



# Land of the West Wind

Volume 18 Issue 1

March 2018

## SRCD Water Manager's Update

We made it through another hunting season and are now moving back into the habitat management. Dry spring conditions may be challenging, as despite recent rains, the snowpack remains 50% of average, so expect salinity conditions to rise quickly this spring.

## Regional General Permit 3 Renewed

The RGP3 was renewed March 14th. There have been a few modifications, including the need for a BCDC Marsh Development Permits for installation of new gates, bulkheads, permanent pumps, and duck blinds. We encourage land-owners and contractors to thoroughly read the renewed RGP3, 401 Cert. and the new permit application.

## Hydrology Update

Coming off of the wettest year on record in 2016-2017, Suisun went into fall flood up with very good water conditions. Salinities were low and continue to remain relatively low for the time being. This past year we did not see the dramatic amount of salt loaded into the soils like we did during the previous drought years.

As we look ahead towards the (usually) more precipitation heavy spring months, SRCD recommends that managed wetlands be drained completely or at least down to ditch level as soon as possible.

SRCD Update continued on page 4

## Managed Wetlands Produce Zooplankton For Fish and Birds

Anne Slaughter and Wim Kimmerer, Estuary & Ocean Science Center, San Francisco State University

Over the past 3 years, we have been sampling zooplankton in drain water of the Suisun Resource Conservation District's Lower Joice Island. The objective of our study was to determine if managed wetlands produce zooplankton that may contribute food resources for fish and other wildlife. Zooplankton and chlorophyll were sampled during initial drainage in February and in a later draining cycle in the early spring.

A plankton net was used to collect zooplankton samples at drain outlets and in adjacent sloughs, and specimens were enumerated and identified in our lab. Initial results from the first two years (2016 and 2017) indicate that zooplankton abundance on Lower Joice Island exceeded values from open waters. For example, copepod abundance in February were nearly 5-times higher in drain water than in the adjacent sloughs.

The abundance of zooplankton may be higher when water has remained on the wetland for a longer time period. In the future, we are hoping to use water levels and flooding depths to estimate the volume of the zooplankton production and fluxes into the adjacent sloughs during Lower Joice Island drain activities.



## Land of the West Wind

Quarterly newsletter of the Suisun Resource Conservation District  
Address: 2544 Grizzly Island Road  
Suisun, CA 94585  
Telephone: (707) 425-9302  
Fax: (707) 425-4402  
Water Manager office: (707) 426-2431  
E-mail: [srkd@suisunrkd.org](mailto:srkd@suisunrkd.org)  
Website: [www.suisunrkd.org](http://www.suisunrkd.org)

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Jeff Taylor, *Biologist/Water Manager*  
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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.

## A Historical Perspective

Suisun Marsh is intrinsically connected to the diverse and prolific ecosystems around it. The Sac Joaquin Delta, the Suisun Bay, and the larger San Francisco Estuary system all contribute to the biodiversity, value, and remarkable nature of Suisun marsh. **Still, perhaps the greatest influence on the state of the marsh today is the history of conservation.** Early duck club owners have protected the marsh against development, from urban expansion to plans for conversion to waste management facilities. Continued wetland management has cemented Suisun Marsh as a center of wildlife diversity, but the history of Suisun Marsh is not always an easy thing to find. Private clubs keep private records, and as ownerships change, the valuable history of an area can sometimes become lost.

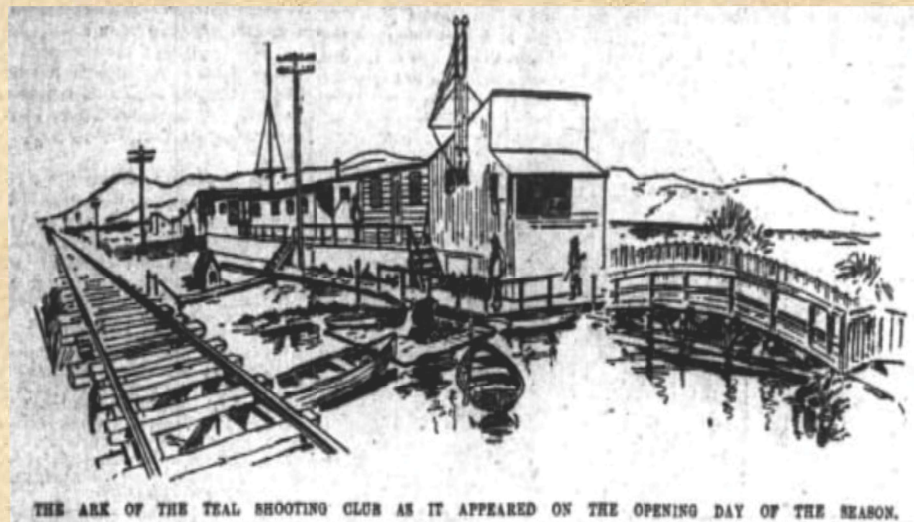
## A 135-year Comparison of Shoot Records on Suisun Marsh

Andrew Bogan, The Teal Club #406

The first season on The Teal Club's marsh for which there were detailed shoot records was the 1882-1883 duck season when the club was formalized, making it one of the oldest duck clubs in California. That season, 7 of the founders shot a mixed bag of 4,444 waterfowl (Breeder and Sportsman, January 1883).

Bags were unlimited in those days, and the breakdown of species may roughly represent their relative abundance including: 1,131 Pintails (25%), 1,031 Teal (23%), 827 Canvasbacks (19%), 512 White Geese (12%), 511 Wigeon (11%), 192 Spoonbills (4%), 95 Bluebills (2%), 92 Mallard (2%), 26 Gadwall (<1%), and 1 Curlew.

In comparison, the recent regulated take included about 10% of the total number composed of 33% Spoonbills, 20% Wigeon, <20% Teal, 10% Bufflehead, 5-10% Pintails, 5-10% Mallards, <5% Canada Geese, with a few Cinnamon Teal, Gadwall, Goldeneye, Ruddy, and Bluebills and a handful of White Geese or Specks. So, the results suggest changes in the species composition with the biggest reductions in Canvasbacks and White Geese. For more information, see: <http://www.tealclub.com/>



THE ARK OF THE TEAL SHOOTING CLUB AS IT APPEARED ON THE OPENING DAY OF THE SEASON.

# SRCD ANNUAL LAND-OWNER WORKSHOP

Wednesday 18 April 2018

TIME: 8:00 AM TO 2:00 PM

SIGN IN: Coffee and Donuts at 8 am, Presentations start at 8:30

PLACE: Rush Ranch Education Center  
3521 Grizzly Island Road, Suisun Marsh

Special Thanks to the Solano Land Trust  
for the use of their facilities

COST: \$10.00 PER PERSON  
(includes Coffee & Donuts and Buffet Lunch)

RSVP: By Monday April 16, 2018

See the RSVP form on the back page (page 8), or look for an Evite invitation in your email after March 15th

## Topics and Presentations

- 2018 RGP #3 BCDC Permitting Requirements-SRCD
- 2018 Preservation Agreement (PAI) 2018 Cost-Share Programs-SRCD
- 2016/17 Dissolved Oxygen Study Results-SRCD
- Waterfowl Research and Upcoming Studies -USGS
- Public Access Assessment-DWR
- 2018 Duck Club Water Control Structure Elevation Surveys-SRCD/CWA
- Pacific Flyway Center Update
- SCMA- New Legislation BMP's

## Thanks for the Memories

Bruce Wickland

I am writing to thank you all for the party held in my honor on February 21, 2018. This party has left a lasting memory on my mind due to the friends and staff who contributed their time and assistance to make the party such a success! It was really fantastic to see all of you that day. I'm sorry I didn't get a chance to visit with everyone but please know that your presence was very much appreciated.



Words can hardly express the joy and the gratitude I felt at the wonderful retirement party. I shall truly treasure the gifts, retirement cards and well wishes too numerous to account for. A special "thank you" goes to Tony Vaccarella, Steve Chappell, Dennis Becker, Fritz Reid, Rich Radigonda, Suzie Wickland, and Rachel Wickland for their kind words. I'll not forget the PowerPoint presentation that John Takekawa put together either. It was amusing and brought tears of joy to my eyes.

I'm grateful for my 18 years with the Suisun Resource Conservation District as well as the 7 years with CA Department of Fish and Game and 6 years with Ducks Unlimited. They were all great places to work and I really enjoyed being part of those dedicated teams. I'm proud of what we accomplished over the years. I'd like to thank SRCD, CA Department of Fish and Wildlife, Solano County Mosquito Abatement District, CA Department of Water Resources, Ducks Unlimited, California Waterfowl Association, and Suisun Marsh stakeholders for helping to create such a satisfying and pleasant work environment.

As happy as I am to be moving on to the next chapter in my life, I can't help but be a little sad. I won't miss the alarm clock or long drive to work but I will miss seeing all of you on such a regular basis. Thanks again for a most enjoyable day. I look forward to seeing you all again sometime in the future. In case you don't have it, my personal e-mail is [jstafoo@sbcglobal.net](mailto:jstafoo@sbcglobal.net).



## Water Manager's Update (continued)

Ideally, we can expose pond bottoms to a few rain showers to get the leaching cycles started.

We have already had some precipitation, but the long range forecasts do not show a lot more. There is no time like the present!

Remember it is almost Lepidium Season! Information about the terrestrial pest and weed control can be found on page 7.

## SRCD Pumping Program

We have the SRCD pumping program available to aid in draining efforts.

If that is something you would like to explore, there is more information available on the new and improved SRCD website at <http://suisunrcd.org/programs/portablepumps>.

Long range forecasts do not predict large amounts of precipitation this year and since we do not know how long the low salinity water will last, it becomes important to get an early flush of water onto the duck clubs in order to pull salts out of the soil early.

If you have any questions or want to talk water schedules, please contact your water manager. SRCD would also like to extend the invitation for any club that wishes to schedule a meeting this spring in order to look at your yearly schedule.

Smelt closure affects additional intake diversion gates beginning April 1, 2018.

## What is the Future for Tidal Wetlands with Sea-Level Rise?

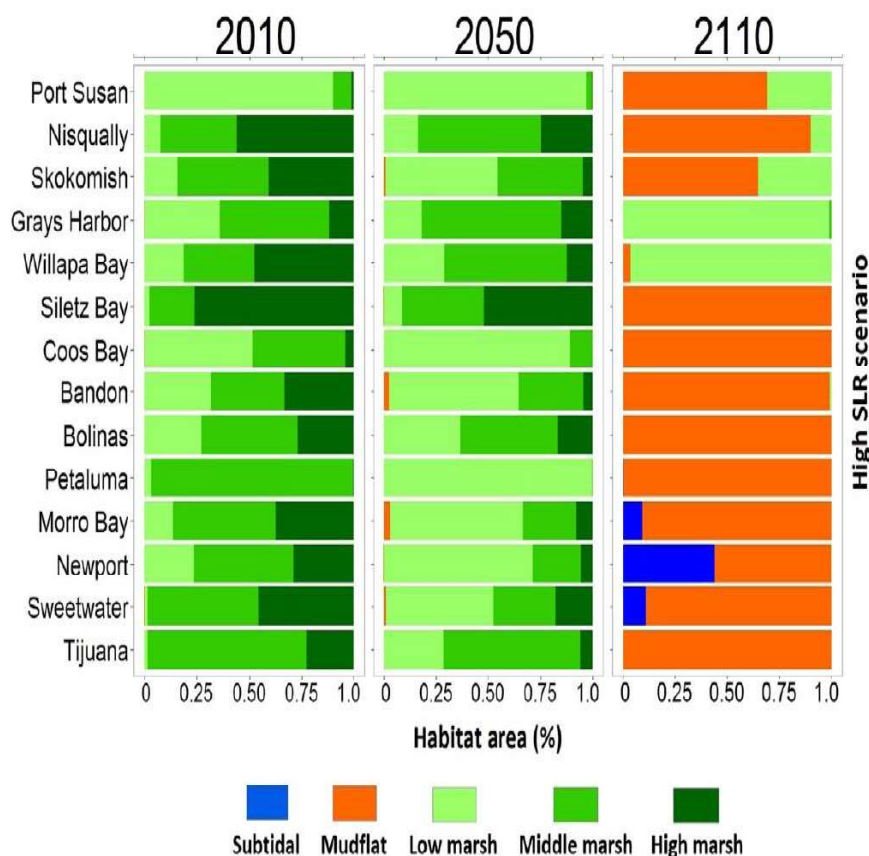
John Takekawa, Suisun Resource Conservation District

In a cooperative study led by the U. S. Geological Survey and involving several universities, we examined scenarios to evaluate sea-level rise (SLR) effects on tidal wetlands on Pacific coast estuaries in California, Oregon, and Washington (Thorne et al. 2018, Science Advances).

Under high SLR scenarios, 83% of current tidal wetlands transition to unvegetated habitats by 2110 (Figure 1: Percent of Habitat Area projected for 2010, 2050, and 2110). Under conservative scenarios, 95% of high marsh and 60% of mid marsh habitats are lost. Upland migration of wetlands will be constrained by development or topography, and only 2 of 14 wetlands had space for migration and nearly 1:1 replacement.

"If this prediction is our future, then we may need to raise our levees and update our management strategies."

The projections suggest that management of tidal wetlands will be increasingly difficult in future years with increasing sea levels, but sustaining managed wetlands may be critical to supporting remaining habitats for desired wildlife resources as unmanaged tidal wetlands are inundated. SRCD Executive Director Steve Chappell noted that, "If this prediction is our future, then we may need to raise our levees and update our management strategies."





CALIFORNIA  
WATERFOWL

36th Annual

## **Suisun Marsh Field Day** **Saturday, June 2, 2018**

Grizzly Island Wildlife Area Headquarters, Suisun, CA

**FREE ADMISSION 9 A.M. TO 4 P.M.**

**Great Live Auction & Awesome Raffle!**



### **Join us for this great Family Fun Day**

The Suisun Marsh Field Day has something for everyone with over 40 exhibitors featuring hunting guides, waterfowl and wildlife artists, marsh contractors, waterfowl gear and apparel, duck blinds, irrigation supplies, Wood Duck Program Display, tasty food trucks and CWA hot dog booth.

There is a wide variety of kids events: Junior Duck Calling Contest, drawing for a free Lifetime Hunting License, Free Trap Shooting for Juniors with individual instruction, Free Hunting License for qualifying Juniors, BB Gun Range, Free Sprig Membership, Free Door Prizes and Free Gun Stock Fittings for Juniors by Lance Keller (bring your gun.)

### **Winner Takes All Raffle**

Browning Safe, Beretta A300 12 Ga., Springfield XD compact .45 and Browning A-Bolt .270 with Scope.  
**100 Tickets Available - \$50 a Ticket - Need not be present to win**

**For more information or to make a donation contact Orlando Rocha at (916) 719-1993, Dan Haugh at (916) 871-9000 or visit [calwaterfowl.org](http://calwaterfowl.org); click the Events Tab and select the Suisun Marsh Field Day page.**

# Revealing the Hidden Lives of Raccoons and Skunks to Inform Duck Nest Management in Suisun Marsh

By: Sarah Peterson (USGS), Josh Ackerman (USGS), Mike Casazza (USGS), Cliff Feldheim (DWR), and the USGS Suisun Marsh Research Team

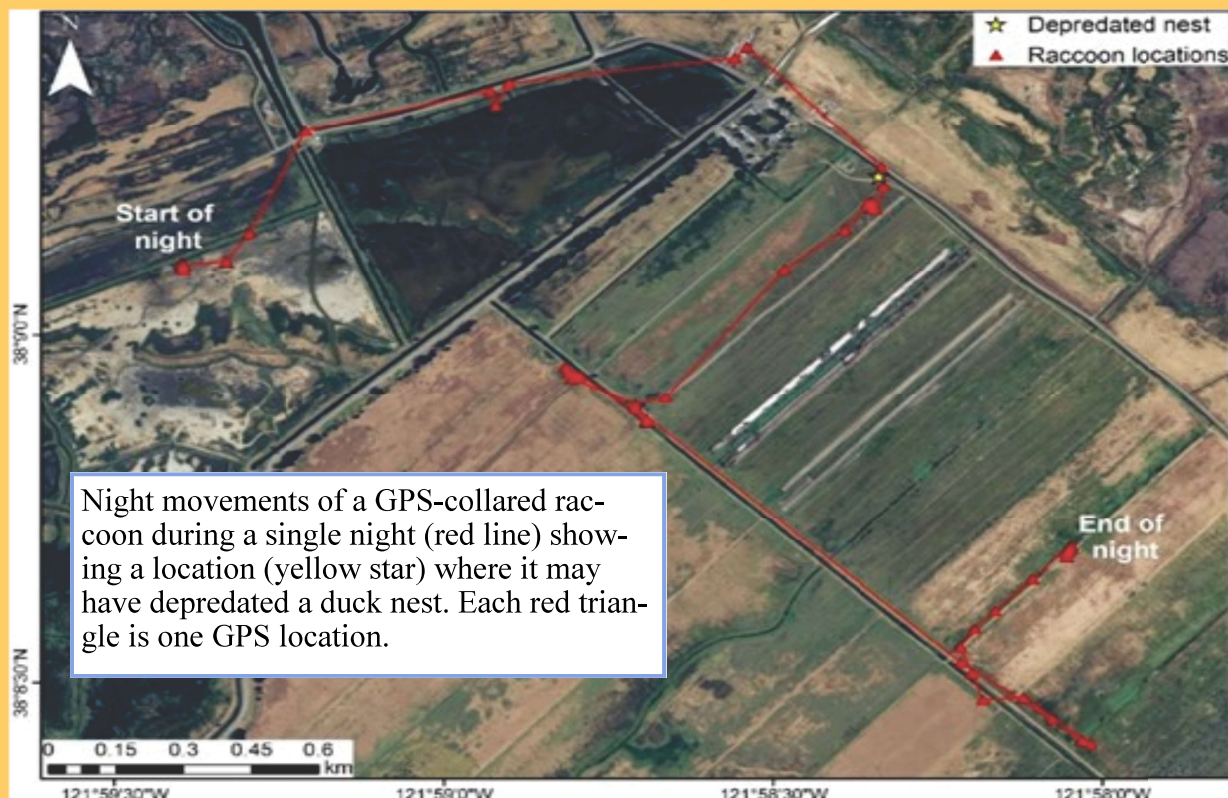
Raccoons and striped skunks are important members of Suisun Marsh that use both upland and wetland habitats associated with managed and tidal marshes. They also consume duck eggs during the breeding season, and this predation can decrease the success (survival to hatching) of waterfowl nests. Using miniature spy cameras on duck nests, we previously documented that raccoons and skunks are the most common predators of duck eggs. However, duck eggs are a food resource that is only available for a few months each year.



Eggs may be consumed frequently when they are available, but for the remainder of the year, raccoons and skunks rely on other food. It is unclear if duck eggs are the preferred prey of raccoons and skunks or if they are consumed opportunistically. The behavior and habitat use of individuals may influence how they interact with duck nests and whether an individual animal is likely to eat the eggs. Consequently, it is important to understand how and when predators use different habitats and interact with duck nests to provide information that can be used to manage the landscape to improve duck nest success.

We affix GPS collars on raccoons and skunks to quantify their movement, habitat use, and proximity to known duck nests at the Grizzly Island Wildlife Area. Starting in 2017, our team has focused on capturing raccoons and skunks between January and March. Once captured, we sedate the animals and fit them with GPS collars to track their fine-scale movements. The collars on raccoons turn on every afternoon and collect a location every 15 minutes throughout the night when animals are most active and do the majority of their foraging. We plan to use the movements of each animal to identify the important landscape features (such as levee roads and canals) that are important movement corridors and especially how these predators forage within the duck nesting areas. The example below shows a raccoon's movement tracks during a single night in the spring corresponding to a duck nest being depredated in its path.

From these data, we can calculate how far animals travel each night, how fast animals travel, and the types of food for which they are searching.



These data will help to identify the major types of habitat and landscape features that are used by these animals. Our results can be used to inform how the landscape is managed, specifically with respect to vegetation, water, and the promotion of alternative food items for raccoons and skunks.

This is an ongoing study; Collared animals may die during the course of this research. If you come upon an animal with a neck collar or find a neck collar that is no longer attached to an animal, please contact us so that we can download the data stored on the collar (contact Sarah at: [sepeterson@usgs.gov](mailto:sepeterson@usgs.gov)).

To find out more about our research project, please visit: <https://www.usgs.gov/centers/werc/>



Seedling Stage



Shooting Stage



Flowering Stage



## Lepidium Identification and Control

By: Tim Edmunds, SRCD Biologist, Water Manager Program

It is that time of year again; time to start thinking and planning for the work season ahead and that includes Lepidium control. The first step in the control of Lepidium or pepperweed is identifying what it looks like and where it is on your property. This time of year, you will likely see the seedling or rosette stage.

As time goes on, the plant will send up a shoot and start to mature. The leaves are oval to lance – shaped, and the edges of the leaves can be smooth to toothed. Later on in the spring, Lepidium will start to flower, this is when it is the most easily identified.

Lepidium is mostly found in wetland and upland transitions, but it can encroach into both wetlands and upland habitats of the Marsh. Stems and roots increase in density over time, eventually out-competing perennial native vegetation like grasses, sedges, and rushes. Lepidium also acts as a “salt pump”, taking in salts from the soil via its roots and depositing them near the soil surface, altering soil salinity and essentially permanently altering the habitat.

The chemical of choice to treat Lepidium is Telar XP and has been proven to be very effective in controlling infestations of Lepidium. If left uncontrolled, Lepidium can completely take over an area.

For more information or help with identification, contact:

Tim Edmunds SRCD Biologist / Water Manager

Phone: (707) 426-2431 ext. 302

Email: [Tedmunds@SuisunRCD.org](mailto:Tedmunds@SuisunRCD.org)

*Land Of The West Wind*  
SRCD Newsletter

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**I would like to RSVP for the SRCD Annual Landowner Workshop April 18, 2018.**

**\*\*Please remit to: SRCD @ 2544 Grizzly Island Rd., Suisun, CA. 94585**

Email or call Kelli Perez for other payment options (Kperez@suisunrcd.org)

Phone: (707) 425-9302 (ext. 6)

Enclosed is a check for how many lunch(es) \_\_\_\_\_

**Name:** \_\_\_\_\_ **Club #:** \_\_\_\_\_

**Phone:** \_\_\_\_\_

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