

# A Message of Life and Geology

*Dale Leckie: 2024 Geoscience  
in the Media Award winner*

By BARRY FRIEDMAN, EXPLORER Correspondent



## Best-selling author of a number

of geology books, and one of 2024's AAPG Geoscience in the Media Award winners, Dale Leckie has some advice for anyone interested in writing a book about the oil and gas industry.

Lose the name.

"I often say that putting the word 'geology' on the cover of a book for the public is much like putting the word 'astrophysics' on the cover. It scares people away," he said. "We, as geoscientists, must work to overcome that obstacle."

Along with being a geologist, Leckie is also a speaker and author of the trilogy "The Scenic Geology of Alberta," "Rocks, Ridges and Rivers," and the latest, "Wildlife, Landscapes and Geology: An Alberta and Saskatchewan Touring Guide."

### A Life-Giving Industry

For those whose task is to get the message out about the oil and gas industry, another obstacle to overcome is the baked-in perception of the audience, both in terms of the misconception of the ecological damage caused by the industry, but perhaps more importantly, the lack of knowledge about the economic benefits that are directly related

to the industry's efforts.

"I believe that the public at large does not realize the immense contribution that gas and oil still make to the economies of the United States and of Canada," said Leckie.

A former two-time AAPG Distinguished Lecturer, he noted that the United States has been the top global producer of petroleum liquids since 2013. In Canada, where he does much of his work, the effect is even more profound.

That contribution isn't just in the form of the quantity of energy production, but the effects such production has on the bottom lines of both countries.

For example, he said, "The recently commissioned Trans Mountain pipeline is responsible for our country's recent trade surplus."

The Trans Mountain Pipeline system carries crude and refined products from Edmonton, Alberta, to the coast of British Columbia.

He said these resources are driving the economies of both nations, especially as

global energy demand continues to rise and will do so into the near future.

Which brings us back to his life's work: getting the message out.

And part of that message these days is dealing with the industry's third rail – global warming.

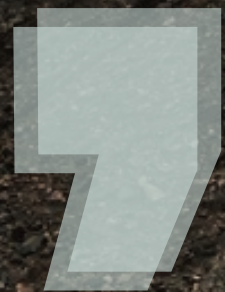
"In public lectures on my books, I am often asked to comment about climate change, or the role of the petroleum industry in contributing to climate change. I make a point of not lecturing from a pedestal. Rather, I refer to how climate has changed many times over geological time and will continue to do so," said Leckie.

The discussion of global warming cannot be had in a vacuum, he insists.

"I point out how the Canadian economy would immediately falter

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should hydrocarbon production be halted, pointing out that we would be unable to fund critical social programs such as public health care and education. It would also impair efforts in the energy transition,” he explained.

Pulling the lens back, though – and this is the message he tries to get out – is not about which side one happens to be on in the debate, but rather how one arrives at that side of the argument.

“Being scientists and engineers, industry insiders have an opportunity to present fact-based, data-driven discussions on whatever subject they have expertise,” he said.

### Geology is Life

More than just the issues of the day, Leckie, an adjunct professor at the University of Calgary at the school’s Earth, Environment and Energy Department and former president of the Society for Sedimentary Geology, as well as of the Canadian Society of Petroleum Geologists,

said the science of geology is actually the negotiation of the relationship with nature and wildlife.

It is a long-term relation: millions of years old.

“In ‘Wildlife, Landscapes and Geology: An Alberta and Saskatchewan Touring Guide,’ I discuss how geology impacts the habitat and life cycles of several wildlife species. The underlying theme of the book is that knowing a little bit of geology helps you discover wildlife and spectacular landscapes,” he explained.

A prime example of this, he said, is the golden eagle, one of the largest birds in North America. They have a two-meter wingspan and migrate thousands of kilometers each spring and fall, soaring the peaks of the eastern Rocky Mountains.

Yes, that’s in a geology book.

The Rockies themselves have their own history.

“I tell people that the Rocky Mountains are not being formed today; rather, they are being eroded and have been for the last 60 million years, leaving as a result the immense west-dipping thrust sheets that we see today,” Leckie related.

The winds, he said, act like boosters: “Prevailing westerly winds rise up the thrust sheets providing loft for the migrating golden eagles, significantly reducing their energy expenditure for their long trips,” he explained.

He speaks of wildlife with a conspicuous tenderness, explaining how, for instance, the pronghorn antelope watch for far-off predators on rolling glaciated prairies, how lake sturgeon thrive in the riffles and pools of deeply entrenched meandering rivers crossing the prairies, and how harlequin ducks and American dipper feed in mountainous rapids and waterfalls, which are actually “knickpoints” of more resistant rocks.

The former chief geologist at Nexen, a large Canadian Energy Company, Leckie said his goal in communicating the intersection between the industry and nature is straightforward.

“My goal is to get people out to explore and appreciate natural history,” he said.

His books are not written for geoscientists, but for the public at

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large. And while he wants the scientific community to enjoy them, his hope is that regular people will pick them up, read them and understand a little better about the world in which they live. To that end, he includes landscape and wildlife art so that the reader can appreciate the scenery or wildlife they are observing through the eyes of an artist.

### The Life of Leckie

His love of such geology and its interaction with nature occurred early in his life.

"I grew up living all over rural Alberta. My father was a tool push on service rigs and we moved around a lot, living in small town Alberta and Saskatchewan, wherever the local oil boom was happening," Leckie recounted.

"Growing up, the outdoors was always just an open door away. My father would take my brother and me out to the rig with him. I was climbing the derrick when I was about 10 years old. At university, my degrees were in geology and geography, which involved considerable fieldwork outdoors in spectacular places. That was followed by field work and leading industry field trips when I worked at the Geological Survey of Canada and then the oil industry," he added.

He knows that knowing and loving a subject brings you two thirds of the way to communicating the story to others.

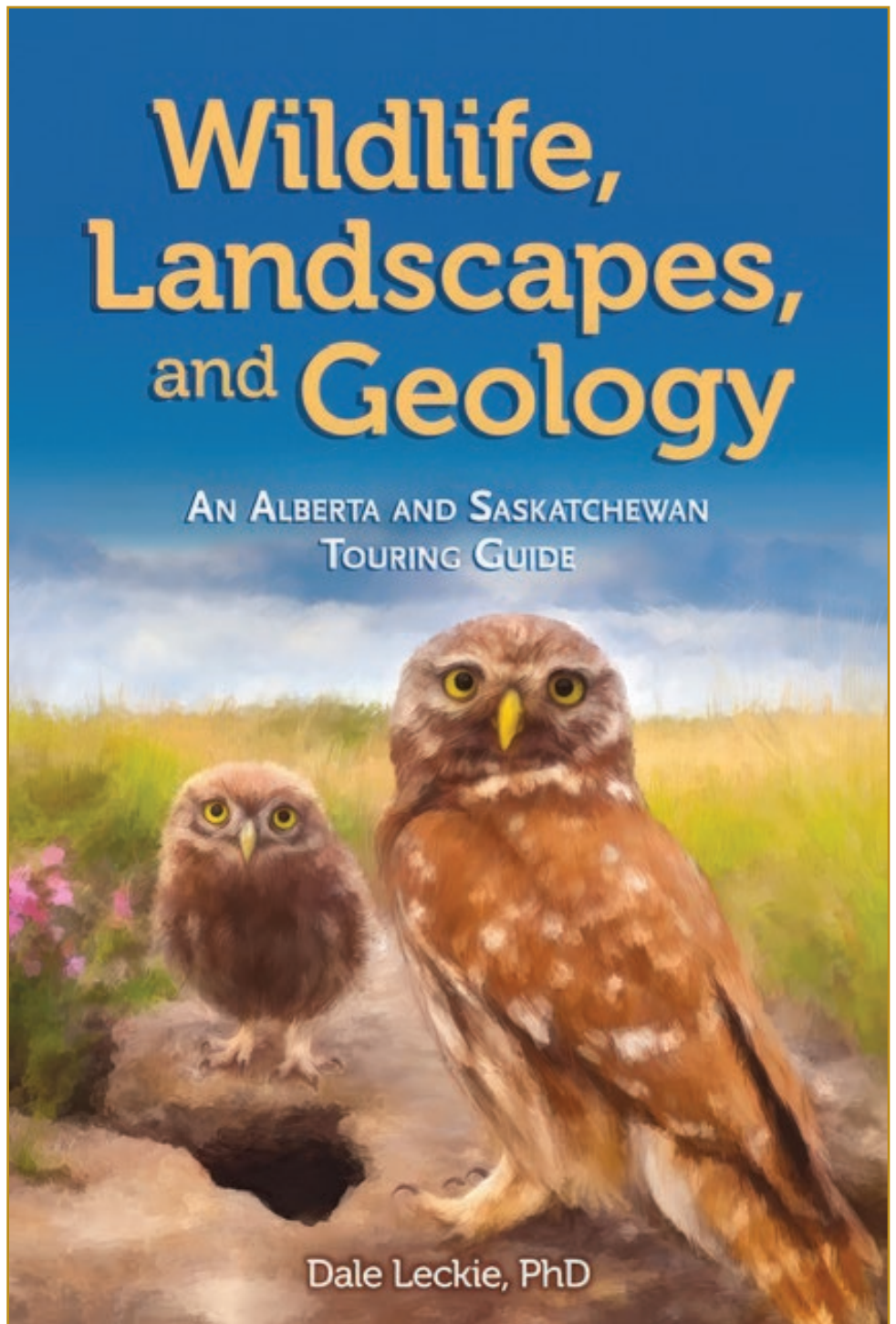
You need to know to write it.

"Dr. Roger Walker was my Ph.D. supervisor and was probably the first most influential person in my career. I learned from him not only the technical side of geology, but also how to write and do public presentations," said Leckie.

There were others along the way, particularly Lee Krystinik, David James and Ron Boyd.

"Our interests were quite similar, and I learned quite a bit from never-ending discussions with the three of them. I have jointly presented numerous talks, organized conferences and sessions and wrote papers with them," he said.

Lately, there has also been the partnership with Lori Beattie, a local Calgary author, who was his mentor in publishing for the general public.



There is someone else, too.

"My wife Marilynne. We travel a lot, collecting background for the books. She travels with me all the time appreciating spectacular landscapes formed by geological processes and encouraging me to do what I love to do," said Leckie.

Getting out the oil and gas industry message is constantly changing, he said, but that only makes sense as the relationship between oil and gas and nature


is also constantly changing.

And like any good relationship, there have to be compromises.

He doesn't doubt that both sides have been hurt.

"Of course, man's modification of landscapes has affected wildlife," he said.

But the union is a resilient one.

"Wildlife has evolved over thousands and millions of years and adapted to landscapes that they live in." 



# AAPG Explorer

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**Is 'Sustainability'  
Overdue for a  
Reboot?**

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