



Why Bolinas booms failed

by Justin Nobel

Two days after the Cosco Busan gushed 58,000 gallons of oil into San Francisco Bay a determined band of locals began a doomed effort to bar the gunk from the Bolinas Lagoon and Drakes Estero.

For four days, Bolinas and Stinson volunteers crisscrossed the lagoon in Boston Whalers, securing booms to telephone poles and pine trees, in an attempt to

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Point Reyes sheriff rides out

by Benjamin Bombard

On Monday Lieutenant Scott Anderson was reassigned from his post at the Marin County Sheriff's substation in Point Reyes Station. Lieutenant Rick Russell, currently Marin County Sheriff Taskforce commander, will assume Anderson's position on December 9.

"They move administrative people around every three years," Anderson said. "I thought I'd be around until February."

Anderson learned of the move last Tuesday and moved to a new office at the Marin County Civic Center on Monday. "I'm sorry to be leaving," he admitted, "but I'm looking forward to new

challenges." Anderson has been with the Marin County Sheriff's Department for twenty-one years. He came to Point Reyes when he was promoted to Lieutenant three years ago.

Anderson will be remembered. In a September interview, he commented on a pot bust in the seashore: "There was no evidence of fertilizer or pesticide use. But I don't know if I would smoke any of that dope. The plants were well-budded out, but it was grown close to a lot of poison oak. I don't know if that would affect the pot or not."

Hopefully Anderson's new position will put him one step closer to realizing his dream of sailing on inland waters.

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string a barrier meant to trap oil between Wharf Road, Kent Island and the Seadrift Spit. In Drakes Estero, Point Reyes National Seashore (PRNS) administrators and budget analysts abandoned their offices to help rangers haul a 2,500-foot boom a mile and a half down the beach in a frigid windswept rain. After a boom the park deployed across Limantour failed skeptical officials never attempted to drag one across Drakes.

In each location, booms were placed according to a plan drafted by the Office of Spill Prevention and Response (OSPR) in the 1990s known as the Area Contingency Plan (ACP), which details how to keep sensitive ecosystems oil-free during a spill. The boom failures in Drakes and Bolinas were a result of the flawed ACPs. Had more oil appeared, the catastrophe could have been monumental.

"No one had ever tried [the ACP] and we really never had a clue of whether it would work," said Jim Hardwick, the Office of Spill Prevention and Response (OSPR) biologist who helped draft the plan for Drakes Estero, the Bolinas Lagoon and a string of other fragile waterways from Mendocino to Half Moon Bay.

"Oil spills don't happen often enough and people don't practice them often enough to make them work," said Hardwick.

Oil players

OSPR is part of the California State Department of Fish and Game and manages sewage and chemical spills along with oil. Throughout the 1990s OSPR scientists like Hardwick developed ACPs for the entire California coastline. The goal was to address environmentally sensitive areas and determine how to protect them when oil spilled nearby.

Input was sought from local stakeholders such as the Audubon Canyon Ranch and the Point Reyes Bird Observatory, in the case of Bolinas, and PRNS and the Gulf of the Farallones in Drakes. Ideally, these groups would provide precise information about local wildlife, weather and currents.

But as to how much OSPR listened was questionable. Hardwick said that he never even knew the velocity of the currents in the lagoon. "Local resources were never part of their plan," said Ralph Cammiccia, who was contacted during the writing of the Bolinas ACP because of his position as chair of the Bolinas Technical Advisory Committee.

The input on oil recovery in the ACPs came from groups that are contracted through shipping companies to cleanup spills called Oil Spill Removal Organizations (OSROs). There are ninety-two such groups, according to a 2007 Coast

Guard list. Three OSROs gave input during the writing of the ACP for the Bolinas Lagoon; NRC was not one of them.

As a biologist, Hardwick's job was to take input from local stakeholders and explain to the OSROs the areas of most significant ecological importance. The OSROs then told Hardwick where booms or berms should go and he drew the plans. "The scientists who write these up really aren't knowledgeable about booms and booming strategies," said Hardwick. "They are taking the word of people who set booms."

In California, oil tankers and ships weighing more than 300 gross tons are

time at the lagoon. They launched a boat from Seadrift and placed a boom directly across the channel, where currents are strongest. Within hours it failed. Bolinas residents who witnessed the job said the boat was about 15-feet long with only one outboard engine and was barely capable of tugging boom. Krause said the equipment was fine and the problem was the current; during ebb and flood tides it was just too strong.

"It was doomed to fail," said Krause. "This was an effort made almost for political will. It would have been just as efficacious not to string the boom."

By Friday, NRC had been assigned

and connected Wharf Road to a point inside the Seadrift Spit. Secondary booms connected both Bolinas and Seadrift to Kent Island, providing a backup measure in case the primary boom failed.

By Saturday morning, the Seadrift-Kent Island boom had broken. An hour and a half later, the main boom broke as well. It was reconnected in the driving rain during the afternoon but broke after 20 minutes. By Saturday evening, the Wharf Road-Kent Island boom was the only one of the three still in place. On Sunday, NRC returned and during slack tide worked with locals to try to reconnect the Seadrift-Kent Island boom. It



Point Reyes National Seashore officials dragged a 2,500-foot boom a mile and a half down Drakes Beach in the rain the Saturday after the Cosco Busan released 58,000 gallons of oil into the San Francisco bay. Photo courtesy of PRNS.

required by OSPR to have an oil spill response plan. Shipping companies contract with OSROs that are ready with trained crews that can quickly deploy skimmers and booms shall a spill occur.

Regal Stone Ltd., the Hong Kong-based company that owns the Busan, had contracted with the O'Briens Group of Southern California. O'Briens is only a management group and they subcontracted the dirty work of cleaning the Busan spill to a handful of OSROs, including the National Response Center (NRC).

Bolinas Lagoon

When the Busan hit the bridge, both the Marin Office of Emergency Services and PRNS sent officials to a command center established by the Coast Guard in San Francisco. These emissaries requested booms for Drakes Estero and the Bolinas Lagoon. The group that got the delivery call was NRC.

Kevin Krause, a senior project manager with NRC, arrived at the lagoon with three other men. The Coast Guard requires OSROs to run yearly drills, and while NRC has performed these up and down the coast, it was Krause's first

elsewhere. Rather than wait for more outside help, the county ordered about 5,500 feet of boom at a cost of about \$2.60 a foot a day. The PRNS donated an additional 1,200 feet of boom.

That afternoon, locals took over the effort to boom the lagoon. The group included Marin County Open Space, Bolinas and Stinson firefighters, PRNS officials and numerous volunteers. Chief Open Space Ranger, Brian Sanford, explained to the workers how to assemble booms based on the ACP.

Jim Ellis, a Stinson sports fisherman, used his 22-foot Boston Whaler to ferry boom across the lagoon. The boat has twin 80-horse power engines, making it good for hauling, and a shallow draft, making it good for skirting narrow coastlines. A Bolinas volunteer firefighter with a similar Whaler and two jet skis, operated by PRNS staff, joined Ellis on the water.

"It was a heartfelt effort by a lot of people from different groups and backgrounds," said Sanford. "We did the best we could with what we had."

On Friday evening, the group placed booms in the manner suggested by the ACP. The main boom was bow-shaped

broke after 20 minutes.

"I've never seen that much water movement and that tidal influence before," said Krause, who has been with NRC for 10 years. "It's kind of like putting a Band-Aid on a throat wound; you'll just be overwhelmed every time."

The Sunday after the spill the tide carried quarter-sized tar balls into the lagoon and on Monday a small patch of oily water was spotted by plane near the edge of the lagoon. But much of the oil had dissipated by the time it reached the area. Also, winds shifted to northwestlies on Saturday and helped keep the slick to the south.

"We could not have lucked out more," said Ellis. "We had summertime weather and little if any rain. Exchange that scenario for blistering cold rain, pitch blackness, pea soup fog and the power is out!"

Drakes Estero

The story at Drakes Estero was equally dramatic. On Friday afternoon, NRC dropped off about 5,000 feet of boom at park headquarters in Bear Valley. PRNS

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Horses and their riders are the subject of Korty's new film.

erning logic. The players strut and fret their moments: now you see them, now

ceeds. One woman remembers riding her pony through a five-and-ten store in

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workers removed 1,200 feet for the Bolinas Lagoon then accompanied the NRC truck to the Limantour Beach parking lot. They set aside 1,200 feet of boom for Limantour and 2,500 for Drakes. NRC left without giving park workers assistance, said park spokesperson John Dell'Osso, leaving park officials to rely on their own wits. "We're not experts on deploying booms," he said, "we're experts on protecting resources."

Park officials had a copy of the ACP in hand but immediately began to question its value. For one, there was no information on how to transport the boom from Limantour parking lot to Drakes, said Ed Walls, the park's chief of maintenance. Fortunately, there was a contractor working on Limantour Beach who loaned the park an excavator and a backhoe.

The ACP for Drakes was written in 1996 and lays out four strategies for keeping oil out of the estero. One is to use skimmers, boats specifically designed to suck up oil, but these were not available to the park. The other is to literally build a dike across the entrance, an action that a Coast Guard booming expert called "a bit too aggressive." Another is to trap oil on Limantour Spit. But on Saturday, two to three foot swells made this option seem rather difficult, said Colin Smith, the park's chief law enforcement ranger.

The final option discussed bringing

boom from the head of Drakes Bay to an island in the mouth of the estero. Not only was there not enough boom for this, said Smith, but the island is now a seal haul-out spot. With the ACP useless, the park hashed out a plan of their own.

On Saturday, they dragged the boom a mile and a half down Drakes Beach in the rain, at one point using the backhoe to lift it over a rocky spine. The excavator was used to dig holes for 12-foot telephone poles that would act as anchors. The park got a boom successfully across Limantour on Saturday and left the Drakes boom on the beach to be set Sunday.

Come morning, the boom at Limantour had broken, likely because the anchor rope abraded against a rock. Given the failure at Limantour, the rough conditions, their tired crew and the lessening threat of oil, the park didn't attempt to place the boom across Drakes.

"We were very lucky that we didn't see any oil come into the estero," said Dell'Osso. "This was definitely a wakeup call."

"What we've all found out of this is booming these tidal estuaries may not be a strategy that works at all," added Smith.

Fast water booming

According to a 122-page Coast Guard document titled "Oil Spill Response in Fast Currents," a boom will fail at a current of 0.75 knots. Bolinas locals estimated the lagoons top currents that weekend to be about 7.0 knots. Park officials said currents at the mouth of the estero were about the same speed.

The booms used in Bolinas and Drakes are called swamp booms. They have a foam core and are wrapped in nylon and linked together by chain or braided nylon rope. A skirt hangs below to prevent oil from flowing underneath. While a long skirt keeps a boom stable under wavy conditions it also builds up force in a current. Eventually the boom will get submerged. This is what happened locally, even though the booms had short skirts.

"There are areas where the current is so great and the water flow is so great that booming just isn't the right technology," said Scott Knutson, who leads oil cleanups in the Pacific Northwest for the U.S. Coast Guard. Alternatives include pompoms, colorful plastic mops that look just like the cheerleader icons and sit on the water's surface and soak up oil. In some ultra-sensitive environments where human movement isn't advised, moss can be blown in. Oil is soaked up and the moss degrades naturally.

It's possible that booming can be done in places like the Bolinas Lagoon and Drakes Estero, said Knutson. Regions of particular environmental concern that lie further towards the back of the bays can be identified and booms can be set in these areas, he said. You can also try to boom at the mouth, explained Knutson, but the operation would be difficult. It can be done by placing a series of small booms oblique to the current and parallel to one another. The goal is to push oil downstream where currents are less and it can eventually be collected.

Another idea is to set large anchors in

key locations along the shoreline so when a spill occurs all responders have to do is string boom between them. Several Bolinas residents say they once considered this at the end of Wharf Road. Knutson said this was recently done in a particularly tricky patch of water where the Willamette River runs into the Columbia by sinking 600-pound concrete blocks.

Carl Oskins is the president of H2O OSRO Inc., an OSRO that specializes in fast water booming. He has tackled spills in the Colorado River and the Spokane but says that fast water booming is something most OSROs don't have experience with. Most spills are attached to fixed object in a slow moving stretch of water, such as a leaking pipeline, a docked barge or an overturned railcar. In California in 2006, out of a total of 7,415 spills, 6,326 occurred in inland waters, according to OSPR figures.

OSROs need certain requirements to get different spill contracts, said Oskins. These are based on the availability of booms and boats a company has for recovery efforts. Smaller companies like his don't have enough materials to qualify for the licensing that would allow them to go for coastal contracts. Big OSROs like the Marine Spill Response Corporation and NRC have a much easier time getting them.

Another problem with OSROs is keeping workers, said Oskins. "Turnover is horrendous in this industry," he said, "especially if you're a cleanup contractor. You're into filth and mud and you get burnt out quickly. It's dirt work and it's shit work."