argentatus\_1810 NA NA NA NA 0.075 NA   
## 540 1810 Nasua\_nasua\_1810 NA NA NA NA 0.017 NA   
## 541 1810 Ortalis\_motmot\_1810 NA NA NA NA 0.017 NA   
## 542 1810 Pauxi\_tuberosa\_1810 NA NA NA NA 0.075 NA   
## 543 1810 Pecari\_tajacu\_1810 NA NA NA NA 0.017 NA   
## 544 1810 Psophia\_dextralis\_1810 NA NA NA NA 0.017 NA   
## 545 1810 Saimiri\_ustus\_1810 NA NA NA NA 0.008 NA   
## 546 1810 Sapajus\_apella\_1810 NA NA NA NA 0.25 NA   
## 547 1810 Tayassu\_pecari\_1810 NA NA NA NA 0.008 NA   
## 548 1810 Cuniculus\_paca\_1810 NA NA NA NA 0 NA   
## 549 1810 Leopardus\_wiedii\_1810 NA NA NA NA 0 NA   
## 550 1810 NA\_1810 NA NA NA NA 0 NA

Selecionar populações com taxa de avistamento média acima de 0.1 (1 ind/10km)

taxas\_anuais <- taxas\_anuais %>%  
 mutate(media = rowMeans(.[,3:8])) %>%  
 filter(media > 0.1) %>%  
 select(-media)  
taxas\_anuais

## # A tibble: 22 x 8  
## cnuc populacao X2014 X2015 X2016 X2017 X2018 X2019  
## <dbl> <chr> <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  
## 1 118 Ateles\_chamek\_118 0.12 0.167 0.143 0.118 0.075 0.108  
## 2 118 Dasyprocta\_fuliginosa\_118 0.16 0.3 0.414 0.247 0.133 0.125  
## 3 118 Pauxi\_tuberosa\_118 0.2 0.1 0.186 0.059 0.025 0.083  
## 4 118 Saguinus\_weddelli\_118 0.12 0.067 0.129 0.153 0.092 0.075  
## 5 118 Sapajus\_apella\_118 0.28 0.067 0.286 0.271 0.175 0.192  
## 6 187 Dasyprocta\_leporina\_187 0.5 0.212 0.289 0.072 0.083 0.144  
## 7 187 Myoprocta\_acouchy\_187 0.3 0.2 0.233 0.136 0.05 0.208  
## 8 187 Saguinus\_midas\_187 0.4 0.175 0.256 0.16 0.275 0.176  
## 9 187 Tinamus\_major\_187 0.1 0.112 0.267 0.272 0.15 0.24   
## 10 213 Ateles\_paniscus\_213 0.235 0.288 0.16 0.146 0.159 0.151  
## # ... with 12 more rows

#print(taxas\_anuais, n=Inf)