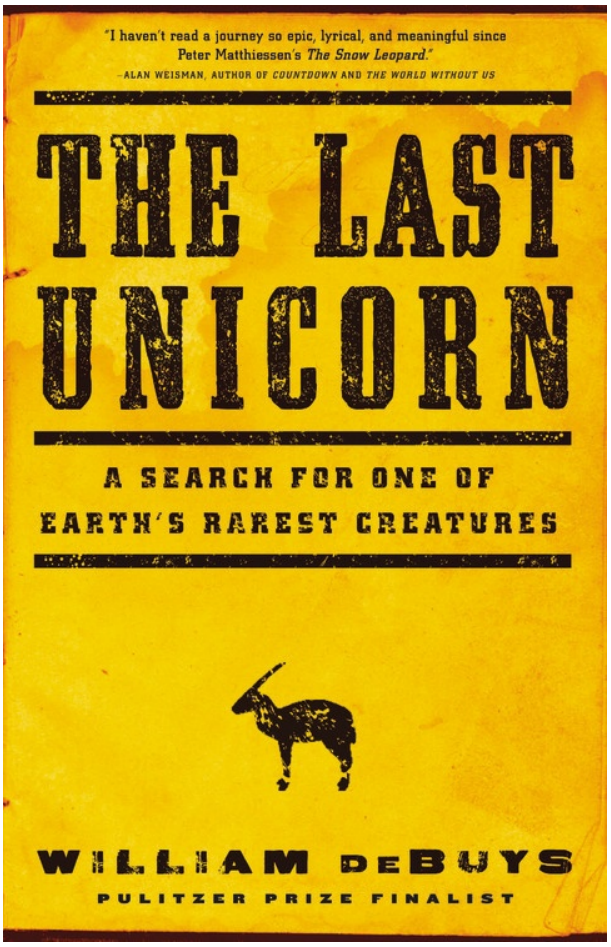

READING GROUP GUIDE

Discussion Questions for *The Last Unicorn*

1. Does the book leave you with a sense of difference between the national characters of Laos and Vietnam? Is depicting such a difference fair?

2. Does the book shed light on the legacy of the Vietnam War? Does it change your view of the war and the issues that attended it?

3. What role do you think the treatment of wildlife should play in the discourse among nations? For instance, does the United States, which has an imperfect history of conservation within its own borders, possess a legitimate interest in the preservation of biodiversity in Southeast Asia?

4. If we could have known in the early 2000s what we now know, might that knowledge have influenced the debate over whether to dam the Nam Theun River and harness its water for hydropower production? What do you think would be the outcome if the project were undertaken now?

5. William Robichaud is a central character in *The Last Unicorn*. If you could ask him one question, what would it be? Does the book enable you to know him well enough to surmise an answer?

6. The book ostensibly recounts a quest to find a certain animal, but (spoiler alert!) the animal is never found. Were you disappointed? How does the author deal with the absence of the presumably desired climax? Can you think of other ways to manage this problem?

7. To what degree did the "guides" in *The Last Unicorn* acquire individual identities in the course of the narrative? To what degree did they appear generic? Do you think the author treated them with appropriate respect and sympathy?

8. A lot of reasons can be given to justify efforts to prevent the extinction of rare animals like the saola. Which ones are most important to you? Has *The Last Unicorn* influenced any changes in your thinking?

An Update on Saola News

As of this writing (February 2015), no fully documented, new detections of saola have occurred since the taking of the camera trap photograph, on September 7, 2013, shown on page 329 of *The Last Unicorn.* This includes the results of more than 80 camera traps installed by Olay in Bolikhamxay Province, which he checks regularly. The will-o'-the-wisp that is the saola remains spectral.

Leech research, however, continues, and Robichaud is hopeful of landing grant funding that would allow thorough survey, never before achieved, by means of both camera trapping and leech collection of the best remaining saola habitat in Laos. According to a patch-by-patch analysis by Rob Timmins, that habitat is to be found in Nakai-Nam Theun National Protected Area, where *The Last Unicorn* takes place.

The WMPA, meanwhile, is an agency in transition. A more than year-long evaluation of its performance has resulted in the dismissal of the current director, who came into his position in 2012. Reforms and personnel changes are now in prospect, but only time will tell what the result will be. The quest for enforcement effectiveness also continues. In 2014, WMPA patrols collected 14,000 snares from the protected area. The number appears large, but it is no doubt small in relation to the quantity of snares still present in the forest. Much more needs to be done.

The most significant decision taken in recent years by the Saola Working Group is that *if* saola can be found in the wild and *if* a long list of other questions can be answered satisfactorily, then wild saola should be captured and removed to the safety of a breeding facility located in Laos or Vietnam and tended according to the highest standards of zoo curation. Precedent exists for this. Various forest ungulates, including okapi, are bred and raised successfully in similar settings. Such a strategy will depend on approval by the governments of both Laos and Vietnam and on the construction of a suitable facility. Robichaud has been involved in conversations toward these goals and feels that the early progress is positive.

In all likelihood, a species other than saola, on a test basis, would be the first occupant of any future facility, prior to the acquisition of saola. The large-antlered muntjac, which itself is highly threatened, is a

candidate for such a role. Indeed, the survival of the large-antlered muntjac as a species may ultimately depend on captive breeding, no less than saola, which is an additional reason for moving forward with development of a captive-breeding facility. Ultimately, the hope would be to augment wild populations with animals born and raised at the facility.

The wildlife trade, meanwhile, continues to grow. It is now considered to be a $20 billion a year global business. The Obama Administration recently announced a new initiative to combat the trade and has promised to bring various national intelligence resources to bear on the fight. Unfortunately, the administration proposes to augment the budget of the U.S. Fish and Wildlife Service, the agency primarily responsible for investigating wildlife crime, by only $8 million, a sum widely acknowledged as inadequate. The investigative and enforcement capacity of the USFWS is today about equal to what it was in the early 1970s, when illegal international trade in wildlife parts and products was an insignificant fraction of what it is now.

The urgent task before the world remains unchanged. It is to achieve durable protection of key habitats and wildlife populations long enough for generational change to take place in the world's primary market for illegal wildlife traffic, which is China and its neighbors. The necessary shift in cultural values can be made, but it will take time. Witness the recent the recent abandonment of shark fin soup by Chinese consumers. The San Francisco-based NGO WildAid reports that sales of shark fins have plummeted 82 percent in Guangzhou, the hub of the shark trade, and that two-thirds of respondents to a recent poll cited awareness campaigns as a reason for ending their shark fin consumption.

Solving this problem is not as hard as cracking the atom or bringing peace to the Middle East, but it will require large amounts of focus, funding, and resolve. It is up to citizens around the globe to convince their governments to rise to the challenge and thus preserve a major share of the Earth's imperiled beauty and diversity.

A Conversation with the Author

The saola was first described, if rudimentarily, in 1992. Why did it take more than two decades to complete the fuller assessment that you describe in *The Last Unicorn*?

Three big reasons: very few saola exist—the total population of the species numbers from perhaps only dozens to a few hundred, which means there are not many of them to study; they occupy some of the remotest, most difficult terrain in the world, so just getting close to them is a time-consuming and expensive challenge; and even when you get to their territory, they are extremely secretive and hard to detect. All this adds up to explaining why studying this most cryptic of large mammals is extremely daunting and difficult. I have tried to present the little that is known about saola in *The Last Unicorn*, but I would be the first to say it is not a full assessment. We've hardly begun to understand the natural history of this beautiful creature. Mating behavior, minimum range size, male-female differences, diet, longevity—all of these areas—and many more—brim with mystery.

On that note, your work is part of a long chain of studies and expeditions, and a long and proud tradition, stretching far beyond the days of Russell and Darwin. How did you prepare for your quest? Were there any books, any biologists or explorers, that you drew on particularly?

I have been an avid reader of exploration literature in both fiction and non-fiction since I was a kid. Jules Verne (*The Mysterious Island*), Daniel Defoe (*Robinson Crusoe*), and Herman Melville (I first read *MobyDick* as a seventh grader) were big influences early on. Following college, once I moved to New Mexico, I read pretty much all of the exploration narratives of the American West: Carson, Fremont, Emory, Abert, Powell, and many more—it's a long list. And there are the journals of Captain Cook in the Pacific, Darwin, of course, in the *Voyage of the Beagle*, Shackleton and the other polar explorers, and so many others, including Patrick O'Brian's wonderful and wonder-filled seafaring novels, all twenty or so of them, which actually include a fair amount of land exploration. One book above all, however, stands out. I remember encountering Peter Matthiessen's *The Snow Leopard* when it came out in *The New Yorker* in 1975. It gave me one of the greatest reading experiences of my life. At a certain level, it would be fair to say that *The Last Unicorn* is an homage to Peter's classic. I am just sorry he did not live to read it. A copy of my manuscript was on its way to him when he died.

Your work was fraught with the more or less ordinary hardship of field science, but also with the perhaps less common rigors of field diplomacy. Do your experiences in Southeast Asia translate well to other settings—that is, do they provide a template for other scientists doing conservation work elsewhere in the world?

Nearly all my adult life I have had a "day job" in land conservation working for NGOs like The Nature Conservancy and The Conservation Fund. To turn the question around, my experiences protecting natural areas in the United States translated very well to the forests of central Laos. People everywhere face similar dilemmas balancing the conservation of land against its use and figuring out what level of use might be both socially acceptable and biologically sustainable. Government regulation, suspicion of outsiders, equitable distribution of economic benefits, the need for actionable science—you have to grapple with these issues whether you are in a ranch house in New Mexico or sitting under a thatched roof in Khamouane Province, Laos.

What lessons would you draw about the state of the world's animals, and of our understanding of the animal world, from your experiences?

First, that the illegal trade in wildlife, currently valued at $20 billion a year, constitutes a global war on the animal kingdom. Second, that we are losing life-forms faster than we are understanding them. The situation is truly dire, truly discouraging, but the beauty of the natural world should constantly inspire all of us to carry on in the fight to preserve and protect what we can. Perhaps my favorite part of *The Last Unicorn* is the passage in which I discuss my friend Mary's astonishing ability to balance optimism with fatalism. Understanding what she was doing and linking it to Scott Fitzgerald and Robichaud was a breakthrough in my own thinking. For a long time, I included Mary's story in the manuscript without really knowing why. When the light finally came on, late in the third or fourth major rewrite, it had a big impact, not just on the book, but on me personally. It changed the way I see the world.

What else is hiding out there in that stretch of forest, apart from the saola?

I have recently learned that the 2015 edition of the IUCN Red List of Threatened Species will elevate the classification of the large-antlered muntjac (*Muntiacus vuquangensis*), a species of barking deer, from "endangered" to "critically endangered," the highest level of rarity for an animal still extant in the wild. This is

hardly a promotion. It is one more sign of the alarming pressure being put on one of the most biologically productive and diverse ecosystems in the world. I would guess that at least a dozen new species have been found in the Annamite Mountains in the last twenty or so years, and that's just talking about vertebrate animals. If you tried to classify the invertebrates or the plants, you'd be naming new species as fast as you could describe them. For me the Annamites stand as a place where the mystery of Creation (and you don't have to identify a Creator to acknowledge Creation) is still being revealed, still full of surprise, still a dazzling reminder of the majesty and beauty of the singular blue planet we are blessed to be riding through the universe.

You detail a difficult, eventful journey in getting to the saola. Was any of it so demanding that you wondered whether the travels were worth the effort, discovery or no?

I never doubted whether the travels were worth the effort, but I had enormous doubts whether I was capable of standing up to their rigors. I take some pride in having made it through without getting hurt—an eventuality that would not only have been unpleasant for me but would have placed a great burden on my companions. One of my goals in *The Last Unicorn* was to present an honest portrait of the practice of conservation biology in the field. As a profession, it is obviously not for the faint of heart, but its practice is supremely necessary if our own species, *Homo sapiens*, is to have the remotest chance of becoming a decent steward of Earth.

How To Report from Saola Habitat, or maybe, *How Not To*

My advice on losing weight is probably more reliable than anything I can say about writing. Weight loss in saola habitat is simple: just hike ten to thirty kilometers a day and subsist on a diet of sticky rice and a few bony fish. You will lose weight. Guaranteed.

Reporting a story is a little more complicated. Carrying the right gear is a start. I like to use 3"x5" spiral-bound flip notebooks that fit in a shirt pocket, but I learned in Borneo that conventional paper doesn't work very well. Even if it doesn't rain and you stay dry through all your river travel and crossings (which I did not), you are liable to sweat heavily enough to soak both your shirt and your notebook. Writing on sodden pages is no fun, and neither is trying to read pages that are stuck together. Which brings me to the most important purchase I made for the expedition in Nakai-Nam Theun: waterproof notebooks. "Rite in the Rain" offers a wide selection of such products, in many formats and sizes.

It stands to reason that if you use waterproof paper, you want a pen with ink that doesn't smear. I am a big fan of Fisher Space Pens. Not only can you use them underwater (or in a driving rain) but they write upside down (or in zero gravity, having been developed for use by astronauts). The upside-down feature is important if, like me, you like to scribble your last notes of the day while lying on your back in your sleeping bag. When inverted, conventional pens stop writing after just a minute or two. Fisher pens never quit.

On the Laos expedition, I carried five 50-page pocket notebooks, writing in each one until it was full, then turning it over and filling the back side of each page—for a total of 100 potential pages in each notebook,

five hundred pages overall. I started writing soon after my plane departed LAX for Bangkok. Amazingly enough, I filled the 500th page six weeks later, just as my plane lifted off the runway in Bangkok on the return home.

I used a single, new Fisher pen during the entire trip (although I had back-ups), and the cartridge didn't run dry until I had been back in the states for about a week. Perfect.

I used Keene sandals in the jungle because I wanted the protection of covered toes, but I never liked them. Tevas or Chacos would have been better, and cheapo Vietnamese sandals probably better than that, at least for the river rocks, although I am not sure my shoe-spoiled feet are flexible enough to take full advantage of them.

I used a couple of Osprey packs for my gear—a 70-liter pack for most of my kit and a smaller "Kestrel" model that I dearly love as my daypack. The only problem with it was that it had a rigid enough internal frame that the top edge of it caught on many a vine and branch when I ducked and bobbed through the forest. If I had the trip to do over, I would take a daypack with no profile higher than my hunched shoulders.

Vital to my physical and mental well-being in the forest was a one-liter water bottle that had its own internal filter. It turned out that my water needs were pretty substantial—well beyond what could be met by my share of the water we boiled each morning. I also carried an assortment of water purifying tablets, but they generally take time to do their work and they also taste bad. The filtered bottle was pure luxury. I filled it pretty much wherever I wanted and drank freely. I doubt its filter would work so well where the water is turbid, but on the limpid streams of the Annamites, it was ideal.

Gear is one thing, reporting another. I wrote at every opportunity. Every rest stop, every meal, every evening. After the immediacy of an impression fades, you can never get it back. You have to write it down while it is fresh. When we hiked through the forest, I would compose the notes I would write during the next break. As soon as we stopped, it was scribble, scribble, scribble.

Photographs offer another way to take notes. I don't consider myself much of a photographer (but like a blind hog, I admit to finding a pretty good acorn now and again). I kept a compact point-and-shoot camera (a Canon G-10) in an outside pocket of my pack and shot freely. Later, composing the narrative of the book, I used photographs, in combination with my notes, not just as a source for recapturing specific details, but as *aides memoires*—keys to unlock the doors of memory and allow me to reenter those days on the trail.

Which brings me back to food. I originally packed about five pounds of Clif Bars. I thought it was excessive and that I was being a real scaredy-cat wuss, but I did it anyway. Looking back, I wish I had packed twice as much.

Some Recommendations for Further Reading

One of the best accounts of the wildlife trade is *Tiger Bone and Rhino Horn: The Destruction of Wildlife for Traditional Chinese Medicine* by Richard Ellis (Island Press, 2005).

A superb treatment of the natural history of the Annamite Mountains and Vietnam may be found in Eleanor Sterling, et al., *Vietnam: A Natural History* (Yale University Press, 2006).

An introduction to current challenges in combatting the trade is offered by *Fighting Illicit Wildlife Trafficking: A Consultation with Governments*, downloadable at
http://www.dalberg.com/documents/WWF_Wildlife_Trafficking.pdf

A new intitiative to curb the trade, announced by the Obama Administration in February 2015, is detailed at
http://www.whitehouse.gov/sites/default/files/docs/nationalstrategywildlifetrafficking.pdf

Another view of the biology of the Annamite Mountains may be found in Dan Drollette's *Gold Rush in the Jungle: The Race to Discover and Defend the Rarest Animals of Vietnam's "Lost World"* (Crown, 2013).

Probably the best relatively recent history of Laos is *A History of Laos* by Martin Stuart-Fox (Cambridge University Press, 1997).