



BY SARAH CAIN

**An adult female American kestrel with a lightweight GPS transmitter attached at Bruce Jones' property near Washington last year.**

# KEEPING UP WITH KESTRELS

'First-of-its-kind' falcon tracking program took flight in Rappahannock

BY BOB HURLEY *For Foothills Forum*

**I**t is fast, fierce and flashy, with a plumage of oranges and slate blues for males; reddish-brown hues for females. Chances are you have seen one perched on a fence post or power line, surveying open fields for a meal. About the size of a mourning dove, it hovers like a helicopter before it swoops to catch a small rodent or insect.

It is the American Kestrel, the smallest falcon in North America.

But despite common sightings in a range that covers much of North and South America, the species is in decline. According to the North American Breeding Bird Survey,

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## KESTRELS

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between 1966 and 2019, the kestrel population declined by about 50% across its range. Kestrels are listed as an endangered or threatened species in four northeastern states and as a “species of concern” in 21 others. Scientists can’t pinpoint the cause.

Now kestrel enthusiasts around the country are stepping up to help solve the mystery in a “first-of-its-kind” tracking project, including a group of scientific professionals and citizen volunteers in Rappahannock and Fauquier counties.

### WHY THE KESTREL?

Bert Harris, co-executive director of the Clifton Institute in Warrenton, explained: “We got the idea to track kestrels from Roger Jones in Rappahannock, who was involved with studying kestrels and other raptors for many years.”

Jones, who was killed in a tragic farming accident two years ago, had been erecting kestrel boxes and banding the birds for decades.

As far back as the mid-1970s, Jones, who had a banding permit from the U.S. Fish and Wildlife Service, began erecting kestrel boxes in the open



**The late Roger Jones, a Rappahannock resident who was involved with studying kestrels and other raptors for years.**

fields at Dulles International Airport. The population increased as the boxes provided effective nesting substitutes for the trees that were cut down to make way for runways.

Later he started publishing a newsletter, “Kestrel Karetakers,” which contained information about the raptors and how readers could erect nesting boxes on their property.

“It was a bit of an obsession with

him,” said Roger’s brother Bruce Jones, a self-described naturalist, who maintains his own sprawling nature preserve off Long Mountain Road, 10 minutes outside the Town of Washington. “Roger started putting up boxes all over Rappahannock about 25 years ago. Over the years, he regularly reached out to all the key local conservationists who had an interest in raptors. That provided the spark for

the kestrel project.”

Roger’s geographic interest in kestrels wasn’t limited to Rappahannock. He started a kestrel project near Truman, Minnesota, where he grew up. He owned a ranch near Choteau, Montana, west of Great Falls and started a project there. He even got TV personality David Letterman, who had a ranch nearby, to put up a kestrel box.

After his brother Bruce had converted cow pastures on his farm to open, uncut wildflower and native grass meadows, Roger noticed the kestrels stopped using the fields. “That sparked my interest in the tracking program to see whether kestrels tended to prefer cow pastures, cut hay fields, and other low-growing grasses where it may be easier for them to hunt,” said Harris.

Harris set out to find a “balance” between a key mission of the institute — restoring fields to native meadows in northern Virginia’s Piedmont — and supporting bird species like kestrels that need shorter grasses to forage for their prey. With the help of Joe Kolowski, a scientist at the Smithsonian Conservation Biology Institute (SCBI) in Front Royal, and volunteer ecologist Alan Williams, the local kestrel research project was launched in 2020. ➔

# KEEPING UP WITH KESTRELS



PHOTOS BY LUKE CHRISTOPHER FOR Foothills FORM

➔ Although kestrels generally nest in tree cavities, they also are attracted to nest boxes. The research group has been working with local landowners to erect and monitor more than 200 kestrel nesting boxes in Rappahannock and Fauquier counties, with about half of the boxes in each county.

## “FIRST-OF-ITS-KIND”

In addition to monitoring nest activity — some boxes are outfitted with tiny video cameras — the project staffers track the kestrel’s movements.

“This is a first-of-its-kind project in the nation,” said Kolowski. “We employ cutting-edge technology to track these birds using tiny ‘backpack’ transmitters which are harnessed under the kestrel’s wings. It gives us precise data on the distances the birds fly to find food, as well as the types of fields they prefer to hunt in.”

To date Kolowski, Williams, Harris and a small group of interns at the institute have outfitted 27 adults with the backpack devices, and 20 fledglings with smaller tracking units. They give the birds names like “Buttercup” and “Pongo.”

“We have been able to collect 30,000 tracking locations of kestrel movements over the past year,” said Kolowski. “Initial findings show that

females hunt in smaller home range territories, averaging about 78 acres. Males, that also feed the females and the nestlings and fledglings, forage up to six miles away to find food.”

Female kestrels typically lay five eggs. The fledglings leave the nest four weeks after hatching. “Tracking these young kestrels is important. If the population is in slow decline, we want to know how many of the young survive,” said Kolowski. “Are they eaten by predators? Can they find enough food and suitable habitat? Are they hit by road vehicles? Do they migrate south? We are trying to find out the answers to these questions.”

Kolowski said kestrels usually migrate south during the fall and winter months, but many remain for those seasons in more temperate climates like Virginia’s. “If they decide to stay in the area, is there enough habitat to support the new population?” He asked. “We just don’t know yet.”

When he’s not at his full-time job at Shenandoah National Park where he works as a specialist managing and mapping fish, wildlife and other ecological resources, Williams is out in the field installing kestrel boxes and monitoring nest activity in Rappahannock and Fauquier. Separately, he maintains dozens of other boxes in Page, Warren and



Above left: Project Co-Principal Investigator Alan Williams maintains a kestrel and barn owl box on Lyle Alexander’s silo in Woodville, with the help of Dick Raines (walking, center). Above: Megan McDaniels assists Caylen Wolfer with the GPS tracking box for the adult kestrels at the Clifton Institute near Warrenton.

Shenandoah counties that are not part of the tracking program.

Like Bert Harris, Williams was inspired by Roger Jones. “About eight years ago I started helping Roger with his kestrel boxes,” Williams said. “He was my catalyst for getting involved with kestrels.”

“Kestrels respond to boxes, especially in open areas where snags and old trees that contained nesting cavities have been removed,” Williams said. “The population decline here is not as bad as it is in the northeast part of the country, so putting up boxes in suitable low grassland areas can help slow or even reverse the decline until we can identify the causes.”

“These raptors are easy to band, have showy plumage and are easy to spot,” he explained. “They’re a really cool bird to watch and we find people excited about putting up boxes, much like the interest folks had in bluebird boxes when their population was in decline many years ago.”

## TRADE-OFFS

Bruce and Susan Jones started as weekenders in Rappahannock in 1983. Purchasing a 75-acre parcel, they constructed two ponds, and built a log home. Since they became full-time residents in 1998, their nature preserve

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BY JOE KOLOWSKI

**Alan Williams examines the keel of a week-old American kestrel chick to assess its body condition. Chick growth was measured multiple times during the nestling stage to understand how differences in surrounding habitat and toxin exposure may affect their health and development. Below right: An adult male American kestrel in the process of receiving a GPS transmitter.**

➔ *Continued from previous page*

has grown to about 175 acres with gardens, native plants and grasses. About 20 years ago Jones decided to remove cattle from his farm and let his fields grow wild.

“We put in a mix of native grasses and plants to attract a wide variety of wildlife, and bush-hogged only in small, discreet areas,” he said. “In the process we lost a lot of our kestrels. It was an unintended consequence, but we learned kestrels prefer open fields. My brother Roger used to say, tongue-in-cheek, ‘kestrels love golf courses.’”

Bruce Jones has nine kestrel boxes on this property and last year only one box was occupied. Before he let the pasture grow, most of the boxes were used. About six years ago, he counted 26 fledglings.

“You can’t be all things to all people” he said. “That’s the trade-off with changing habitats. I have fewer kestrels but more yellow birds, chats, field sparrows and indigo buntings than most anyone because they love briars.”

## WORKING LANDSCAPES

Restoring fields to native grasses has become a growing movement among conservationists. Groups including the Piedmont Environmental Council, American Farmland Trust, Quail Forever and the SCBI-supported Virginia Working Landscapes (VWL) collaborate to promote grassland bird conservation.

Amy Johnson, VWL’s biologist and program director, said: “Our mission is to work with landowners in a 16-county region in Virginia’s northern Piedmont area, to promote

conservation of biological diversity and sustainable land management.

“Every year we recruit new landowners into our research program, to look at how different types of fields impact grassland wildlife species.”

VWL works with farmers to promote the conversion of fields to warm-season native grasses, but Johnson is also finding that the kestrel and other species — including bobolinks, meadowlarks and grasshopper sparrows — adapt quite well to the cooler season, non-native grasses found in pastures and hay fields.

“We are finding much higher densities of these species in these agricultural fields,” Johnson said. “Since these fields are actively managed for livestock and haying during the breeding season, we hope our research leads to management recommendations that support both the agricultural producers and the birds.”

### WHAT IS FOOTHILLS FORUM?



Foothills Forum is an independent, community-supported nonprofit tackling the need for in-depth research and reporting on Rappahannock County issues. The group has an agreement with Rappahannock Media, owner of the Rappahannock News, to present this and other reporting projects.

► More at [foothills-forum.org](http://foothills-forum.org)

### What do you think?

Send feedback to [editor@rappnews.com](mailto:editor@rappnews.com)

Ultimately, Johnson believes a mosaic of different types of field habitats might be best to support a variety of wildlife. She said: “Shorter grasses where birds can forage; taller grasses where they can take cover; and leaving hedgerows, dead trees and snags for nesting and perching, this mix of habitats can maximize the diversity of species.”

## HELPING SOLVE THE MYSTERY

Dick Raines, who lives near Red Oak Mountain, has been a bird watcher since he was a kid. “My parents were birders and I picked it up from them,” he said. “I’ve always been intrigued by kestrels. When we bought our property in Rappahannock in 1982, one of the first things we did was put up a kestrel box.”

When Raines, at the time a board member of the American Bird Conservancy in The Plains, became aware that kestrels were in decline, he stepped up. He installed four additional boxes on his property and became a key supporter of the kestrel research project.

Asked why other landowners might want to participate in the research program, Raines said it was exciting to experience the kestrel’s lively behavior, and also to be part of an effort to help solve the mystery of the birds’ decline.

“We monitor our boxes regularly and report data to the research team,” he said. “One of our boxes is outfitted with a tiny video camera, so we can watch the mother kestrel raise her young.”

Raines added: “The project has over 200 nest boxes in Rappahannock and

Fauquier counties, and I hope more landowners in the area can join in this unique, groundbreaking effort. The research team has the perfect combination of skills. They are deeply committed to the project, and great to work with.”



BY MEGAN MCDANIEL

### Helping Kestrels

Want to know more about kestrels, erecting nesting boxes or sustainable land management? These folks can help:

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► **Smithsonian Conservation Biology Institute**

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► **Alan Williams**

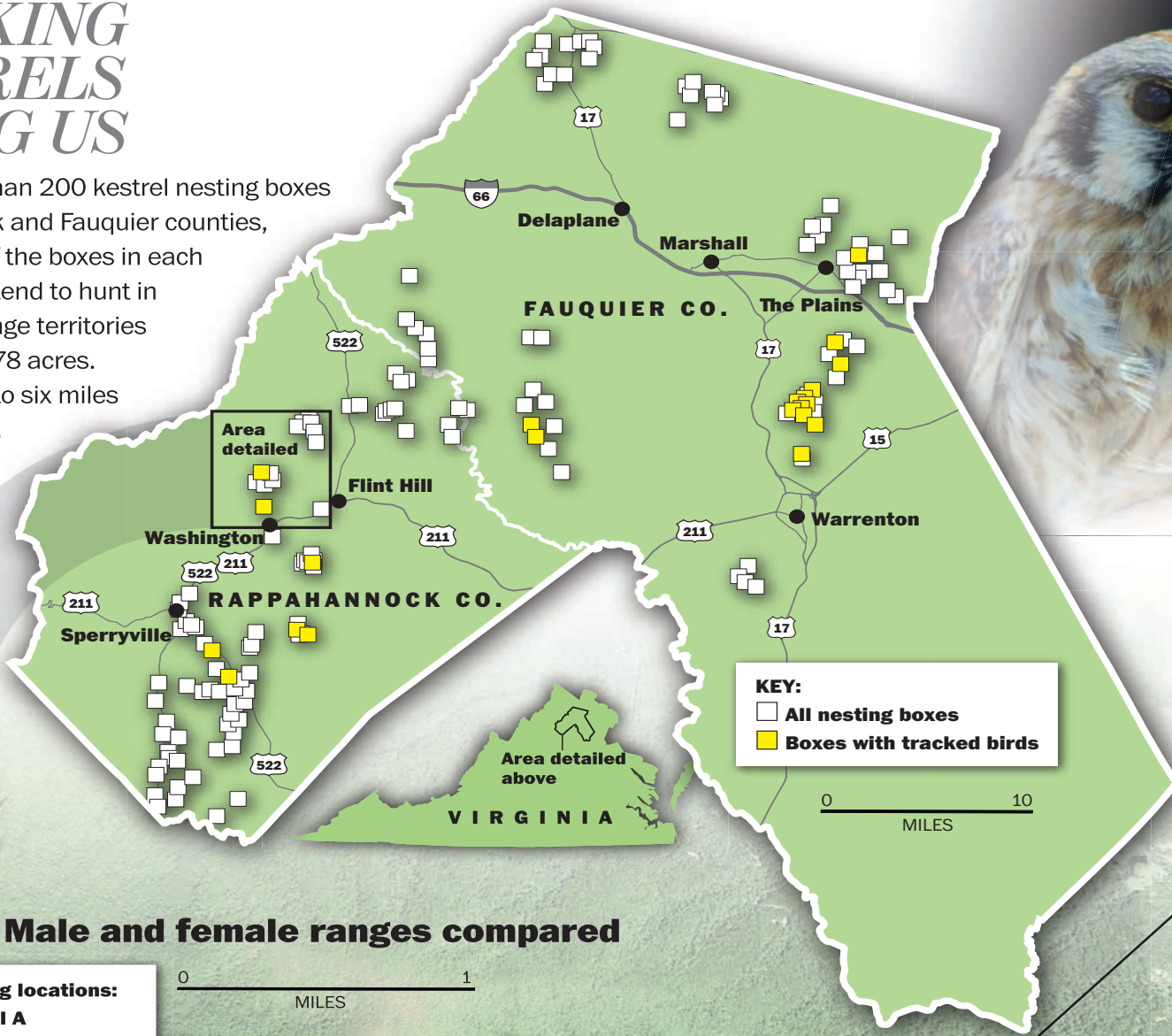
[alanwill@gmail.com](mailto:alanwill@gmail.com)  
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► **Virginia Working Landscapes**

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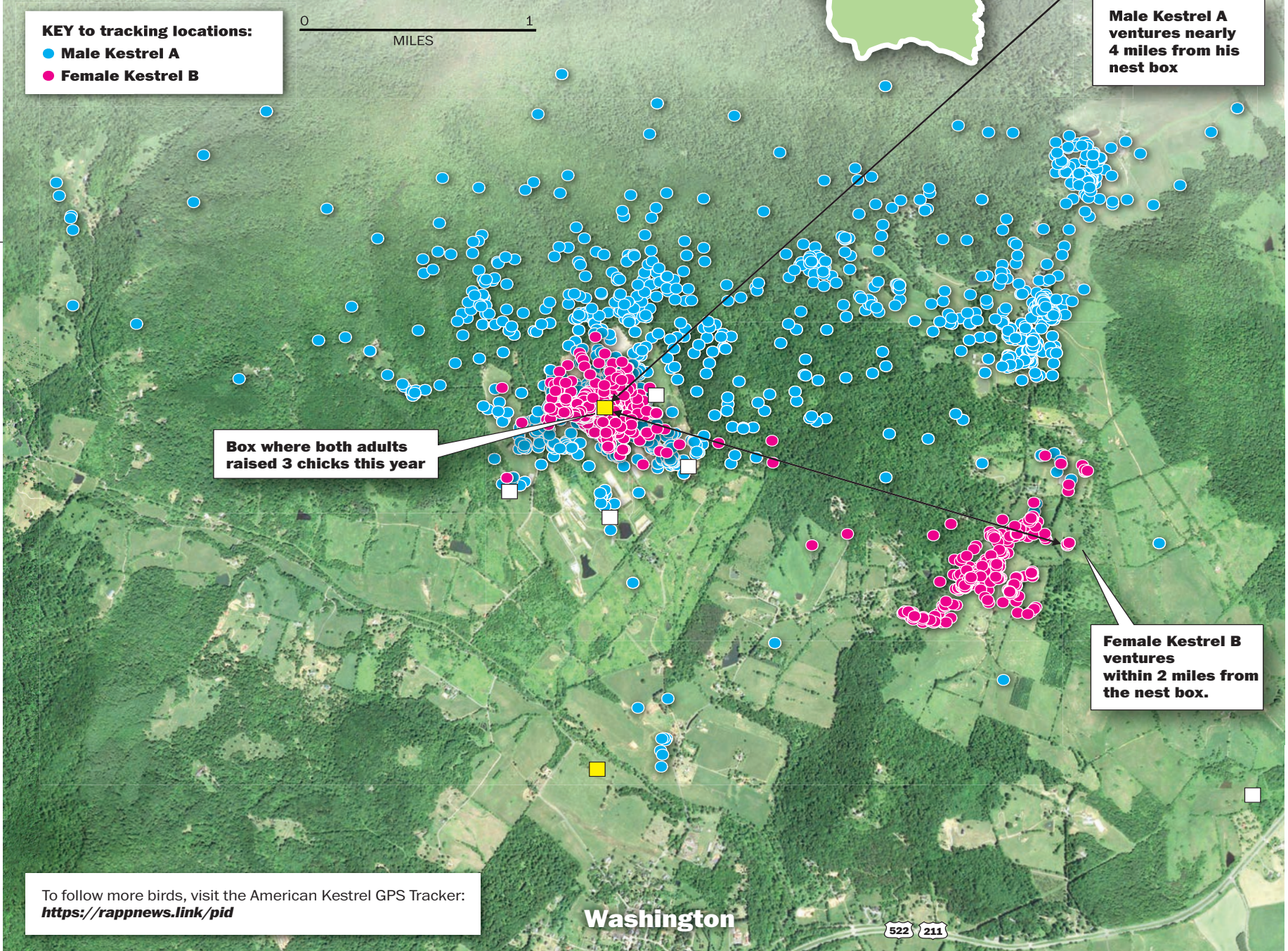
# TRACKING KESTRELS AMONG US

There are more than 200 kestrel nesting boxes in Rappahannock and Fauquier counties, with about half of the boxes in each county. Females tend to hunt in smaller home range territories averaging about 78 acres. Males forage up to six miles away to find food.



## Example: Male and female ranges compared

**KEY to tracking locations:**  
 ● Male Kestrel A  
 ● Female Kestrel B



To follow more birds, visit the American Kestrel GPS Tracker:  
<https://rappnews.link/pid>

Source: Joe Kolowski (Smithsonian-Mason School of Conservation, SCBI). Satellite image: Google Earth

By Robert Hurley and Laura Stanton for Foothills Forum