EDU-ARCTIC2 LEARNING TOOL-KIT

WILDLIFE TECHNOLOGY

Technology has given humans a major upper-hand on other animal species. Here you will learn about ways in which humans use technology to monitor and manage wildlife, and we explore ethical dilemmas. For example, is it okay to catch and operate on wild animals?

Do we want to know all the secrets of nature?

START

You can always navigate back to this main menu. Look for the menu symbol.

INDEX

pst. click to go directly to a step

Step 1 Introduction

Step 2 Understand

Step 3 Explore

Step 4 Reflect

Step 5 Wrap-up

Step 1 of 5: Introduction

Wildlife technology

LEARNING GOALS

Pst!

After using this tool-kit, the goal is that the student

1) understands WHY wildlife technologies are important

2) knows that technology is just a tool, not the whole solution to save species

3) can reflect on ethical dilemmas around wildlife technologies

WHY IS THIS IMPORTANT?

Human overpopulation has caused thousands of other species to dwindle towards extinction. While a few are becoming too numerous.

Technology is necessary for monitoring these changes in wildlife populations.

For example, catching poachers in Africa

Click to read story

Tap the words

Terms to learn

WILDLIFE MONITORING

NON-LETHAL TRAPPING

GPS COLLARING

CATCH-AND-RELEASE

WILDLIFE CAMERA

COLLECTING SAMPLES

SEDATION

DNA MONITORING

Click here for a text version

Step 2 of 5: Understand

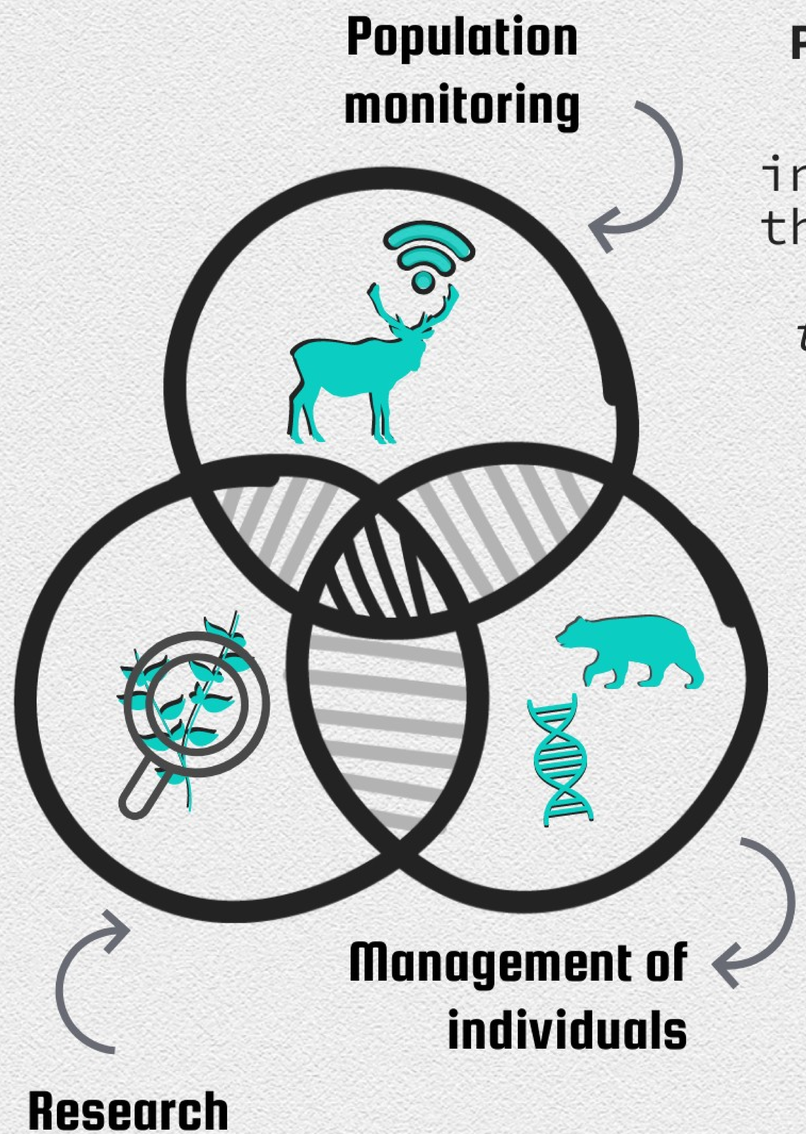
Wildlife technology

3 main uses of

WILDLIFE TECHNOLOGY

Population monitoring =

following how many individuals there are in the population. Two main types: Monitoring *over time* (change in numbers from year to year), or *over space* (where are the animals)



Research =

figuring out how animals or plants function, how they behave, or how they are affected by their environment.

Management of individuals =

tracking individuals of special interest, for example for conservation or to sort out wildlife-human conflicts.

Have a look at
some examples

Click ⊠ to enlarge

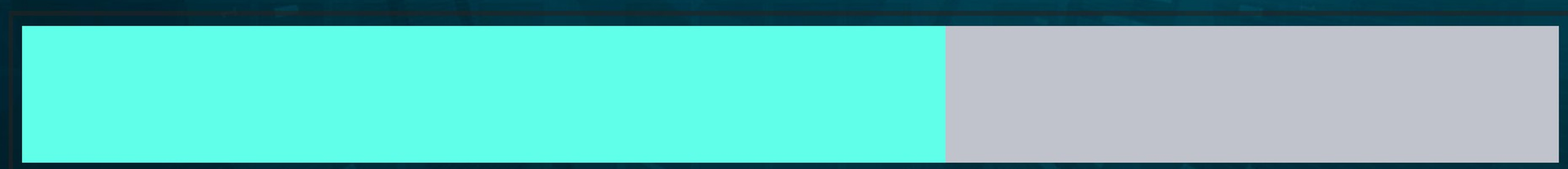
HUNDREDS OF GADGETS!

Look at this Edu-Arctic webinar to learn about many of the hundreds of gadgets that wildlife research use to monitor the nature

PROGRESS METRE

60%

You have now completed this much of the learning tool kit



BUT THE TECHNOLOGY IS NOT ONLY GOOD

Wildlife managers and - researchers are using more and more gadgets to monitor nature.

The technology also becomes more and more sophisticated.

There is concern that the tecnology becomes the goal in itself, a playing field for technocrates and technofiles.

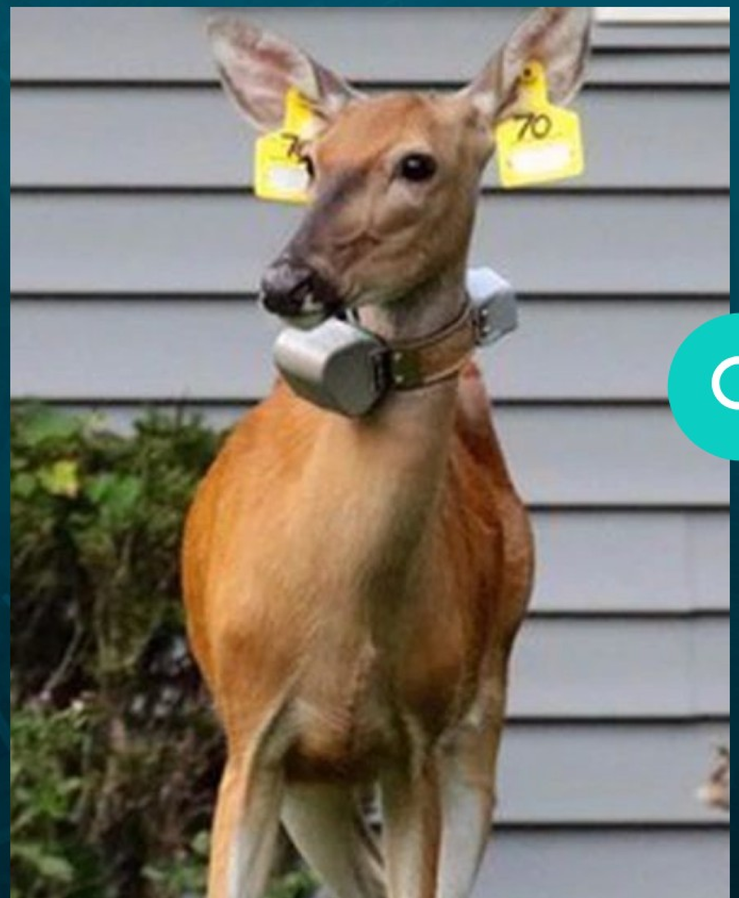


Photo: Michigan Dep of Natural Resources

ETHICAL CONCERNS

There are two concerns with "overuse" of the technology.

One is that it can act as an excuse for what really needs to be done to protect wildlife.

Wildlife needs NATURE. Continuous stretches of areas where humans do not dominate the landscape.

ETHICAL CONCERNS

The other concern is that much of the technology involves catching and handling the animals.

Typically, the animal is then also equipped with a device, which it needs to carry for months or even years.

? Some devices are even operated into the body of the animal.

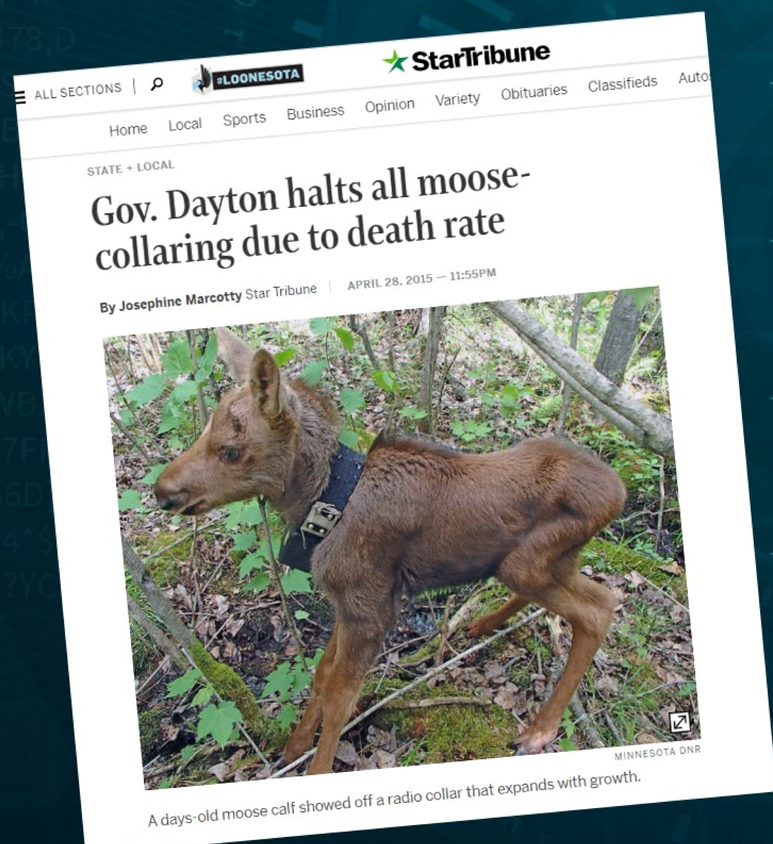
Here are reindeer GPS collared for Norwegian research. It turned out some of the collars collected ice. Do you think the animals suffered while walking around with the heavy clump which tied their neck to their jaw?

Som

ETHICAL CONCERNS

All wild animals find this handling highly stressful. Some die from the stress.

Click to read more!



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Home Local Sports Business Opinion Variety Obituaries Classifieds Auto

STATE + LOCAL

Gov. Dayton halts all moose-collaring due to death rate

By Josephine Marcotty Star Tribune | APRIL 28, 2015 — 11:55PM

MINNESOTA DNR

A days-old moose calf showed off a radio collar that expands with growth.

Read more about the pros and cons of wildlife collaring, for example wolves, which are now extensively collared around the northern hemisphere

Step 3 of 5: Explore

Wildlife technology

DECLINING OR RISING?

In this explorer's lab you must bring in your mathematical skills (as is always the case with developing new technology).

Your task is to keep track of which wildlife is the most important to monitor

START

Step 4 of 5: Reflect

Wildlife technology

Newborn hooded seal with satellite transmitter (Photo: Erling S. Nordøy)

1) Is it okay to add gadgets (cameras, sensors, GPS and so on) on the OUTSIDE of the body of wild animals?

Why or why not?

2) Is it okay to add gadgets INSIDE the body of wild animals?

Why or why not?

Step 5 of 5: Wrap-up

Wildlife technology

THE LEARNING GOALS WERE:

- understands WHY wildlife technologies are important
- knows that technology is just a tool, not the whole solution to save species
- can reflect on ethical dilemmas around wildlife technologies

understands WHY wildlife technologies are important

Take-home-message =

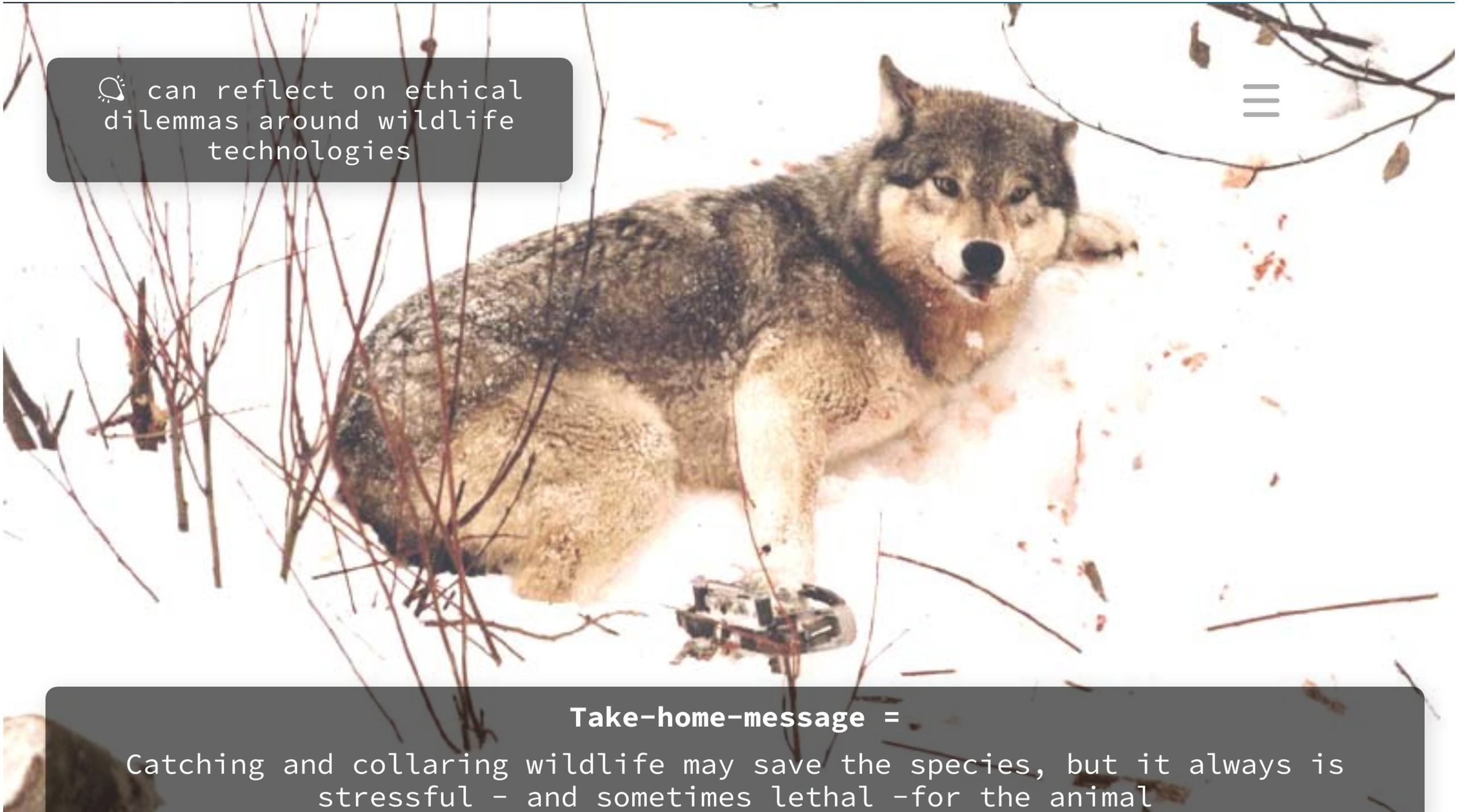
We need technology to monitor how many animals there are in wildlife populations.

Because humans have destroyed so much wildlife habitat, many species are either dwindling to extinction, or a few are too numerous.

knows that technology is just a tool, not the whole solution to save species

Take-home-message =

Monitoring wildlife with gadgets must not substitute the most important: to stop further destructions of their habitats



can reflect on ethical dilemmas around wildlife technologies

Take-home-message =

Catching and collaring wildlife may save the species, but it always is stressful - and sometimes lethal -for the animal

GREAT WORK!
YOU HAVE NOW COMPLETED
ALL THE STEPS IN THE TOOL KIT