

COMPLIMENTARY

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CRMS STUDENTS DIVE INTO THE LIFE OF AN OSPREY

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Cover photo by Peter Batty

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THE RETURN OF OSPREYS TO THE ROARING FORK VALLEY

Written by Colorado Rocky Mountain Students, Max Seitel, George Soukup, and McGregor Neimann

Let's start with a little bit of imagination. Imagine that you're in our local Crystal River - you're a brown trout, swimming in an eddy. You know that you can outswim almost any creature you see, you're the fastest thing in the river. A fly hits the water - you quickly snatch it up—another one, right into your mouth. But then you feel a large shadow quickly pass you. It passes again, clearly coming from high in the air. After that - nothing. The shadow disappears as if it were never there. And then - WOOSH! Razor-sharp talons are digging into your flesh. You're gasping in the air as massive wings lift you high above the safety of the river. You, the fastest fish in the river, have become prey to an Osprey.

This extraordinary attack was no easy feat, however. Ospreys have taken millions of years of evolution to gain the adaptations necessary to catch fish.

Ospreys are hawks, and they are closely related to eagles and kites as well. All of these birds have some common adaptations for hunting. They have long wingspans, allowing them to soar high in the air. Also, they have incredible eyesight so that they can see small animals in detail from hundreds of yards away.

Ospreys also have some specific adaptations that make them unique. While eagles fish, Ospreys are the only hawk that fish. They have thick, oily plumage, so their feathers don't get waterlogged. Along with razor-sharp claws, Ospreys have an opposable talon, allowing them to grasp fish firmly. They also have protective membranes on their eyes and nostrils so they can dive underwater.

Ospreys have evolved some behavioral adaptations as well. For example, Ospreys born right here in Carbondale naturally know to travel to Central and South America for the winter months, and every year, they can find their way back. Osprey expert Alan Poole from the Cornell Ornithology Lab explained during an interview, "The ability to navigate long distances, and to do this alone in the first year of their lives, with no instruction from their parents, is a pretty amazing adaptation. It means they could raise their young in the Colorado summer and spend the winter in Mexico, Central America, and northern South America."

Ospreys first evolved in North America, but have since taken up residence in every continent in the world except



Photo by Peter Batty



Photo by Peter Batty

Antarctica. In the Americas, Osprey often breed in the northern United States and Canada, and they spend the non-breeding season in Central and northern South America. There are also some populations in the southern U.S. and Central America that stay there year-round. However, Ospreys have only recently regained that range, because in the late 20th the chemical DDT caused a major threat to their population.

DDT is a harmful pesticide that ruins ecosystems and kills birds. Dichlorodiphenyltrichloroethane, commonly known as DDT, is a pesticide first invented in 1874 to treat malaria and other insect-borne diseases. Later it was discovered to work as an easily manufacturable pesticide. DDT became popularized as a pesticide in the early 1900s.

Ospreys have been especially affected by this harmful chemical. When consumed, DDT interferes with the Osprey's ability to produce enough calcium to lay a strong egg. If their egg isn't strong enough, then it will break from the weight of the Osprey trying to incubate it. The runoff from farms containing DDT would contaminate the water that the fish were living in. This caused the fish to be regularly exposed to the potent chemical, and it would spread to the birds eating the fish. From the 1940s to 1972 this became a terrible reality for Osprey as their population numbers plummeted toward extinction. Luckily, in 1972 DDT was banned in the US for the protection of these amazing birds of prey. Since then, Osprey populations have slowly started to recover. However, several countries in South America still use this harmful chemical, which continues to affect Ospreys and birds of prey to this day.

THE CRMS OSPREY STORY

Imagine you are walking along the river, hopping from stone to stone, and you look up and see a massive 200-pound nest that's larger than you. This is the kind of nest Ospreys create after returning to the same nesting sites year after year. The nests start tiny, but with time, the Ospreys remodel with materials such as sticks and bark to make themselves a home for the rest of their lives. Unfortunately, this instinct can end very poorly for Ospreys if they end up nesting on top of power lines and other dangerous human-made objects. This is what happened in October 2016 when Steve Hunter came to CRMS with concerns about an Osprey couple attempting to build a nest on an 80 foot-tall XCEL power pole along highway 133 in Carbondale. This spot made the Osprey's nest especially susceptible to wind, which ended up blowing it off the pole and onto Highway 133 twice.

In response to this problem, CRMS students took the initiative to create a suitable environment for the birds. With the problem identified, the students started to meticulously plan out what they had to do. First, they reached out to national and local experts, Alan Poole and Mary Harris, and Dee Malone, to learn about Osprey biology. After lots of research and discussion, the team of students decided to create one large pole with a nesting platform attached to it, as well as a camera for



Photos provided by CRMS



Photo by Peter Batty

the community to watch the Osprey. This pole would be placed next to the Crystal River just below CRMS's Tick Ridge. This would allow the birds to have easy access to fish from the river below. After deciding on this placement, the students reached out to XCEL Energy, Alpine Bank, and Pitkin County Healthy Rivers to help fund the project. XCEL agreed to supply the poles and hardware and install the platform for the Osprey. A group of students submitted grants to Alpine Bank and Pitkin County Healthy Rivers who then provided funding to purchase and install the Osprey Cam.

After all of this work, the students were left with a huge platform for the Ospreys, a camera watching the platform, but no Ospreys. After waiting, day after day, the students saw nothing until two weeks and one day after the platform had been completed. Kayo Ogilby, the science teacher at CRMS saw a pair of Ospreys flying over the platform. He rushed inside and grabbed the students to show them that the Ospreys had found their home. Since that day, you can still observe the Osprey on the camera (between late March and September) if you visit the CRMS website (or go directly to www.crms.org/academics/osprey-camera/).

Since then, the same breeding pair has come back every year for the past 4 years, and 12 chicks have been born. Even though three of them have died, CRMS's efforts have really paid off. Now the town of Carbondale can view these amazing birds of prey right in their backyard, and CRMS students now have the chance to see and learn about Osprey up close.

While the United States has banned DDT, and CRMS has teamed up with the Carbondale community to help local Osprey, there is still more to be done. For example, while migrating to South America, Ospreys will stop at small fish farms to feed, but because the owners don't want to lose their fish, they'll shoot the Ospreys. Osprey expert Alan Poole even said, "Fish farms are a big problem. The estimate is that fish farms in Central and South America are killing 10,000-15,000 Osprey a year." There are also local issues as well. Here at CRMS, we have already seen two Osprey die from getting tangled in bailing twine, which the birds love to bring to their nest, so we have started cleaning up bailing twine from our ranch on campus and encourage other local ranchers to do the same. Only with your help can we ensure the long term safety of Ospreys, like the one we just met in the river, so they can live on to inspire future generations.



ABOUT THE AUTHORS:

Max Seitel is 14 years old, recently moved to Glenwood Springs from New York City, and is a freshman at CRMS. In New York, he went to parks and ponds to watch the birds, turtles, and squirrels. This sparked an interest in animals and their evolutionary history. In his spare time, Max plays guitar, reads comic books, and mountain bikes throughout the Roaring Fork Valley.

George Soukup is from Carbondale Colorado. He is a passionate outdoorsman, big mountain skier, and mountain biker. He is also passionate about photography and has had a macro-photography showing at the Village Smithy. In addition to these pursuits, he strives every day to make the world a better place.

McGregor Neimann is a freshman at CRMS from Minneapolis, Minnesota. He loves the outdoors and ever since he was little he has been fascinated with birds of prey. Getting to write an article on Ospreys was super interesting and it was amazing getting to specifically learn about Ospreys in the Roaring Fork Valley.

ABOUT THE PHOTOGRAPHER

Bio: Peter Batty is a Denver based photographer, originally from the UK. He feels fortunate both to live in the beautiful state of Colorado, and to be able to travel the world extensively, having visited 39 countries on 6 continents so far. He enjoys capturing the beauty of the world around him with his photography, and focuses in particular on landscape, wildlife and cityscapes. He likes trying to combine genres, especially landscape and wildlife to create "animalscapes." He also strives to constantly learn new things to help his work, both artistically and technically. As a technologist in his day job, he enjoys working out how to apply new technology developments to create better images. He has completed workshops with a number of accomplished photographers, including John Fielder, Elia Locardi, Trey Ratcliff, Rob Palmer and Steve Mattheis.

Exhibitions and awards: Peter has had works selected for display in a number of juried exhibitions, including the Lone Tree "Exploring the Light" exhibition in 2017 and 2019, the Littleton Museum Annual Photography Museum in 2017, and the Front Range Wildlife Photographers exhibition at Denver Library in 2017. In 2019 his image "Aspen leaves after a storm" won first place in the landscape category in the Lone Tree "Exploring the Light" exhibition.

In the 2018 "Share the View" international contest run by Denver Audubon Society, he had one image in the top 250 and 11 semi-finalist images, and he was one of ten Colorado photographers invited to do a presentation at their annual gala event in 2019. In 2020 he was selected from hundreds of applicants to present a two month individual exhibition (together with his friend Fernando Boza) at the National Center for Atmospheric Research (NCAR) Mesa Lab in Boulder, as part of their Community Art Program.

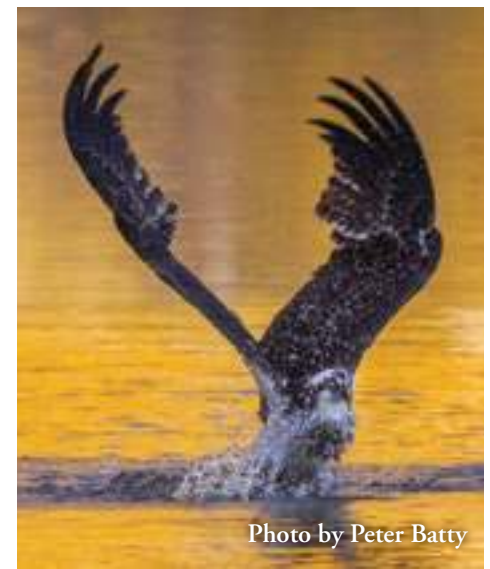






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