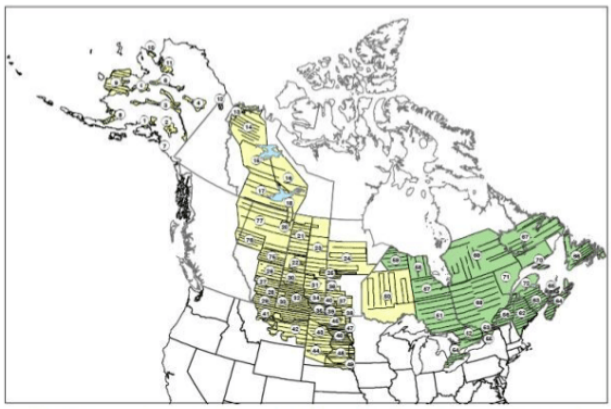
Land of the West Wind

Suisun Resource Conservation District

Volume 20 Issue 2 June 2020

2020 May Breeding Survey canceled —what does it mean for limits?

The U.S. Fish and Wildlife Service (USFWS) was unable to perform the Waterfowl Breeding Population and Habitat Survey (WBPHS or May Survey) this year. The May Survey is used to set bag limits and advise management and correct population models for the next year. Similarly, the Canadian Wildlife Service (CWS) and several state and provincial agencies also cancelled their participation for 2020. Decisions to cancel the May Survey and other migratory bird monitoring this spring were based on the priority of protecting health and safety of employees and the public during the COVID-19 Pandemic. Domestic and international travel restrictions also made many operations impossible. **Bag limits for the 2020 Pacific Flyway duck season have already been released, but limits for 2021 will be affected by the cancellation of the May 2020 survey.**



Strata and transects of the Waterfowl Breeding Population and Habitat Survey (yellow = traditional survey area, green = eastern survey area).

USFWS gave serious consideration to implementation of partial surveys but ultimately concluded that development of analytical procedures to inform 2021-2022 hunting season recommendations using the most current and complete data was a more defensible and reliable strategy given COVID-19 restrictions. Cancellation of these surveys will impact population estimates and harvest management decisions for most ducks, geese, and webless gamebird species. USFWS will work with the Flyway Councils and CWS to develop alternative, temporary methods for formulating harvest recommendations including adjustments to Adaptive Harvest Management strategies for the 2021-2022 duck seasons. Adjustments to goose, Sandhill Crane, American Woodcock, and dove harvest strategies will also be necessary.

USFWS, in consultation with the Flyway Councils, will use long-term data from spring and summer monitoring for these species to make regulatory harvest management decisions. For the duck seasons, USFWS uses long-term data and models to predict 2020 spring abundance of ducks and habitat conditions. The results from these predictions will be combined with existing harvest strategies to determine appropriate levels of harvest for the 2021-2022 season. This will ensure the sustainability of ducks and provide hunting opportunities. Due to the amount of time that it takes to process the huge amount of data collected from the breeding surveys, the season limits are based off of data from the previous year (2020 bag limits are based on the spring surveys from 2019).

Photo credit Andrea Mott, USGS

Although the 2020 May Breeding Survey was canceled, North Dakota Game and Fish completed its 73rd May breeding duck survey with reduced crews, and results showed an index of 4 million birds up 18% from 2019. The wetland index was the sixth highest on record, and the breeding duck index was the 13th highest. Both indices were the highest since 2014. The spring water index was up 65% from 2019. Duck numbers were stable or higher for all ducks except Redheads (down 12%) and Northern Pintails (down 2%), and green-winged teal were at record highs, up 66%. The July brood survey will provide a better indication of duck production and insights about the fall migration flight.

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Quarterly newsletter of the Suisun Resource Conservation District
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SRCD's public meetings are held at 2 PM on the second Wednesday of each month 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. Its 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 Through cooperation with landowners and various agencies, SRCD seeks to develop new programs aimed at protecting and improving the Suisun Marsh for future generations.

Tracking Ducks at Your Duck Club

Mike Casazza, Research Wildlife Biologist
USGS Western Ecological Research Center

Starting in 2015, the USGS and California Department of Water Resources (DWR) with support from SRCD began tracking common dabbling ducks using cell-phone tower (GSM) and GPS technology within Suisun Marsh. The Suisun Marsh Program initiated a collaborative effort to better understand the value of Suisun Marsh for waterfowl within the Pacific Flyway. This effort supported the 1984 Suisun Marsh Plan of Protection, the 2014 Suisun Marsh Habitat Management, Preservation, and Restoration Plan, EIS and the 2015 Suisun Marsh Preservation Agreement. These Plans and Agreements are intended to mitigate the effects of the Central Valley Federal and State Water Projects on Suisun Marsh and to conserve its wetland and wildlife resources.


Hen with telemetry backpack

Ducks are tracked with small, solar-powered, cell-network connected GPS backpack transmitters. Since 2015, nine duck species have been marked (Table 1). Though the marked birds make up a small fraction of the total birds using Suisun Marsh, location information from one marked bird is representative of many more individuals and can provide useful insights to aid wetland and wildlife management. In an effort to make this information available to public and private land managers, USGS, DWR, and SRCD are developing waterfowl reports for each parcel in the Marsh that will be distributed to landowners.


Trapped ducks are banded and are selected for a transmitter

The goal of the landowner reports will be to provide wetland managers with information on the timing, precise locations, and species that are using their wetlands. This information may be used to identify areas and habitats preferred by ducks and management approaches which could be replicated in other locations that benefit duck populations in Suisun Marsh. The landowner reports will include information describing the number of marked individuals and their locations in each wetland throughout the year. The year is broken into 4 time periods: Spring Staging, Summer Nesting and Brooding (resident birds), Early Hunting Season, and Late Hunting Season—to help identify how habitat use changes over time. The early and late hunting season periods are further broken into day and night use. Reports for each parcel will eventually be made available for clubs to view.

Tracking, Continued on page 3

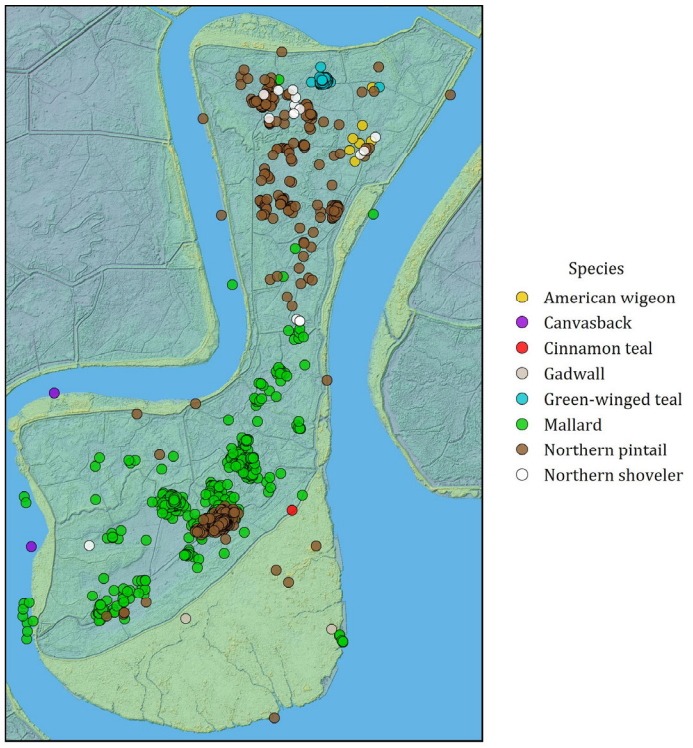
Tracking Ducks at Your Duck Club *(continued)*

How do ducks use the marsh? Telemetry data collected by the USGS continues to help us answer this question. Using small, light-weight transmitters, researchers have been able to determine how far the ducks move, what wetland vegetation types they select, how much space they use when not flying (e.g. when foraging or roosting), and how their time was allocated across the day. Results showed that the ducks may travel shorter distances and use smaller areas than previously thought, indicating that Central Valley ducks benefit from small, resource-rich habitat patches.

Table 1

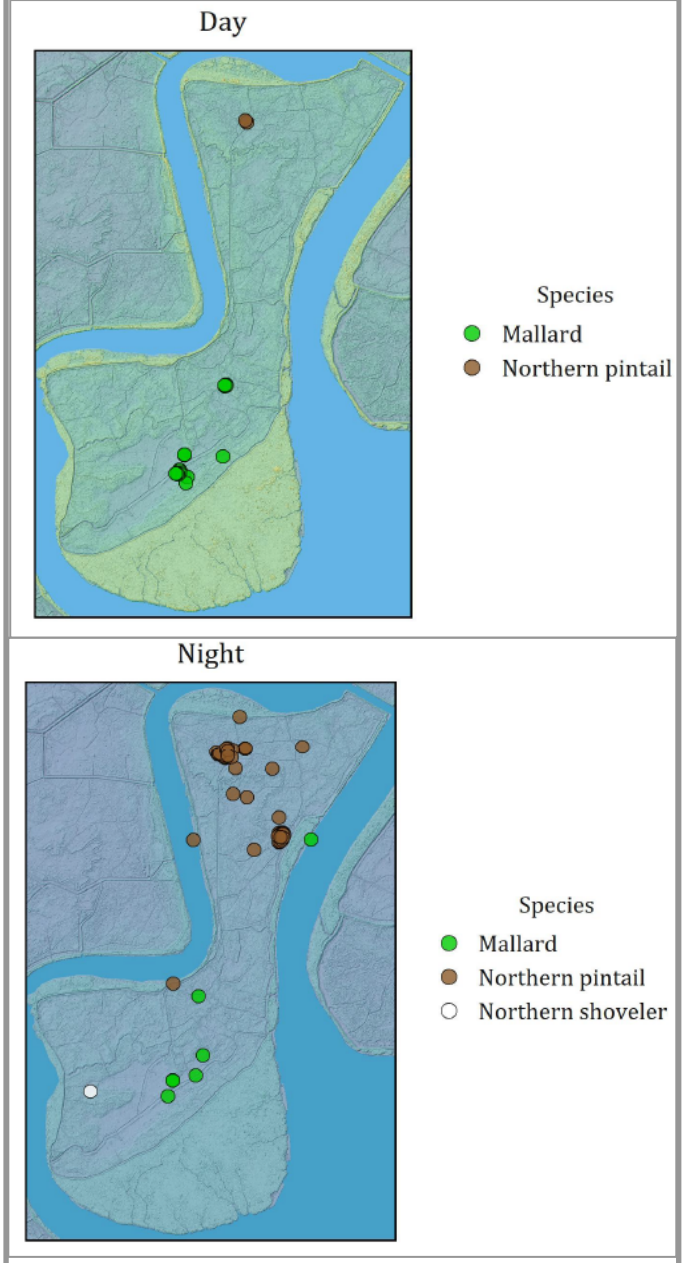
Species	2015	2016	2017	2018	2019	2020	Total
Blue-winged teal	0	0	0	4	0	0	4
Canvasback	0	8	3	0	0	0	11
Cinnamon teal	0	0	14	10	10	0	34
Eurasian wigeon	3	13	24	0	0	1	41
Gadwall	13	34	6	23	12	0	88
Green-winged teal	0	0	0	0	1	16	17
Mallard	34	65	38	27	24	1	189
Northern pintail	19	39	31	37	7	2	135
Northern shoveler	5	19	2	0	2	0	28

Table 1. Number and species of marked birds that use Suisun Marsh.



Locations of marked birds on Lower Joice Island Duck Club.

Day and Night locations at Lower Joice Island in 2015 during early hunt season (September though November).



Lower Joice Island is characterized by differences in habitat between the north and the south half of the Island. The north unit features open water, often favored by pintail, while the southern ponds have more emergent vegetation, such as Alkali Bulrush. Telemetry data can help support assumptions that are widely accepted by duck hunters and biologists or uncover new ideas for management. Telemetry data shows the distribution broken down by species as to what we might expect but also has shown that birds move shorter distances during the season with most flights being less than a kilometer.

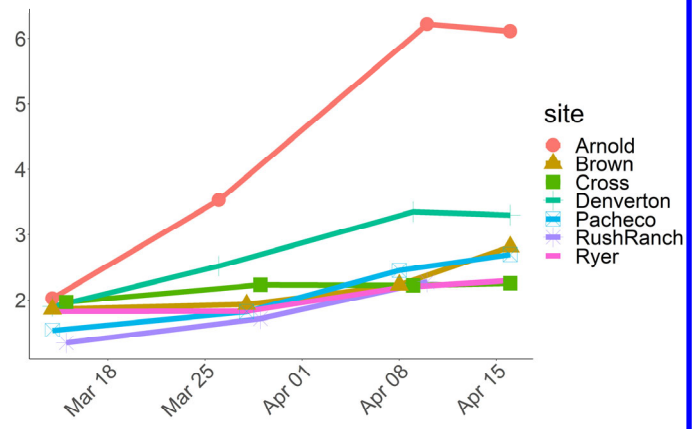
Juvenile Salmon Distribution, Abundance, and Growth in Restored and Relict Bay-Delta Marsh Habitats

Brett Harvey,
DWR Senior Environmental Scientist

You may have wondered what the colorful floating squares were in Cross Slough, or noticed a trawling research vessel in Suisun Slough. These are part of several exciting fish studies currently taking place in Suisun Marsh. The study *Juvenile Salmon Distribution, Abundance, and Growth in Restored and Relict Bay-Delta Marsh Habitats* (Tidal Parr Study) is a group of collaborative studies underway in the upper estuary that began in January 2019 and will continue through June 2022. The studies are investigating how juvenile salmon use and benefit from marsh habitats of different qualities in the region from Sherman Lake to San Pablo Bay. Although this region is the location of much ongoing and planned habitat restoration, the way that juvenile salmon use these habitats is one of the least understood aspects of the salmon life cycle in the Central Valley. The information we collect will be used to better inform and guide restoration and resource management.

This study involves Trawl Surveys, Salmon eDNA Surveys, a Stable Isotope and Otolith Microstructure Study, and a Cage Growth Study. This year (2020), the Cage Growth Study included a side experiment: manipulation of the drain gates into Luco Slough to observe changes in water quality, aquatic bugs (fish food), and caged fish growth.

Average weight (grams) of caged fish at seven locations across Suisun Marsh and Bay



Fastest growth appeared to occur in sloughs connected to large storage pools of water (e.g. managed wetlands).

During the first year of the study, a “wet” year, we found that wild (non-hatchery) salmon were widely distributed across the study region, and that there were large differences in growth rates across cage locations. This year, a relatively “dry” year, was going to be an interesting comparison. Unfortunately, the Covid-19 lockdown interfered with 2020 data collection for all studies. Useful data was still collected, and the comparison between wet and dry conditions will be of particular focus in future analyses. The study team hopes to be back in the field in full force for the final field season in 2021 and to repeat and expand the pond drain manipulation study.

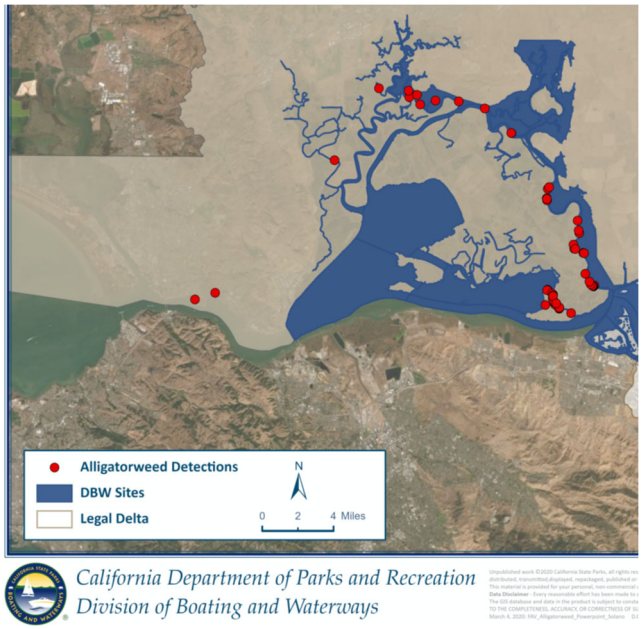
Fish Cage at Cross Slough

Checking the cage

Suisun Marsh Weed Alert: Invasion of Alligator Weed!

Brenda J. Grewell, PhD
USDA-ARS Invasive Species and Pollinator Health Research Unit
Dept of Plant Sciences, UC Davis

Alligator weed (*Alternanthera philoxeroides*), a new uninvited weed species has arrived in the Suisun Marsh. This South American immigrant is considered one of the world's most aggressive invasive plant species. It was introduced to the southeastern U.S. in about 1900 and aggressively spread throughout waterways and wetlands of the southern states. Arrival in Los Angeles County was noted in 1940, and populations spread to Riverside, Tulare, Kings, and San Bernardino counties. The California Department of Food and Agriculture designates alligator weed as an A-rated Noxious Weed. A USDA-ARS research team reported the first northern California observation in August 2017 in Montezuma Slough at Grizzly Island. The population in Suisun Marsh is genetically distinct from those in southern California, and therefore, this is a new and recent introduction. State Park's Division of Boating & Waterways quickly requested a risk assessment by the California Department of Fish and Wildlife to facilitate permitting for management of the weed. Treatments were initiated in 2018, and new detections indicated a wider distribution in the Delta and Sacramento River.



An Alligator Weed Workgroup convened and conducted blitz surveys in 2019. New detections documented spread in the Sacramento, San Joaquin and Feather Rivers, Delta and Suisun Marsh. The most impacted Suisun areas are Chipps Island, Van Sickle Island-Spoonbill Creek, and Montezuma and Cutoff Sloughs.

Identification: Three best traits for identification are: 1) opposite leaves, 2) hollow stem, 3) cluster of white flowers less than an inch in diameter on a short stalk at stem nodes or at terminal end of stem.

Flowers on short stalks

Small white flower cluster

Hollow stem and opposite leaves

Alligator Weed, Continued on page 6

Alligator Weed Continued from page 5.

Alligator weed in Suisun Marsh: free-floating aquatic and emergent floating-leaved mats

Dispersal: The plant spreads asexually with floating shoot fragments drifting with water currents. No seed production has been observed. The hollow stems break very easily, and even very small stem fragments can float to new sites and establish a new patch. Being a good neighbor — it is important to avoid stem breakage and prevent water dispersal of fragments that can easily spread the invasion.

Impacts: Alligator weed displaces open water habitat and desirable vegetation; degrades habitat and water quality; impedes water management, recreation, and navigation; and increases management costs.

Management: Aquatic-labelled glyphosate seems to be the most common herbicide used on alligator weed. Integrated weed management has been more effective than single herbicide management approaches. Herbicide application followed by mechanical removal using floating booms to trap fragments has been successful in Australia. Biological control (insect herbivory) coupled with herbicide follow-up is extremely effective in Florida and throughout warm southern states at great cost savings over herbicides alone. USDA-ARS is seeking and evaluating insect agents tolerant of northern California climate. In NWR-managed seasonal wetlands, herbicide treatments of alligator weed and the response of desired native vegetation in waterfowl habitats was assessed. Both Triclopyr and Imazapyr were effective at high rates of application in July; April applications were less effective. However, April applications of Triclopyr were best for restoration of desired vegetation, while Imazapyr impeded succession of desirable vegetation which was consistent with observations in California wetlands.

Current Treatment Programs: Currently, there is a moratorium on Boating and Waterway's herbicide treatments for aquatic weeds in Suisun Bay and Suisun Marsh due to regulatory permits that limit target weeds, timing of applications and herbicides that can be used, and geographic scope. Permitted treatments of alligator weed are underway in the Delta using foliar spray applications of Glyphosate with Agridex® surfactant administered from airboats or shallow draft motor boats. A pilot-scale field study was initiated in 2019 to evaluate efficacy of a Glyphosate-Imazamox-Competitor® surfactant mix (not currently permitted for operational use) as a potential improvement for control of alligator weed, and results will inform the biological assessment and permitting for resumed treatment of aquatic weeds in Suisun Bay and waterways of Suisun Marsh. This state management program is limited to treatments in public waterways, but future treatments can hopefully reduce dispersal of alligator weed into managed wetlands. Within wetland treatments should be coordinated with SRCD. Please watch for alligator weed and inform SRCD of new infestations.

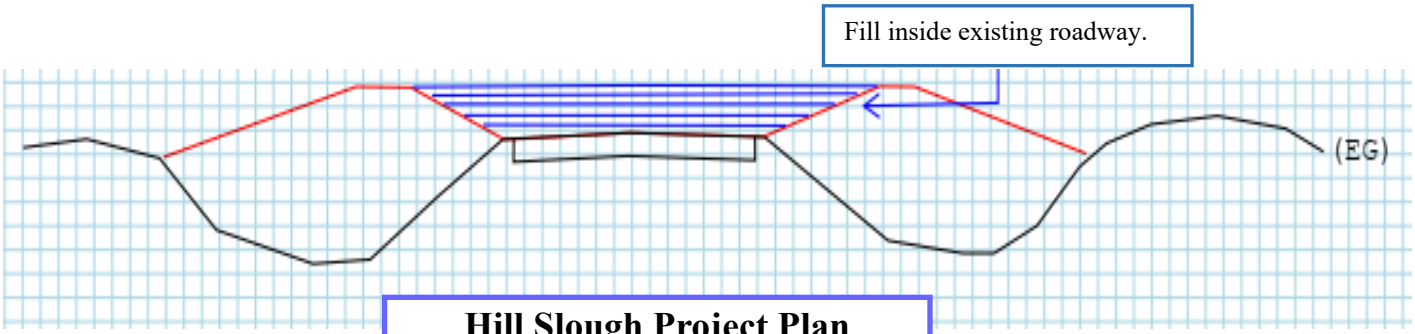
Don't worry, no alligators have been spotted in Suisun Marsh yet, only alligator weed!

The Hill Slough Project Has Resumed

Sarah Estrella
Environmental Specialist,
California Department of Fish and Wildlife

Work has resumed along the northernmost mile of Grizzly Island Road. Raising this section is one of the first steps in the 850-acre Hill Slough Tidal Restoration Project at CDFW's Hill Slough Wildlife Area. Flooding during high tides and storms is an increasing problem with rising sea levels, and raising this road is a required project component.

The first section of a 2-mile-long loop trail will be constructed next at the northeast side, followed by habitat improvements, and finally levee breaches by the end of 2021. This work will eliminate maintenance of 9 miles of levees, reduce mosquito habitat, and contribute to the recovery of species such as green sturgeon and Sacramento River winter-run Chinook salmon.



Hill Slough Project Plan

The roadwork, a joint effort between CDFW and Solano County, continues by placing imported fill along the west and east sides of the road. Once the shoulders and side swales are filled to grade, the contractor will bring the roadway travel lanes up to final elevation in a series of lifts. Each lift will be leveled and traffic will run on dirt until this process is completed. Following this step, an aggregate base will cap the top. The contractor will then construct the travel lanes and allow the roadway section to settle through the summer, fall, and winter months. Travelers should anticipate minor delays and expect some driving on dirt surfaces. Reduced speed limits will be posted during this phase of work. Following the settlement period, when weather permits in 2021, the road will be completed and paved.

Land Of The West Wind
SRCD Newsletter
2544 Grizzly Island Road
Suisun CA 94585

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Reminder!

Diversion Reporting for the California State Water Resources Control Board is due by July 1, 2020. The SRCD water managers are available to provide assistance to landowners during the process of filing. If you have questions about filing your report, please contact your water manager.

Water Manager Office:
(707) 426-2431

Tim Edmunds - (707) 639-6689 tedmunds@suisunrcd.org
Jeff Taylor - (707) 639-6690 jtaylor@suisunrcd.org
Phelan McKinney - (707) 631-0819 pmckinney@suisunrcd.org

SRCD is conducting interviews with managers at each club to update the Individual Management Plans last certified in the 1980s. As we continue to update the management plans, we will be contacting each club. Drafts are scheduled to be completed by the end of the summer, and will be submitted to Bay Conservation & Development Commission for Certification.