



# CENTER FOR PRIVATE CONSERVATION

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## *Private Conservation Case Study*

### **The M & T Staten Ranch, Walnut Grove, California**

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One of the foremost meccas for wildlife and wildlife viewers in central California is an intensively farmed private ranch. The M & T Staten Ranch is a 9,200 acre island, appropriately enough named Staten Island, that lies in the flat Delta land on the west side of the mid-point of California's great Central Valley, where the San Joaquin and the Sacramento Rivers merge, creating the Delta and its complex of wetlands, sloughs and channels at the head of San Francisco Bay.

One reaches Staten Island from Sacramento by driving south on Interstate-5, the massive concrete artery that essentially bisects the state from Mexico to Oregon. Twenty-five miles south you take the Thornton Exit west towards Walnut Grove and drive 4.5 miles up onto a levee and across a bridge over the Mokelumne River at Wimpy's Marina. Then drop down into the northern end of Staten Island, with levees towering around you on three sides. For a nature buff, in search of some of the most productive private wildlife habitat in our most populous state, this is not a promising start.

There is an unsettling feeling to the land. It is amazingly flat and nearly everything is under intensive cultivation. This is agribusiness land, the bane of environmentalists. Massive fields stretch as far as the eye can see. Some are leveled and graded by laser-directed blades, creating a farmland as flat as a billiards table that nevertheless drains from one end to the other. The first sensory jolt is something akin to claustrophobia: the flatness, the towering levees, the essential lack of a horizon, and the growing awareness that all this development, this busy-ness, is taking place not only below the level of the surrounding rivers, but actually here in the Delta, below sea level. It is somewhat discombobulating.

Nor is it a promising scene. The land in all directions, on each side of the highway, is nothing but bare soil, recently plowed in preparation for the spring planting. The landmarks are manmade. A few miles ahead to the west is a levee topped with another bridge. To the south is a group of towering grain elevators. You proceed ahead for a half mile until you reach a small

sign pointing left down Staten Island Road, wait until some eighteen-wheel agricultural trucks pass on the main highway, and then turn south towards the grain elevator complex. The land on both sides of the narrow two-lane Staten Island Road is also freshly plowed. A triangular yellow highway information sign cautions: "Not a through road" and beneath it is a small red on black sign warning: "No hunting without permission." The yellow sign is in excellent shape for a back country road; it has only four bullet holes through it.

But one large green and white sign prominently mounted on two sturdy sawed-off phone poles planted at the edge of the highway suggests that there might be more here than meets the eye. In the midst of this sea of manicured bare soil sits an enigmatic message: "Wildlife Habitat. Managed by the Landowner. Respect Private Property. A Ducks Unlimited Valley Care Project." The lower corners of the sign each bear the silhouette of the head of a Mallard.

Head south a few miles down the island and shortly the land opens up into a vast panorama of freshly plowed fields. A strong wind is blowing, the fabled Delta Breeze. Born from the prevailing Northwesterlies coming in off the cold Pacific Ocean and channeled through the Golden Gate and up through the Martinez Straights and then into the waist of the Central Valley, it makes life livable in cities like Sacramento and Stockton by dropping the summertime highs in the mid-90s down some 30 to 40 degrees in the evening. But here on a spring morning, blowing across the Staten Island fields, it is a cause of despair, putting up a dust storm, and surely causing ulcers for the farmers. It is only here in the wider landscape that one can see beyond the levees. Far to the southwest, in the haze and dust, one can make out Mt. Diablo.

Make the first right turn onto a narrower blacktop road and head west towards a cluster of buildings, shops, repair sheds, farm equipment, garages and a giant water tower in a setting of tall trees and proceed ahead onto a narrow driveway, down a lane of oleander trees. Finally, nestled up against the levee in a little oasis is the ranch headquarters and home of Jim and Sally Shanks, respectively the ranch manager and environmental coordinator. The attractive medium-sized home with large picture windows and wide overhanging eaves to provide shade from the fierce Valley sun has bird feeders hanging over the broad front porch. The grounds are filled with an array of evergreen and deciduous trees, shrubs, ornamentals, flower and vegetable gardens and lush lawns. But what is most interesting is walking up onto the levee and seeing great towering trees growing atop the levee, and the waterside dense with vegetation, brush, shrubs, thickets and many trees. Also impressive is the height and width of the levee, especially looking across the Mokelumne at the far more typical smaller levee, largely vegetation free, and consisting mostly of giant concrete riprap. This Delta forest is one of the few substantial patches of large trees, and especially evergreens, anywhere in this huge flat expanse.

## **History**

Staten Island was built up out of a maze of meandering channels, sloughs and marshlands beginning in the 1850s, not long after the Gold Rush brought tens of thousands of people to California in a few years. The federal Swampland Act of 1850, passed to "construct the

necessary levees and drains to reclaim the swamps and overflowed lands" and make them fit for cultivation, was the impetus for the original reclamation efforts in the Delta's tidal lands.

Levee construction began in the late 1850s by the original owners. They are all private levees, privately constructed and maintained. The first were three feet high and eight feet wide. However, these were inadequate and the island would flood every five years or so. Thus the owners continued to build up the levees, using clam shell dredges. It is now a very substantial levee system. They are 30 feet high, 20 feet wide at the crown, and built on a one to two slope, are 60 feet wide at the base. Staten Island has not flooded since 1906.

In its current configuration the island consists of 9,200 acres or slightly over 14 square miles. The maximum length of the island from north to south is about 11 miles. It is surrounded by 25.4 miles of levees. The top or northern end of the island is above sea level, but the bottom end is 16 feet below. The Mokelumne here is still strongly tidally influenced, by a three to four foot tide. The ranch is located on the river, actually surrounded by different forks of the Mokelumne. While this requires eternal vigilance in maintenance of the quality and integrity of the levees, it also provides one significantly important benefit. The M & T owns riparian water rights, which are very important in the arid west. Thus, whenever the ranch needs water, for irrigation or any other purpose, they need only string pipe over the levee and siphon water onto the fields. This is the source of its agricultural and economic productivity, as well as its importance for wildlife.

The soils in the Delta are fine, rich, nutrient-filled peaty soils, formed over thousands of years in the vast reed and tule filled wetlands which occupied most of the state's Central Valley. These soils now form the basis for one of the most productive agricultural areas in California, with the Delta's farms producing nearly a half billion dollars in crops each year. The M & T is a 30 million dollar operation.

Staten Island had originally been developed and owned by some of California's early land barons, including Leland Stanford and his associates Haggin and Tevis in the Kern Land Company. In 1929 it was purchased by Bill Towne, a wealthy San Franciscan who headed up the M & T family corporation. Towne was actively involved in running the ranch until ill health forced him to sell it at age 85. Meanwhile, this profitable farming operation served as the foundation of his growing empire of land holdings. Among his several farms and ranches was an equally large property near Chico on the Sacramento River.

In the 1980s it was sold in a leveraged buy out and passed to a public employees pension fund as part of their effort to maintain a diversified portfolio.

Jim Shanks came to the M & T in 1952 and began running the grain mill. By the 1970s he had become the ranch manager. Sally Hearne joined the operation in 1985 and married Jim in 1994.

## **Nature in the Central Valley**

California's 400 mile long Central Valley, and the wetlands and fields associated with the Sacramento and San Joaquin Rivers and the many smaller rivers flowing west out of the Sierras into them, and especially the vast Delta marshlands, are one of the most important wintering areas in the nation for ducks, geese, swans, cranes and a vast assemblage of shorebirds (sandpipers, plovers, curlews and godwits). This is the winter home for many of the millions of waterbirds from the Pacific Northwest, western Canada, most of Alaska and even for some birds from the coastal tundra and islands of Siberia. Although the sky-darkening flocks that so awed the early naturalists, settlers and hunters are long gone, and even the still staggering numbers of the 1940s and early 1950s will probably not be seen again -- there are still many millions of waterfowl, wading birds and shorebirds using the Valley.

The Central Valley hosts around 170 species of birds in the winter; 95 or so permanent residents and about 75 winter residents, most of which come from the north, but some also move downslope out of the Sierra Nevada Mountains.<sup>2</sup> The most obvious winter arrivals are the large wavering flocks and vees of geese, calling as they fly over fields or towns; or the flocks of four-foot high, stately, long-legged Sandhill Cranes high stepping through wet pastures and meadows. But there is more. Nearly every phone pole or powerline pole, or tree along the highway has a large hawk, or occasionally even a Bald Eagle, perching on it looking for rodents or birds in the food-rich harvested autumn fields. Overgrown weedy fields or patches of scrub are filled with innumerable brownish sparrows. These are all signs that the seasons have changed and that vast numbers of birds are filling the Valley to rest and feed for the winter.

Many of these winter visitors are there in nationally significant numbers. This is perhaps most striking for Sandhill Cranes. Some 25,000 Lesser Sandhill Cranes from the high Arctic of Alaska and northern Canada winter in the Valley, with 85 percent of them in the Delta. The slightly larger and much less common Greater Sandhill Crane nests in isolated wetlands and marshes in northeastern California, through the northern Great Basin and Rockies. It is a state threatened species in California. In 1988 only 276 nests were located in the state and the winter population in the Central Valley was between 3,400 and 6,000, with the additional birds coming from eastern Oregon and the Great Basin. Current winter populations in the Valley are around 3,500, which is about 98 percent of the entire Pacific Flyway wintering population.

Between three and five million ducks winter in the Central Valley. This is about 60 percent of the entire Pacific Flyway wintering population. The two most numerous species are the Northern Pintail, with a total around 1,600,000, and the Mallard, with a population of some 400,000.

Ducks Unlimited stresses that the Valley is one of North America's most important wintering regions for a variety of species of geese. Over 600,000 geese winter and that is 60 percent of the Pacific Flyway's winter total. Some 400,000 "white" geese, the Lesser Snow Goose and the Ross's Goose, winter in the Valley, which represents 30 percent of all the white geese on the continent. The White-fronted Goose total is 75,000, which is over 50 percent of the

North American population. And the tiny Mallard-sized Cackling Canada Goose numbers reach 35,000 or 80 percent of the continental total. The magnificent Whistling Swan, another high Arctic nester has a valley winter population of between 40,000 and 60,000 birds. Ninety percent of that population squeezes into the Delta as well.

### **Changes in Valley Habitat**

Over the decades, as much of what was once wetlands has been converted to farming and ranching operations, the birds have been squeezed into a system of federal and state wildlife refuges, some private preserves owned by conservation organizations, and a still substantial amount of wetlands owned by private duck hunting clubs. Flooded agricultural fields, such as in the huge rice industry, also provide large amounts of habitat.

However, while there is food available in these protected wetlands, most of them serve primarily as roosting and loafing grounds, where the birds can rest and sleep relatively undisturbed. But an indispensable requirement for the conservation of the Pacific Flyway's waterfowl is sufficient habitat for foraging or feeding. This is why California's huge private agricultural lands are so extraordinarily important. Much of the vast fields of corn, grains and rice have been harvested by late summer or early fall, at the very time when the first migrating waterfowl are moving southward. It is well known that modern, highly-mechanized agricultural harvesting practices, unavoidably leave behind substantial amounts of spillage, essentially waste grain. And by shallowly flooding their harvested fields, landowners can turn their private lands into a vast smorgasbord for California's water-dependent birdlife.

The Valley, and especially the Delta, have also long been preeminent duck and goose hunting areas. Many, if not most, of the farms and ranches have historically flooded their fields following harvest and kept them flooded through the duck and goose hunting season from October into January. Many landowners hunted these birds themselves, or invited friends and clients to hunt. Others leased hunting rights to the public, duck hunting clubs or to San Francisco or Sacramento based corporations or politicians.

The major field crops in the area are corn and rice, which are planted in the early spring and then harvested in the late summer or early fall. These are irrigated or flooded crops. Winter wheat is commonly planted in November and then harvested late in the following spring. Most of the growing season for wheat coincides with California's winter-early spring rainfall cycle. It is also fairly common to double crop in the Delta, planting May corn, harvesting in October, plowing the stubble under and then replanting the same fields with wheat in December. The winter wheat harvest is in July and then the fields are fallowed for nearly a year until the following May's corn planting. Smaller numbers of acres are rotated among beans, tomatoes and potatoes.

Of the M & T Ranch's 9,200 acres, 8,500 are farmable. In 1997 they are planting 6,200 acres in corn, 1,100 acres in winter wheat and 1,200 acres in tomatoes. The remaining 700 acres are in levees, roads, buildings and yards. (Last year the figures were 6,100, 1,100 and 1,000 acres, with some land planted to potatoes.)

When Jim Shanks arrived at the M & T, the ranch was being managed and flooded in a manner similar to most. They flooded for hunting in the 1960s, so the land was usually irrigated or flooded in the winter. However, there was relatively little hunting on the ranch; it was not a commercial operation or a big money earner. Nor have the Shanks instituted any commercial hunting operations.

### **Staten Increases Wildlife Compatibility**

Local birders had long been aware of the M & T Staten Ranch and of its importance as wildlife habitat. They knew that it was heavily utilized by ducks, geese, swans and cranes during the winter and in migration. One didn't even have to get permission to enter the land to make that discovery. From the public highways one could always see and hear the great flocks of waterfowl and wading birds coming and going around the island's fields. Furthermore, even a cursory look down the levees showed that something different was going on. The general approach in California has been to keep and maintain levees in as sterile a manner as possible. Trees and bushes are systematically removed from the levees and the river banks are sheathed with concrete riprap. The theory is that vegetation weakens the structural integrity of the levees. Yet the Staten Ranch, with 25 miles of privately owned and maintained levees, is completely comfortable with considerable growth of thickets of shrubs and brush and even some areas of giant mature trees growing on the tops and sides of their levees. Bearing all the costs of maintenance and risks of breaching, the Staten Ranch approach has belied the conventional wisdom. They have not had a flood since 1906, and their levees are supplying vital nesting, roosting, and sheltering habitat for a number of important species, including the Swainson's Hawk, which is listed as threatened on the California Endangered Species List.

FEMA and the flood control agencies believe that levees should be stripped of vegetation and rocked or riprapped, but the Shanks believe trees and brush, placed properly, actually help with flood prevention. They believe that levee brush can act as a baffle to lessen erosion, and besides, as Sally Shanks says, "we don't want to live in a desert." Some 100 egrets roost in the line of trees near the Shanks' home, and all told the island and its levees have about 40 trees over 60 feet tall.

Perhaps the first serious birder to recognize the significance of the Staten Ranch was Arvil Parker, a field trip leader for the Sacramento Audubon Society, who met Shanks in the early 1970s. For the next 15 years he regularly led trips to the ranch, and among other things expanded Shanks' knowledge of the importance of their lands for a wide range of bird species, not just the showy and charismatic species such as Sandhill Cranes, Tundra Swans and Snow Geese.

Even the smallest, most out of the way community usually has a birder or two, and the Stockton area has an active organization in the Stockton Audubon Society. One of the most important annual events of the nation's birders, nature clubs and nearly 600 Audubon groups (whether affiliated with the National Audubon Society as chapters or independent Audubon societies) is the yearly Christmas Bird Count (CBC) during which birders attempt to count every bird within a 15-mile diameter circle in a 24-hour, midnight-to-midnight period. The number of species counted is tallied as well as the number of individuals of each species. Because the count circle remains the same every year, eventually data accumulates to provide one of the most important avian databases in the nation. Long established counts can provide very valuable information about where various species of North American birds winter, and can begin to demonstrate trends in winter bird populations that go beyond short-term fluctuations that could be caused by temporal events, such as early water freeze-up, warmer or cooler, or dryer or wetter winters.

The Stockton CBC began in 1972, and the circle was drawn to include Staten Island because of its key importance for a large number of species. The most recent count included 48 people, most assigned to covering different areas of the count circle. They counted 153 species and 129,951 individuals.<sup>3</sup> This is a surprisingly high number of species for an inland area, and also a relatively high number of individual birds.

In the mid-1980s, Parker introduced one of the Stockton count organizers and compilers, David Yee, to the Shanks. Yee was initially interested in gaining access to the ranch during the two-week Christmas Count period to see what was on the island in order to help coordinate a more detailed and thorough census on the count day. Recognizing the increasing importance of large blocks of privately-owned farmland for wildlife, Yee was anxious to work with the Shanks in doing everything possible to encourage them to continue, and even to expand, their wildlife-compatible farming practices.

In 1987 David Yee suggested to the Shanks that they consider lengthening and varying the amount of time they kept their fields flooded, as well as varying the depth of the water on the fields. Why simply maintain a late autumn through mid-winter flooding regime that coincided with the federal duck hunting season, especially since duck hunting was not an income-generating activity for the ranch? This year, for instance, the federal duck hunting season in that part of the Delta opens on October 11 and runs through January 18. The proposal which Yee advanced was for Staten to alter the post-harvest flooding program to coincide with the habitat needs of a much wider array of bird species.

In particular Yee was interested in the possibility of flooding some of the fields right after harvest in late summer to provide habitat for south bound migrating shorebirds. Many shorebirds (sandpipers, plovers, curlews and godwits) that nest in the far north on alpine or Arctic tundra begin their migration back south little more than two months after arriving on their nesting grounds. Thus, some are migrating as early as the last week of July and throughout August and mid-September. This, however, brings them into California at the hottest and driest time of California's Mediterranean climate cycle. Vast tidal flats had once surrounded the edges of the

San Francisco Bay complex. Much of that is now housing developments, municipal dumps and airports, and salt evaporation ponds. The idea was to create habitat by flooding fallowed or recently harvested fields with very shallow depths to create prime shorebird habitat. Yee further suggested that they continue to flood various fields well into the spring in order to maintain habitat for late-migrating shorebirds, cranes and waterfowl. And by moving water from field to field they also exposed bare mud flats which are attractive to many shorebirds.

Sally Shanks, an ardent conservationist and an avid birder herself, wanted to accommodate as much wildlife as possible on the ranch. She loved to see the flocks of waterfowl and the hawks and owls that patrolled the fields, and she maintained bird feeders at her home. But her real love was the stately Sandhill Cranes, members of an avian family that was in its heyday during the late Pleistocene when the rapidly melting and receding icesheets left the continents covered with a gigantic mosaic of marshes, wetlands, potholes, lakes, and streams. Most of the world's remaining species of cranes are barely holding on, in a post-Pleistocene world that is hot and dry. Gaia has left them little lebensraum in her ever-changing domain. And with numbers of most species at levels that are barely sustainable, Man's lengthening shadow provides them with little security. But the Sandhill Crane, apparently a more-recently evolved and more-adaptable species, is surviving quite well, especially the smaller subspecies, the Lesser Sandhill Crane, which nests in the far north and high Arctic and only visits the southern United States in the winter to roost and loaf in the remaining large coastal and interior wetlands. Being an opportunistic and adaptable feeder, it widens its diet on migration and its winter grounds, shifting from reliance on frogs, small fish and invertebrates to visiting large agricultural fields, gleaning the spillage from the harvest of corn, wheat and other grains.

Sally Shanks was more than willing to do whatever she could to run the ranch in an environmentally sensitive manner and to share the land with wildlife. After all, they had been doing so for decades. However, the ranch is a profit-seeking business and first attention must necessarily be directed at the bottom line. Within those confines, the trick was to find some innovative farming practices that could combine cost-effective and potentially profitable management tools that would also increase the attractiveness and usefulness of the ranch lands for migrating and wintering wildlife.

It has become fashionable in trendy magazines and in the publications of many environmental organizations to do puff pieces on landowners who are managing their lands for wildlife and returning their lands to "natural" conditions. They are always turning up cattle ranchers along the Mexican border who want more endangered jaguars on their lands even if more of their cattle will be eaten. Needless to say, most of these operations are not working ranches and farms. They are either huge spreads owned by trust-fund cowboys or else they are trophy ranches run as tax writeoffs by successful tycoons or professionals. Rarely, if ever, do these operations have to produce anything, let alone turn a profit.



The Staten Ranch, on the other hand, is a real world agricultural enterprise. Jim Shanks, as ranch manager, has to make the final decision as to which management innovations to make the operation more compatible with wildlife meet the bottom line test, and also contribute to the well being of the ranch.

Surprisingly, in their circumstances there have been a number of mutually beneficial practices. Given that much of the state's water is expensive and often in short supply, the ranch is in a rather unique situation with its combination of riparian water rights, a fairly steady supply and its location below water level. Thus, water for irrigation, field flooding or wildlife requires neither expensive purchases nor expensive pumping. Surrounded by the river, it is only necessary that pipes are placed over the levees and water is siphoned onto the fields as needed. This has allowed the Shanks to combine post-harvest and pre-planting water, soil and weed management in a unique manner to turn their fallow and harvested fields into a gigantic smorgasbord for the Central Valley's birdlife.

By sequentially flooding various fields, following harvest of corn, wheat and tomatoes, with various water depths, the Shanks achieve a number of significant things. They prevent soil oxidation, stem soil loss through wind erosion, enrich and revitalize the fields with river-borne silt and nutrients, leach out salts, and maintain uniform soil moisture across their fields prior to plowing and planting. Flooding for weed control reduces the need for costly discing and greatly reduces herbicide applications. Their vast mosaic of fields, containing waste corn and grain as well as invertebrate blooms in the decaying tomatoes, together with mud flats, shallow impoundments of a few inches or so for short-legged sandpipers and shorebirds, and deeper areas for long-legged waders and ducks and geese, provide vital bird habitat from late summer/early autumn into spring. Not only has the ranch become a magnet for birds, but it is now a hot destination for birders and eco-tourists who know that they are welcome on the ranch's miles of private roads.

Shanks also notes that the birds provide an abundant supply of fertilizer. He has also reduced pesticide use and switched to types that are less toxic to birds. He maintains vegetated strips between fields which serve as safe migration corridors for the island's small mammals such as weasels, foxes and raccoons. He is also experimenting with creating a system of low crossdikes to break up large fields so that he can sequentially flood and expose new areas for birds to feed in.

Perhaps the Shanks' greatest achievement has been to persuasively demonstrate that the same acre-foot of water can be used for highly productive agriculture *and* for highly productive wildlife habitat. They have been able to expand the traditional legal and water agency definition of "beneficial use" into non-traditional uses such as creating wildlife habitat. The Shanks and others like them around the nation have quietly been demonstrating that people and wildlife can often coexist surprisingly well, and that the polarization between environmental protection and economic development and growth is often more an ideological divide than a necessary one. If environmental regulation were more friendly to private property, it is certain that far more

landowners would be willing to share their lands with wildlife and to maintain and even create habitat.

### Importance for Birds

With portions of the fields flooded for half the year, birders have begun to come in August and April to attempt to ferret out unusual shorebirds over the vast expanse of habitat. While there are plentiful government water impoundments for waterfowl to refuel at, the shallowly flooded fields and adjacent mudflats in this part of the state truly serve as a beacon for shorebirds. As David Yee notes, at the end of winter "Jim's farm is one of the few places [the birds] can still find water."<sup>4</sup> And, of course, birders and eco-tourists continue to come during the height of the winter peak counts of showy swans, geese and cranes. To some degree the increased presence of birders creates what is known in the birding world as the "Patagonia Picnic Table Effect", named after a world-famous roadside rest outside of the southern Arizona town of Patagonia, long famous for the presence of a few uncommon species of Mexican birds at their northern limits. As more birders flocked to the site to see the expected specialties, an increased number of competent eyes discovered still more rarities, which attracted still more birders, and so on.

The importance of the Delta and especially of the M & T Staten has been well documented. The annual Audubon Christmas Bird Count has been a source of data for early winter bird populations -- the two weeks including Christmas and New Years. Ducks Unlimited conducts an annual mid-winter waterfowl census, which occurs later in the winter, to coincide with the setting in of colder weather, hard freezes in the north, and the concentration of waterfowl species on their winter grounds. Additional major surveys of waterfowl, cranes and species of concern, including those on endangered species lists, are conducted by the California Department of Fish and Game (DFG) and the U. S. Fish and Wildlife Service.

These counts, surveys and censuses have all shown that the north Delta area and Staten Island itself support some of the highest populations of various species of ducks and geese, Tundra Swans, Sandhill Cranes and other birds in the state. Because of the substantial array of food sources, and different micro-habitats on the property, and the fact that it is private and undisturbed, it has consistently produced waterfowl and crane populations higher than on adjacent federal and state wildlife refuges. *Audubon Magazine* noted, "If...other farmers can achieve what Shanks has, the results should be impressive. At its peak in January, for instance, the winter waterfowl population was 80,000 ducks, 20,000 geese, 5,000 Tundra Swans, and 14,000 Sandhill Cranes -- a heavier concentration than even the adjacent duck-hunting clubs and state and federal waterfowl area could boast, according to Jack Payne of Ducks Unlimited, which conducts annual surveys in the delta."<sup>5</sup>

The overall significance of Staten Island for avifauna is highlighted by the CBC results. Approximately 1,650 Christmas Bird Counts are conducted in North America. Last year only 39 of those counts north of the Mexican border tallied 150 or more species. Almost all of those counts are, logically enough, clustered in the southernmost parts of our southernmost states, in

the warmest parts of the country where there is still abundant food, especially insects, and open water at the end of December. Thus the coasts of Florida, and communities along the Gulf of Mexico and near the Mexican border usually produce the highest counts. Also coastal communities, usually on large estuaries or bays, from Cape May, New Jersey south on the Atlantic and from Northern California to Mexico on the Pacific regularly top 150. Counts in these coastal areas have the advantage of being able to add a wide range of oceanic and seashore species to their lists.

This makes the Stockton CBC, and especially Staten Island, all the more noteworthy for its inclusion in the 150 Club. It is not only inland, with no ocean, estuary or bay within its circle, but it is also considerably far north, almost astraddle the 38th parallel. And within the count circle a high tally of 115 species has been recorded on the tiny 9,200 acre M & T Staten Ranch. That alone makes the ranch a glittered gem, worthy of special recognition and acclaim. Even more striking is the fact that David Yee says that the total cumulative species count for the Staten Island CBC is around 141 species.

In addition to its importance for waterfowl, cranes and raptors, at least 14 species of shorebirds, and possibly as many as 20, use the ranch in migration and winter. And around a dozen species of sparrows feed there as well.

### **Sandhill Cranes and Staten Island**

The Stockton CBC is especially noted for its totals of Tundra Swan and Sandhill Crane. Some years it even has the highest counts in North America for those two species, and more often the highest count in the state. The 1996-1997 CBC tallied 18,945 Tundra Swan and 9,931 Sandhill Crane.<sup>6</sup> As much of the western portion of the count circle is Delta wetlands and islands, many of the species move around a lot during the day. Thus at different times of the day or of the winter there may be higher or lower counts on Staten Island. Officials with the state Department of Fish and Game point out that while most of the Delta's Sandhill Cranes roost on other islands, including some owned by DFG, they nearly all resort to Staten Island during the day to feed.

The island is particularly important for Sandhill Cranes and especially for the western North American population of the Greater Sandhill Crane subspecies. The Greater Sandhill is listed as threatened on the California Endangered Species list. The DFG reports: "The greater sandhill crane is the largest of six subspecies of sandhill crane in North America. There are five isolated populations living between the Great Lakes and the Pacific coast. The California population breeds in shallow marshes mainly in the northeastern corner of the state and in south-central Oregon, but winters entirely in California's Central Valley. Sandhill cranes, which have survived in captivity for up to eighty years, mate for life and may return to the same nesting territories year after year. In 1988, biologists counted 276 nesting pairs in [California] ... The entire 1988 Central Valley wintering population of greater sandhill cranes was between 3,400 and 6,000 birds. Drought conditions that year resulted in few successful nesting attempts. While numbers have increased over the past four decades, the subspecies is listed as threatened...."<sup>7</sup>

The wintering West Coast populations of Greater Sandhill Cranes are joined by Greater from the Great Basin populations and a slightly smaller form from the southern Canada prairie provinces. And thousands upon thousands of the Lesser Sandhill Cranes from Alaska and even some from Siberia join the wintering flocks. Peak flocks of at least 14,000 Sandhill Cranes have been counted on the Staten Ranch in a single day, and recently as high as 18,000. Almost the entire winter population of western Greater Sandhill Cranes is included in those giant flocks.

Sally Shanks is so enamored of the M & T's Sandhill Cranes and takes such pride in her stewardship of the cranes, that in recognition and thanks for her efforts the U.S. Fish and Wildlife Service invited her up to Alaska to the breeding grounds of the Lessers so that she could see them on their nesting grounds and help color band some of the birds (which is done to help track them on their migration routes and to locate their winter grounds). She had the joy of later seeing 50 of those very birds on the ranch. *Audubon Magazine* reports a charming story of international solidarity: "A Russian delegate to last year's [1992] North American Arctic Goose Conference, dutifully passing up his last chance for shopping in San Francisco to go on an optional trip to Staten Island, went into ecstasy upon sighting a Wrangel Island [Siberian Arctic Ocean] snow goose that he himself had banded in the Siberian arctic. 'He was jumping up and down and shouting "My goose, my goose!" for half an hour before we could pull him away', laughs Hearne who was leading the tour."<sup>8</sup>

Among the other waterfowl, the ranch can host thousands of Greater White-fronted Goose and Snow Goose, hundreds of Ross' Goose and Canada Goose, and thousands of Mallard, Northern Pintail and Northern Shoveller. Thousands of American Coot often cover the flooded fields as well. Although *Audubon Magazine* reported that the ranch was utilized by a great many Aleutian Canada Geese, David Yee, Waldo Holt and officials with the DFG state that it is not a significant winter area for that subspecies and seldom more than a few are spotted. However, Waldo Holt reported once having seen 170 Aleutians eating winter wheat seedlings.

### **Utilization by Raptors**

Nearly 20 species of raptors -- hawks and owls -- have been counted on Staten Island and Yee points out that Staten is one of the surest places to find the endangered Peregrine Falcon, which is attracted by the great number of prey species. "The entire island has been a great spot for raptors, including Red-taileds, Ferruginous, Rough-legged, Northern Harrier, accipiters, Prairie Falcon, Merlin, and Short-eared Owl," he says.<sup>9</sup> Every winter large numbers of raptors move into the Central Valley and especially into the Delta.

Two raptors that are listed as Species of Special Concern and which have been proposed as candidate species for the federal Endangered Species list occur in the Delta and on Staten Island. The Northern Harrier breeds in the area and its numbers increase substantially in the winter. There is also a small resident population of Burrowing Owl. This relatively small owl is the only owl that nests in holes in the ground. While some argue that its population is declining because of suburban housing developments, more intensive agricultural development, and other

habitat alteration, there are also signs that it is adapting very well to artificial prairies such as golf courses and airports. Regardless, there are some two to three pairs that nest on Staten Island and, interestingly, they all utilize abandoned irrigation pipes, which make nice, dry, secure artificial nesting burrows. If it weren't for the ranch and its levees there would be no Burrowing Owls on Staten Island at all.

Equally important, but far more surprising, is the status of the Swainson's Hawk in the Delta. The Swainson's is a common hawk across the entire grasslands and prairies of the West from about the 100th meridian to the Sierras and the Cascades. The vast majority of the birds migrate long distance to winter on the Pampas of Argentina, although a tiny number of immature birds winter in southern Florida and southernmost Texas. However, in California there is only a small remnant population of breeders in the remaining grasslands of the Central Valley. It is listed as threatened on the California Endangered Species list.

The DFG reports: "The Swainson's hawk is one of the most strikingly marked raptors in California. It once nested throughout the lowland areas of the state. It requires vast open grasslands in which to hunt California voles and other small mammals, and birds and insects which this buoyant flyer catches on the wing. Swainson's hawks also require large trees -- cottonwoods, oaks, sycamores, and willows in the Central Valley -- for nest sites adjacent to grasslands or agricultural crops that support abundant and available prey. ... In the Central Valley, where one is most likely to see Swainson's hawks soaring over fields, they have learned to use certain types of agriculture, such as alfalfa, grain, and row crops. They often hunt behind farm equipment, taking advantage of the availability of prey flushed or plowed to the surface. ...

Swainson's hawks feed and roost communally following the breeding season, in preparation for their fall migration to South America. California populations may fly as far as Argentina. On their breeding grounds in our state, Swainson's hawks were once so abundant that they were not considered noteworthy. But since the turn of the century, shooting, habitat destruction, and possible unknown problems in their South American wintering grounds have drastically reduced the number of Swainson's hawks coming to California to breed. ... Of an estimated 775,000 acres of riparian habitat available to nesting Swainson's hawks in the Sacramento River Valley in 1850, less than 12,000 acres remained by 1977. More loss has occurred in the years since then, and future bank protection projects [concrete riprapping of natural stream banks] will eliminate even more crucial nesting areas. .... In 1988, the population was estimated at 550 pairs, or about 10 percent of historic numbers. Ninety-five percent of the breeding territories are on private lands. A female Swainson's hawk requires a territory of about 2,200 acres and a male a territory four to five times that size."<sup>10</sup>

The few pockets of mature trees that the Shanks allow to grow on their levees provide habitat for a few Swainson's Hawks. Occasionally a pair breeds and in 1994 and 1995 at least one pair nested in a big cottonwood on the South Mokelumne. The island provides almost the

perfect habitat requirements for a nesting pair. But far more intriguing, and enigmatic, is the presence of a now regular small wintering population of adult birds in the Delta. These birds hunt over the island and adjacent islands and a total of up to 29 of them have a night roost in the area. At least two birds are counted on Staten Island on the CBC. From casual observation of slight differences in plumage patterns most appear to be the same group of adults returning each winter to the same fields and roosts.

This extremely atypical population was first discovered about 1990. Their provenance remains a puzzle, especially as most of their relatives winter nearly half way around the world in the Southern Hemisphere. Efforts to band them and outfit them with tiny radio transmitters to discover where they come from, have been unsuccessful to date. Efforts by professional ornithologists and amateur birders have failed repeatedly despite the use of all sorts of baited traps. Waldo Holt suggests that the birds are apparently so well fed that they simply ignore the various traps. He has reported watching them follow tractors on Staten Island and capturing plowed up house mice almost immediately behind the disc blades. But wherever the birds come from and whatever their reasons for forsaking migration, they merely add to the attraction and importance of the M & T as a special place.

### **Nesting Species**

During the spring and summer the bird population, as it is throughout much of the Delta, is considerably smaller. Nevertheless, the brush cover growing on the levees, the groups of tall trees atop various parts of the levee system, and the small oases of trees and vegetation around the various homes and shops and especially at the Shanks' home and headquarters provide unusual mini-habitats for the Delta. Also important is the fact that the Shanks have not dredged out the sloughs and islands in the river channels surrounding Staten Island, despite the encouragement of various government agencies, in order to make the river channels more "efficient". Not only have they refused to "channelize" the rivers, but they have also made a practice of restoring sites in the sloughs and channels outside the levees when they are doing levee repair work. This creates additional small islands and riparian habitat outside the levees. They have stabilized the shoreline berms on the outside of their levees and created two lagoons and constructed three mid-channel islands with dredged material. One of those islands now supports a thriving rookery of Black-crowned Night Herons.

Such surprising species as the Wrentit nest on the levees and mid-channel islands and are also present on the Christmas Count. Blue Grosbeak is another rather surprising summer resident of the levee and mid-channel island thickets. Common Yellowthroat also nests in similar habitat. The California DFG has been doing bird surveys out on the rivers where the Shanks have been doing their restoration, in order to compare more natural rivers with modern Army Corps of Engineers riprapped channels. They have added Spotted Towhee, Song Sparrow, Red-winged Blackbird and Brown-headed Cowbird. Barn Swallow and Black Phoebe plaster their mud cup nests under bridges and the eaves of buildings and barns on the ranch. And Cliff Swallow has its gourd-shaped mud nests under the bridges to the island. There are also lots of Ring-necked Pheasant nesting on the ranch.

Sally Shanks reports that a couple pairs of Great Horned Owl nest on the island, including one pair that nest in her yard. Sally also reports that the cluster of tall, mature trees surrounding her yard serves as a roost site for egrets and herons. The ranch grain mill has a nesting Barn Owl, and it is possible that other buildings do too. Nest boxes have been placed on poles and have successfully attracted breeding American Kestrel. Sally also arranged to erect nest boxes for Wood Ducks, although the island is not only outside of the prime range for the species, but there are also few trees to attract pioneering Wood Ducks. But as if to humble Jim's skepticism, at least one of the nest boxes has successfully produced a brood of young Wood Ducks.

Part of the eternal vigilance required of life below water level and behind levees is that one must continuously check for leaks. Most farming operations in the Delta rely on mechanical mowing or controlled burns to clear the inside of their levees in order to check for leaks. The Shanks, however, have long grazed sheep on the ranch fields after they have been harvested and inspect their levees by grazing off the vegetation with their sheep. Brian Williams, of the Sacramento Audubon Society, runs an annual breeding bird survey on the island. Finding a few ground-nesting species on the levees, he recommended that the Shanks stagger their sheep grazing schedule to allow a longer window for the birds to complete nesting and for the young to fledge. The Shanks were willing to adopt this wildlife-friendly management tool.

### **Recognition and Problems for the Staten**

One of the striking things about the Staten Ranch and the Shanks is that in interviewing a range of people from birders to federal officials, no one had anything bad to say about them. In twenty years of researching private conservation around the country, I find that unique. Ordinarily, no matter how impressive someone's private conservation efforts have been, someone can always be found who will say "Yes, but," or worse. I suppose some nearby duck hunters might complain that once duck season opens too many birds take shelter on Staten Island and that the least the Shanks could allow some hunting to drive the game around. Meanwhile the praise is widespread and effusive.

Waldo Holt wrote me, "I love Staten Island. Jim and Sally are doing a great job. Plus they let people like me have the run of the place. They go to much effort and I can believe expense as well."

Certainly as much as anybody, Jim Shanks appears to appreciate the considerable irony in the fact that he has suddenly become a poster boy and the model for "wildlife-friendly agriculture," even though he is doing now essentially what he has been doing since he arrived at the M & T Staten Ranch 45 years ago. As Sally points out, "Jim has always enjoyed wildlife. He's always done what he can to encourage the birds."<sup>11</sup> What he has done is to refine, improve and expand his wildlife-friendly management practices and he has kept an open mind and been receptive to suggestions and friendly advice.

What has really changed and where there is a ray of hope, is the world around him. Over the past two decades agriculture, farming and ranching, and especially the large agribusiness operations which have increasingly come to dominate the scene in many areas have been under attack for "despoiling" the environment. This is particularly true when the modern farm is held up to the nostalgic reference for the traditional romanticized family farm. Some national environmental organizations and, indeed, many of the regional and local organizations that have begun to appear on the scene, seem hell-bent on loosing a jihad against farming and ranching, particularly on a commercial scale.

Nonetheless, local conservationists seeking to maintain livable communities, open space and aesthetically pleasing landscapes have in some places begun to search for ways to work with landowners rather than against them. The response to land managers like Jim and Sally Shanks is illustrative of that trend. And nowhere is that trend more evident than in California. With a population of 33 million people, and 40 million looming on the near horizon, finding a way to share the land with nature is a critical concern. However, the environmental debate in California is still dominated by extremism and a desire to impose draconian land-use controls and micro-management of every inch of the state.

The California DFG's 1996 full color booklet *Farming for Wildlife* features some 20 different farmers throughout the Central Valley and has eight full page "Farmer Profiles" highlighting especially innovative farm managers. Jim and Sally Shanks are profiled for "Winter Flooding Wheat and Corn." Under a large photo of the Shanks viewing the evening flocks arriving on their fields under a setting sun, the story begins: "'Isn't that a sight?' said Jim Shanks, pointing to at least 500 Sandhill Cranes feeding on flooded corn stubble. He was talking to a mixed audience of farmers and agency folks on tour at M & T's Staten Ranch following a workshop the ranch hosted on wildlife-friendly farming practices. Ranch manager Jim Shanks and his wife, Sally, each have developed reputations as aggressive farmers and conservationists. ... 'I have been flooding about 6,000 acres of corn and wheat stubble for 20-plus years. Every year we make little modifications and we see more birds,' says Jim. 'Last winter we counted 18,000 greater and lesser sandhill cranes on Staten Island alone.'"<sup>12</sup>

The profile concludes, "In recognition of their dedicated work on behalf of wildlife, Jim and Sally received the Department of Fish and Game's Wildlife Conservation Award and the Central Valley Habit at Joint Venture's Innovative Farmer Award."<sup>13</sup>

*This case study was written by Center for Private Conservation senior scholar Robert J. Smith. For the purpose of this case study one site visit was made to the M & T Staten Ranch in early April 1997. I conducted an extensive interview with Sally Shanks and a shorter interview with Jim Shanks and also looked through many photos of the ranch at various times of year. Subsequently I have had additional phone conversations with Sally Shanks, and she has sent me additional information and has commented on early drafts of this paper. I also visited the National Audubon Society's California office in Sacramento and discussed the Staten Ranch with*



*Daniel Taylor, their Executive Director. I have had additional conversations with Taylor and he has given me contacts with the Stockton Audubon Society who have hands-on birding knowledge of Staten Island. I also visited the California Farm Bureau Federation headquarters in Sacramento and met with Bruce Blodgett, Director, National Affairs & Research, and with Bob Krauter, Assistant Manager, Information Services, to discuss wildlife-friendly farming and model farmers such as the Shanks. I also visited with Dave Patterson, Habitat Services Director, of the California Waterfowl Association in Sacramento who was one of the first to direct me to the Shanks. On a return visit to the Kern River Preserve [subject of a December 1996 CPC case study] in the mountains east of Bakersfield, I spent time with Bob Barnes, past Conservation Director for the California office of the National Audubon Society in Sacramento, who is a big fan of what the Shanks are doing on Staten Island and who had arranged to bring NAS staff from the East Coast out to meet with the Shanks and see how the Endangered Species Act was creating problems for them in their efforts to manage their farm. The author wants to give special thanks to the following people who have provided information by phone and fax over the past few months: David Yee of Lodi, co-compiler of the annual Stockton Christmas Bird Count; Waldo Holt of Stockton, Conservation Chairman of the San Joaquin Audubon Society; David Wagner of the San Joaquin Audubon Society; Ashley Smith with the Audubon Society in New York city; Steve Bunton with Ducks Unlimited in Sacramento; Ruth Ostroff with the U.S. fish and Wildlife Service's Central Valley Joint Venture Office in Sacramento, and Frank Gray and other personnel with the California Department of Fish and game regional office in Rancho Cordova. None of the above people are, of course, in any way responsible for the author's conclusions or interpretations.*

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## ENDNOTES

<sup>1</sup> A one to two slope refers to a levee where the width of the base is twice the height of the levee.

<sup>2</sup> The data on bird populations in the Central Valley are from Andrew Engilis, Jr., "Wildlife Resources of the Central Valley, California: Birds - Part II: Winter Residents and Transients," *Valley Habitats: A Technical Guidance Series for Private Land Managers in California's Central Valley*, (Ducks Unlimited, Inc.), No. 6.

<sup>3</sup> *Field Notes*, "Ninety-seventh Christmas Bird Count" (1997), Vol. 51, No. 2, p. 644.

<sup>4</sup> William C. Dillinger, "Meshing Birds With Business", *Audubon Magazine*, (July-August 1993), p. 106.

<sup>5</sup> Dillinger, p. 108.

<sup>6</sup> *Field Notes*, p. 643.

<sup>7</sup> Peter Steinhart, *California's Wild Heritage; Threatened and Endangered Animals in the Golden State*. (California Department of Fish and Game/California Academy of Sciences/Sierra Club Books, 1990), p. 18.

<sup>8</sup> Dillinger, p. 109.

<sup>9</sup> David Yee, personal communication, by fax, (October 3, 1997).

<sup>10</sup> Steinhart, p. 44.

<sup>11</sup> Dillinger, p. 104.

<sup>12</sup> Jeanne Clark and Glen Robbins, *Farming for Wildlife: Voluntary Practices for Attracting Wildlife to Your Farm*, (California Department of Fish and Game, September 1966), p. 12.

<sup>13</sup> Clark and Robbins, p. 12.