LEVEL B2

Did Wolves Change Yellowstone's Rivers?

A Famous Video and the Scientists Who Checked It

A famous video says that the wolves brought back to Yellowstone in 1995 changed the park's rivers. Olivia walks Austin through what the research actually shows, from GPS collars on elk to fake beaver dams.

Key words

- predator
- pen
- convict
- release
- runt
- streak
- drought
- threat
- recovery
- overstate
- plot
- spread
- chain reaction
- credit
- simplify

In this workbook

Key words 2
Full transcript 3
Did you understand? 9
Two truths and a lie 9
Word partners 10
Your turn 11
Answer key 12

How to use it

1
Listen to the episode on YouTube.

2
Read the transcript and learn the key words.

3
Do the activities, then check the answer key.

Includes the full transcript, key words, activities and answers

Listen to the episode on the Aprendos YouTube channel

Key words

These words appear in the episode.

Key words	Meaning	Example
predator *noun*	An animal that hunts and eats other animals.	*Foxes are the main predator of chickens on small farms.*
pen *noun*	A small area with a fence where animals are kept.	*The farmer keeps the new lambs in a pen near the house for their first week.*
convict *verb*	To decide officially in court that someone is guilty of a crime.	*She was convicted of fraud after taking money from her own company.*
release *verb*	To let a person or an animal go free.	*The rescue centre released the young owl once its wing had healed.*
runt *noun*	The smallest and weakest animal born in a group of babies.	*We chose the runt of the litter, and he grew into the biggest dog on our street.*
streak *noun*	A series of days or results of the same kind, one after another.	*My language app says I'm on a forty-day streak, so I can't stop now.*
drought *noun*	A long period with little or no rain.	*After two years of drought, the lake behind the village was almost dry.*
threat *noun*	Something or someone that could cause harm or danger.	*Plastic in the sea is a serious threat to turtles.*
recovery *noun*	The process of returning to a healthy or normal state.	*After the operation, his recovery took longer than the doctors expected.*
overstate *verb*	To make something seem bigger or more important than it really is.	*The advert overstated how long the battery lasts.*
plot *noun*	A small piece of land used for a special purpose, like growing plants.	*My grandfather rents a plot behind the station where he grows potatoes.*
spread *verb*	To move into a wider area, little by little.	*The rumour spread through the office before lunch.*
chain reaction *noun*	A series of events where each one causes the next.	*One car braked suddenly and started a chain reaction on the motorway.*
credit *noun*	Praise or recognition for something good that you did.	*My colleague took all the credit for the idea, even though it was mine.*
simplify *verb*	To make something easier to understand by leaving out details.	*The teacher simplified the story so the younger kids could follow it.*

Full transcript

Did Wolves Change Yellowstone's Rivers?: A Famous Video and the Scientists Who Checked It

AUSTIN Okay, I actually know this one. The Yellowstone wolves changed rivers. Wolves come back, the elk get scared, the trees grow, and the rivers change shape.

OLIVIA That's the video. Tens of millions of people have watched it.

AUSTIN Because it's beautiful, and because it's true.

OLIVIA But two scientists were already testing the idea. For twenty years, they studied fake beaver dams in Yellowstone.

AUSTIN Fake beaver dams? Why would anyone need a fake beaver dam?

OLIVIA That's exactly the question that ruins the video.

AUSTIN This is Aprendos English, level B2. I'm Austin.

OLIVIA And I'm Olivia.

AUSTIN Okay, I have to confess something first. I saw that video in seventh grade, in San Diego. My science teacher, Mr. Delgado, played it twice in one class, and half of us cried.

OLIVIA Twice?

AUSTIN The second time was for the kids who weren't paying attention. Which was me.

OLIVIA Then this episode is for Mr. Delgado. And if you like stories where the headline and the science don't quite agree, subscribe, because we've got plenty of those.

AUSTIN So start at the beginning. Where did the wolves go?

OLIVIA People killed them, because between 1914 and 1926 the park ran a program to get rid of **predators**. At least a hundred and thirty-six wolves were killed inside Yellowstone, and about eighty of them were pups.

AUSTIN Inside the national park? The place that's supposed to protect...

OLIVIA ...the animals people liked to look at, yes. Back then that meant elk and deer. The last two wolves killed by that program died in October 1926.

AUSTIN And then nothing for seventy...

OLIVIA ...for almost seventy years, pretty much. And without wolves, the elk on the northern side of the park had a very easy life.

AUSTIN Let me guess. The elk took over.

OLIVIA More or less. In the winter of 1994, counters found more than nineteen thousand elk on the northern range, which was a record.

AUSTIN Nineteen thousand. That's a stadium full of elk.

OLIVIA A stadium full of hungry elk. In winter they ate the young willows and aspens along the streams, so the trees never got the chance to grow tall.

AUSTIN Okay. So in 1995 the government brings the wolves back, everybody claps...

OLIVIA ...and the ranchers' lawyers go to court.

AUSTIN Seriously?

OLIVIA Seriously. Picture it. It's January 12th, 1995, and it's freezing. A line of trucks drives through the stone arch at the north entrance, while news crews film from the road.

AUSTIN With the wolves in the...

OLIVIA ...in metal crates, yes. They'd been caught near Hinton, in Alberta, about five hundred and fifty miles north. Bruce Babbitt, the Secretary of the Interior, helped carry the first crate himself.

AUSTIN So the doors open, the wolves run off into the snow, and it's a movie ending.

OLIVIA Nope. The Wyoming Farm Bureau, which represents a lot of ranchers, was trying to stop the release in court. So the wolves sat in their crates and **pens** for several hours while the lawyers argued.

AUSTIN Five hundred miles in a box, and then you wait for the lawyers.

OLIVIA Even after that, they spent about ten weeks in pens with very high chain-link fences, which leaned inward at the top.

AUSTIN So they couldn't climb out.

OLIVIA Exactly.

AUSTIN What did they eat in there? Please don't say...

OLIVIA ...roadkill. Yes. Staff brought in elk, deer, bison and moose that had been hit by cars. It came to about fifteen pounds of meat per wolf per day.

AUSTIN That's a disgusting job.

OLIVIA Somebody did it, though. In late March they opened the gates, and fourteen wolves walked out into Yellowstone. The next winter, seventeen more came from British Columbia.

AUSTIN And this is where the trees start growing, right?

OLIVIA Not yet, because something terrible happened almost immediately. One of the first pairs, wolves number nine and ten, left the park and headed north toward a town called Red Lodge...

AUSTIN ...oh no. Ranch country?

OLIVIA Ranch country, in Montana. In April 1995, a local man shot wolf number ten. He later said he thought it was a dog, but a jury **convicted** him anyway.

AUSTIN And wolf number nine?

OLIVIA She was pregnant. Around the same time, she gave birth to eight pups near Red Lodge, on her own.

AUSTIN Let me guess. The pups didn't make it.

OLIVIA Wrong, actually. The park team found the den and carried the mother and all eight pups back into Yellowstone. Then they kept the family safe in a pen for the summer.

AUSTIN They carried eight puppies back into the park?

OLIVIA All eight. And when the family was **released** in October, the mother paired up with a young male, wolf number eight. According to the ranger Rick McIntyre, eight had been the **runt** of his family, and his bigger brothers bullied him.

AUSTIN So the bullied little brother ends up raising someone else's kids. Okay, Mr. Delgado, that's where I'd cry.

OLIVIA McIntyre wrote a whole book about him. At one point, he went out to watch the wolves six thousand, one hundred and seventy-five days in a row.

AUSTIN In a row?

OLIVIA From 2000 to 2015.

AUSTIN My longest **streak** is three days at the gym.

OLIVIA Three?

AUSTIN Two and a half. On the third day I sat in the parking lot.

OLIVIA Okay, a question for everyone listening: if you'd been a rancher near Red Lodge in 1995, would you have welcomed the wolves? Tell us in the comments.

AUSTIN And be nice to the ranchers, because they had a point. Now I'm taking over, because I know the next part by heart.

OLIVIA Go on, then. Tell me the video.

AUSTIN It started with a TED talk in 2013 by a British writer, George Monbiot. A year later, a group called Sustainable Human put his voice over nature footage, and that four-minute video went everywhere.

OLIVIA And the chain goes how?

AUSTIN Step one, the wolves kill some elk, but the bigger change is supposed to come from fear. The elk start avoiding the valleys and riverbanks, where they could be trapped. So the willows and aspens finally grow, and then the beavers come back...

OLIVIA ...because beavers need willows.

AUSTIN For food and for building, yes. Their dams slow the water down, the riverbanks get stronger, and in the end the rivers change their course.

OLIVIA That's a really good summary, Austin.

AUSTIN Thank you. I had a good teacher.

OLIVIA Who played it twice.

AUSTIN Who played it twice. Now tell me which part is wrong, because you're obviously dying to.

OLIVIA Some of it is right, because the elk numbers really did fall. By 2013, the count on the northern range was down to about three thousand nine hundred.

AUSTIN From nineteen thousand? There you go, the wolves...

OLIVIA ...did part of it. Grizzlies and cougars were eating elk too, and there was a long **drought** in the early 2000s. Hunters just outside the park were also taking elk, so it's still hard to say how much was the wolves.

AUSTIN Okay, but the fear part has to be true. The elk stay away from the rivers because they're scared.

OLIVIA This is my favorite study, actually. In 2018, a team led by Michel Kohl looked again at GPS data from twenty-seven elk with collars.

AUSTIN And the elk were terrified.

OLIVIA The elk were organized. Wolves in Yellowstone hunt mostly at dawn and at dusk. So the elk avoided the risky places while wolves were active, and went back at night, when the wolves were resting.

AUSTIN So the elk checked the wolf schedule.

OLIVIA Basically. Kohl's line was that the wolf is not a round-the-clock **threat** to elk.

AUSTIN That's annoying. It's also really clever of the elk.

OLIVIA And in 2010, another team tested the aspen part directly. They compared places where elk faced a high risk of wolves with places where the risk was low.

AUSTIN And the high-risk places had more trees.

OLIVIA No difference. The elk ate young aspens just as much in the scary places, and the aspen stands weren't **recovering**.

AUSTIN Then where did all the photos of tall young trees come from?

OLIVIA That's the sneaky part. In 2022, a team led by researchers at Utah State University checked how earlier studies chose which plants to measure. Many of them measured only the tallest young aspens in each group.

AUSTIN Which sounds reasonable.

OLIVIA It's reasonable if you only want to know whether any of them can escape the elk. But for the whole forest, it makes things look far better than they are. They estimated it **overstated** the recovery by about four to seven times.

AUSTIN I'm officially worried for Mr. Delgado.

OLIVIA And we haven't even reached the fake beaver dams.

AUSTIN Finally!

OLIVIA In 2001, two researchers from Colorado State University, Tom Hobbs and David Cooper, started an experiment on the northern range. They fenced off eight **plots** along small streams, so no elk could...

AUSTIN ...so, a wolf made of fence.

OLIVIA The perfect wolf. It never sleeps. And in some places, with and without fences, they built small dams that hold back water the way beavers do.

AUSTIN So, four kinds of plots. Fence, dam, both, or nothing.

OLIVIA You've done this before.

AUSTIN Seventh grade, Mr. Delgado. We grew beans in four different cups.

OLIVIA Well, Hobbs and Cooper grew willows in four different cups for twenty years. Where they had a fence and a dam together, the willows shot up several meters.

AUSTIN And with only the fence?

OLIVIA Much less than they expected. Even with no elk at all, the willows stayed fairly small, because they didn't have enough water.

AUSTIN Wait, how can a tree next to a river not have enough...

OLIVIA ...because the river had moved down. When the beavers disappeared in the twentieth century, nothing held the water back. The streams cut deeper into the ground, and the water table dropped with them.

AUSTIN So the roots can't reach the water.

OLIVIA Exactly. Cooper calls it the elk grassland state. No beavers means no tall willows, and no tall willows means no beavers, so the system gets stuck.

AUSTIN But the beavers did come back. That part I'm sure...

OLIVIA ...they did, yes. The park counted forty-nine beaver colonies in 1996, and by 2024 there were a hundred and twenty-one.

AUSTIN Ha! So the wolves brought back the beavers.

OLIVIA People brought back quite a few of them. Between 1986 and 1999, the Forest Service released a hundred and twenty-nine beavers into rivers just north of the park.

AUSTIN You're kidding.

OLIVIA Some of them may well have **spread** into Yellowstone. So when you see a beaver there today, you can't easily tell whether to thank a wolf or a truck.

AUSTIN Okay, I've got one for you, and you're going to hate it. Bison.

OLIVIA Bison?

AUSTIN While the elk on the northern range were going down, the bison there were going way up. And bison eat willows too.

OLIVIA Okay, that's a fair point, and Cooper said the same thing. Even with plenty of predators around, his plants were still being eaten by elk and by bison.

AUSTIN There's a study from the Lamar Valley, too. In the summer of 2010, about eighty-four percent of the young willows there had been bitten, and the researchers blamed the bison.

OLIVIA Since when do you read willow studies?

AUSTIN Since you said this episode would ruin my childhood.

OLIVIA So, fewer elk, more bison, and the willows still get eaten.

AUSTIN Okay, so is anyone still on my side?

OLIVIA Oh, yes. That's the hard part to explain, because serious scientists are still arguing about this. William Ripple and Robert Beschta, from Oregon State University, have argued for twenty years that wolves started a strong **chain reaction**.

AUSTIN Thank you. Team Mr. Delgado.

OLIVIA In 2025, Ripple's team published a paper about willows along the streams. They said that between 2001 and 2020, their average size went up by about fifteen hundred percent.

AUSTIN Fifteen hundred percent!

OLIVIA But a few months later, Daniel MacNulty and David Cooper wrote a reply. They said the size had been calculated from the height, and then predicted with the height again.

AUSTIN Wait, slow down. They measured how tall the willow is...

OLIVIA ...turned that height into a size, then used the same height to predict the size.

AUSTIN So it goes in a circle.

OLIVIA That's their argument. Ripple's group has since replied, and they corrected their aspen calculation, but they still call it a strong effect. So honestly, the fight isn't over.

AUSTIN Fine. So what can we actually give the wolves **credit** for? I refuse to leave with nothing.

OLIVIA Quite a lot. They eat elk, obviously. In 2024 the wolf team recorded two hundred and eleven kills, and about sixty percent were elk.

AUSTIN And the rest?

OLIVIA A lot of bison, which surprised me, and every kill feeds the neighbors too. One study counted more than a dozen species eating from wolf kills, including ravens, eagles, coyotes and both kinds of bear.

AUSTIN So the wolves run a free restaurant.

OLIVIA With a terrible waiter. A 2022 study paid for by local businesses says wolf tourism brings nearby towns at least eighty-two million dollars a year.

AUSTIN That's a lot of binoculars.

OLIVIA I was one of those tourists once. I stood in the Lamar Valley at five in the morning, staring at a gray dot through a stranger's telescope.

AUSTIN Was it a wolf?

OLIVIA The stranger said it was. I decided to believe him.

AUSTIN Very scientific.

OLIVIA I only measured the tallest dot.

AUSTIN So how many wolves are there now?

OLIVIA It goes up and down. At the end of 2024 there were a hundred and eight wolves, and a year later there were eighty-four.

AUSTIN And the elk?

OLIVIA The northern herd count in April 2025 was about seven thousand two hundred, the highest since 2018.

AUSTIN So the wolves are still there, the elk are still there, the bison are eating the willows…

OLIVIA …and the rivers mostly haven't changed course.

AUSTIN Okay. So the video is a nice story, and the real one is messier.

OLIVIA Messier, and I like it more. The wolves did their part. They just can't fix a century of damage alone, because once the beavers are gone, the water has to come back too.

AUSTIN So, our question for everyone: should a short video **simplify** the science if it makes millions of kids care about wolves? Tell us in the comments.

OLIVIA And the free PDF with the full transcript and the key words is linked in the description, with every number we mentioned.

AUSTIN And subscribe, because next at this level, we've got the petition that helped the women of New Zealand win the vote.

OLIVIA Bye, everyone!

AUSTIN Bye! And Mr. Delgado, if you're listening, I need a third viewing, with corrections.

OLIVIA Tell him to build a fake beaver dam first.

Did you understand?

Choose the correct answer.

1. Why were there no wolves in Yellowstone for almost seventy years?

- ◯ A disease killed them in the 1920s.
- ◯ The park ran a program to kill predators between 1914 and 1926.
- ◯ They moved north to Canada when the elk disappeared.

2. Why did the first wolves wait for hours in their crates on 12 January 1995?

- ◯ The Wyoming Farm Bureau was trying to stop the release in court.
- ◯ The snow was too deep for the trucks to reach the pens.
- ◯ Bruce Babbitt arrived late to carry the first crate.

3. What did Michel Kohl's 2018 study of elk with GPS collars show?

- ◯ The elk stayed away from the rivers day and night.
- ◯ The elk didn't react to wolves at all.
- ◯ The elk avoided risky places while wolves were active and went back at night.

4. In Hobbs and Cooper's experiment, what happened to willows with a fence and no dam?

- ◯ They stayed fairly small, because they didn't have enough water.
- ◯ They grew several meters, just like the plots with a dam.
- ◯ Beavers came and cut them down.

5. What did MacNulty and Cooper criticise in the 2025 paper by Ripple's team?

- ◯ It only counted willows inside the fences.
- ◯ It used height to calculate size and then used the same height to predict that size.
- ◯ It ignored the beavers released by the Forest Service.

Exercise 1. Two truths and a lie

Each group has two true sentences about the episode and one lie. Find the lie.

1.

- ☐ The ranchers' lawyers kept the wolves waiting in their pens for a whole month.
- ☐ The park's old program against predators killed about eighty wolf pups.
- ☐ In late March 1995, fourteen wolves were released into Yellowstone.

2.

- ☐ A jury convicted the man who shot wolf number ten.
- ☐ Wolf number eight was the runt of his family.
- ☐ Rick McIntyre's longest streak of wolf watching was three days in a row.

3.

- [ ] A long drought in the early 2000s may also have pushed elk numbers down.
- [ ] Kohl's study showed that wolves are a threat to elk at every hour of the day.
- [ ] Some earlier studies overstated the aspen recovery because they measured only the tallest young trees.

4.

- [ ] Hobbs and Cooper put fences around eight plots along small streams.
- [ ] Beavers released north of the park may have spread into Yellowstone.
- [ ] Today, scientists agree that the wolves deserve all the credit for the tall willows.

Exercise 2. Word partners

Match each key word with the word or words it often goes with. Two key words don't fit anywhere.

1. a winning _____
2. a severe _____
3. a round-the-clock _____
4. to make a full _____
5. to give someone _____
6. to start a _____

a) chain reaction
b) credit
c) drought
d) plot
e) recovery
f) runt
g) streak
h) threat

Use one pair in a sentence about your own life.

Exercise 3. Your turn

Should a short video simplify the science if it makes millions of people care about nature? Write four or five sentences. Use at least three words from the list.

Answer key

Check your answers after you finish the activities.

Did you understand?

1. The park ran a program to kill predators between 1914 and 1926.
2. The Wyoming Farm Bureau was trying to stop the release in court.
3. The elk avoided risky places while wolves were active and went back at night.
4. They stayed fairly small, because they didn't have enough water.
5. It used height to calculate size and then used the same height to predict that size.

Exercise 1. Two truths and a lie

1. The ranchers' lawyers kept the wolves waiting in their pens for a whole month. The wolves waited for several hours while the lawyers argued. They then stayed in the pens for about ten weeks so they would settle in.
2. Rick McIntyre's longest streak of wolf watching was three days in a row. Three days is Austin's gym streak. McIntyre watched wolves 6,175 days in a row.
3. Kohl's study showed that wolves are a threat to elk at every hour of the day. Wolves hunt mostly at dawn and at dusk. The elk went back to the risky places at night, while the wolves were resting.
4. Today, scientists agree that the wolves deserve all the credit for the tall willows. Scientists are still arguing. Bison, the missing beavers and the low water table all play a part.

Exercise 2. Word partners

1. a winning streak
2. a severe drought
3. a round-the-clock threat
4. to make a full recovery
5. to give someone credit
6. to start a chain reaction

I broke my ankle skiing last winter, but I made a full recovery and I'm back on the slopes.

Exercise 3. Example answer

I think a video can simplify the science, but it shouldn't overstate what we know. The wolf video made a whole generation care about predators, and that deserves some credit. The problem is that viewers remember the neat chain reaction and forget the drought, the bison and the beavers. A better video would end with one honest line: scientists are still arguing.