6 WAYS TO SAVE WATER–AND OUR PLANET

DUMB CRIMINALS FROM AROUND THE WORLD

Reader's Digest

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considered. "Without Lynn, for sure I'd be in jail," Magyar says. "If I was on the phone talking to her, I couldn't get in trouble."

In January 2007, Lockett, Kislock and a host of other PACT workers and volunteers, along with Justice Blouin, attended Magyar's graduation from the PACT LifePlan and Coaching Program. His father made an emotional speech, apologizing for being absent from his son's life and pledging to do better. Tears flowed freely.

Magyar is moving on, now, holding tight to a fragile peace in a world where once he was at war. Meanwhile, he has passed the torch to the six other kids in the program, whose circumstances are eerily similar to his—such as Grade 9 dropout Jordan.* He's 19, tall and gangly, and wears the usual baseball cap positioned *just so*, with sneakers, baggy jeans and an oversized sweatshirt. The young man's surname is tattooed on his neck in thick, ropelike script. "It reminds me not to lie about my name when I get into trouble," says Jordan, grinning sheepishly.

He had been living on the streets with his father and breaking into cars. And he, too, thought LifePlan was a joke like all the programs in which he'd participated before. He's since learned otherwise.

Not every candidate makes it through, though. PACT has no official figures on their success rate, but they acknowledge that from a total of 12 participants in January 2006—including Magyar and Jordan—several have been arrested or are back in jail. But that's okay, according to Blouin. "You can't expect this to be a panacea," he says. "If we turn around just one in ten...It doesn't sound like a lot, but these kids are costing the justice system and society tens of millions of dollars in welfare and custody. The heartache and distress of poverty are propagated into ensuing generations. 'One in ten' is a success."

*Not his real name.

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Law & Order special on gun culture and hip-hop music.

HORRORSCOPES

Horoscopes are famously fickle, and my co-worker's was no different.

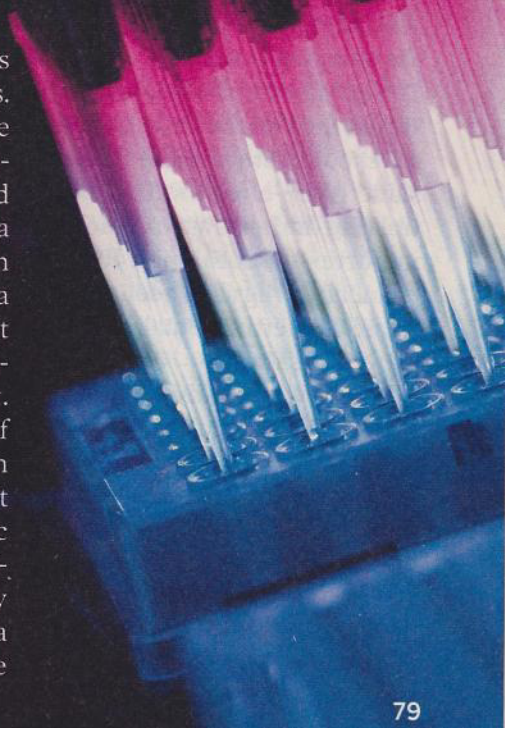
During our coffee break, she picked up the newspaper and, as she does every day, turned immediately to the astrology section. "My husband's says, 'Add spice to your life,'" she said, reading the horoscopes. "Mine says, 'Go to bed early.'" CAROL A. JUDKINS

ILLUSTRATED BY JAMES MCMULLAN

CSI: Wildlife

A state-of-the-art forensics lab in Peterborough is trying to stop those who kill or smuggle endangered species for profit

BY CHRIS WOOD



THE TWO steel shipping containers looked like any of the millions of others. But amid heightened security in late 2004, their arrival from Ethiopia for delivery to an address in Toronto prompted Canadian Customs inspectors to take a closer look. In a secure warehouse in Brampton, Ont., Inspector Derek Kata broke open the sealed doors of the first container, then began matching its contents against the shipment manifest. Methodically he ticked off cartons of spices and clothing, until his eye fell on a plastic-wrapped roll that seemed to fit neither category. Pulling the plastic aside, he saw long strands of cream-coloured hair against darker fur. Fully unwrapping the roll, Kata spread out a circular rug measuring about a metre

PHOTOGRAPHED BY MATTHEW PLEXMAN

across. The manifest listed "plastic rugs," but this definitely wasn't plastic.

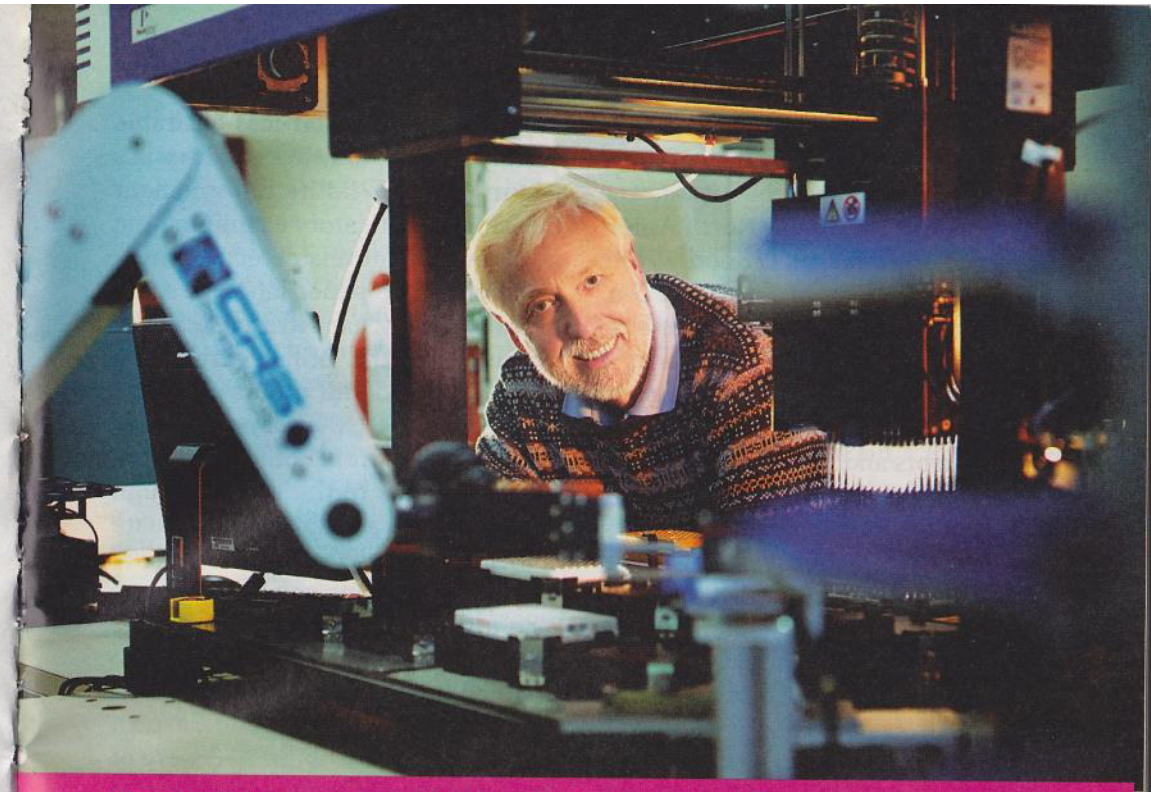
The chance discovery opened yet another front in a war fought daily, far from the headlines. The smuggling of protected mammals, birds, fish, plants and even insects earns criminal groups over $10 billion a year—the third-largest-grossing illegal trade in the world, after drugs and arms. Trafficking in homegrown wild game costs Canadians by way of lost revenue (licences and permits), enforcement expenditures and prosecution of violations. The highest price is paid by vulnerable wildlife; a new group joins the endangered-species list every 48 hours.

But lately, a new weapon—DNA—has been deployed to stem this trend, as the importer of those curious rugs was about to discover. Once both of the shipping containers were emptied, 11 rugs lay on the warehouse floor. Apparently made from scraps of skin stitched together, most displayed the same ivory-hued swatches and contrasting dark-brown or black fur. The importer, Abdurahman Ibrahim, explained the rugs had been described as "plastic" in error; actually, he said, they were goatskin.

Unconvinced, Kata called on Environment Canada's Wildlife Enforcement Division, whose armed officers implement Canada's international commitments to protecting endangered wildlife. Investigator Lonny Coote, after consulting with taxonomy experts at the Royal Ontario Museum, began to suspect the "goatskin" rugs had actually been assembled from the skins of colobus monkeys—primates protected under international treaty. But experts in the visual identification of fur couldn't be sure: Were the rugs goat or monkey?

Until recently, that question—and the case—might have gone unresolved. But Coote had something new to try: a laboratory dedicated to cracking crimes involving wildlife. He sent swatches from seven seized rugs, along with a known sample of monkey fur, to the Natural Resources DNA Profiling and Forensic Centre in Peterborough, Ont. The scientific verdict was unequivocal: All the rug specimens except one were colobus monkey skin. In November 2006 Ibrahim was found guilty of illegally importing the skins—but fines totalled just $2,250.

For the crime-busting scientists at the Peterborough lab, Ibrahim's conviction coincided with an even more gratifying event. Two decades after the lab's tentative start as an academic sideline, a partnership between Trent University and the Ontario Ministry of Natural Resources had just endowed the lab with a new, $20-million, state-of-the-art home on a hilltop above the university campus. Its two floors hold labs, offices and, behind double sets of locked doors, a Level 3 biohazard facility and a large autopsy chamber. The yellow-steel hoist hanging from the ceiling of the autopsy chamber can transport a full-grown moose cadaver to the stainless-steel dissection table. And behind the heavy doors of a room-



Using forensic science, White has been helping to crack wildlife cases for over 20 years.

size freezer, the bagged carcasses of wolves and the heads of several deer loom through the ice fog. Across the hall, white robotic arms shuttle trays holding 96 vials at a time, from one automated stage of DNA profiling to the next.

If this unusual marriage of *CSI* and *Bambi* has its own Gil Grissom, it's Bradley White. Born in East London, England, White moved to Canada in 1967 to pursue studies beyond his bachelor's degree in botany. After receiving his Ph.D. from McMaster University, in Hamilton, he went to the University of British Columbia, where David Suzuki was among the research mentors who drew him into genetics. White's enthusiasm for the specialty is infectious as he describes a basic principle of forensic DNA: "We're not proving so-and-so did it. We say the probability of *someone else* having done it is one in six billion or so."

White fell into crime-fighting by accident. After he spoke to a group of Ontario conservation officers, one of them asked White if he could help convict a suspected poacher. The man in question had come out of the bush near Belleville, with his snowsuit covered in blood. "We matched the blood on his suit to blood from deer at the kill site," White recalls, and the man was convicted.

In 1987, while in Kingston at Queen's

University, White began to offer his lab to investigators of any kind of crime involving nonhuman DNA; it was one of the few of its kind in North America to offer this service. Soon, White was taking calls from across the continent and beyond, from those begging him and his staff to identify a Noah's Ark of wild victims, living and dead. Some were exotic, like Caribbean parrots and Mexican tarantulas. Others were familiar to Canada's forests: deer, moose, bears or beavers, whether taken out of season, without permits or from no-hunting areas.

White's former assistant, Paul Wilson, once drove four hours to an area near North Bay, Ont., to chip samples from the frozen remains of what DNA analysis would prove to be nearly three dozen deer killed out of season by a single poacher. Now head of a new forensic science program at Trent, Wilson says wildlife forensics can be a more stomach-testing vocation than the pristine lab suggests. Evidence, he says, "can be small or nasty or rotting for a couple of weeks."

Or it could be a delicacy that some people gladly spend hundreds of dollars to nibble on. After sturgeon stocks in the Caspian Sea collapsed a decade ago, Canada joined a crackdown on the trade of the fish's coveted eggs. But with top-grade caviar selling for more per kilogram than cocaine, there was plenty of motive to flout the law.

In April 2005 one of Canada's biggest commercial importers received a 100-kilogram shipment of caviar that it declared was Kaluga. (That relatively nonthreatened but far-less-desirable variety of sturgeon lives in Russia's Amur River.) Wildlife Enforcement Division investigators examining the neat rows of flat tins detected something odd: The paper label on some cans bore a tiny, handwritten letter "A" in Russian script. Others carried the label "AA," and still others were unmarked. Puzzled, the agency sent six dark-grey eggs from both marked and unmarked tins to the Peterborough lab. There, lab assistant and graduate student Kristyne Wozney unscrambled the truth: "Not one egg was Kaluga." The unmarked tins contained eggs from the sevruga, a medium-grade Caspian sturgeon. Cans marked "A" held another medium-grade Caspian caviar, while those with "AA" were of the rarest variety: beluga. Prosecutors won a conviction against the importer, who was fined $3,000 and ordered to forfeit the seized caviar.

LIKE TELEVISION crime shows, in which DNA samples sometimes fail to get "hits" from the DNA data banks of known criminals, the Peterborough lab's powers of detection are only as good as the samples it has available for comparison. While bloodstains from a deer hunter's clothes can be compared to blood at the kill site, the lab develops reference profiles from scratch for more exotic species, pitting its scientists against wildlife collectors who often know the most about in-demand flora and fauna. When Wozney set out to find samples of wild orchids that sell for thousands of dollars on the black market, she did not get a single answer to her inquiries, forcing her to abandon her search.

Despite such resistance, the lab's growing collection now includes thousands of DNA samples and profiles from hundreds of species, including 300 of the world's estimated 350 remaining right whales. The bigger the collection, the more questions White and his team can answer. With enough samples from a species, for instance, they can distinguish between its different families; this allowed the scientists, in one case, to demolish a hunter's claim that his bounty of moose meat was taken on Cape Breton Island. DNA proved it came instead from a distinct moose clan that lives under protection on Nova Scotia's mainland.

FORTY minutes south of the warehouse where Inspector Kata made his discovery, at Wildlife Enforcement Division regional headquarters in Burlington, the challenge facing this emerging branch of scientific criminology is put into perspective. In a locked evidence-room the size of a suburban den, bleached primate skulls and the barbed penis of a tiger share shelf space with polished sea-turtle shells and carved elephant ivory. Leopard and jaguar coats fill a rack. And near the ground is the distinctive cream-on-sable fur of the colobus monkey.

The tide of extinctions may still be rising, but greater effort is being made to stem it. Ottawa has plans to hire 38 new wildlife enforcement officers in 2008, while a new forensic science program at Trent University graduated its first specialists. And White's Peterborough laboratory stretched its range yet again, logging new profiles for Asian dolphins, African elephants and even the ivory of long-extinct woolly mammoths, as well as for scores of less-exotic plants and animals. Each addition improves the odds of detecting the inevitable next attempt to cash in on some of nature's rarest creatures.

The lab's DNA collection includes profiles from 300 of the world's 350 right whales.

ILLUSTRATED BY JAMES MCMULLAN

CHILDRENISSIMO

When it comes to tunes, my local music shop prefers the sound of silence. A sign prominently displayed on a grand piano reads, "The management is not responsible for the actions of its employees if your child plays 'Heart and Soul' or 'Chopsticks' on this instrument."

ARTHUR LEE