



Photo by Mark Dettling

Searching For Dandies in the Mud
By Megan Elrod

As you drive the winding North San Pedro Road that bisects China Camp State Park, it is likely most eyes, and visitors, turn towards the hills - the green rolling ridgeline and valleys that are home to Spotted Owls and Pileated Woodpeckers and a network of trails beloved by the community. Some might briefly turn towards San Pablo Bay, but the wildness their eyes pass over is more subtle and their eyes may not linger on this off-limits expanse. This is, of course, the tidal marsh, the seemingly flat empty space of green and brown carpet, separating you from the muddy Bay waters. The tidal marsh is treacherous, and no public trails cross the mud, for many good reasons. William Leon Dawson, in his exquisite 1923 tome, the Birds of California, knowingly stated:

“San Francisco is a comparatively clean city, as cities go; but San Francisco Bay mud is the deepest and the blackest and the stickiest- in short, the muddiest that ever vexed a poor birdman wanting to get from here to yonder across a half-filled tide-gut. The distance across may not be over a dozen feet- just a little long for jumping, with an uncertain foot-hold on either bank. What’s to do? It is miles around this absurd little artery of the salt marshes. Shall we try wading? Only once! And never again! The mud is unfathomable; and

the scuttling crabs, who say it is easy - well, they lie. What would tempt an honest birdman to tramp these interminable acres of "pickle weed," and to flounder across these interminable mud sloughs, anyway? Obviously, only the presiding genius of San Francisco Bay, the California Clapper Rail. Here comes one of these dandies of the mud, now, a symphony in browns with insertions of white."

China Camp State Park includes an extent of tidal marsh hard to find elsewhere in the Bay in the modern day, and is most notably home of the California Ridgway's Rail (*Rallus obsoletus obsoletus*; formerly Clapper Rail), a year-round resident found solely in the San Francisco Bay Estuary. Tidal Marsh, like you see at China Camp, once existed along the Estuary's entire shoreline, but now only about fifteen percent remains, the rest diked off and drained for human use, an endeavour that occurred even back in the days of Dawson's observations.

As a biologist for Point Blue Conservation Science's San Francisco Bay Program, I venture into this unique habitat, to count Ridgway's Rails and the other birds of the marsh. The Ridgway's Rail receives most of the publicity, it is Federally Endangered, and China Camp is home to at least a dozen or more pairs of these chicken-like birds. You may hear them calling at dawn or dusk, a "clatter" echoing off the hills. At this time of year they are mostly quiet, raising their young along the *grindelia* lined channels snaking their way through the pickleweed. If you take a walk along Turtle Back trail you can see these channels running out to the Bay. There are, however, a few other species that I record when I survey the marsh, and taken together, these birds are indicators of the health of not only our local marshes, but of our Estuary as a whole.

The California Black Rail (*Laterallus jamaicensis coturniculus*) is notoriously difficult, and a challenge among birders and researchers alike. Most species in the family of rails are large birds, the largest being a New Zealand species up to 2 feet in length and weighing 5 lbs, however, as Dawson writes, "the sparrow-sized body of *Coturniculus* proclaims it as pygmy among its kind and arouses our interest at once." California Black Rail are State-listed as threatened, and also reside in the tidal marshes of China Camp, even more difficult to spot than their much larger relative, the Ridgway's Rails. Often acting more like a mouse than a bird, they rarely fly, and you are unlikely to catch a glimpse of this mostly black bird with a piercing red eye while it forages in the mud under a canopy of pickleweed. You may be lucky to hear their call "ki-ki-kerr" emanating from the marsh, and our surveys are tracking these calls. Even the call can be difficult to pin down, seeming to drift over the pickleweed from different directions, but using our data and models that include how likely it is for us to hear them, we can estimate the size of the rail population and how it changes from year to year.

Point Blue has surveyed the tidal marsh at China Camp every year since 1996, and our long-term data provides a trend on how the rails and songbirds of the marsh are faring. In the spring our survey protocol shifts from a focus on the Ridgway's Rails, to include the tidal marsh Song Sparrow, another often overlooked avian resident of China Camp. A subspecies of the ubiquitous Song Sparrow, who's range extends across the US, our Samuels Song Sparrow

(*Melospiza melodia samuelis*), lives only in the tidal marshes of San Pablo Bay. Two other subspecies make up an endemic tidal marsh population of Song Sparrows in the Bay Area. These three subspecies do not migrate, and have evolved to depend on the tidal marsh instead of the more common subspecies in the adjacent riparian or streamside habitat. Tidal marsh Song Sparrows can build their nests a mere 6 inches off the ground in the pickleweed, or occasionally if they can, a bit higher up in the gumplant (*grindelia stricta*), a marsh shrub with bright yellow flowers. The marshes at China Camp and along Gallinas Creek support a high-density population of Samuels Song Sparrows.

Recently our surveys have crossed into the west side of North San Pedro Road, into Miwok and Back Ranch meadows. This habitat is where the salty tidal marsh meets the creeks, where brackish water creates a transitional habitat, of both marsh and upland plants. The Black Rail can be found on both sides of the road at China Camp, while the Ridgway's Rail prefers the saltier side. As sea-level rises, and the probability of flooding increases along with it, North San Pedro Road will likely be inundated more frequently. Point Blue, working with a team of researchers and planners, including the National Estuarine Research Reserve, are looking at how potential changes to the road will impact the marshes and the transitional habitat. The rails face many threats from climate change, and when the highest tides of the year occur during winter storms, you can find not only the road flooded, but the entire marsh plain, with just the tallest gumplant poking above the highest tide waters. This is where the edges of the marsh become critical for the rails. They either bob about in the open water, or are pushed up against these grassy edges where the sloping hillsides start, exposed and vulnerable to predators. The Song Sparrows are vulnerable as well, with their nests at risk of flooding, but if they manage to fledge young between the tide cycles, the transition zone provides a safe place for the juveniles to learn to forage for themselves. At this time of year you may see groups of these vocal streaky sparrows, hungrily begging from their parents at the edges of the marsh. Part of Point Blue's research is investigating how the vegetation along the marsh edge provides cover, so that when we restore marshes, we can also restore these edges, to provide cover even during the highest tides, and at different times of the year. Point Blue's SF Bay Program and STRAW Program (Students and Teachers Restoring a Watershed) work side-by-side, to identify and restore plants that are most suitable for these transitional habitats between the tidal marsh and the uplands. STRAW facilitates groups from local schools to strategically plant native grasses and shrubs on the edges of newly restored marshes, informed by our knowledge gained from healthy existing marshes like China Camp.

The next time you visit China Camp, maybe your eyes will linger on the marsh, or you will walk Turtle Back Trail and listen to the marsh. Consider how the vegetation changes from the Bay edge inland to the hills, and how each plant plays a role in providing habitat, supporting populations of not just Ridgway's Rails, but Black Rails and Song Sparrows too. Point Blue uses data, from China Camp, and throughout the Estuary, to inform the restoration of tidal marshes, so that in another hundred years, despite sea-level rise, Dawson's words will still be true and the "dandies of the mud" will have a place to roam.

More info visit www.pointblue.org

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Conducting Transition Zone Surveys. Photo by Megan Elrod



Dodder (*Cuscuta salina*), the orange, parasitic, native plant, erupts across a portion of pickleweed (*Salicornia pacifica*). Photo by Megan Elrod



Samuels Song Sparrow (*Melospiza melodia samuelis*) nest in the pickleweed. Photo by Megan Elrod



Common tidal marsh plants at China Camp State Park: pickleweed (*Salicornia pacifica*), cordgrass (*Spartina foliosa*), and gumplant (*Grindelia stricta*). Photo by Megan Elrod