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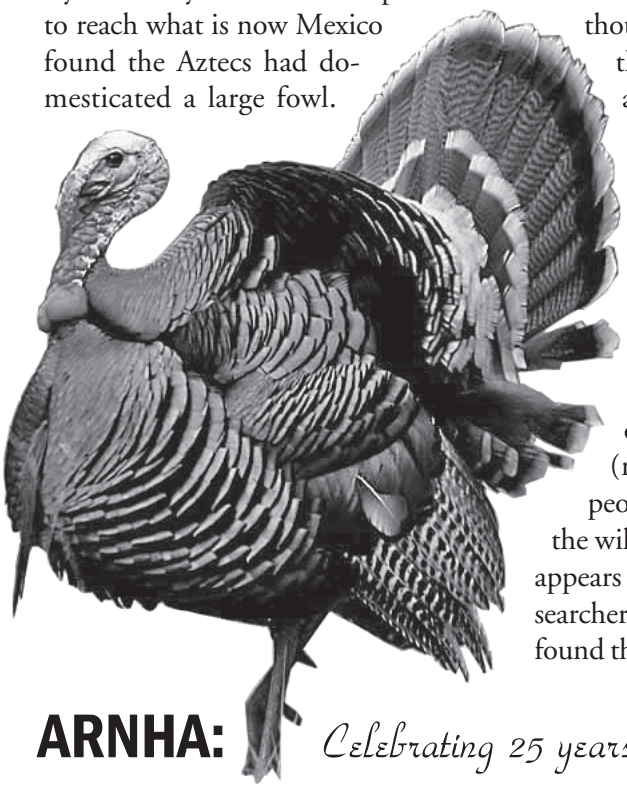
Meet the Wild Turkey

Local Resident Isn't As Clueless As People Might Think

Story and Photo by Ed Harper

Of all the continent's birds, the turkey is one of the most widely known and easily recognized species. Nearly any school child can come up with a decent sketch of a turkey. The name alone conjures up many other images, ranging from three consecutive strikes in bowling, a failed theatrical offering, or a foolish and inept person. And what is it about "turkey," the name itself? Strangely, although it is a species endemic to the New World, the turkey owes its name to the Middle East country of Turkey. The first Europeans to reach what is now Mexico found the Aztecs had domesticated a large fowl.



Some birds were brought back to Europe and within fifteen years distribution of the birds had spread to several countries. Erroneously, it was believed the birds came by way of the Near East, and when the first edible birds began arriving at the English court, they were initially referred to as "Turkie-Fowl" and ultimately, to our lasting confusion, simply turkey .

Mention the word "turkey," and, if no pejorative linked to the name surfaces, holidays and feasting come to mind. And, when pressed for more thoughts, people think of images of the turkey and its characteristic attributes largely from their impressions of the domesticated fowl. Therefore, it may come as a surprise to some that the wild turkey, *Meleagris gallopavo,* is quite a different story. Although domesticated turkeys do indeed seem to fit the category of a foolish species capable of injury induced by stupidity (not so different from some people you may have encountered), the wild turkey with all its keen senses appears to be anything but stupid. Researchers in Germany in a 1995 report found that the brain weights of wild turkeys averaged 25-30 percent more than those of their domesticated cousins.

Compounding this brain size difference is the fact that domesticated turkeys weigh anywhere from 50 to 100 percent more than wild turkeys. With a larger brain, wild turkeys remain much more vigilant to danger. Augmenting their inherent wariness, wild turkeys possess keen eyesight and sharp hearing. Their eyes can pick out fine details at long distance. The blink of an eye at 80 yards can be detected by their acute vision. And since the eyes are positioned on the sides of the head, the bird can take in nearly a 360-degree view. With hearing likewise keen, about the only vital sense wanting is a sense of smell.

Strong of leg, wild turkeys can clock 25 mph to escape danger, and when pressed into flying, they can do 55 mph for short distances ranging up to one quarter mile. With these physical attributes, along with their cautious and circumspect behavior, wild turkeys can be very difficult to observe when they choose not to be seen.

Wild turkeys are found in every state except Alaska, and the population is estimated to be around 6 million birds. California has about 250,000 wild turkeys, but this was not always the case.

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Long-term Funding for the Parkway

William (Bill) Pond, the *Father of the Parkway* and first Director of Sacramento County Department of Parks and Recreation recently said his only regret is that permanent long-term funding was not established for the Parkway under his leadership.

The Parkway is currently funded at approximately 60% of what the Sacramento County *2006 American River Parkway Financial Needs Study* recommends. Taking into account the operating budget for maintenance and safety plus equipment repair and replacement, deferred maintenance, capital improvements, and land acquisition, the current annual budget shortfall is $8,595,427.

The County supervisors, represented by Susan Peters and Don Nottoli, are meeting with the cities of Sacramento and Rancho Cordova to determine if the cities are interested in participating in a Joint Powers Authority (JPA) to fund and manage the Parkway.

Susan Peters told the Parkway Coalition reps who visited her on August 28th that the JPA will–or will not–happen by the end of 2006. Either way, the Parkway Coalition organizations are prepared to push aggressively for and assist in creating a long-term funding solution for the American River Parkway in 2007. A Benefit Assessment District appears to be the preferred and most practical solution.

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Holiday Sale Offers 20% Discount and Gift Wrapping

The Holiday Sale at the Nature Discovery Shop in the Effie Yeaw Nature Center will be on Saturday, December 2 from 9:30am - 2pm. During the one-day sale, ARNHA members receive a 20% discount on all store merchandise, plus free gift wrapping, refreshments, and a great gift selection for children and adults. The usual ARNHA member discount if 10%.

Shop the Nature Discovery Shop for an unusual gift you can't find elsewhere, and, at the same time, support the Nature Center, which provides activities, workshops, and environmental education so important for the survival of the planet and the well-being of all of us who live on it. ■

ARNHA Gift Membership Good Holiday Gift Choice

If you're looking for a holiday gift for the holidays or other special occasion, an ARNHA Gift Membership may just be the right choice you've been looking for. This gift keeps giving for an entire year because ARNHA membership benefits last all year. ARNHA members get free entry to Ancil Hoffman Park when they go to the Effie Yeaw Nature Center; four times a year they get *The Acorn*, ARNHA's newsletter that is filled with information about the activities and events on the Parkway and its natural history; and they get 10% discount on all purchases, including books, from the Nature Discovery Shop at the Effie Yeaw Nature Center. Go to www.ARNHA.org for a gift membership form that you can print out and send in to the ARNHA office. Make someone happy with a gift they can't buy at the mall. ■

Turkey, from page 1

Although fossil evidence from numerous specimens at Rancho LaBrea in southern California points to the fact that wild turkeys once existed there, the wild turkey, *M. californica,* went extinct some 10,000 to 12,000 years ago. When European settlers began settling the continent in the 1600s, wild turkeys were present from what is now eastern Canada down into Mexico and found in at least thirty-nine of the present states in the United States. Unfettered hunting and land use practices resulted in serious declines in the population in the eastern portions of America by the mid-1800s.

Wild turkeys were popular eating, selling at market prices of a penny a pound, earning the unfortunate distinction of being the first of America's wildlife to suffer from over-hunting. The nadir of the population occurred in the 1930s when, to the alarm of conservationists, the total population numbered a mere 30,000 birds. Concern for the species mounted, and beginning in 1935 some of the first effective legislation started gradually to reverse this decline. Afforded more protection, wild turkeys began returning to some of their former range, and populations gradually increased.

Additionally, since the wild turkey is highly regarded as both a wary and delectable game bird, efforts were undertaken by a plethora of individuals and agencies to introduce the species into former ranges as well as new regions of America. The first introduction of wild turkeys in California occurred in 1877 when private ranchers made an unsuccessful attempt on Santa Cruz Island.

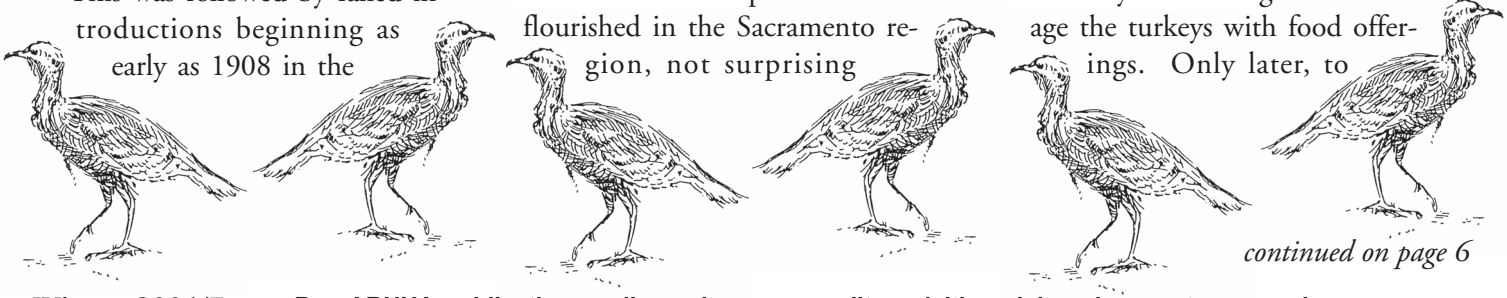
This was followed by failed introductions beginning as early as 1908 in the San Bernardino Mountains and over the next several years to various locations ranging from San Diego to Humboldt counties. These initial introductions ended in failure as a consequence of using wild turkeys reared in captivity for stocking or simply introducing birds into unfavorable habitats. It became apparent over time that wild turkeys raised in pens on game farms lacked the learned characteristics required to survive and reproduce. Only when techniques were invented for the safe capture of large numbers of wild birds and their accompanying translocation to California and other states did introductions begin to mark success. A successful introduction in 1959 of sixty-two Texas birds into San Diego County marked the beginning of a new era for wild turkeys in the Golden State.

"Some aggressive males, having grown accustomed to people, may try to intimidate or even chase humans."

Not only were the successful introductions dependent upon using trapped wild birds, but the subspecies of turkey was also a key ingredient. There are five recognized subspecies of wild turkey: Eastern, Rio Grande, Merriam's, Osceloa, and Gould's. Each is adapted to a specific environment. The amount and type of precipitation are perhaps the chief limiting factors to the distribution of wild turkeys. For example, the Rio Grande subspecies *(M. g. intermedia*), native to the southern Great Plains and northeast Mexico, favors a fairly arid climate having 16 to 32 inches of annual rainfall. It prefers fairly open country interspaced with scrub oaks and shrubs with nearby brushy riparian habitats interspersed with cottonwood trees.

This is the subspecies that has flourished in the Sacramento region, not surprising when examining the habitat and climate preferences of some of the other subspecies. When Rio Grande turkeys were introduced to favorable habitats of the greater Sacramento region, the birds literally took off running. In 1974 the Sacramento Audubon's Society check list for the region listed the wild turkey on the basis of only four records. Now some thirty years later, wild turkeys are seen regularly and in good numbers. To view wild turkeys near Sacramento, there is perhaps no better location than Ancil Hoffman Park in Carmichael. This prime area provides the key ingredients of protection, habitat, and abundant food resources. A drive past the Ancil Hoffman Golf Course may reveal more wild turkeys to the eye than golfers!

When expanding wild turkey numbers impact residential settings, conflict inevitably occurs. Turkeys invading gardens, roosting on balconies, and defecating on sidewalks are all common problems that have been reported. The males, often referred to as "toms," can exceed twenty pounds, and their large size gives them a daunting aspect, particularly when the males display in the spring. Some aggressive males, having grown accustomed to people, may try to intimidate or even chase humans. More than one jogger has been chased through Ancil Hoffman Park by belligerent toms. The most obvious remedy to ameliorate these conflicts is not to encourage wild turkeys by feeding them. When people first encounter wild turkeys in their back yards, they are often excited by the meeting and encourage the turkeys with food offerings. Only later, to



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their sorrow, do they realize the problems this can create. Feeding may also raise the risk of spreading diseases among the flocks.

Left to their own devices, wild turkeys will feed on a great variety of plants and animal matter. Young growing birds (poults) require a rich protein source, and insects such as beetles, grasshoppers, true bugs, and leaf hoppers provide the bulk of their diet. Adult birds eat largely plant material. Grasses (wild oats are a real favorite), herbaceous plant leaves, seeds, fruits, and berries are staple items. During fall and winter, acorns and pine nuts become important foraging items.

Relatively little crop depredation has been attributed to wild turkeys although there have been some complaints in the Napa Valley from vineyards. However, wild turkeys have been shown to be less of a damaging species in vineyards than raccoons, deer, ground squirrels, starlings, robins, and other species of birds. Concern also exists that being an introduced species, wild turkeys will displace other wildlife or destroy rare or threatened plants. To this end the California Department of Fish and Game has been monitoring wild turkey populations for several decades to determine if wild turkeys have had any deleterious impacts upon native flora and fauna. To date no adverse impacts have been documented, but nevertheless a management plan exists to remove any wild turkeys from sensitive areas or parks dedicated to the protection of indigenous species should a conflict arise.

The most exciting time of year to observe wild turkeys is during their courtship displays, which start in late winter and continue into spring as the longer days of light stimulate the start of the breeding cycle. Watching the strutting toms gobble and display for the more diminutive females (hens) is decidedly engaging. The males, of course, are easy to recognize with their broadly displayed tail feathers and drooping wings that often drag on the ground. An interesting activity in nature study is to look for the "tracks" formed on soft soils by the long wing feathers (primaries) as they scuff the ground during courtship displays.

Another activity is learning to separate the young male turkeys (jakes) from the older toms. The jakes are one-year old birds that have short beards, the hairy, dark tassel that dangles from the breast. Beard length averages from 3 - 5" for jakes, 6 - 9" for 2-year-old birds, and 10" or more for toms 3 years and older. Look at the spread tail for more clues. Jakes will show tail feathers (retrices) of uneven length; the central tail feathers, anywhere from 4 to 6 in number, will clearly appear longer than the remaining outer retrices. Another easily observable clue is leg color. The older males tend to have reddish-pink legs whereas younger males have duller leg colors tending to be brownish or gray.

Retired American River College instructor Ed Harper taught Field Ornithology courses for many years. He was the author of "Acorn Woodpeckers Take Care of Their Own" in the Winter, 2004-05 Acorn. ■

The Secret Lives of Wild Turkey

Wild turkeys do not form life-long pair bonds, nor do they even stay paired for the season. Being polygamous, the males attempt to breed with as many females as possible. Because females select only the dominant males, sub-dominant males rarely have a chance to breed. But the plot runs even deeper. A recent study, done by Alan Krakauer, a Ph.D. student at UC Berkeley, and published in the March 3, 2005, issue of *Nature,* found that wild turkeys' behavior is an example of *kin selection*, in which altruistic behaviors evolve because individuals reap their own benefits by helping relatives.

Coalitions of two to four brothers from the same hatching year will cooperate to court females and to defend those females from unrelated males. The cooperation given by a subordinate male may consist of helping his dominant brother attract a female by adding his own strutting and courting behavior to the overall courtship display or by chasing off unrelated males. And simply watching for danger is another input the helpers contribute. Aided by DNA analysis, Krakauer was able to establish that sub-dominant male wild turkeys benefit by cooperating with a more dominant brother to obtain a willing female. Because these cooperative coalitions are more successful at breeding and because sub-dominant turkeys share fifty percent of their brother's genes, helpers have a better chance to pass along some of their genes compared with the lone individual taking his solitary chance at the mating game. In his study, Krakauer showed that a coalition of related males produced, on average, seven offspring, whereas the average solitary male functioning on his own produced less than one offspring.

This example of kin selection is striking, and the evolution of such behavior apparently arises exclusively from the genetic benefits. Cooperative breeding may be the best strategy for subordinate male wild turkeys. Because wild turkeys are not territorial, there is no territory for subordinate males to inherit. Cooperating subordinate males seem to uphold their role; they were not observed sneaking copulations on the sly to gain an advantage. Thus it appears the sole reason for this seemingly altruistic behavior stems from the net benefit of cooperation: the subordinate partner gains more by helping than it would by going the course alone. So next time you are out and encounter wild turkeys, you can ponder the fact there is much more going on than meets the eye!

Army Corps Funding Benefits the Parkway

News that the U. S. Army Corps of Engineers is doing things in the American River Parkway would normally generate considerable concern among local environmentalists. The Corps! What are *they* up to? How can *they* be stopped?

Not everything the Corps does, however, is environmentally unwise or needs to be stopped. Some of it is good news.

It is true that as part of its broad mission, the Corps serves a variety of public needs, including flood control and transportation. In or near the Parkway, their projects include the strengthening of levees on or near the American River, building a major sewer main under the river, and the construction of the new Folsom bridge and its approaches. It is also true that many Corps' projects must be done in a manner which unavoidably creates varying amounts of environmental damage.

Now for the good news. In all of its projects which result in environmental damage, the Corps is required to provide appropriate mitigation. Federal environmental laws such as NEPA and the Endangered Species Act, as well as California's own CEQA, require this. Most of this mitigation is in the form of providing federal funding with which the County can undertake compensatory projects that restore and enhance the natural environment, at the site of the Corps' project or elsewhere in the County.

These mitigation and enhancement efforts are not undertaken directly by the Corps' itself. Instead, they are projects and programs formulated by Sacramento County, in consultation with the Department of Fish and Game and appropriate outside agencies in such fields as water quality. The Corps' mitigation funding may at times be increased by funding from other agencies. These environmentally positive programs and projects are required to be consistent with what the local public and their representatives want.

The key to creating top-priority County projects and programs is Dr. Trevor Burwell, Senior Natural Resource Specialist with the County's Department of Regional Parks, Recreation and Open Space. Under his guidance, all projects are based on sound ecological principles, are consistent with the American River Parkway Plan, and are thoroughly reviewed by the department's staff. Not only is Dr. Burwell instrumental in formulating the projects, but he then also monitors them as they are undertaken on the ground.

Some of the Corps' mitigation funds may be used for the acquisition of land, within the Parkway or elsewhere in Sacramento County. To date, most of the funds have gone towards environmental restoration, such as a multi-year program for the removal of ten targeted invasive plant species from the Parkway, and their replacement with site-appropriate native plants. Most of the actual work on these projects is done not by public agencies, but instead is contracted out to private contractors and firms with highly specialized skills not found in government.

While many of the Corps' projects do, in fact, cause unavoidable environmental damage to the Parkway's resources, its funding of compensatory environmental projects is doing the Parkway and its natural resources a great deal of good. Many of these important mitigated projects could not be funded under the County's limited budget. Knowing what mitigation the Corps is doing in the Parkway should ease any concern caused by hearing that the Corps is working in the Parkway. Some of the mitigation work paid for by the Corps is valuable and could not be funded in any other way. ■

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ARNHA Calendar of Events

- **ARNHA Annual Fund Appeal**
  November 16—December 31

- **Discovery Shop Holiday Sale**
  December 2 Saturday - EYNC
  9:30a.m. to 2 p.m.

- **Wild Animal Count**
  December 2 Saturday - American River Parkway

- **Winter Fun Days**
  December 19 through December 28
  - Effie Yeaw Nature Center

- **Bird & Breakfast**
  Saturday, March 7 am
  Effie Yeaw Nature Center

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Answers to quiz on page 5: 1. ravens 2. lions 3. otters 4. sea lions 5. jellyfish 6. boars 7. caterpillars 8. owls 9. geese 10. toads 11. kittens 12. rhinoceroses 13. eels 14. eagles

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