

COVID Initiative North American data summary

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Overview

Below is a quick summary of animal location data contributed to the COVID-19 Bio-Logging Initiative located in North America.

Filter to individuals with high density data February-April 2020

```
individuals_spring2020 <- d %>%
  mutate(year = year(timestamp),
         month = month(timestamp),
         doy = yday(timestamp)) %>%
  filter(year == 2020) %>%
  filter(month > 1) %>%
  filter(month < 5) %>%
  group_by(individual_id) %>%
  summarise(n_records = n(),
            n_days = n_distinct(doy)) %>%
  mutate(records_per_day = n_records/n_days)

individuals_spring2020_20fixes <- individuals_spring2020 %>%
  filter(records_per_day > 20)

print(paste("n individuals with > 20 average fixes per day (Feb-April):", nrow(individuals_spring2020_20fixes)))

## [1] "n individuals with > 20 average fixes per day (Feb-April): 504"
```

Summarize by species

```
summary <- d %>%
  filter(individual_id %in% individuals_spring2020$individual_id) %>%
  group_by(taxon_canonical_name) %>%
  summarise(n_individuals = n_distinct(individual_id),
            n_locations = n(),
            n_studies = n_distinct(study_id)) %>%
  mutate(mean_locations = n_locations/n_individuals) %>%
  left_join(., species_list, by = c("taxon_canonical_name" = "scientific_name")) %>%
  select(taxa, taxon_canonical_name, common_name,
         n_studies, n_individuals, n_locations, mean_locations) %>%
  arrange(taxa, n_locations)

summary %>%
  knitr::kable("latex", col.names = gsub("[_]", " ", names(summary)))
```

taxa	taxon canonical name	common name	n studies	n individuals	n locations	mean locations
birds	<i>Anas discors</i>	Blue-winged teal	1	1	4047	4047.000
birds	<i>Anas strepera</i>	Gadwall	1	2	8830	4415.000
birds	<i>Aquila chrysaetos</i>	Golden eagle	1	4	27933	6983.250
birds	<i>Haliaeetus leucocephalus</i>	Bald eagle	3	11	46166	4196.909
birds	<i>Anas americana</i>	American wigeon	1	14	60452	4318.000
birds	<i>Anas platyrhynchos</i>	Mallard	1	13	68338	5256.769
birds	<i>Grus canadensis</i>	Sandhill crane	1	7	69835	9976.429
birds	<i>Anas cyanoptera</i>	Cinnamon teal	1	13	85334	6564.154
birds	<i>Anas clypeata</i>	Northern shoveler	1	13	86558	6658.308
birds	<i>Chen rossii</i>	Ross's goose	1	19	103242	5433.789
birds	<i>Circus cyaneus</i>	Northern harrier	1	21	107020	5096.190
birds	<i>Anas crecca</i>	Common teal	1	23	160750	6989.130
birds	<i>Anas acuta</i>	Northern pintail	1	25	191041	7641.640
birds	<i>Corvus corax</i>	Common raven	1	54	237718	4402.185
birds	<i>Ardea alba</i>	Great egret	1	3	278835	92945.000
birds	<i>Anser albifrons</i>	GWF goose	1	29	363018	12517.862
birds	<i>Anser caerulescens</i>	Snow goose	2	88	880430	10004.886
mammals	<i>Canis latrans</i>	Coyote	1	19	25079	1319.947
mammals	<i>Ursus arctos</i>	Brown bear	1	11	27772	2524.727
mammals	<i>Lynx rufus</i>	Bobcat	2	22	41012	1864.182
mammals	<i>Puma concolor</i>	Cougar	3	49	97518	1990.163
mammals	<i>Ursus americanus</i>	Black bear	2	32	118348	3698.375
mammals	<i>Ovis canadensis</i>	Big-horned sheep	1	41	163725	3993.293
mammals	<i>Cervus elaphus</i>	Elk	2	25	187265	7490.600
mammals	<i>Alces alces</i>	Moose	3	37	282806	7643.405
mammals	<i>Antilocapra americana</i>	Pronghorn	1	171	292017	1707.702
mammals	<i>Odocoileus virginianus</i>	White-tailed deer	4	81	321735	3972.037
mammals	<i>Odocoileus hemionus</i>	Mule deer	9	1567	3350241	2137.997