

Wildlife Wonders

Average Program Length: 1+ hour, depending on thoroughness of bird survey

Meeting Location: Visitor Center Patio

Total material list:

- Southern California birding books/pamphlets (Park Provides)
- Data Sheet (Park Provides)
- Phone with iNaturalist Application

Activities By Scout Level

Girl Scouts

- **Daisies and Brownies-** pick at least 2 of the steps below
- **Juniors and Cadettes-** pick at least 3 of the steps below
- **Seniors and Ambassadors-**pick at least 4 of the steps below

Boy Scouts

- **Lions, Tigers, Wolves, and Bears-** pick at least 2 of the steps below
- **Webelos, Scout Rank, and Tenderfoot-** pick at least 3 of the steps below
- **Second Class, First Class, Star Scouts, Life Scouts, and Eagle Scouts-** pick at least 4 of the steps below

Background

In National Parks, it is extremely important to monitor and maintain wildlife populations. All organisms are interconnected, and many animals are reaching endangerment and extinction because of human activities.

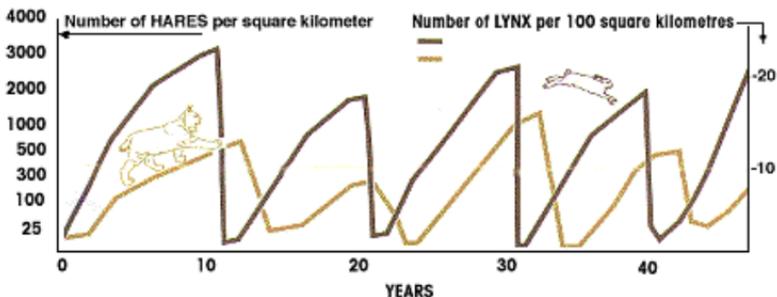
--*Monitoring*=observing population numbers and population health

--*Maintaining*=taking action to ensure levels remain stable and species are thriving

--*Indicator species*=an animal or plant that is monitored to determine the health of an entire ecosystem

--*Population cycles in predator prey relationships*--reproduction as it related to predator's food supply and prey's predation pressures

In nature, most wildlife populations monitor and maintain themselves. For example, San Diego county has both coyotes (the predator) and Desert Cottontail rabbits (the prey). If the coyotes reproduce and have too many babies, there will not be enough rabbits for them to eat, and the coyote population numbers will go down as some die off. If the coyote population numbers go down too far, and there aren't enough coyotes to eat the rabbits, the rabbit population may skyrocket. This would create lots of excess food (prey) for the coyotes, so they could afford to have support babies. If they have too many babies and eat all the rabbits, the cycle begins again. However, many humans don't like coyotes, because they perceive them as a threat or a pest, and sometimes people will hunt them. This throws off the natural cycle. Rabbit populations could skyrocket if there weren't enough coyotes, and the rabbits may eat all of the greenery and grass. Afterwards, there may not be enough grass for the voles, woodrats, mice, or squirrels, and these populations would start to decrease. Predators that rely on these animals, like snakes or falcons, would be hurt too. This shows just one example of how human activities may throw off an entire ecosystem. Pollution, urban sprawl, and human-induced invasive species may be other examples. The National Park aims to ensure that humans do not affect pristine ecosystems. However, human impacts are far reaching, so it's important that we act as stewards in monitoring and maintaining healthy wildlife populations.



Indicator species are often birds or amphibians, because these animals are often particularly susceptible to environmental shocks. In order to reduce flight weight, birds have an incredibly metabolism system (this is why coal miners used canaries to detect dangerous carbon monoxide gas). Amphibians have porous, semi-permeable skin that is more likely to absorb pollution. Even though there are many bird and amphibian indicator species, many different plants and animals can be indicator species.

The following are some examples we have at Cabrillo NM:

Reptiles - Orange throated whiptail: Indicator of healthy native habitat; they are abundant here

Intertidal - Owl Limpets: one of our target monitoring species, steady population for decades but recently crashed, we are concerned

Birds - CA Gnatcatcher: require healthy sage scrub habitat, recently returned to Cabrillo after 200 year absence

Plants - Coastal Sage Scrub community: this one is hard in that there is no one species that is used to indicate health; it's more from a community perspective. In general the population is healthy, though we've lost a lot of annual wildflower species due to heavy military impact in the past.

Matching Badges



Junior-Animal
Habitats



BSA-Bird Study



Dasies-Rosie Petal



BSA-Fish and Wildlife
Management

Correlates to Next Generation
Science Standards for
LS2: ECOSYSTEMS:
INTERACTIONS, ENERGY, AND
DYNAMICS

Program Activities

1. Research what rangers and scientists do to ensure that population numbers are steady and that the wildlife is healthy. How do they conduct wildlife surveys? Is it the same for all animals?
2. Go out into the park with a data sheet (rangers will supply), and help rangers complete a wildlife survey of the birds. Discuss the different challenges of monitoring birds compared to other animals. Draw pictures of the species you see, mark how many of each type you saw, and record what area of the park they saw them (bayside versus seaside). Older Scouts can bring the birding pamphlet (from the Visitor's Center) with them and record the actual species.
3. Help keep the wildlife at the park healthy by picking up any trash you may see around the park.
4. If there is a species you can not identify, use the iNaturalist phone application to ask the scientific community. This helps extend population information to the rest of the Southern California area.
5. Study healthy populations numbers, and extend the study over a period of time (seasonal or annual). It may be best to pick a single species to monitor. Write up your scientific conclusion, and present results to a Ranger. Were some populations lower than they should be? Were there different patterns with different seasons?
6. What can you do to make sure the population remains stable and healthy? After getting it pre-approved by our volunteer coordinator, create your own service project at the Park that would help wildlife.