

California's Coastal Sea Caves

by Dave Bunnell

Large chamber in Cave-in-Rock Cave, San Luis Obispo County

Helmets, lights, wetsuits, fins, face masks and snorkels, vertical gear, and sea kayaks were not what I was used to packing for a cave trip until I moved to California. But after a couple of years of caving here, I realized that there were large numbers of caves here that had been largely ignored. After all, what caver wants to spend his weekends at the beach?

Systematic exploration and survey of California's many sea caves really began when Carol Vesely and I chartered the Southern California Sea Cave Survey in 1982. Prior to that time, only a few had been surveyed, but a large number were described in Halliday's *Caves of California*, which provided a starting point for our exploration in many counties. Since that time I've personally been involved in mapping over 500 sea caves, about a quarter of them on the coast. I should add that there are lots of small caves along the coast, but from the beginning we decided on a minimum of 30 feet for a cave to be deemed worthy of naming and mapping. Most caves have simply been named after associated geographic features like coves or beaches, or some feature within. Rarely were there historic names.

The greatest concentration of California's sea caves, over 380 of which we've surveyed, are in the Channel Islands off the coast of Ventura County (see map). These have been covered in two previous *News* articles (February '83 and June '93), two *California Caver* editions, and two books. But mainland

California, with its more accessible caves, has yielded as many again to the surveyor's tape and doubtless many more remain, especially in the remote northern counties. Much has been published over the years in grotto and regional publications, but this is the first time I've written an overall summary of the Survey's work on coastal caves.

GENERALITIES

While not as large on average as the island caves, the coastal caves are found in numerous host rocks that lend diverse characteristics to their forms and passage shapes. Sandstone, in particular, erodes into nicely sculpted passages more esthetically pleasing than the chunky basaltic passages in the islands. While some areas of the coast are fairly inaccessible without a boat or sea kayak, the majority of the caves surveyed to date were reached by combinations of hiking and swimming during low tides, typically in the fall and winter months when the tides are more extreme.

In addition to the work started by the Southern (now just California Sea Cave Survey), two other groups played a role in exploration of the coastal sea caves. The Golden Gate Grotto did comprehensive surveys in Marin and San Mateo counties, while the Santa Cruz Sea Cave Survey focused on the caves of that county.

Following are summaries and highlights for each of the nine counties which have seen significant sea cave survey. While there

are undoubtedly caves in Humboldt and Del Norte counties, no survey work has been undertaken there. I'll begin with the southern counties, for that was the original focus of sea cave survey.

SAN DIEGO COUNTY

Perhaps the most famous of the sea caves on the California coast are the "seven caves" at La Jolla, formed in a 200' high cliff of Cretaceous-age sandstone. A perennial tourist favorite, La Jolla Cove and its cavey cliffs are featured on dozens of old postcards. One of the caves is a commercial sea cave known as Sunny Jim's, which lies beneath a shell store on the cliff above. According to their brochure, a German professor worked two years with a pick and shovel digging a tunnel from the surface to the back of the cave. Electric lights and 133 steps were added in 1903. One other cave, at the far end of the group, is known as "White Lady." According to anecdotal reports, a couple went here on their honeymoon seeking solitude and was trapped by the rising tide.

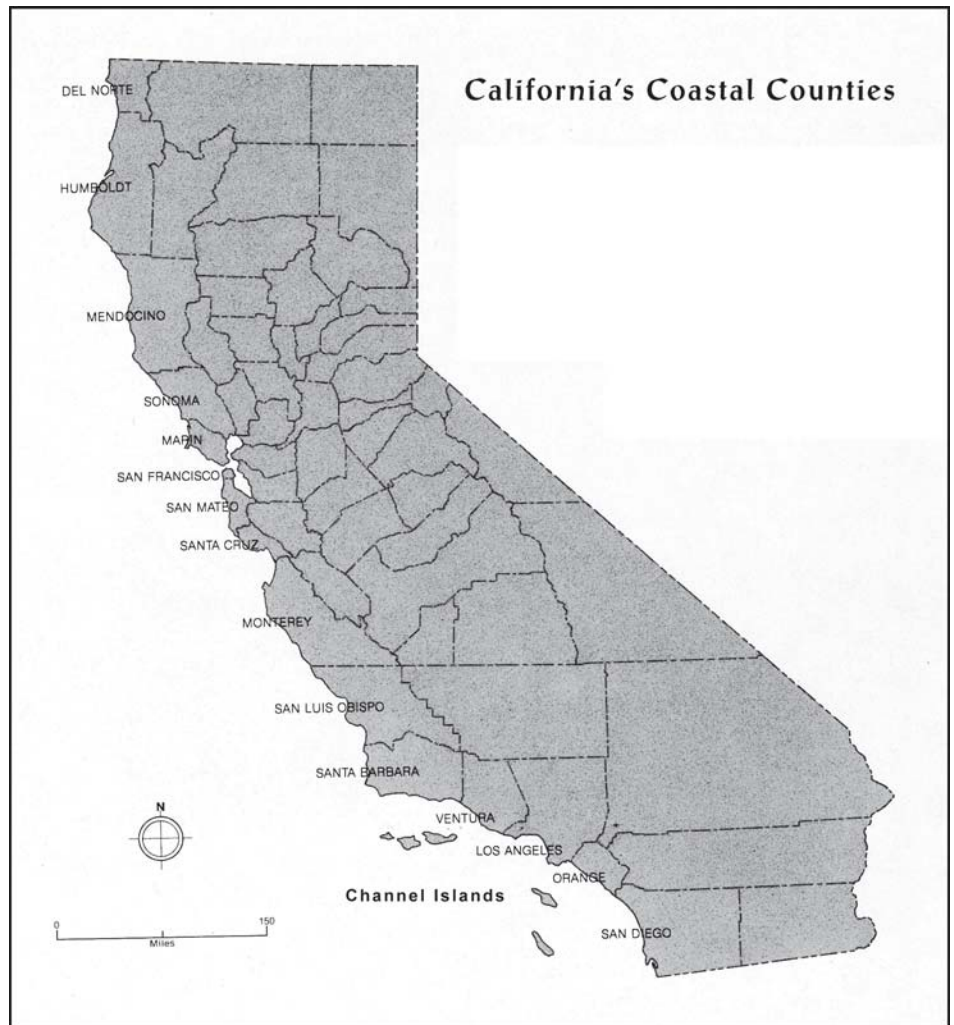
In March and June of 1982, we used a series of very low tides to survey the entire group of caves, surveying the cliffline in-between to show the caves in relation to each other. Carol Vesely's award-winning map shows that there are nine caves, of which Sunny Jim's is the second largest at 324 feet and Arch Cave, with six radiating arms, is the longest at 608'. Two of the caves held unexpected surprises. In Sea Surprise,

we reached a tight fissure which Ernie Garza squeezed through with the survey tape. We thought he must be playing a trick on us when he kept reeling out more and more tape beyond. But sure enough, this cave opened up again into another 80' of walking passage beyond. And the biggest surprise awaited us at the end of this passage: orange flowstone streaking the walls above a crystal pool containing what appeared to be calcite-coated sea anemones! In the back of White Lady Cave we found a rounded white hump of flowstone stained with similar streaks of red. In honor of the cave's reputed tragic history, we named it the Bloody Bridalveil formation. However, the presence of so much dripstone here suggests the ocean rarely, if ever, reaches this far into the cave, so it was unlikely that that young couple could not have waited out the tide there.

Two other areas of high cave concentration were surveyed in the city of San Diego: Sunset Cliffs, and its continuation south into Point Loma. The former area is popular with surfers, and we had a mutual surprise as one of them encountered us surveying inside his shortcut cave that was a gateway between two coves.

On one fateful day we almost lost most of the people involved in the survey. Nine of us set out in sea kayaks from Ladera Beach, on northern Pt. Loma, the idea being to reach some of the sea caves along the sheer cliffs that we'd been unable to reach by foot. Djuna Bewley and I were in virtually brand-new sea kayaks along with Don Morris. Bob Richards and Ernie Garza were in Ernie's Folboat and several others were in an inflatable canoe. We set out on a sunny day at a beach frequented by surfers, that had an unusual convergence zone where we could get out past the breakers relatively easily.

We'd traveled about a mile down the coast before the fog bank rolled over us—the thickest, pea soup fog you can imagine. Very quickly, our group of five boats was scattered and out of touch with each other. As if this wasn't bad enough, the surf had picked up incredibly. We were so far off shore, in what



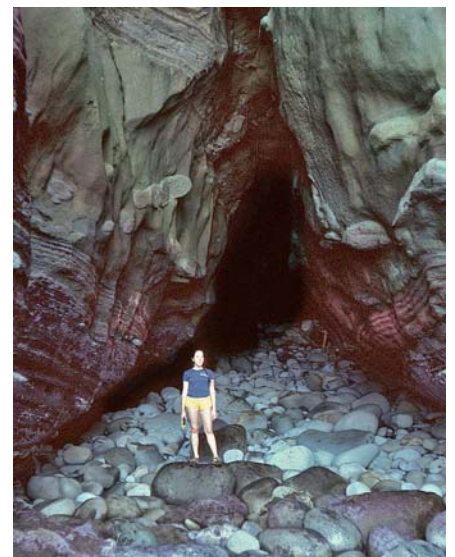
had been well beyond the surf zone, that I was totally unprepared when a huge wave come along and rocketed my boat from under me. My last glimpse of it was of it disappearing into the fog towards the sheer cliffs beyond...

Panic gripped me and I had to make a decision that could mean life or death. Swim after it, with no sure chance of finding it, and possibly being dashed to death on the rock? Fortunately, Djuna had seen what happened and came to fetch me out of the water. We weren't even sure how well the boats would ride with two people, but it was manageable once we coordinated the paddling. A few tense moments came as more huge waves threatened to swamp us, but we paddled hard and punched through them to the safety beyond. But how to get back to shore, and where were the others?

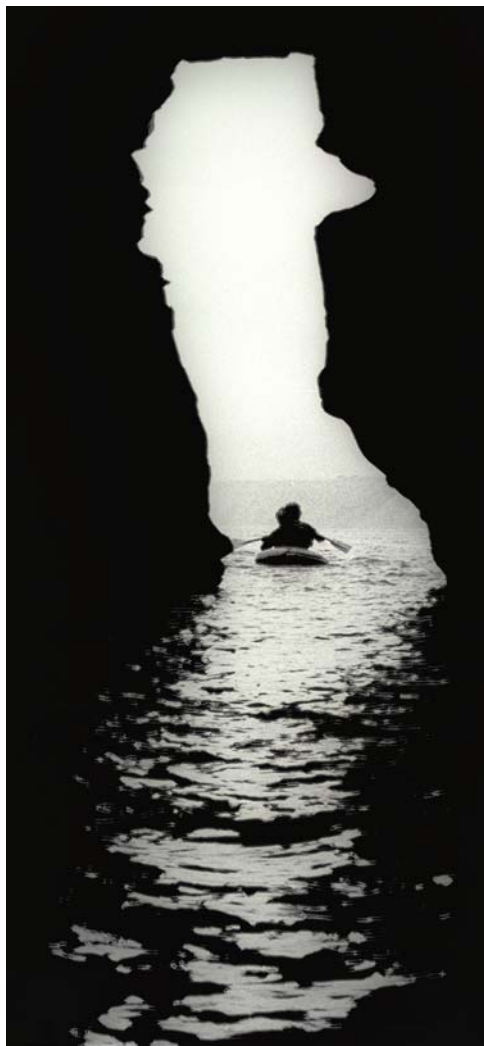
Don sat in his boat nearby through it all, calmly munching on an apple. He was, after all, the most experienced sea kayaker among us. Not knowing the fate of the others, we paddled back through the fog by compass until we encountered the surfers, who pointed us to the safe zone for a beach landing...



The La Jolla sea caves; Sunny Jim's is the near entrance



White Lady Cave at La Jolla



Rafting into Emerald Cove Cave, La Jolla

Meanwhile, the others had managed to paddle several more miles around the tip of Point Loma and into Mission Bay, cold and tired but thankfully safe. Ever since then, I've had a healthy respect for the fog and would never consider sea kayaking alone.

That was the last attempt to add to the 37 caves surveyed in the county.



Emerald Cove Cave, La Jolla. Note people climbing on left

Big Blowhole Cave, Sunset Cliffs, San Diego. This is a classic littoral sinkhole formed by collapse of a sea cave's roof

ORANGE COUNTY

The CSCS has mapped nine caves in this county, the longest being Thousand Steps Beach Cave (214') near South Laguna. This is a very accessible and impressive cave formed in sand-stone, reached from the public beach of the same name. Much of it is a 20' high tunnel almost 200' long, that follows a fault. Some flowstone and small stalactites have formed inside. We entered a dry opening visible from the beach and exited a second seaward entrance. That gave us access to adjacent Lighthouse Cove, where we mapped several other caves including 200-foot long Arch Cave.

SANTA BARBARA COUNTY

Technically, this county includes Santa Cruz island and its multitude of large caves. On the mainland, all the known caves are found at Point Sal, a small isthmus of volcanic agglomerates, and south on the Vandenberg Air Force Base. We mapped three small caves at Point Sal, the longest of which we named Miner's Mystery (85'). It was a two-level cave, with a dry upper level containing a series of planks wedged between the walls at different levels, like mine shoring. It wasn't evident that any artificial enlargement of the cave had been performed, and it remained a mystery. At the Air Force Base we gained access, with an escort, to survey some caves at Point Arguello. We were forbidden to take photos on the base, but one cave contained

such beautiful tidepools that I couldn't resist—and surely the photo seen in the color spread was not a threat to national security! We also hiked a mile during low tide and surveyed five nice caves at Ocean Beach Park, a public beach access in the middle of the base. One of these was over 180' long.



SAN LUIS OBISPO COUNTY

This was the birthplace of the sea cave survey, with 30 caves mapped during the 80s. It all began in 1981 with a description in *Caves of California* about "The Caverns of Mystery" describing a series of large wave-cut chambers that had been commercialized. I went up with Nina Savar, a visiting friend, and spent that day looking for the cave unsuccessfully. Later that month Nina was heading up the coast and met a couple of locals who volunteered to take her to a place that would "blow her away". It turned out to be the mysterious Caverns of Mystery, not far from where we'd searched before. Armed with Nina's directions, Carol Vesely and I went up to the town of Shell Beach to investigate. We were enticed by beautiful orange sandstone cliffs bearing numerous entrances, and a huge sea stack (portion of



Tiger Dome Cave, Pt. Loma



Large sea stack at Shell Beach housing the Cave-in-Rock

surveyed it and I took the first of many photographs I would make here over the years. This became one of our favorite destinations for grotto sea cave trips.

With so many caves in one area we decided to take the same approach we'd taken at La Jolla, and show all the caves on one

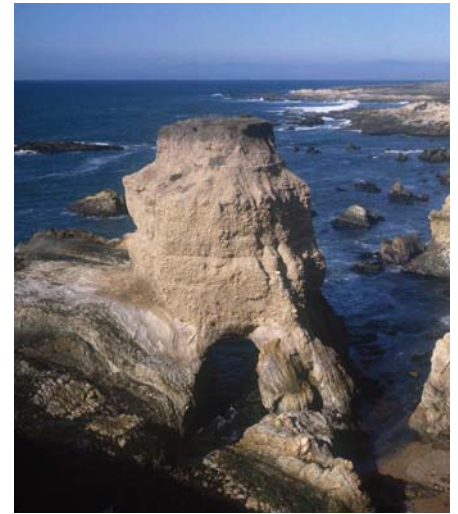
map. So on a later trip with Ernie Garza we traversed a quarter mile stretch of coast just north of Dinosaur down to Cave-in-Rock, surveying five caves enroute. Most of these were large chambers, and on the map you could see how a passage trend was followed across a series of caves. No doubt someday all of these caves may connect, unless the cliffs give way first.

Further up the coast at Shell Beach, we spotted a hole high up in the cliffs, at the back of a finger cove. Parking my truck above it and rigging to the bumper, we did our first vertical sea cave (see back cover photo). The 70-foot drop landed us in a dry passage connecting into a water-filled room 100' long, and the expected seaward entrance. Slickensides on the walls showed why the cove and the cave passage was so narrow. The cave mapped out to over 200'.

Further explorations ensued at Cave Landing, named for large relict sea caves where pirates were alleged to have hidden

their treasure. Just south of Avila State Beach, the caves here were notable for the beautiful and photogenic patterns in their sandstone walls. This secluded area is also a nude beach, which made for interesting "ridgewalking." Another cave here proved to have outstanding tidepool life, and was well-known to marine biologist Bob Henderson, who had found many species of nudibranchs (shell-less molluscs) among the rocks in what we named Nudibranch Cave.

But the story of this county wasn't over. We'd mapped a few small caves at Montana d'Oro State Park, which has awesome folded and twisted coastal rocks because it is in a subduction zone, where the Pacific Plate is diving under the North American plate. The rock is the Monterey formation, composed of shales and silty sandstones dipping at 50 degrees. Then I saw an aerial photo of Point



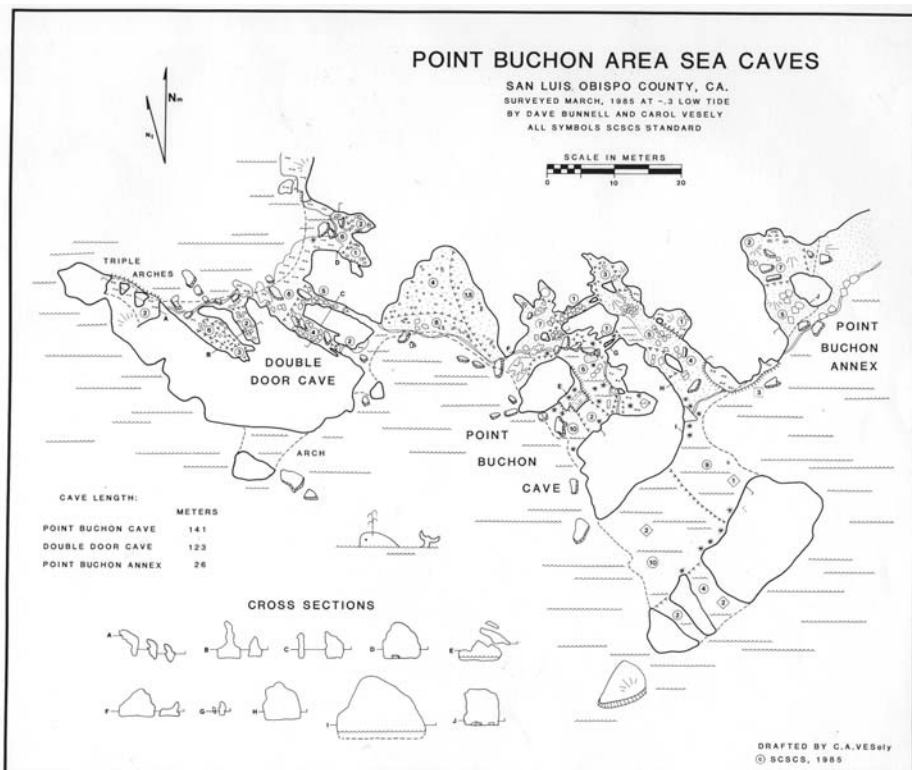
Grotto Rock is a sea stack at Montana d'Oro S.P. which is virtually hollow. Below, the cave within.

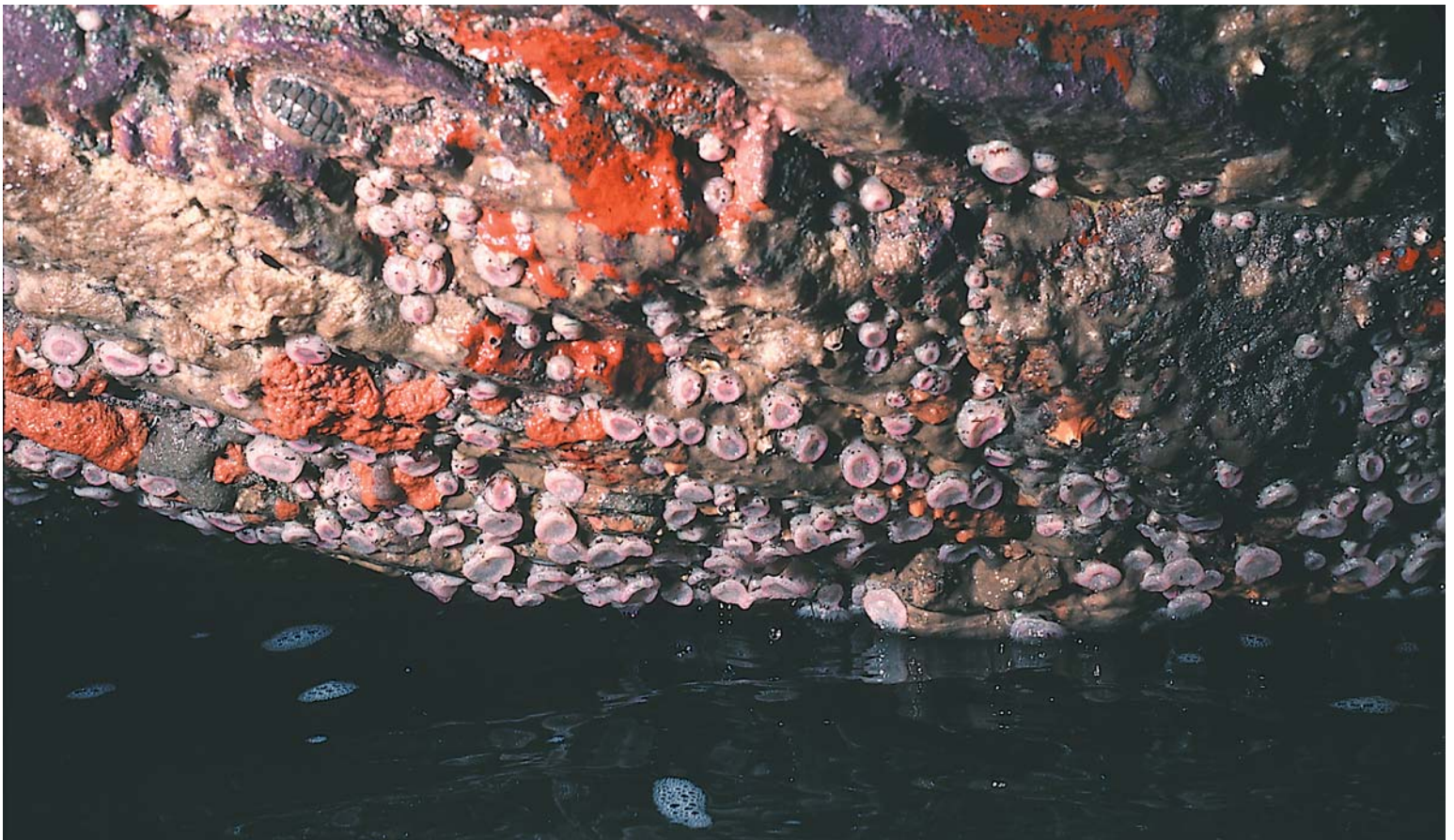
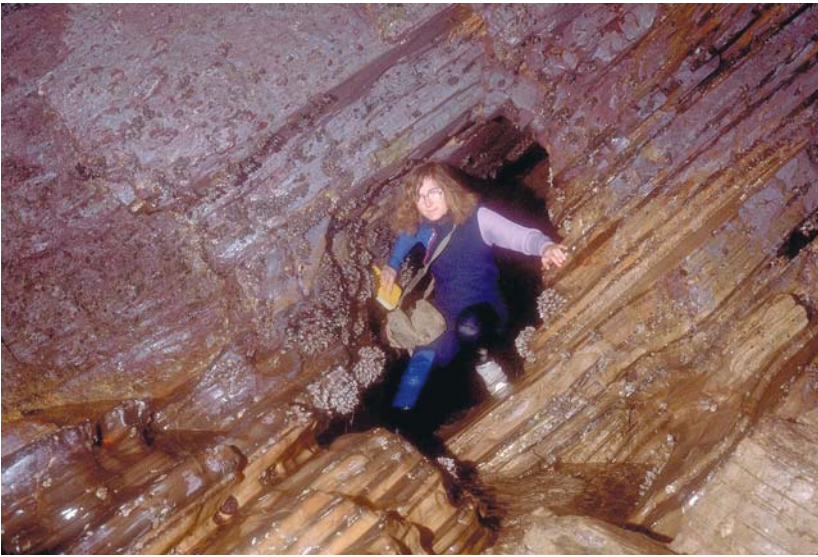


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photos by Dave Bunnell



Left page, clockwise from top left:

1. Arches at Three Arch Bay, Orange Co.
2. Common Pacific Starfish in a sea cave
3. White anemone in the darkness of a sea cave interior
4. Sponges, chitons, and anemones
5. Carol Vesely negotiates an opening in Pt. Buchon Cave, San Luis Obispo Co.

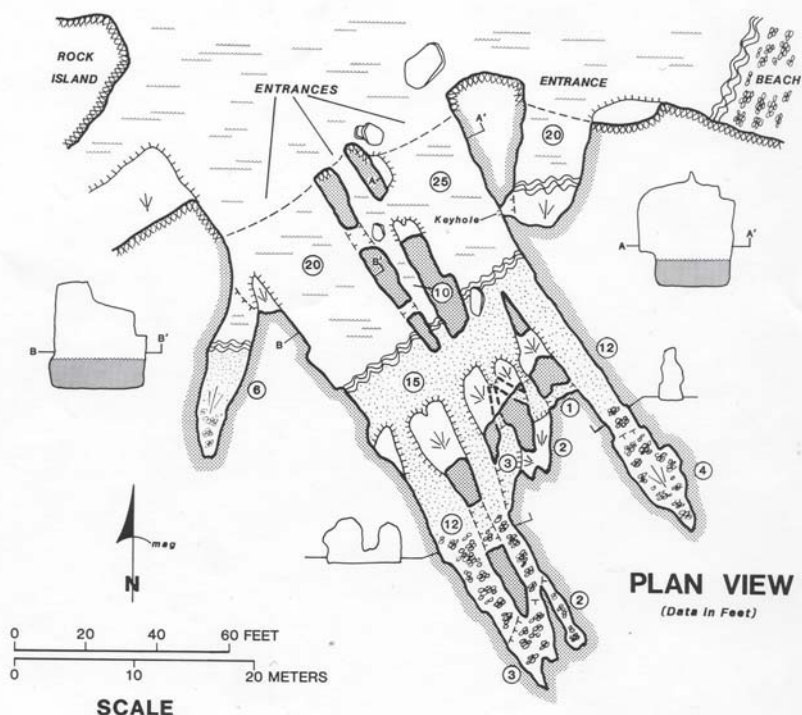
Right page, clockwise from top left:

1. Sketching at Shell Beach
2. *Hermissenda* nudibranch in a cave pool
3. Swimming into Sarawak Cave, Santa Cruz Co.
4. Orange flowstone and calcified sea anemones in the La Jolla sea caves, San Diego Co.
5. Red algae and sponges at low tide in Cave-in-Rock Cave, Shell Beach
6. Looking out the landward entrance of Cave-in-Rock Cave, Shell Beach



SEA MAZE CAVE

SAN LUIS OBISPO CO., CALIFORNIA



SUUNTO And TAPE SURVEY BY:

Dave Bunnell, Carol Conroy, Bill Liebman, Bob Richards.

CALIFORNIA SEA CAVE SURVEY

SURVEYED AT: -0.3 Low Tide, 14 April 1985.

TOTAL SURVEY TRAVERSE: 752 ft., 229m

MAP SYMBOLS TO CSCS STANDARDS.

© 1985, BOB RICHARDS



Buchon, south of here, and it appeared to be riddled with entrances. I knew we had to get there, but there was no easy access. In fact, much of the land is still owned by Pacific Gas and Electric as a buffer around their nuclear plant at Diablo Canyon. One spring day during a negative tide, a couple of us opted to do a recon along the beaches, which in California belongs to the public. Hiking, swimming, and wading, we reached the point in about half an hour. This is an amazing stretch of coast, with numerous large double and triple arches, and dense concentrations of cave. Some of our largest coastal caves were mapped during trips to the area in the mid-1980s. In the first trip, Carol Vesely and I mapped Double Door (403') and Point Buchon (462') Caves (see map) which hinted at the complexity possible here. Later we returned with Bob Richards, Carol Conroy and Bill Liebman, discovering Sea Maze, second largest of the coastal caves and truly a maze, with up to five parallel passages with various interconnections. It has a nifty keyhole, opening only at low tide, that connects the main cave to a third entrance. Wandering through it for the first time, it seemed to me to go on forever. It was beautifully colored with red algae, and nicely sculpted passages. This was coastal sea caving at its best.

From that third entrance, we looked out along an expanse of sheer cliffs riddled with many more caves, but could no longer continue on foot or with brief swims. To continue will require the sea kayaks, in an area where surf can be iffy. Despite its appeal, we've never been back.

MONTEREY COUNTY

This county is dominated by the rugged Big Sur cliffs and is famous for rough surf. Much of the coast is inaccessible without a boat. While only four caves have been mapped, one of them proved to be one of the coast's largest: Bixby Landing Cave, incompletely mapped at 518 feet.

Fifteen miles south of Monterey on twisty Highway 1, the Bixby Creek Bridge is a major landmark of the Big Sur coast. At 700' long and 260' high, it is one of the largest concrete span bridges in the world. It was the basalt peninsula jutting out on its north side, with cave entrances clearly visible, that led Peter and Ann Bosted, Gary Mele and I down a very steep trail from the bridge to the mouth of the inlet below. Sporting wetsuits and fins, we swam about 500' to the large entrance at Bixby Landing (a former boat mooring), passing through an arch along the way. The cave's single entrance opened into a 50' x 80' long, water-filled room, the ceiling

dappled by sunbeams reflecting off the water's surface. Four separate passages led off this room, one of them actually curving into complete darkness (curves in sea cave passages are unusual). A couple of them were low enough that we couldn't finish the survey at this +1.8 tide level, and later Peter and I returned to finish the survey at a -1.5 tide. Three feet can make a huge difference, and we were able to complete one of the low passages to a cobble beach and get into the fourth arm of the cave. However, as we got further in, the water seemed to have a suctioning effect as the swell rose and fell, and we were hesitant to go beyond for fear of being sucked into voids unknown. It may connect to a seething, cauldron-like cave we found on the far side of the point. If so, the cave could prove to be 200' longer or more. One of those many side-burner projects, I hope to return sometime with a "belay" or canal line attached to a rocky outcrop some 100' from the cave, on a very calm day...

SANTA CRUZ COUNTY

Much of the Santa Cruz coast is dominated by sedimentary cliffs up to 100' high, formed from mudstones and siltstones. Outside of the Channel Islands, Santa Cruz is by far the caviest county in California, with 120 caves mapped, five of them over 300' long. This includes the coast's largest sea cave, Forbidden Fissures (790'). The county also contains what may be the largest cave chamber, over 150' wide, in Sarawak Cave.

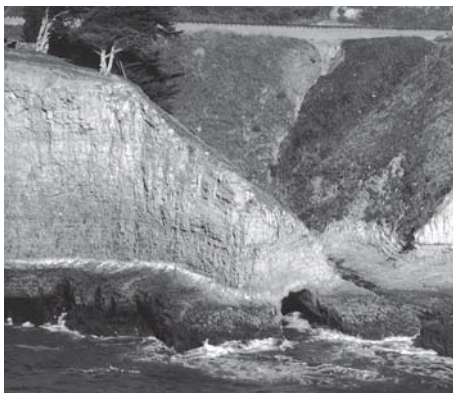
The Bosteds, Gary Mele and Bob Richardson began the Santa Cruz Sea Cave Survey shortly after the Southern California Sea Cave Survey was chartered. Sea cave fever had spread! I was able to join them for some of the survey here, always an adventure. Bob had grown up in the area and knew of many of the caves. A long-time surfer, he had even surfed into some of them long before the idea of mapping them was conceived! His skill in the water was a major asset to the survey.

Mapping here can be a very seasonal thing. Not only can the seas get quite rough, but considerable sand moves in and out of some of the caves with storms. One cave at Bonnie Doon Beach varies from being



Inside the Forbidden Fissures, Santa Cruz County's longest cave

Peter & Ann Bosted



Aerial view of the main Basketball Cave entrance, Santa Cruz County

completely filled to a multiple-entrance "system" over 200' long.

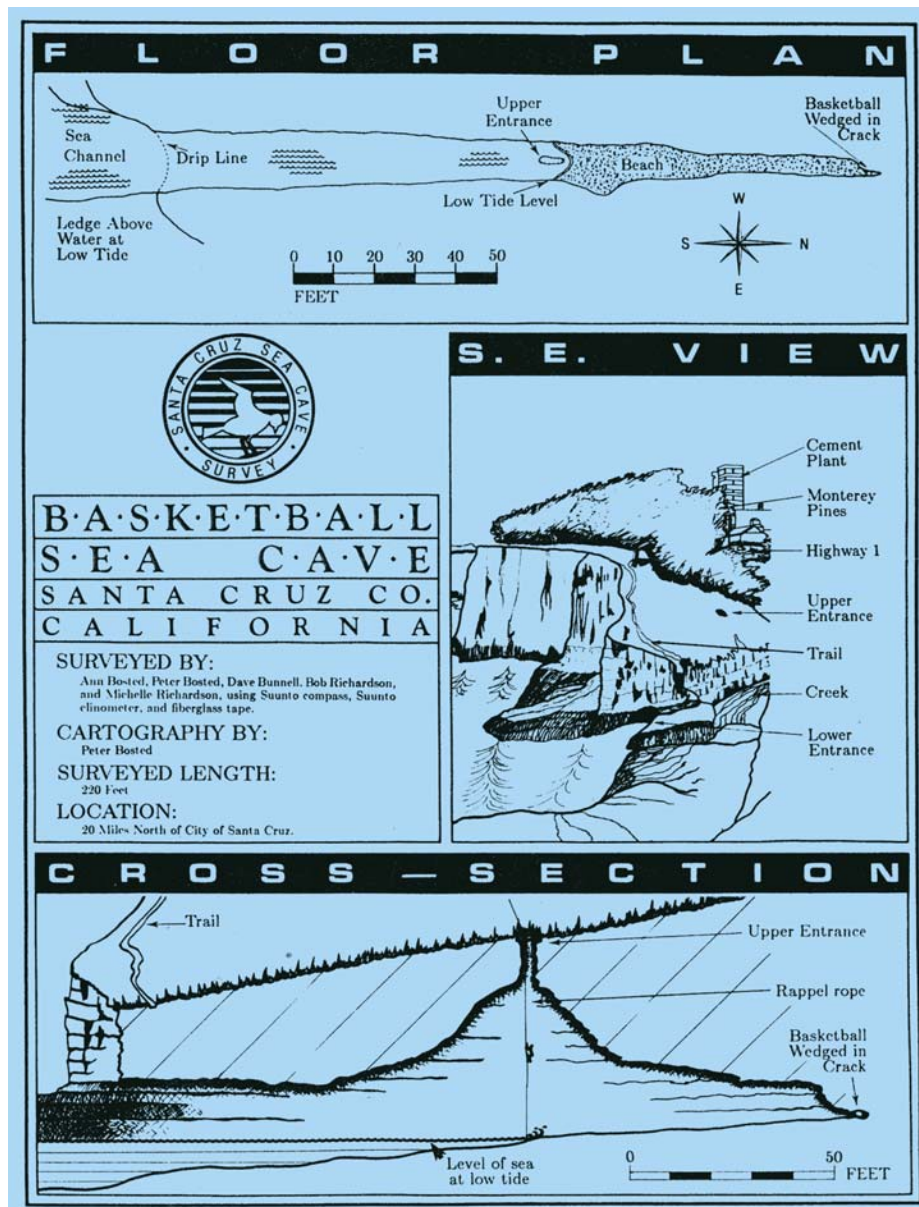
One of the more unusual caves in the county is Basketball Cave, which has a 40 foot vertical entrance on the hillside above it, dropping into the back of the cave. Years after our survey in the cave, a third entrance formed on the side of the hill about 15' above the cave's floor. Recently sand has filled much of the cave, sealing off the seaward entrance. With next year's storms, the cave could be cleaned out once again, possibly enlarging it beyond the size shown on the map.

SAN MATEO COUNTY

Bruce Rogers reported 83 "caves, grottos and arches" in a 1988 Inventory by the Golden Gate Grotto. Five of these fell into the 100 to 200 foot range. One of the most accessible is at Ano Neuvo State Park, famous for its elephant seal population. Many of the other caves proved quite difficult to reach.



Djuna Ivreigh on rope in Basketball Cave. Part of the seaward entrance is just visible at the bottom of the photo.



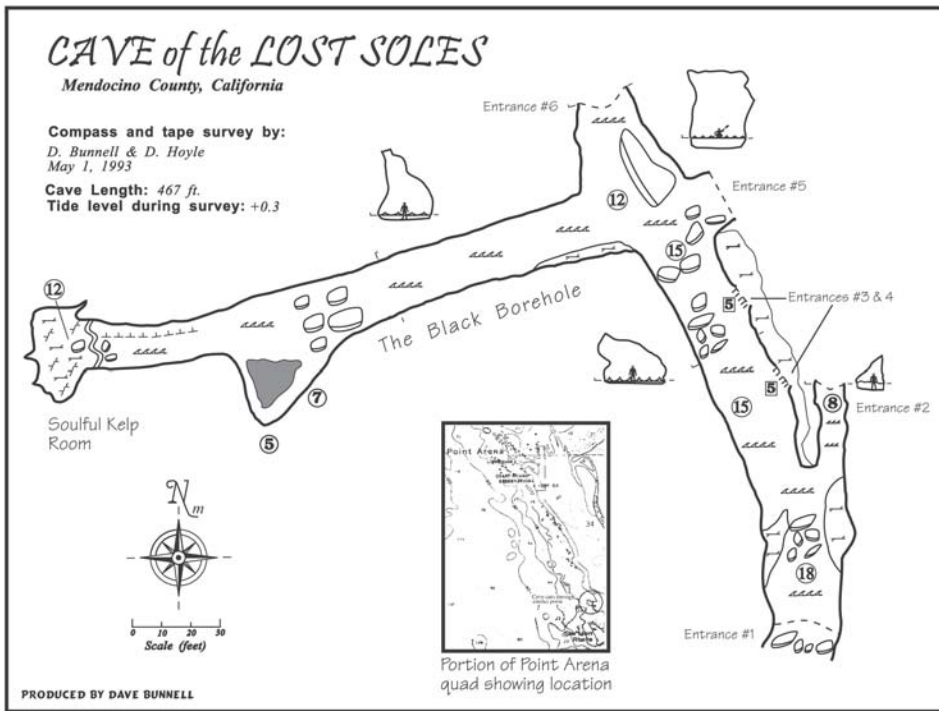
MARIN COUNTY

Many of the caves in Marin County are in the impressive Marin headlands, partly visible from the Golden Gate Bridge. Bruce Rogers and company report 119 sea caves in this and other portions of the Golden Gate National Recreation Area. Further north is the equally scenic Point Reyes National Seashore, at the northern edge of the San Andreas fault Rogers lists 139 points of interest, including 10 caves over 100 feet long. The longest of these is Point Resistance Cave (386'). According to an account by Rogers in *Short Rounds* (Feb. 1986), California's first sea cave map was likely produced by two lighthouse keepers at Point Reyes in 1927. But these were no walk-in caves. Most likely, they descended the hundred-foot high cliff beneath the lighthouse hand-over-hand on thick manila ropes, possibly sporting kerosene lanterns. Their map depicts two caves, one about 280'

long, with an upper dry level above a very actively forming lower level. "Stalactites found here" is shown on one end of a cross-faulting passage...

MENDOCINO COUNTY

Rugged and incredibly scenic, the Mendocino coasts sports numerous caves, arches, and what Bill Halliday termed "littoral pseudokarst", essentially open-air collapses into sea cave chambers. The most impressive of these is at Russian Gulch State Park, and is a 70' pit some 100' across with two cave passages leading into it. It's a featured tourist attraction called Roaring Sink, with a fence around it but nothing posted prohibiting rappelling! Bruce Rogers did a recon here in 1970 and estimated the larger passage at 250 feet long, with the second being roughly the same length but possibly too low to negotiate. Another very impressive area is the Mendocino Headlands, on which sits the



scenic little town of Mendocino. The Headlands contain a number of deep-water caves that require a kayak or boat to explore. Gary Mele, Ann Bosted, P. Greaves and Dave McClurg surveyed Starfish Cave (334'), located in some islets off the northwest edge of the Headlands, in 1984. This was the only survey done here until Derek Hoyle and I surveyed two others large and impressive caves in 1993.

On a gorgeous Kodachrome day in early May, Derek and I were on the road to Point Arena. Just before the entrance into the lighthouse grounds, there is a pull-off on the left. From here, two large entrances were



Derek Hoyle in Cave of the Lost Soles, at the junction of the two main passages

visible in a prominent point. We clambered down a dipping outcrop that stair-stepped down to a cove below. Ten minutes later we were at the cave entrance, and wetsuits were deemed in order. The cliff-face here was covered with orange lichen, and indeed, the cave within proved even more colorful as the receding tide revealed orange, red, and yellow sponges and purplish red encrusting algae (see back cover photo). Just inside, the cave split, the right fork leading to a second entrance that helped illuminate this portion of the cave. Derek got his first taste of real sea caving here as he took the survey tape and waded into the surf to connect in this entrance. Back in the main passage, we surveyed past two small entrances visible above a shelf before reaching a moderate-sized chamber with two more entrances. Had this been all there was, it would still be a notable cave. Yet to the left was a second major passage extending back over 200' into genuine darkness. The dark walls and spacious dimensions inspired the name "Black Borehole" for this passage. Scattered about on the floor of this passage were hordes of soles - not the fish, but soles of tennis shoes! No doubt someone was missing those poor lost soles, so we named this Cave of the Lost Soles in their honor. It took us a couple of hours to map all 467' of this impressive cave. Next to it is another with a larger, more impressive entrance. It too cuts through the point, and is large and spacious within. Unfortunately, the combination of a rising tide and rough surf precluded mapping it.

Our next cave 'lead' came from a local real estate newspaper, which had an article on Mendocino caves. This set of caves is reached by taking the first left-hand turn off of Highway 1 north of Peters Creek Bridge

as you drive north from Mendocino. Drive to the end of the road and park. From here you can climb down to a cove. On the south side are a number of small caves, the largest measured at 65'. The main cave is on the north shore, about a 10-minute walk at low tide. The entrance is a tall, narrow fissure and leads into what most cavers would concede is a "real" cave, because it's quite dark inside. The main passage is sandy-floored and continues 180' to a terminus in a small room. It's all walking with a couple stoopways. There are two side passages leading to other entrances. One of these we termed the Batstar Chamber, as it contained the largest and most diverse concentration of batstars I've seen in any single cave. Derek counted 42 of them - purple, red, red & white speckled, pink, and chartreuse. There were also dark-adapted (white) anemones, lacking the green color provided by the algae that normally lives in symbiosis with these creatures. Here the survey was delayed briefly for pictures... The second side passage was flooded with swimming-depth water, but we finessed the survey by walking along a ledge on the left side.

All in all, it was a very successful first trip for the Mendocino County Cave Survey with two caves over 400' and lots of tantalizing leads remaining.

ACKNOWLEDGEMENTS

Many people helped on the coastal sea cave surveys over the years with the California Sea Cave Survey, including Djuna Bewley, Rich Breisch, Carol Conroy, Stan Conston, Don & Lisa Delucia, Bill Farr, Bob Fariss, Ernie Garza, Ray Hardcastle, Bob Henderson, Derek Hoyle, Susan Morris, Nancy Pistole, Bob Richards, Scott Schmitz, Pete Shifflet, and Carol Vesely. Principals in the other survey groups have been noted, and everyone's contributions to the exploration and survey of California's sea caves are appreciated by the author.

CALIFORNIA COASTAL CAVES >300'

| | |
|---|------|
| Forbidden Fissures (Santa Cruz) | 790' |
| Sea Maze (San Luis Obispo) | 749' |
| Sand Hill Bluff Cave (Santa Cruz) | 675' |
| Arch Cave (San Diego) | 608' |
| Big Mother Cave (Santa Cruz) | 567' |
| Bixby Landing Cave (Monterey) | 518' |
| Sarawak Chamber (Santa Cruz) | 485' |
| Cave of the Lost Soles (Mendocino) .. | 467' |
| Pt. Buchon Cave (San Luis Obispo) .. | 462' |
| Peter's Creek Cove Cave (Mendocino) | 412' |
| Double Door Cave (San Luis Obispo) | 403' |
| Pt. Resistance Cave (Marin) | 386' |
| Smuggler's Cave (San Diego) | 354' |
| Surfing Tunnel (Santa Cruz) | 351' |
| Starfish Cave (Mendocino) | 334' |
| Mayan Temple Cave (San Diego) | 328' |
| Sunny Jim's Cave (San Diego) | 325' |
| Reyes Cave (Marin County) | 315' |
| Purple Post (Santa Cruz) | 305' |



Exploring California sea caves

