



## A WALK IN THE MARSH

Updates on the Pacific Flyway Center

On Saturday, June 17<sup>th</sup>, 2023, the Pacific Flyway Center broke ground on the first phase of construction for a 845-acre wetland preserve on the west side of Suisun Marsh. The Pacific Flyway Center will be created to provide a place to connect people to nature and experience the Pacific Flyway. It promotes education of youth through wetland-related education and outdoor exploration, inspiring land stewardship and conservation, and promoting the needs of supporting habitat, waterfowl, wildlife, and people to preserve native biodiversity. The Pacific Flyway Center will be located just east of I-680, south of the Gold Hill Road overcrossing on the former California Department of Fish and Wildlife Garibaldi Unit and the Gold Hills and Golden Gate Duck Clubs. With a total of 800-acres, most of the preserve will be built on the 560-acre Garibaldi Unit, but the smaller 185-acre Golden Gate and 55-acre Gold Hills properties will be used for habitat development and education programs.

The goal for Phase 1 of the project is developing a 124-acre ‘A Walk in the Marsh’ outdoor experience. ‘A Walk in the Marsh’ will stretch a miles across the property to allow visitors to delve deep into the wetland environment along a 3-mile network of looping trails, paths and boardwalks. Future phases will include a 28,000 square foot education building and will offer opportunities to experience the marsh. The education center will have both interpretive and interactive exhibits for visitors to experience.



Artist's rendering of the interior of the Pacific Flyway Center's education center

The Pacific Flyway Center has received approval for the construction of Phase 1 from the U.S. Army Corps of Engineers, the San Francisco Bay Conservation and Development Commission (BCDC), and City of Fairfield. With permits in hand, the initial work will begin including grading and construction activities to create 15 ponds and wetlands on the site. Phase 1 will cost about \$5 million to complete, but it has been partially supported by a grant award of more than \$1.48 million from the Delta Conservancy through its Community and Economic Enhancement Grant Program (Proposition 68). The funding program supports enhancement projects that sustain the Delta's heritage while focusing on increasing public access to recreational opportunities. The Pacific Flyway Center is completing the fundraising for the last half-million dollars for Phase 1, and Phase 2 is scheduled to begin soon after and be completed by the fall of 2024.

## Land of the West Wind

Quarterly Newsletter  
Suisun Resource Conservation District  
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**SRCD's public meetings are every  
second Wednesday of each month at  
2PM at the  
Solano County Supervisors Chambers:  
675 Texas Street  
Fairfield, CA 94533**

SRCD represents private landowners of the Suisun Marsh at the Federal, State, and local levels. It's historic goal has been to achieve a water supply of adequate quality so that preferred wetland habitat values will be retained through appropriate management practices. With cooperation from landowners and various agencies, SRCD develops new programs aimed at protecting and improving the Suisun Marsh for future generations.



## THANK YOU, ARNIE!

**Suisun Resource Conservation District (SRCD) thanks one of the longest tenured Board Directors for his service!**

Arnold Lenk was a long-standing member of Wheeler Island Gun Club when he joined the SRCD Board of Directors in 1999. At the time he was appointed, Tim Egan was President of the Board and SRCD was led by Executive Director Leland Lehman.

After the turn of the century, Mr. Lenk has worked closely with Executive Director Steve Chappell and has played an important role in all aspects guiding SRCD policies and programs. For the past 23 years, Mr. Lenk and his wife Charlene were regular attendees at SRCD's monthly Board meetings. Mr. Lenk's presence ensured that SRCD represented the diverse interests of the private landowners and chaired the SRCD Agency Committee.



Mr. Steve Chappell and Mr. Arnold Lenk at the 2023 Spring Landowner Workshop

In April of 2023, Mr. Lenk announced his retirement from SRCD Board of Directors. He expressed his appreciation for working with the Board and providing support for operations at SRCD and in assisting the landowners of Suisun Marsh. The Board of Directors and SRCD staff wish Arnie and Charlene the very best in their retirement.

Mr. Lenk can take pride in the legacy he has created with SRCD as the agency has more than doubled the number of staff and programs that serve the Suisun Marsh landowners during his tenure. SRCD has greatly appreciated your dedication to Suisun Marsh conservation. Thank you Arnie!



SRCD Board Members, March 2023 (left to right): Mike Lewis, Jim Waters, Arnold Lenk, Tony Vaccarella, Terry Connolly

One Year Later...

## The Salt Marsh Harvest Mouse Rangewide Survey

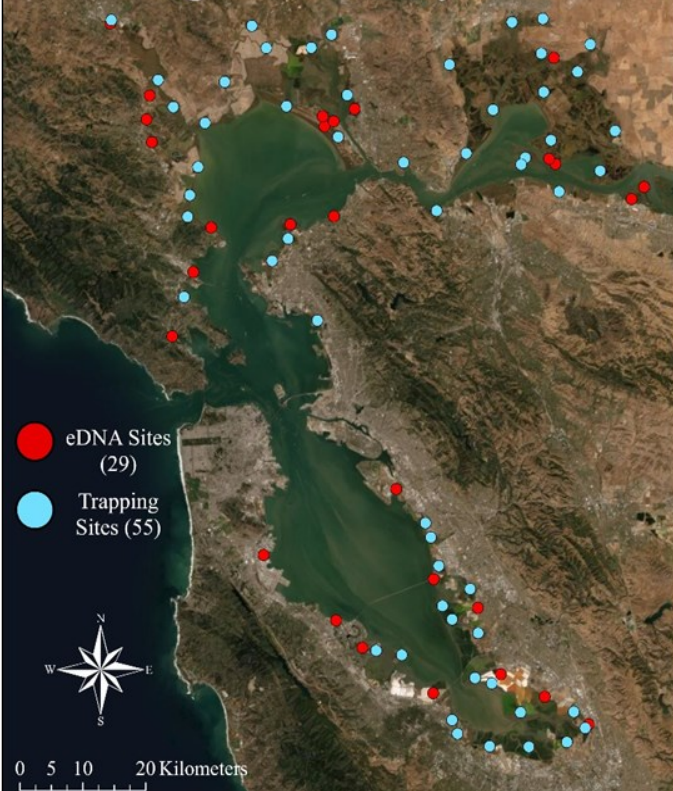


By Jason Hagani



Photo of an ear tagged marked salt marsh harvest mouse (*Reithrodontomys raviventris*)

### 2022 Salt Marsh Harvest Mouse Regionwide Survey Sites



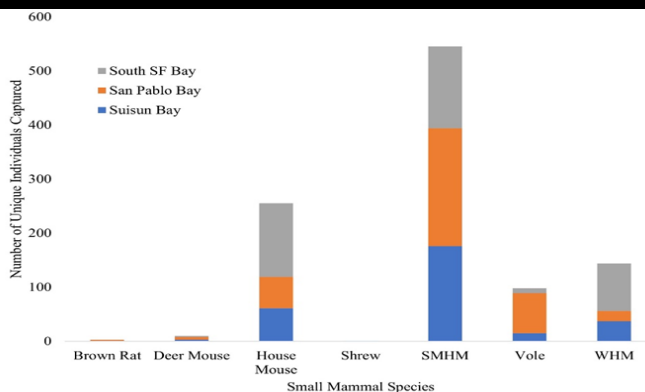
Map above shows the 2022 salt marsh harvest mouse rangewide survey sites.

Last summer, SRCD, CDFW, WRA Consulting, USFWS and many other groups partnered for the first rangewide survey of the salt marsh harvest mouse (*Reithrodontomys raviventris*) in history. This ambitious endeavor – a collaboration between over 30 organizations and 150 people – collected data on the rodents across the coastal wetlands of the San Francisco Estuary within a single season. As an endangered species, conserving salt marsh harvest mice (or “salties”, as they’re affectionately known) is a priority for many wildlife biologists and wetland managers throughout the region. This rangewide survey will therefore provide important information on the populations, demography, and distribution of this endemic critter. While the data collected continues to be analyzed, we can now look back on the efforts completed a year ago and glean some initial results.

Over a seven-week period, survey partners conducted small-mammal trapping sessions at 55 sites throughout the San Francisco Estuary while simultaneously collecting eDNA samples from droppings at an additional 29 locations. In addition to the salt marsh harvest mouse, eight other species were found: the western harvest mouse (*R. megalotis*), house mouse (*Mus musculus*), deer mouse (*Peromyscus maniculatus*), brown rat (*Rattus norvegicus*), roof rat (*R. rattus*), California vole (*Microtus californicus*), and ornate shrew (*Sorex ornatus*). In total, 1089 unique individual rodents were captured and processed throughout the survey. Half (545) of the captures were salt marsh harvest mice, and 306 small mammals (including 176 salties) were captured in Suisun Bay, compared to 394 in San Pablo Bay (218 salties) and 389 (151 salties) in the South San Francisco Bay.

As one of the hotspots of salt marsh harvest mouse habitat, Suisun Marsh played a key role in the rangewide survey. Suisun Marsh and the wider Suisun Bay area hosted seventeen small mammal surveys (plus an additional 5 eDNA sites) on a mixture of private duck clubs and public areas. Salt marsh harvest mice were found at every site throughout Suisun except for one private duck club – with 35 unique individuals captured at CDFW’s Crescent Unit in just three days. Salt marsh harvest mice were even found on islands in Suisun Bay – with Ryer, Roe, Lower Joice, and Chippis Islands all hosting at least a few individuals of the species.

The results of this rangewide confirm Suisun Marsh’s value to this endangered species. Salties were also found on managed and tidal wetlands alike, reaffirming their ability to adapt to a variety of habitats and water conditions. Overall, we can now confidently say that this rangewide survey was a huge success supported by the cooperation of landowners in Suisun Marsh.



Graph illustrates the number of unique captures of various mammal species during the 2022 rangewide survey.

# Discovery and Management of Invasive Nutria in California's Suisun Marsh

## California Department of Fish and Wildlife's Nutria Eradication Program

Nutria, *Myocastor coypus*, were first introduced to California in the late 1800s to supply pelts for the fur trade. When the fur markets collapsed in the early 1940s, many nutrias were released or escaped from these fur farms. The rodents were not known to be adaptable to wetland conditions but a population of 18 individuals from an Oakdale fur farm were spotted inhabiting nearby wetlands. This discovery caught the attention of the California Department of Fish and Wildlife (CDFW) because of the damage the rodents can perform on a wetlands landscape. The Maryland Department of Fish and Wildlife warned the states of the Pacific coast of this species' voracious appetite for emergent vegetation, preferably cattails, and documented their consumption of massive amounts of vegetation within Chesapeake Bay region (Figure 1).



CDFW began to combat this invasive species in the 1950s and declared it eradicated by the 1970s. However, the semi-aquatic rodent actually had survived, and re-established populations were discovered in March of 2017. By the following year, CDFW deployed numerous survey teams to work in areas with the highest amount of environmental damage like the San Joaquin Valley (SJV). CDFW further expanded their eradication program to address the spread of Nutria across the SJV and implemented plans to inspect other suitable habitat that could foster Nutria across California.



CDFW are actively setting cameras, tracking individuals, and baiting and removing Nutria from Merced, Stanislaus, Fresno, San Joaquin, Fresno, Mariposa, Sacramento, Madera, and Tuolumne counties. Grizzly Island Wildlife Area (GIWA) and Suisun Marsh stood as potential areas that could harbor the species, but sightings or captures of species were not recorded or documented. However, in 2022, CDFW encountered a small population of Nutria on Sherman Island about 2 miles east of Montezuma Slough, and CDFW suspected similar populations could have established near GIWA or surrounding private properties. CDFW has deployed a team on Grizzly Island Wildlife Area (GIWA) to determine the extent of Nutria in the area. The team will inspect the immediate area of Montezuma Slough and the Department of Water Resources (DWR) water distribution facility at Roaring River to locate Nutria. The Suisun Marsh branch of the Nutria Eradication Program is supervised by Tal Robinson with a team of biologists and technicians.

Photo 1: Example of a CDFW biologist removing a caught Nutria from a trap.



[Discovery and Management, Cont. on Pg. 5]

Robinson and his team are leading the GIWA Nutria Eradication Program and have been conducting surveillance on Suisun Marsh since early April 2023. Within a few days of beginning their surveillance, the eradication team encountered Nutria sign, and they soon detected a large animal on a camera. The Nutria was captured in early May and dispatched by the trained CDFW personnel. It was the first Nutria taken in Solano County and led to establishment of an operations base on the wildlife area.

However, success of the CDFW eradication program highly depends on collaboration from Suisun Marsh landowners. Permission for access from properties, Reclamation Districts, and private club landowners are crucial to achieving eradication. Willing parties can sign a Temporary Entry Permit (TEP) to allow CDFW staff access onto property to perform habitat assessments for Nutria and setting cameras for early detection. Suisun Marsh landowners also may help to identify Nutria.

Photo 2: Distinguishing features of Nutria



Compared to beavers and muskrats, Nutria distinguishing features include a light-colored face with white whiskers, bright orange teeth, and a golden-brown arch under both ears. Their tail is long, rounded and tends to stay still while swimming unlike muskrats that swing their tails (Photo 2).

Nutria signs include partial webbed tracks with one free toe, floating emergent vegetation, green to brown cylindrical 2"-3"scats, and vegetative feeding beds. They have voracious appetites and can consume 25% of their weight each day. Recognizing their tracks, feeding habitats, and "bite mark" can be particularly useful to identify their presence (Photo 3). Nutria prefer to consume the basal portions of emergent vegetation and can destroy 10x more vegetation than the amount consumed, leading to severe wetland erosion and conversion to open water. Lastly, burrows and tunnels made by Nutria can be 3"-18" deep and may extend 150 feet into the bank which may lead to major infrastructure and levees damages.

The success of the eradication program will depend on a combination of factors including the extent of the Nutria in the area, CDFW's resources, and land access in Suisun Marsh and committed engagement from local landowners. The program provides an avenue to remove the invasive species but can only be achieved if willing landowners provide access for surveillance and removal operations. For additional information please visit: [www.wildlife.ca.gov/nutria](http://www.wildlife.ca.gov/nutria) or contact Tal Robinson ([nutria@wildlife.ca.gov](mailto:nutria@wildlife.ca.gov) or 209-234-3442).

Photo 3: Examples of Nutria Signs



## PHRAGMITES CONTROL LEADS TO LESS PREDATOR PRESENCE?



There are only a few months until waterfowl season, and completing habitat management activities are sure to be on everyone's to do list. Completing activities such as submitting for RGP#3 permits, conducting levee inspections, and keeping records of salinity/pump hours/water depths required annually. Invasive weed control is another good example of an annual management activity that clubs require planning to accomplish. Invasive weed control, however, can be a particularly important habitat management activity because it can not only lead to more nutrient rich plants but possibly decrease predators' presence.

According to a recent study released by the U. S. Geological Survey (USGS) Western Ecological Research Center, raccoons and skunks tend to use *Phragmites* patches to navigate themselves to past "reward sites" like garbage cans and waterfowl nests. USGS analyzed the movement of GPS-collared predators and recorded water control structures, levees, clubhouses, roads, and powerlines to observe movement patterns alongside the qualifiable dataset of Grizzly Island Wildlife Area's upland nesting waterbirds. The results suggested that although predators are territorial and diurnal, they often stay close to levees and den in or in close approximately of *Phragmites* patches to use them as natural corridors to and from waterfowl nest sites or garbage cans. Management activities where certain predators are permanently removed may result in invasion by more predators. Annual chemical application may break up dense, thick, and large *Phragmites* patches decreasing the number and size of natural corridors they often use. Furthermore, by disrupting predators' daily movement patterns, predators will spend less time near *Phragmites* patches and have a lower chance of foraging for waterfowl nests in upland fields.

Suisun Resource Conservation District (SRCD) recognizes the importance of invasive weed management activities and welcomes landowners of Suisun Marsh to participate in the Pest Weed Control Program each year. Landowners can order hand application supplies and participate in aerial spray applications with a helicopter to control *Phragmites* and other problem vegetation. Hand application orders are received and processed together to provide a cost effect price to landowners on certain chemicals. Landowners are also only billed for helicopter time and amount of chemical used for aerial spray at their property. This year, there are 17 participants enrolled in the program and should expect their order by late July. Late requests of chemical will not be accepted. Please coordinate with your Water Manager for continued interest in this program.

- Introduced in California in 1879 near Martinez, and in 1882, 300 fish were released into lower Suisun Bay.
- Striped bass can be found along the coast from Canada to lower Mexico. Many also are found in landlocked locations across California.
- In the temperate bass family, adult bass move into fresh-water by October/November.
- A 5 lb female can spawn 180,000 eggs, and a 15 lb female can produce over a million eggs. Spawning occur when temperatures are at least 58° F and end by mid June. The transparent eggs drift in water for 2 days.
- Often called stripers, the bass hatch at 1/6 of an inch, grow to 10" in two years, 16" at three years, and 20" at four yours. The 1992 record in California is 67.5 lb.



- A 125 lb striper was caught by a commercial fisher in 1891. Current world record is 81 lb.
- Striped Bass are invasive, but California's anglers are hooked on the species.
- Harvest limit is 2 stripers, minimum size limit for striped bass is 18", no max limit length

The Pacific Flyway Center is expected to become a major tourism destination that will draw in outside dollars to the region and the city.



Claude Grillo, vice president of the Pacific Flyway Fund, has led the project development since early 2018 and continues to recruit organizations to participate in development of the Pacific Flyway Center. Organizations including the California Waterfowl Association, Audubon California, Ducks Unlimited, Suisun Resource Conservation District, and International Bird Rescue have joined in support of the Pacific Flyway Center to provide expert assistance in developing the concept. With a goal of creating and educating future stewards, the Pacific Flyway Center will be a place for the public to learn and explore the environment and will be open to the public in the spring of 2025.

## **Suisun Conservation Fund's 19th Annual Shoot and Social Fundraiser and 60<sup>th</sup> Anniversary**

**Sporting Clays Shoot, Steak BBQ Lunch, Raffle, and Auction**

**"Come Sharpen Your Shooting Eye for the Upcoming Season!"**

**All proceeds to benefit SRCD Landowners**



**Friday, July 28 @ 9AM-3PM  
Birds Landing Hunting Preserve and Sporting Clays**

**Cost \$100.00 per Person**

The organizing committee is actively soliciting volunteers, donations of cash, auction, and raffle prizes

For more information contact: SRCD @ (707) 425-9302, [SRCD@SuisunRCD.org](mailto:SRCD@SuisunRCD.org),  
Or John Takekawa 707-631-1402, [jtakekawa@suisunrcd.org](mailto:jtakekawa@suisunrcd.org)

*Land Of The West Wind*  
SRCD Newsletter

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— Suisun Conservation Fund's 19th Annual Shoot & Social Fundraiser —

*Please RSVP by Monday, July 24nd, 2023*

I would like to attend the SCF 19th Annual Shoot & Social Fundraiser on **Friday, July 28th 2023.**

How many \_\_\_\_\_ at \$100.00 per person. I have included a tax deductible cash donation of \$ \_\_\_\_\_.

Please contact me for an auction or raffle item \_\_\_\_\_.

Make check payable to Suisun Conservation Fund & mail to:  
or email [SRCD@suisunrcd.org](mailto:SRCD@suisunrcd.org) or call 707/425-9302.

SCF  
2544 Grizzly Island Road  
Suisun, CA 94585-9539

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*The Suisun Conservation Fund is a 501©(3) organization establish exclusively to support the conservation work of the Suisun Resource Conservation District.*