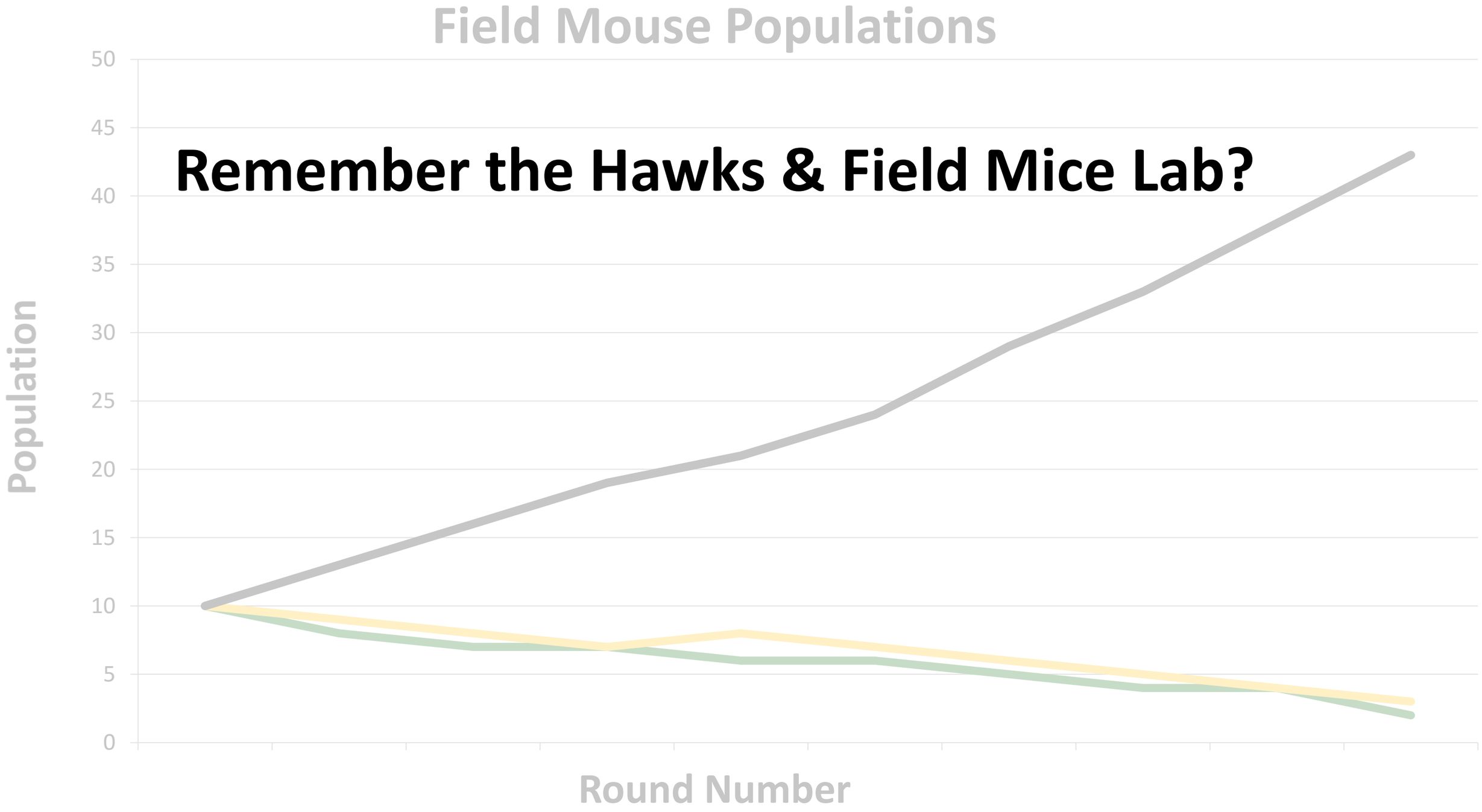
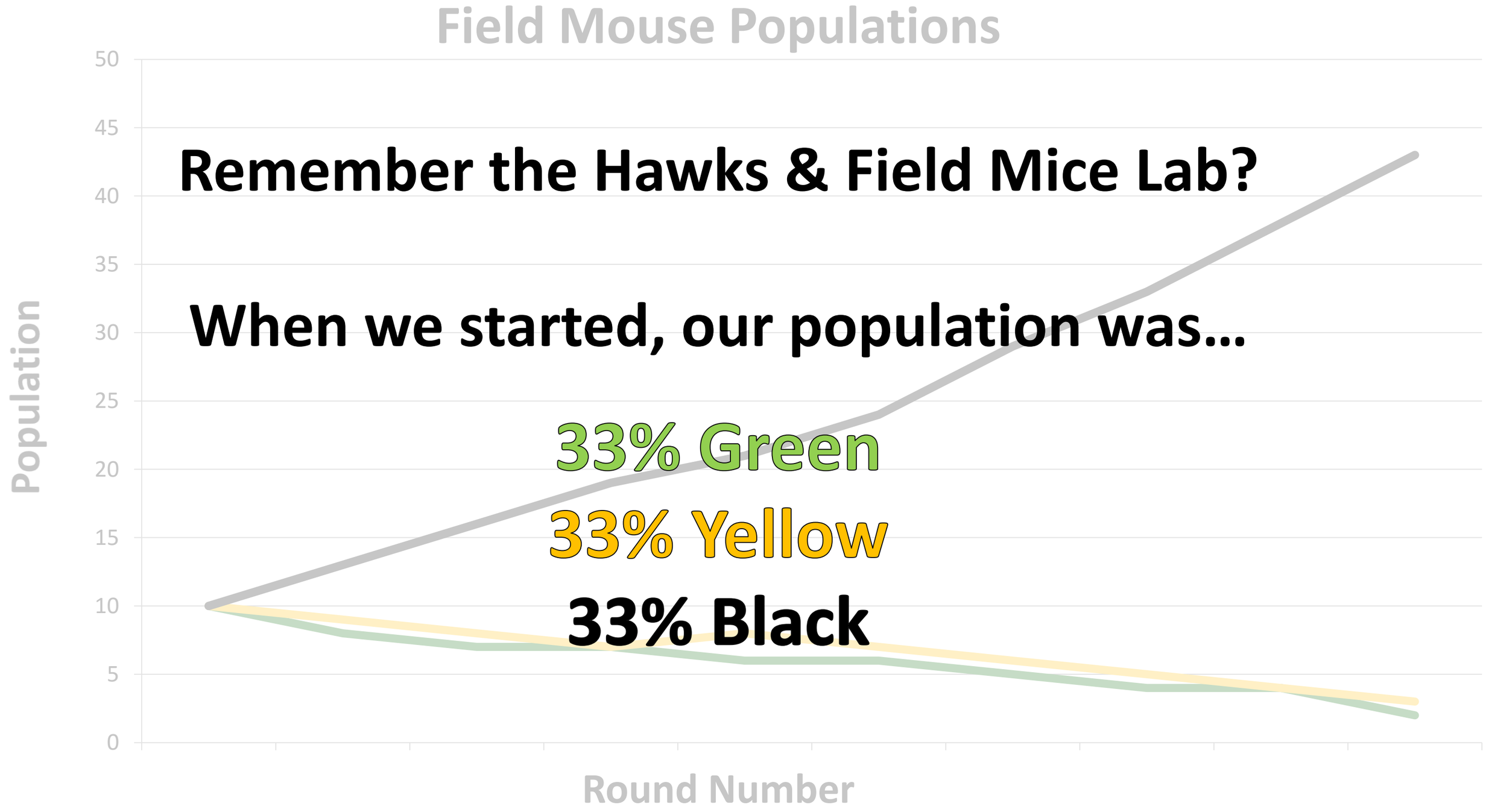
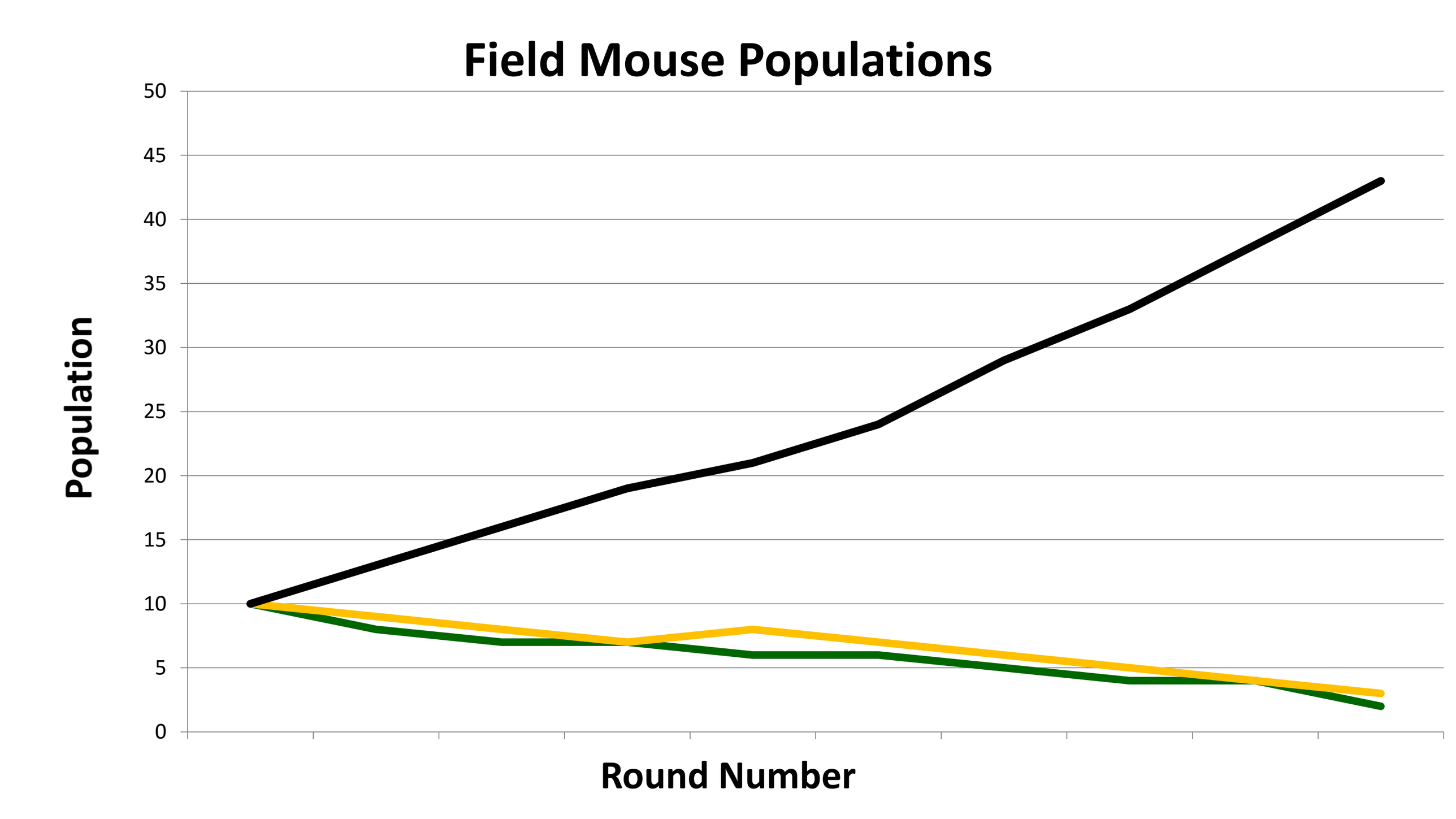

Darwin


Field Mouse Populations
Remember the Hawks & Field Mice Lab?
Population
50
45
40
35
30
25
20
15
10
5
0
Round Number


Field Mouse Populations
50
45
40
35
30
25
20
15
10
5
0
Population
Round Number
Remember the Hawks & Field Mice Lab?
When we started, our population was…
33% Green
33% Yellow
33% Black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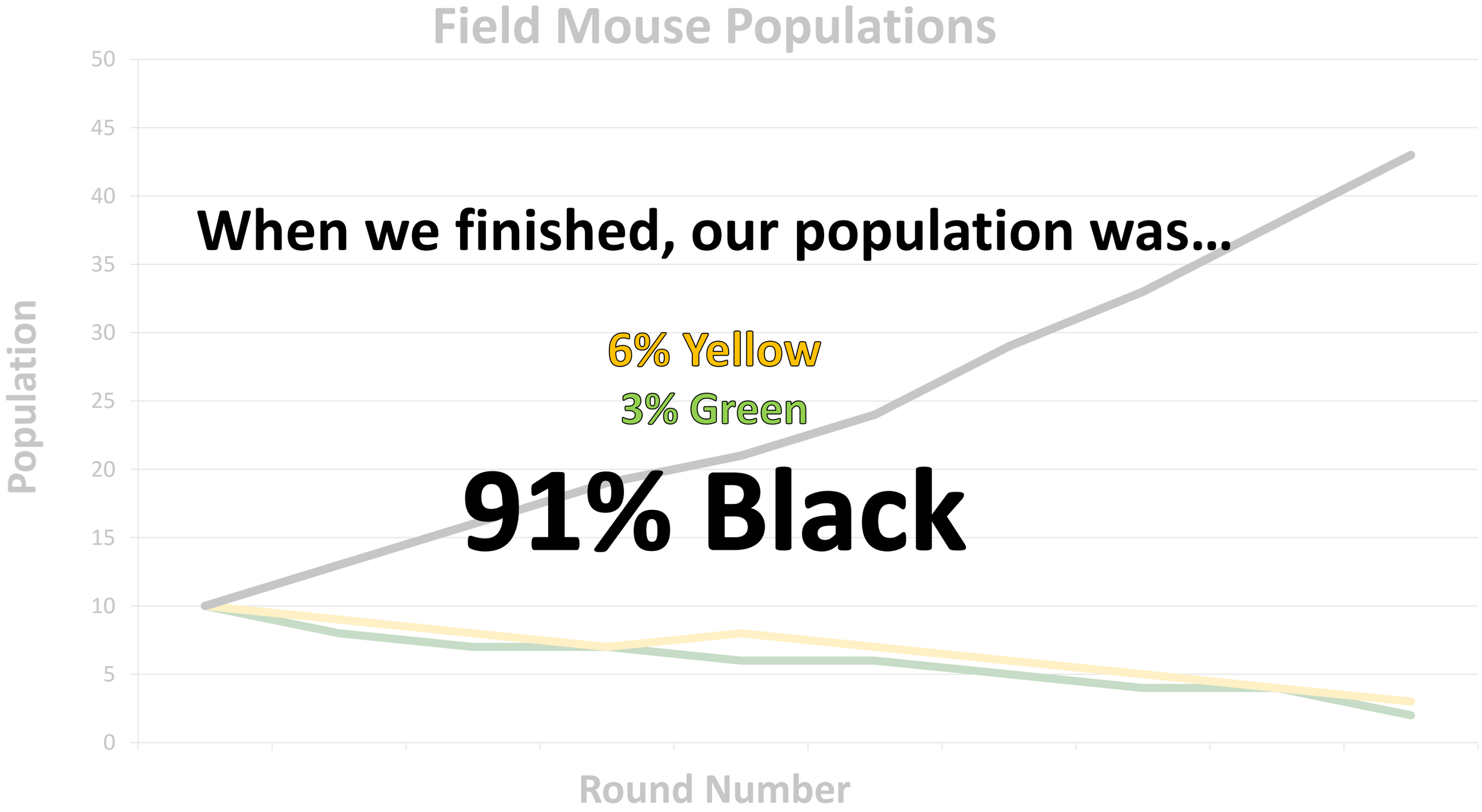
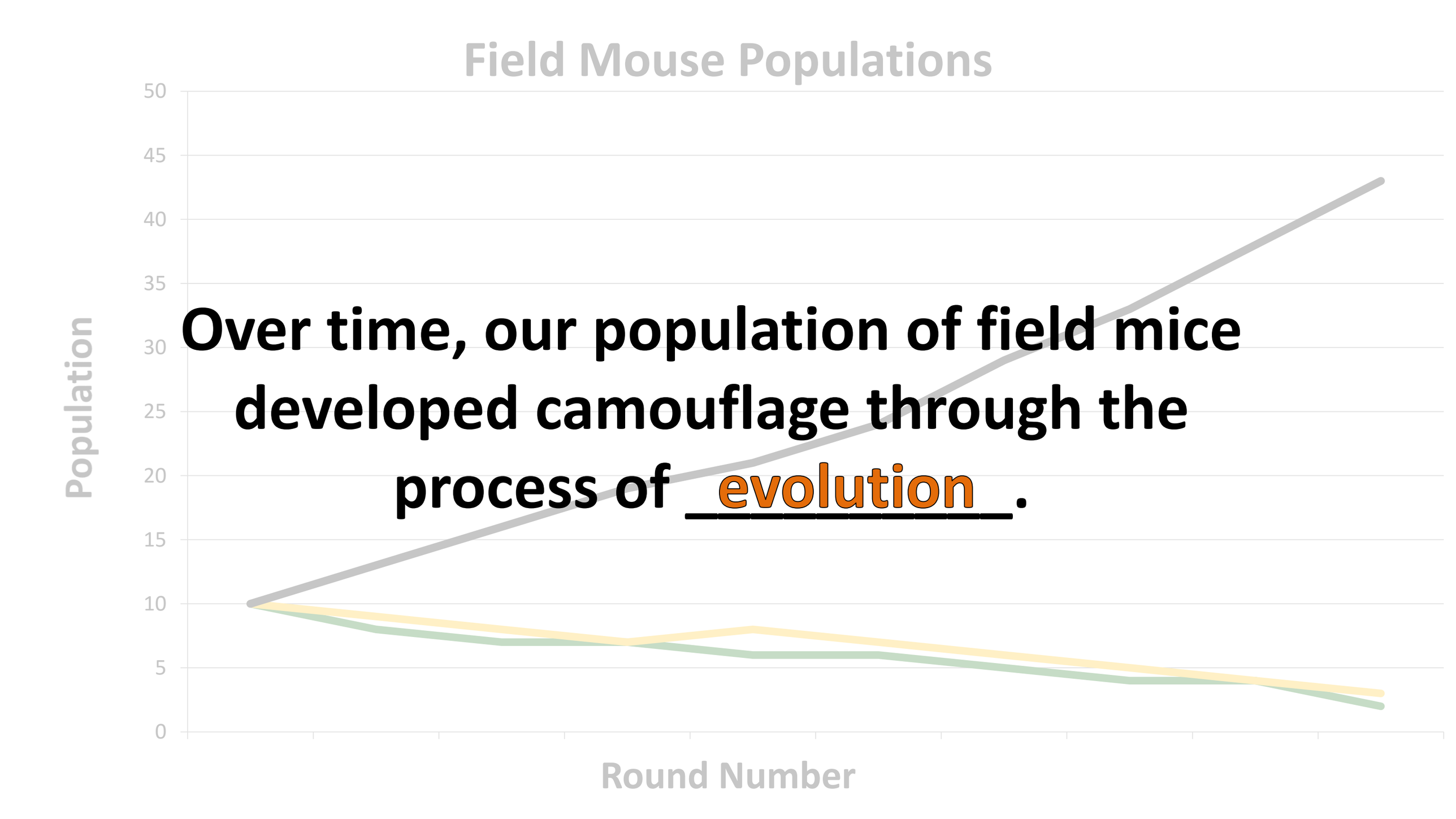
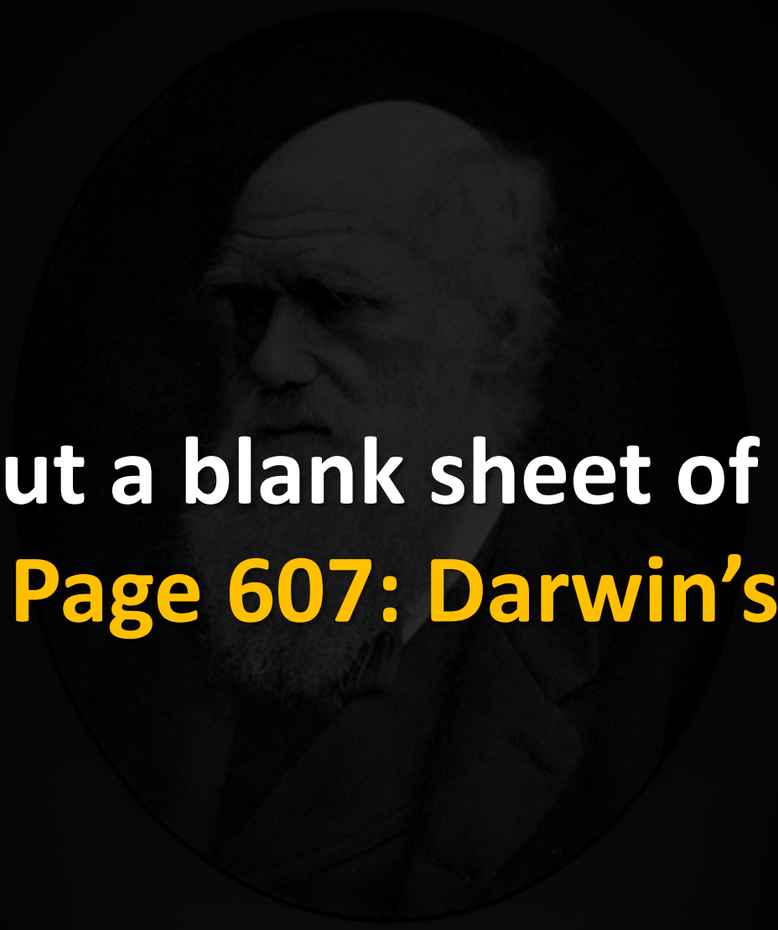

Field Mouse Populations
50
45
40
35
30
25
20
15
10
5
0
Population
When we finished, our population was…
6% Yellow
3% Green
91% Black
Round Number

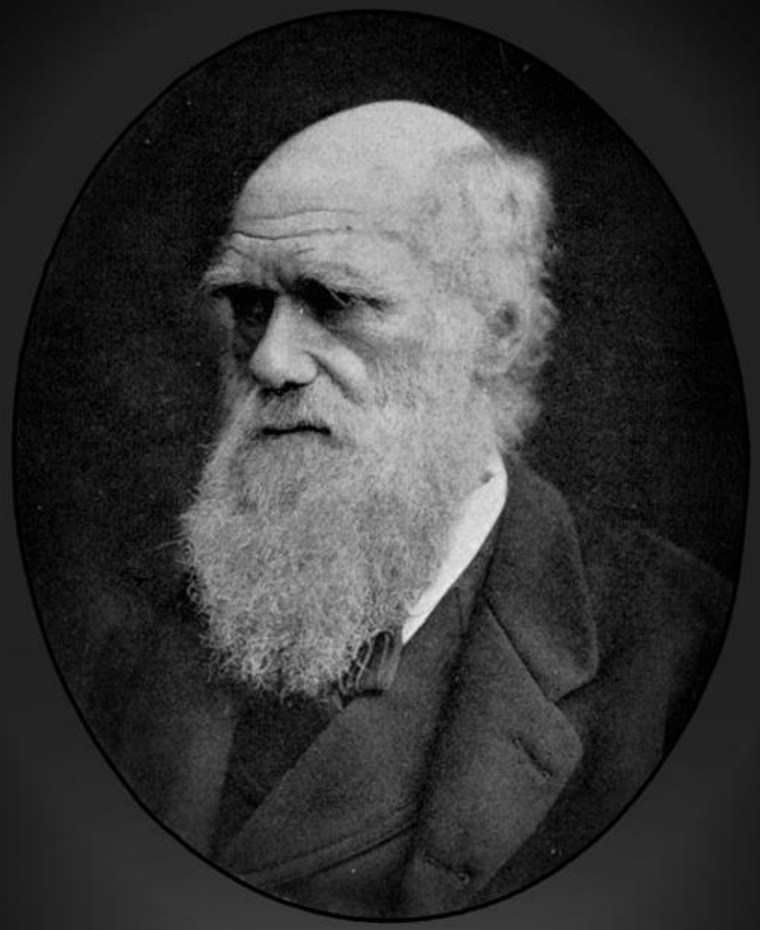


Over time, our population of field mice developed camouflage through the process of _____.

evolution



Take out a blank sheet of paper.
Label it Page 607: Darwin's Theory



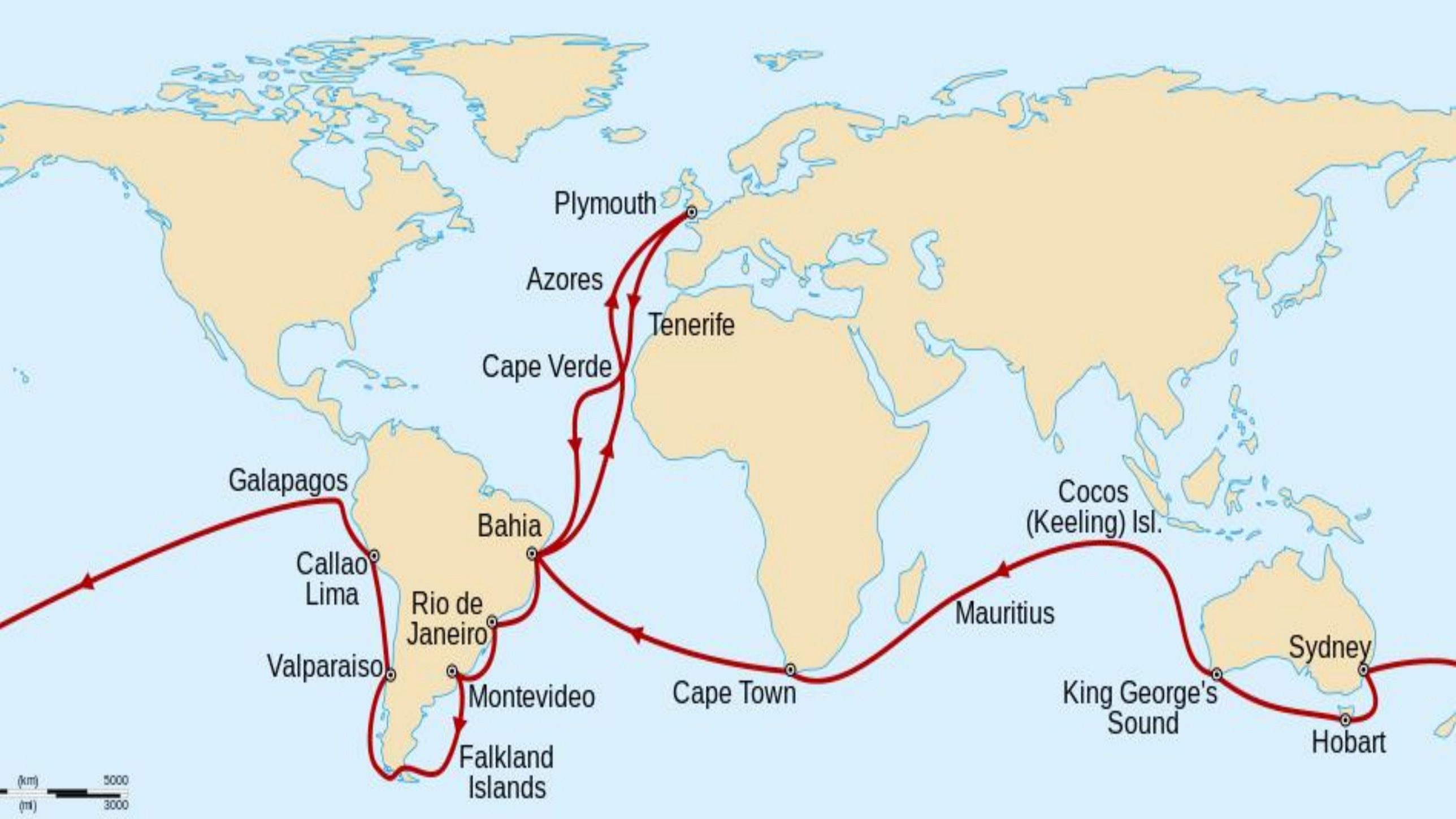
Charles Darwin

1809 - 1882

Darwin's Life:

- From England
- Father wanted him to become a doctor
- Became a scientist instead
- Invented the Theory of Natural Selection

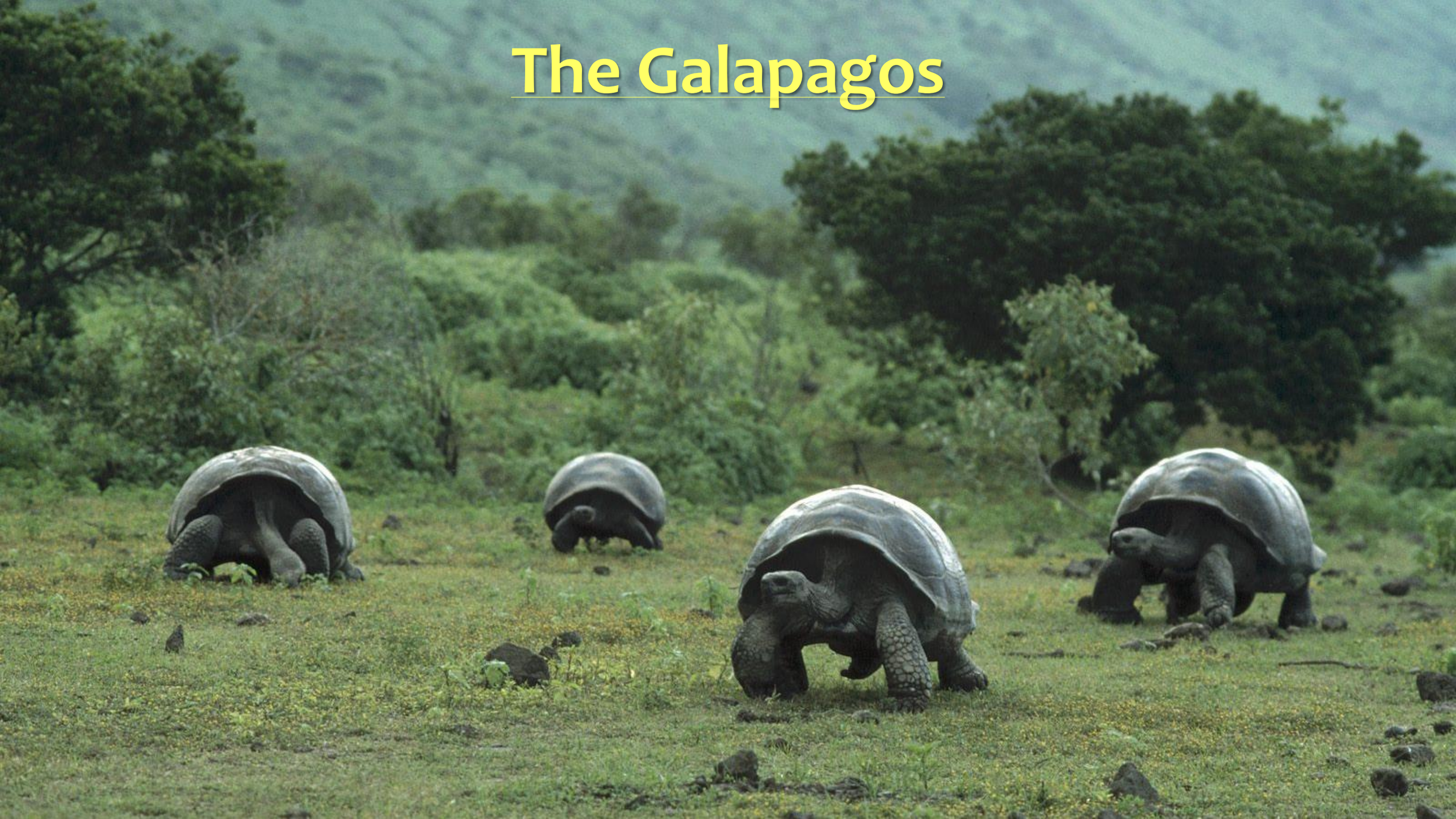
(became The Theory of Evolution)


Plymouth
Azores
Tenerife
Cape Verde
Galapagos
Bahia
Callao
Lima
Rio de
Janeiro
Valparaiso
Montevideo
Falkland
Islands
Cape Town
Mauritius
Cocos
(Keeling) Isl.
King George's
Sound
Sydney
Hobart
(km) 5000
(mi) 3000

The Galapagos

The Galapagos

The Galapagos



The Galapagos

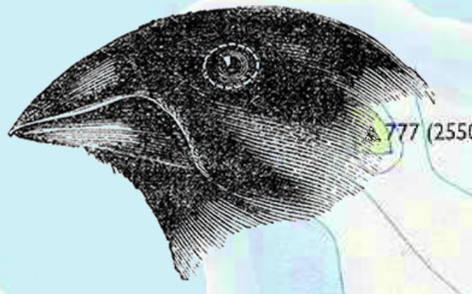
The Galapagos

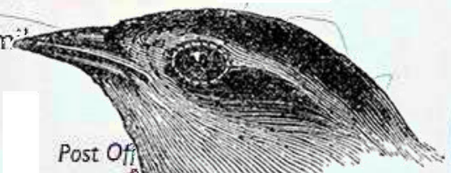
Galapagos Islands Map

A window to the different Galapagos Islands Destinations

90

Equator





777 (2550)

I. Marchena

343 (1125)

I. Genovesa

Roca Redonda

Pta. Albemarle

C. Berkeley

Volcán Wolf

1707 (5600)

Volcán Ecuador

Pta. Vincente Roca

I. Santiago

907 (2974)

Jumes

I. Bartolomé

I. Seymour

I. Baltra

I. Sombrero Chino

I. Daphne Mayor

Pta. Espinosa

C. Douglas

I. Fernandina

Volcán La

1494 (4900)

Volcán Alcedo

1125 (3700)

I. Rabida

Pta. Mangle

C. Hammond

Isla Isabela

I. Pinzón

I. Santa Cruz

863 (2830)

Santa Rosa

Bellavista

Puerto Ayora

Bahía Elizabeth

Pta. Moreno

Volcán Sierra Negra

Volcán Chico

1491 (4890)

I. Santa Fé

I. Los Hermanos

Santo Tomás

Pta. Cristóbal

Cerro Azul

1689 (5540)

Puerto Villam

I. Tortuga

Pta. Essex

C. Rosa

Kicker Rock

ristóbal

717 (235

Baquerizo Moreno

El Progreso

Post Off

B

Champion

Puerto Vel o Ibarra

I. Floreana

I. Gardner

Pajas

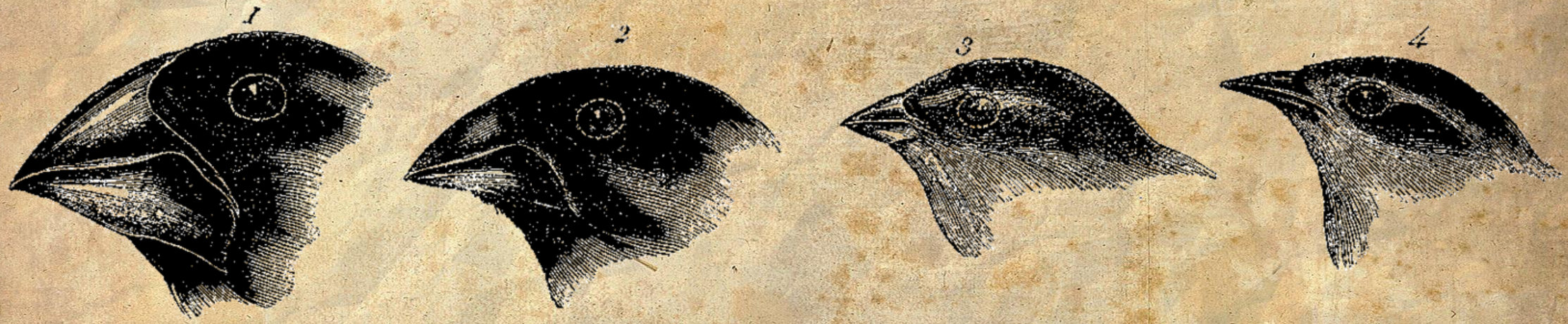
640 (2080)

I. Española

Pta. Suárez

B. Gardner

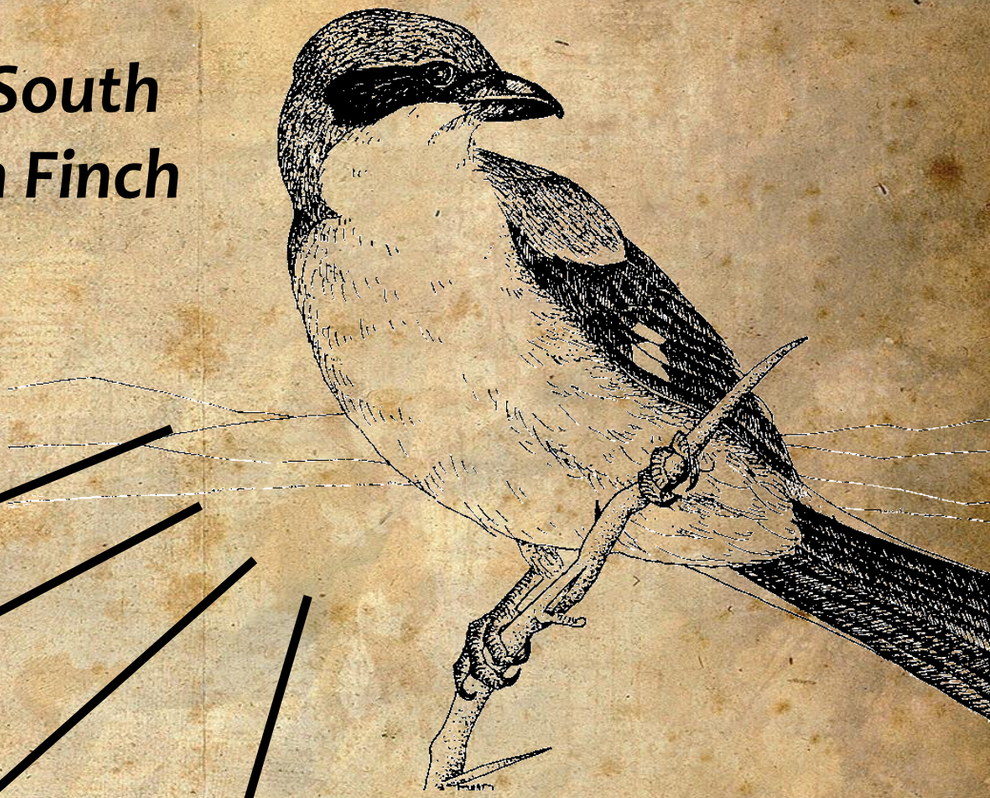
Pta. Cevallos

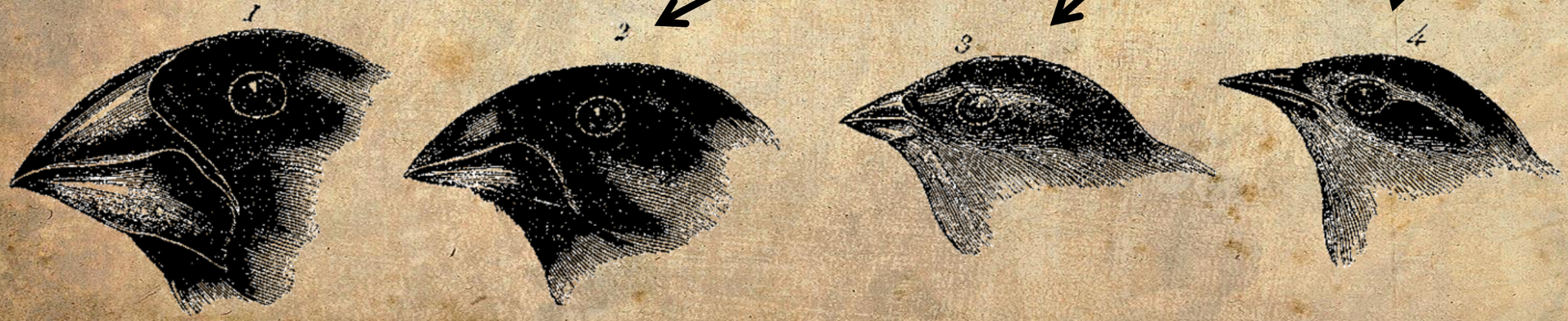


“Seeing this diversity in one small group of birds, one might think that from an original group of birds on these islands, one species had been taken and modified for different ends.”

- Charles Darwin, 1845

Normal South American Finch





Normal South American Finch
(variety of food)

East Islands
(large fruit)

North Islands
(small fruit)

West Islands
(lots of seeds)

South Islands
(lots of worms)

Year 1: A Flock of Birds Flies to the South Island

Year 2: They Start to Reproduce

Year 3: The South Island Has Lots of Worms

Year 4: Some of the Birds Die During the Winter

Year 5: Some Birds Reproduce During Summer

Year 6: There Is a Food Shortage

Year 7: Food Shortage Favors Skinny Beaks

Year 8: Skinny Beaks Have More Babies

Year 9: Skinny Beaks Begin to Take Over

Year 10: Skinny Beaks Multiply

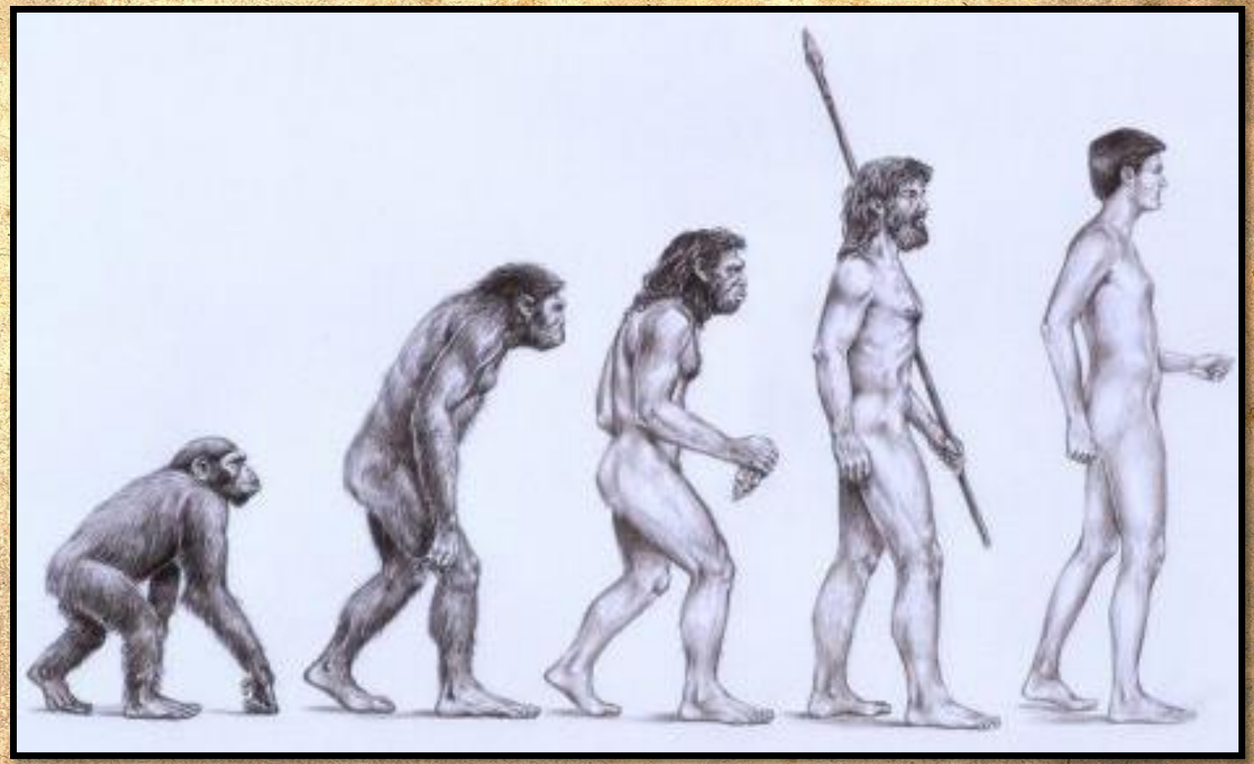
Year 11: Skinny Beaks Multiply and Multiply

Year 12: Entire South Island Has Skinny Beaks

Darwin's Theory:

After Darwin's Voyage he came up with the **Theory of Natural Selection,** which said that "organisms that are better adapted to their environment are more likely to survive and reproduce."

He also used this theory to develop the **Theory of Evolution.** He thought that over time, variations would gradually add up and eventually form new species. And therefore, all life probably evolved from the same organisms.



Modern Interpretation:

evolution –

when changes in an organism's DNA (and therefore, its traits) occur over generations

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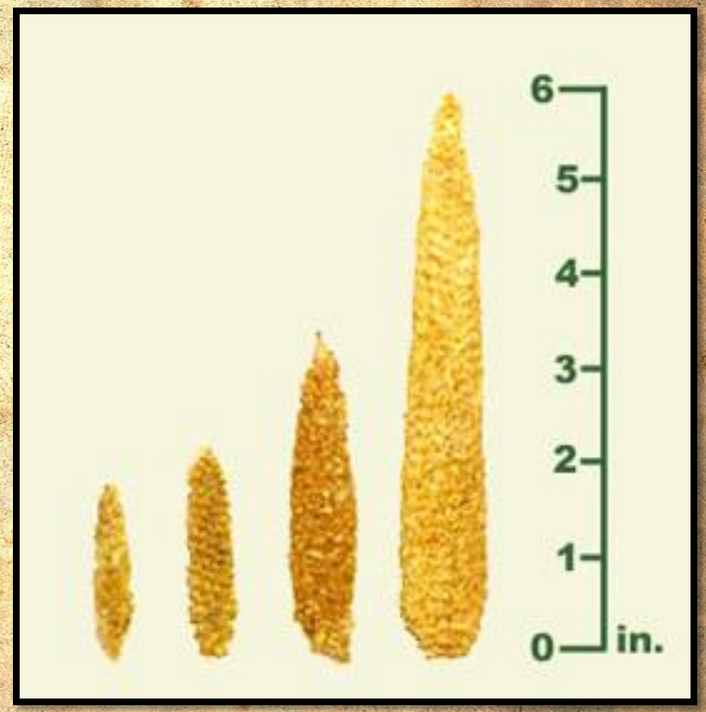
In order to have evolution, you need:

1. **A competing population.**
2. **Genetic variation.**
3. **Inherited traits.**



Modern Interpretation:

evolution –

when changes in an organism's DNA (and therefore, its traits) occur over generations **(survival of the fittest!)**

In order to have evolution, you need:

1. **A competing population.** **(competition!)**
2. **Genetic variation.** **(variety!)**
3. **Inherited traits.** **(traits that are passed down!)**