

West Marin's Pulitzer Prize-Winning

POINT REYES LIGHT



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Simple Numbers With Profound Implications

Dr. Corey Goodman

In science, numbers often speak louder than words. Such is the case with data Jake de Grazia, a University of Southern California journalism student, and I collected concerning noise generated by the Drakes Bay Oyster Company (DBOC) skiff and oyster tumbler (Jake is looking into the oyster controversy for his thesis). In the Environmental Impact Statement (EIS) on the oyster farm, the National Park Service claimed that the skiff and tumbler are so noisy that they have a “major adverse impact,” disturbing harbor seals and visitor experience. The draft EIS used a large Jet Ski to represent the skiff and a 400 horsepower (HP) cement truck to represent the ¼-HP oyster tumbler (switching to a portable cement mixer full of gravel for the final EIS).

The park's reluctance to measure the true sounds is surprising, as these data aren't difficult to gather (and doing so is required by park policies). Environ, a consulting firm hired by DBOC, made direct measurements and came to very different conclusions. Jake suggested we collect fresh data to ground-truth the soundscape analysis, so we met at the oyster farm on April 20 to conduct our experiments. It was a beautiful, sunny day with unusually low winds. This is important because wind is the major source of ambient noise at Drakes Estero; on a low-wind day the tumbler and the skiff should be heard at longer distances.

We repeated every recording multiple times and in multiple directions (with and against the wind), measuring distance using a distance wheel and sound using a digital sound meter with an accuracy of plus or minus 2 decibels (dB). Foreman Jorge Mata drove the skiff back and forth 50 feet in front of us at 10 to 13 mph (the normal speed, according to the farm's GPS data). Each time we recorded a noise level of 58 dB. The park claimed it was 74 dB. We calculated the skiff could be heard for around 400 feet. The park claimed 8,987 feet, or 1.7 miles.

We next asked Jorge to turn on the oyster tumbler and fill it with oysters. The tumbler has a small electric engine that turns a rubber belt that turns the plastic tube. We measured the tumbler at 50 feet (the standard distance for such measurements) as it rotated full of oysters, repeating the experiment four times, with nearly identical results of 50 dB. The park claimed it was 75 dB.

We then determined how far away the oyster tumbler could be heard, walking away from the tumbler in two directions—with and against the wind. Both times we could barely hear the tumbler at 100 feet, and could not hear it at 125 to 150 feet. The park claimed a much longer distance of 9,786 feet, or 1.8 miles. All of our measurements confirmed the Environ data. (Interestingly, while recording the tumbler, a seagull's cry at 50 feet interrupted our experiment—at 60 dB.)

For our final experiment, Jake and I hiked 3.3 miles out the Estero Trail to a bluff across from the lateral channel. It was low tide, and we observed about 300 seals hauled out on three sandbars. The estero was full of birds. The skiff stays at the west end of the lateral channel, while the seals are at the east end near to the main channel, around 700 yards away. There is a sandbar between them. The trail, at its closest, is 3,800 feet (0.7 miles) from the skiff. If the park is correct in claiming that the skiff can be heard for 1.7 miles, one should be able to hear it at this location, and so should the seals.

When we arrived at the observation point, we called Jorge by walkie-talkie and asked him to drive at his normal speed. We watched the boat come out of the west channel but could not hear it. To make sure the low rumble we heard in the background was the wind and not the boat, we asked Jorge to cut the engine. The boat stopped, the rumble continued. As Jorge started the engine and drove off quickly, the noise did not change.

Neither Jake nor I ever heard the boat at 3,800 feet. Not one of the 100 or more seals at the nearest sandbar flushed, moved, or even lifted its head.

As we hiked back, we discussed what we had learned: The data do not support the park's numbers, or testimony to the federal court by park supporters concerning the farm's noise impacts. Gordon Bennett, for example, testified to hearing the skiff and a boom-box on the skiff from the Estero Trail on multiple occasions, but Jorge, who has worked for the oyster farm for 29 years, said neither he nor anyone else had ever taken a boom-box or any music device on a skiff on the estero. Two other employees confirmed that statement. Amy Trainer and Neal Desai also testified to having heard the skiff while hiking on the Estero Trail, but we could not, which makes sense, given the distance.

The data we gathered reveal that science has taken a backseat to ideology at Drakes Estero. They also have implications for the federal court case. While Interior declares to the public that the science doesn't matter, that is not what federal lawyers are saying. In court, they are arguing that removing the oyster farm would be in the public interest because it would eliminate the major soundscape impact. As Jake and I confirmed, there are no data to support that claim.