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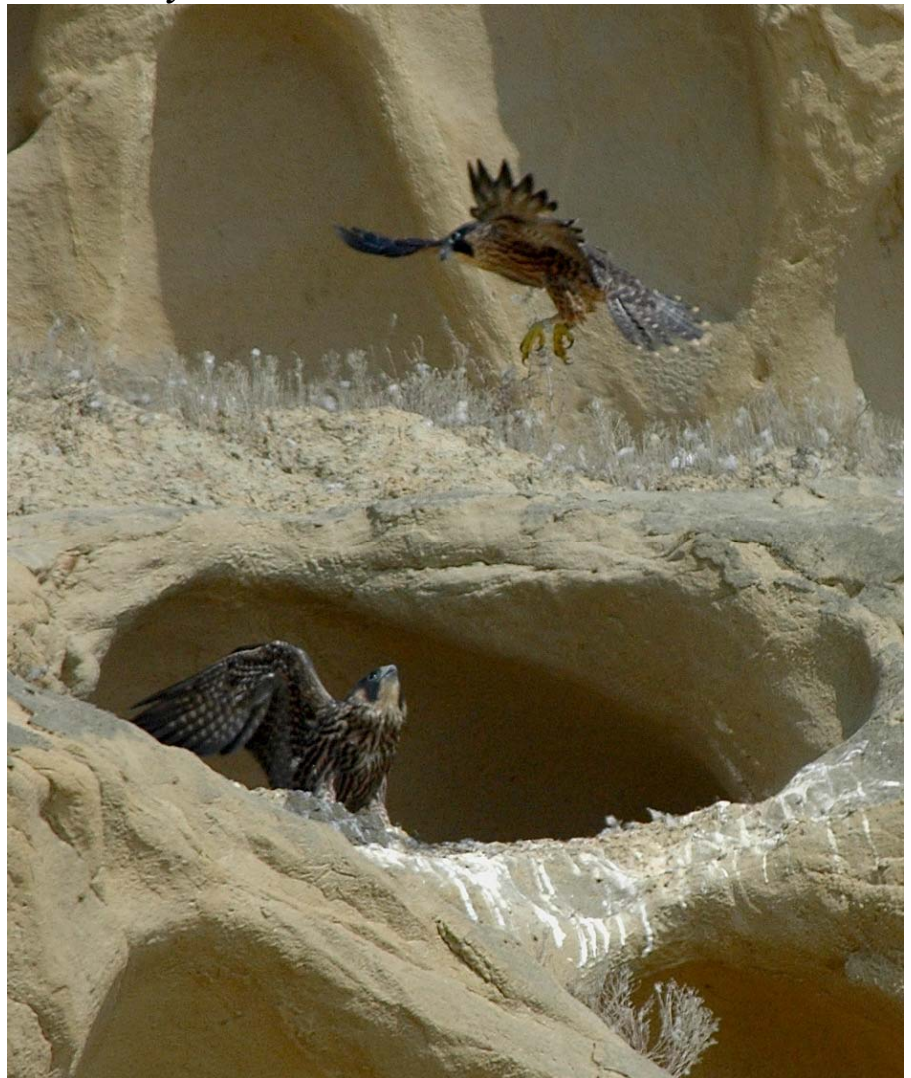
This Supplement contains extra material to complement the printed and mailed July 2006 *Torreyana*. Web Ed.

Frustrated Fledgling Falcon

By John Neville

Photos © by Will Sooter

For several hours on Friday, June 2, 2006, I was transfixed by the behavior of a falcon family of four. They were peregrines, those incomparably fast falcons whose vertical stoops have been clocked in excess of 200 m.p.h. This was a politically correct family, with two offspring differing in gender. The adult “tiercel” (the proper term for males) was an active cerebral type, streamlined as an arrow. His sleek mate (“falcon” is the proper term for females) was the brooding type, and remained aloof from our observations and from her family. The baby tiercel fledged from the aerie (nest) on Monday, May 29, 2006, according to Will Sooter’s meticulous tracking. This youngster showed off his newfound aerial skills until his father humbled him by taking him under his wing. His aerie-mate, showing none of her brother’s precocity, continued to stay on the gravy train. But there was nothing cowardly about this savvy baby gal. As a non-expert, my theory is that the females fatten before fledging to ensure the survival of the species. Females exceed males by up to fifty percent in body weight to accommodate huge eggs producing



huge babies that must survive harsh hatching conditions and be prepared to hunt upon fledging.

There has probably been no peregrine breeding in this immediate area for half a century, and Will graciously invited me to witness with

him this minor miracle. The rewards were instant. The bluffs along southern Black's Beach resemble the pockmarked face of a magnificent Zeus. One of the scars, a bowl-shaped crevice slightly tilted from the horizontal, seemed to ooze white peregrine guano. The wise peregrine parents had selected the perfect aerie

progeny. The star of the show, already bigger than her brother, was a forlorn falcon indeed. She waited for attention, but got none. Finally, after repeated I-dare-you-to-jump taunts from her brother, she made the most ungainly exit from the aerie ever recorded in the history of falcondom. She got no style points for her flight



for a nursery, and their wisdom persisted through the fledging process. The peregrine papa was now a tiercel tutor for his newly fledged son. As we watched, the adult tiercel appeared to be training his apprentice, having him assume the role of prey bird with evasive maneuvers. The father homed in on his son's vulnerable spots in a heartbeat but, always the protective parent, invariably stopped just short of contact. The father also instructed his son in brown pelican intimidation, a technique with incredible nuances that defy attempts at description. Fortunately for Will and me, the father, haughtily perceiving us as a minor nuisance, spared us the ignominy of becoming training devices for territorial attacks.

The females had quite a different agenda. The adult falcon turned her back on the male shenanigans and we concluded that mother knew best, and her apparent negligence was planned to foster independence in her

from the nest. No gold medal for her. After remaining in a crevice on the ledge below her womb-like aerie for perhaps half an hour, she summoned enough courage to prove Isaac Newton wrong and took a gravity-defying leap replete with incompetent flapping of immature wings. She then returned to her sanctuary and retreated deep into the aerie. She could be fully fledged tomorrow, her shame of today quite forgotten.

For more on Will Sooter's tracking of the Peregrine Falcon family, visit www.sharpeysonline.com

The Object of Our Addiction

By Victoria Schaffer

While getting through the Del Mar Fairgrounds traffic, or driving bumper-to-bumper from the North County, or while filling up your

gas tank, you may meditate on a possible confluence of driving habits, carbon dioxide emissions and global warming, resulting in ocean waves lapping at the Lodge door sooner than expected. Or may be you just like numbers. For any of these reasons, the paragraphs below may catch your eye.

U.S. Oil Consumption

The two hundred and ninety million people who live in the United States make up five per cent of the world's population but consume about twenty five per cent of the world's oil supply. In 2003, our country consumed about twenty million barrels of oil a day, more than half of it imported, much of it from the Persian Gulf. U.S. daily consumption is now up to twenty one million barrels. By 2020, according to the Department of Energy, domestic oil production will meet less than a third of our needs, and the Gulf countries will supply up to two-thirds of the world's oil. By 2025, according to the Department of Energy, our country will consume almost thirty million barrels a day.

Oil Production and Reserves

During much of last century, the United States was the world's largest oil producer, while today we are third after Saudi Arabia and Russia. In terms of proven reserves (known oil deposits considered accessible at reasonable cost) we had thirty-one billion barrels at the end of 2003, according to British Petroleum's "Statistical Review of World Energy." That puts us in tenth place in international ranking. If forced to rely on its own resources, including the Strategic (Continued on page 12)

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Petroleum Reserve of seven hundred million barrels, the U.S. would run out of oil in four years and three months.

Proven oil reserves are concentrated in the Persian Gulf: Saudi Arabia (262.7 billion barrels), Iran (130.7 billion), Iraq (115 billion), the United Arab Emirates (97.8 billion), and Kuwait (96.5 billion). In our hemisphere, only Venezuela has reserves of comparable magnitude (78 billion barrels.)

The Energy Crisis

Energy independence first burst onto the scene as a major issue in October of 1973 on occasion of the Yom Kippur War, when Saudi Arabia, followed by other OPEC (Organization of Petroleum Exporting Countries) members, cut off oil exports to the United States. Crude oil and gasoline prices rose, shortages followed, and gas lines became the picture of the day. That November, President Nixon addressed the nation to set as our national goal that by the end of the decade "We will have developed the potential to meet our own energy needs without depending on any foreign energy source." President Jimmy Carter next took on the energy issue and, with Congress, deregulated oil and gas prices, created the Department of Energy, and persuaded utilities to increase use of natural gas and coal. They also gave large budget allocations to solar and other alternative-energy sources, and continued President Ford's policy of increased fuel-economy standards for new cars. At the end of Carter's term, the consumption of foreign oil had fallen by two million barrels a day, to seven

million barrels. Oil prices dropped, and so did the motivation to conserve. President Reagan revoked environmental policies, and big cars became again popular. We now import close to thirteen million barrels of foreign oil a day, an increase of eighty-five per cent.

The current oil crisis, in and out of prime time and front page since last year, has complex factors that can be simplified to supply versus demand. Supply is impacted by conditions in the producing countries, such as instability in the Middle East and the unanticipated consequences of the Iraq war. Global demand has greatly increased over the past ten years, mostly from India and China. China, now the second biggest consumer of oil, relies on imports for 40% of its needs. State-controlled CNOOC Ltd. is investing heavily in Nigeria and Kazakhstan oil, China's Sinopec Group will develop an oil field in Iran under a \$70 million deal, while private companies are investing in Syria and in Latin America.

In the United States, crude-oil prices, seasonal demand, natural disasters such as Katrina, refinery conditions, plus suspected but difficult to prove market manipulation, determine gasoline prices. Crude oil and gas prices spiraled upward over the past two years. Crude oil was \$54 a barrel in April of 2005, up from \$36 a year earlier, and a record \$64.90 in August of 2005. In Southern California the average price of self-serve regular gasoline was \$2.38 a gallon in March of 2005, \$2.67 in August, reaching a \$3 a gallon milestone in September, partly attributable to hurricane Katrina. Average price of regular

at the pump jumped to \$3.41 in Los Angeles in early May of 2006 and was \$3.22 in early June.

The Alaska Arctic National Wildlife Refuge

In December 2, 1980, President Jimmy Carter signed the act that designated the Arctic National Wildlife Refuge, which had taken ten years to negotiate. Eighteen million acres of mountainous, inaccessible terrain were declared off limits to development, but the one and a half million acres of caribou calving grounds along the Beaufort Sea, were not given the needed legislative protection. The option was left open for a future Congress to authorize drilling after assessing that area's oil and gas potential. Those one and a half million acres are called the "1002 area" after the section of the bill that addressed it. President Reagan's 1987 recommendation for drilling in the 1002 area was rejected by Congress. In 1995 Congress recommended drilling but was opposed by President Clinton. The current Administration has worked hard for legislation to open the refuge. In 2001, President George W. Bush included drilling in his energy bill that later died. Senate Republicans attempt to attach a drilling provision to the 2004 budget resolution was unsuccessful. In April of last year the Senate approved a budget that would open the 2001 area to drilling, but the House bill did not include that provision. In November of last year the Senate approved a spending cuts bill with an attached Arctic drilling provision. Supporters contended that the area had potential for the most significant oil fields in the
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(Continued from page 12) country, with an estimated 10 billion barrels. The House of representatives, however, stripped the measure off its bill. In December of 2005, in an effort led by Senator Ted Stevens, (R-Alaska) the Senate successfully attached the Arctic provision to the annual military spending bill.

No one really knows how much oil the 2001 area would provide. According to Elizabeth Kolbert in the *The New Yorker*, a standard estimate is that seven and a half billion barrels are “technically recoverable.” The Federal Energy Information Administration predicted that oil would start to flow a decade after drilling approval, and production would peak at eight hundred and seventy-five thousand barrels a day a dozen years later. More optimistic U.S. Geological Service surveys suggest 10 billion barrels of recoverable oil; if those numbers are reliable and if exploration starts next year, ANWR would generate a million barrels a day in 2025. Kolbert estimates that if fuel-efficiency standards for cars and light trucks had been raised by five miles per gallon in 1981, when oil consumption began its steady rise, we would now be using one and a half million barrels of oil less each day. If standards were raised to 40 miles per gallon, the U.S. would save sixty billion barrels of oil over the next fifty years. Upgrading the standards for replacement of tires to match those of tires on new cars would decrease oil requirements by seven billion barrels, roughly the same as the expected yield from the Arctic Refuge.

Possible Solutions

Military experts have urged the current administration to launch a

major initiative to curtail U.S. consumption. An oil company chief executive, while defending profits, recently endorsed tougher fuel economy standards, which vehicle manufacturers and the UAW union oppose. The National Highway Safety Administration re-established the 27.5 miles per gallon requirement in 1990. This and the 21 miles per gallon requirement for light trucks have not changed since 1986. Many S.U.V.s are classed as light trucks and thus subjected to lower standards. According to some estimates, closing this loophole with produce a drop of a million barrels a day in gasoline demand, two-thirds of what we import from Saudi Arabia.

In April of 2005 the House passed legislation to overhaul U.S. energy policy and, in August of that year, President Bush signed an energy bill that included provisions to subsidize domestic oil producers, some incentives for fuel efficiency, and requirements for increased corn-based ethanol use. It contained a few inducements for energy conservation. President Bush recently decried the nation’s Addiction to Oil. He recommended alternative, renewable energy sources. At this time, none of the renewable energy technologies can fully meet our energy needs. Full deployment of such technologies will require a sustained government and industry-backed strategy. Solar and wind power offer an attractive but region-dependent alternative. Large-scale production of soy and corn-based ethanol will itself consume oil, for crop fertilizers and ethanol distillation, and is already resulting in destruction of irreplaceable rain forest in Brazil.

Despite extensive research efforts towards hydrogen fuel cells, hydrogen-fueled cars are still expensive and unreliable, and hydrogen production is mostly based on burning coal or natural gas.

In the face of mind-boggling analyses and numbers, conflicting legislation, inefficient alternatives, guilt-inducing declarations, and escalating gas prices, what is a concerned citizen and docent to do? In terms of immediately controllable and doable options, oil conservation jumps at us as the currently best one, starting with drastic changes in our driving habits. Support for legislation to increase fuel standards will be essential for it to come to pass. A hefty federal surtax on gasoline might raise prices to that magic threshold that would precipitate a collective demand for fuel efficiency, renewable sources, and other changes. Support for such tax, however, might be deemed as politically suicidal.

Information for this article comes from the following sources:

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The Talk of the Town, by Elizabeth Kolbert, in *The New Yorker*, April 18, 2005.

The Talk of the Town, by Dorothy Wickenden, in *The new Yorker*, May 22, 2006.

It’s Not Too Late, a special report, in *Technology Review*, July/August 2006.

Articles published in the *Los Angeles Times*, from January of 2005 to June of 2006.