

Drones used to battle tortoise-killing ravens

12th June, 2019



High-tech drones are flying to the defence of tortoises in California's Mojave Desert. The desert tortoises in the western Mojave are under threat of being wiped out by ravens. The raven is a larger version of the crow.

Its population in the Mojave has increased by more than 700 per cent in the past 25 years and this is having a catastrophic impact on the desert tortoises. Allison Fedrick, a local conservationist, observed that in some places, "where there used to be 10 ravens, there are now 15,000". Ms Fedrick noted that if nothing was done to help the tortoises, they would be completely wiped out. Their numbers have plummeted by more than 90 per cent since 1990.

Technology is coming to the rescue of the tortoises. A team of biologists and drone operators has come up with a strategy to reduce the raven population. They are using drones and the use of the method of "egg oiling". This involves flying drones up to the ravens' nests, removing fertilized eggs, coating them with a film of corn oil, and then replacing them. The oil blocks oxygen from entering the egg, effectively ending the life of the embryo inside. Biologist Mercy Vaughn said: "If ravens figure out that their eggs are rotten, they are likely to eat them and nest someplace else." Conservationist John Griffin said oiling was justified as "part of a comprehensive approach that...addresses all other factors".

Sources: huffpost.com / latimes.com / thedailybeast.com

Writing

It is OK to kill members of one species to save another from extinction. Discuss.

Chat

Talk about these words from the article.

high-tech / drones / desert / tortoise / raven / catastrophic / conservationist / help / technology / biologist / strategy / nests / corn oil / embryo / eggs / comprehensive

True / False

- a) High-tech drones are flying tortoises away from ravens in the desert. T / F
- b) The tortoise population in the Mojave Desert had increased by 700%. T / F
- c) In one place, raven numbers increased from 10 to 15,000. T / F
- d) Tortoise numbers in the western Mojave dropped by 10% since 1990. T / F
- e) Botanists and drone operators came up with a strategy. T / F
- f) Conservationists are covering raven eggs in oil. T / F
- g) Ravens are likely to eat their own eggs if they become rotten. T / F
- h) If eggs are rotten, ravens are likely to nest elsewhere. T / F

Synonym Match

(The words in **bold** are from the news article.)

- | | |
|--------------------------|------------------|
| 1. under threat | a. plunged |
| 2. wiped out | b. noted |
| 3. catastrophic | c. all-inclusive |
| 4. observed | d. in danger |
| 5. plummeted | e. covering |
| 6. strategy | f. comprehend |
| 7. use | g. policy |
| 8. coating | h. eradicated |
| 9. figure out | i. application |
| 10. comprehensive | j. disastrous |

Discussion – Student A

- a) What do you know about tortoises?
- b) How can drones help tortoises?
- c) Should we do all we can to help animals in danger?
- d) Should we kill members of one species to help another?
- e) How sad would it be if the Mohave desert tortoises disappeared?
- f) Why are raven numbers increasing?
- g) How else can we stop ravens killing tortoises?
- h) What work would you do as a conservationist?

Phrase Match

- | | |
|---|------------------------------|
| 1. tortoises in the western Mojave are under | a. are rotten |
| 2. The raven is a larger version | b. more than 90 per cent |
| 3. Its population in the Mojave has increased | c. conservationist |
| 4. a local | d. else |
| 5. Their numbers have plummeted by | e. of the crow |
| 6. Technology is coming to the | f. approach |
| 7. ending the life of the | g. threat of being wiped out |
| 8. If ravens figure out that their eggs | h. embryo inside |
| 9. nest someplace | i. rescue of the tortoises |
| 10. part of a comprehensive | j. by more than 700% |

Discussion – Student B

- What do you think about what you read?
- What do you know about ravens?
- What do you think of the method of egg-oiling?
- Should people get in the way of nature?
- What three adjectives best describe this story?
- Which do you like better - tortoises or ravens?
- Which species will survive the longest - tortoises or ravens?
- What questions would you like to ask the conservationists?

Spelling

- flying to the nccccfd of tortoises
- under tharet of being wiped out
- The raven is a larger rsoevin of the crow
- having a chiptcaasrto impact
- a local oivocnnsrstaiet
- edlpmtuem by more than 90 per cent
- drone rotsoprae
- come up with a sragetty
- removing teiefzilrd eggs
- ending the life of the bymreo inside
- part of a comprehensive oaphpacr
- that dressdeas all other factors

Answers – Synonym Match

1. d	2. h	3. j	4. b	5. a
6. g	7. i	8. e	9. f	10. c

Role Play

Role A – Avoid Plastic

You think avoiding plastic is the best way to help animals. Tell the others three reasons why. Tell them what is wrong with their ways. Also, tell the others which is the least effective way of these (and why): feeding bees, not eating meat or donating to the WWF.

Role B – Feeding Bees

You think feeding bees is the best way to help animals. Tell the others three reasons why. Tell them what is wrong with their ways. Also, tell the others which is the least effective way of these (and why): avoiding plastic, not eating meat or donating to the WWF.

Role C – Not Eating Meat

You think not eating meat is the best way to help animals. Tell the others three reasons why. Tell them what is wrong with their ways. Also, tell the others which is the least effective way of these (and why): feeding bees, avoiding plastic or donating to the WWF.

Role D – Donating To The WWF

You think donating to the WWF is the best way to help animals. Tell the others three reasons why. Tell them what is wrong with their ways. Also, tell the others which is the least effective way of these (and why): feeding bees, not eating meat or avoiding plastic.

Speaking – Helping animals

Rank these with your partner. Put the best ways to help animals at the top. Change partners often and share your rankings.

- | | |
|---------------------|------------------------------|
| • Avoid plastics | • Sign an anti-fur petition |
| • Feed bees | • Become an animal rescuer |
| • Donate to the WWF | • Use cruelty-free cosmetics |
| • Don't eat meat | • Adopt a shelter animal |

Answers – True False

a	F	b	F	c	T	d	F	e	F	f	T	g	T	h	T
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Answers to Phrase Match and Spelling are in the text.