

AN ICONOCLAST'S VIEW OF CALIFORNIA FISHERIES RESEARCH, 1929-1962

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I'm going to talk about the early days of fisheries and research in California from a somewhat different viewpoint than anybody else, I'm sure. It just happens that Herb Frey's round table, giving some idea of the hazards and pitfalls of fisheries research and management, and Frances's historical review fit in perfectly. We didn't get together on this, but it just works out fine.

In answer to some of the questions, though, about Frances, let's just say that the fisheries research field was exactly sixty years ahead of the Supreme Court. I think it's a credit to the people in our field that we did get that head start.

I'm going to talk somewhat about myself, not because of any egotistical trait, but because I want to put things into perspective, and maybe you will get an idea of my philosophy. An iconoclast originally was somebody who smashed the icons in the Russian churches and went to jail for it. I like to smash a lot of things, but I never went to jail for it.

But looking back, after Reuben talked me into this presentation, I began to think that things are kind of a pattern; things are kind of funny. But I might say that all this time I have been marching to a different drum-beat than a lot of people, except that since I married a Scottish girl, let's say that I've been marching to a different bagpipe! So three times I listened to that internal bagpipe and marched off.

The first time, to give you a little background, I marched off to World War II. The bagpipes always stirred me, and I envisioned myself as climbing out of the trenches and slaughtering the enemy. Anyway, I marched off. I'll give you a little anecdote, and it's a true one, too. Strangely enough, I was taken in to see my new commanding officer at my first station. The adjutant introduced me, and the grim-visaged colonel said, "Major, what is his background?" The adjutant said, "He's a fisheries biologist, sir." The colonel said, "For Christ's sake!" I heard him muttering, "What are we going to do with this bastard?" Then he looked at me, and said, "Lieutenant, have you ever commanded troops?" I said, "No, sir!" in my most military manner. He looked at me with that well-known steely eye, and with precise, grammatical English he said, "If I were to ask you this question twenty-four hours from now the answer would be, 'Yes, sir.' You are as of now in command of Student Squadron 57."

So from then on, his and my careers both went rapidly downhill. Not long after, he was court-

martialed for accepting bribes from civilian contractors. In disgrace, he committed suicide, and in disgrace his son had to resign from the Army.

As for me, when I came back from the service, I was made a fisheries administrator with California Fish and Game. That was a quick step from a mediocre biologist to a harassed administrator, and that's one step below even a lousy biologist. But I want to make the usual disavowal. Any remarks I may make from now on do not reflect the views of any agency or company for which I have worked, and my comments have not been cleared by any of my past bosses, one of whom was too modest to mention it to you—Frances herself. So here we go.

When I came to work, it was actually a college vacation in 1928. In 1929 I was a full-time temporary. Like a temporary World War II building, a temporary appointment in state service often becomes permanent. There weren't very many of us, just a handful, and we all knew each other. We weren't pioneers by any means. I'm not sure whether we were second or third generation, but there weren't many ahead of us, and most of them, as Frances mentioned, were the greats who laid the groundwork of early fisheries research.

In the early thirties there was an extreme shortage of qualified personnel. I was working, but I wasn't qualified. There was a great shortage of public support, and there was a great shortage of funds. Frances alluded to the modern equipment that's now available. You should have seen what we had. If you will look at the pictures in that book over there, you will see Harry Godsil and me hauling a net. I'd like to tell you about that day for several reasons. This was in 1934, off Coronado Strand. We were after young sardines. The boat we had was the *Bluefin*, the patrol boat. We got it for about one week a month or so, and the rest of the time it was used to harass illegal fishermen.

We also had what we called *Bluefin, Jr.*, a skiff that must have weighed a ton, dead weight with nothing in it. It was a horrible thing, with an outboard motor that we had to operate in a well amidships to avoid fouling the net as it was shot off the stern. Harry and I went out with a four-man lampara net, and one day before lunch the two of us made eleven sets on sardines. Now, the reason that Harry and I did it and not somebody else was that Harry was short, and I was tall, and our fannies fitted perfectly on the stern of this boat, one above the other! You can see it in the picture.

Anyway, we made eleven sets, and we caught sar-

dines in every set. We took them back to the *Bluefin* and measured them for some reason that is now obscure. We had lunch and then went out in the afternoon and made eleven *more* sets. That's how hard we had to work with the equipment we had. Every set we made, while Harry laid out the net, I had to row on the one side with a great big old oar because we couldn't make the tight circle with the motor in the middle of the boat.

Now, there are several significant things about this. One is that there were enough sardines this size to catch some every time we put the net in the water in broad daylight. There were enough sardines there to support a small but flourishing canning industry in San Diego. Del Monte packed small sardines in oil, in quarter-pound cans, and the fishermen called small-sized sardines "quarter oils." Del Monte used to keep the cans a year before putting them on the market, to let the flavor set, and those sardines were superb. To this day—and I have sampled every kind of sardine, everywhere in the world, I've only found one pack that would even compare in excellence. I encountered the closest thing in 1966 in Ensenada at a plant called Conservas del Pacífico, known as COPASA. They packed a Spanish-style sardine. The fish were caught off Mazatlan and shipped all the way up to Ensenada by reefer truck. COPASA also put up the best white and red wine produced in Mexico—from the same plant!

Anyway, it was rather significant that that was the kind of equipment we had. Another example is the story of Don Fry and the bathtub that Frances told. However, it was not mackerel, but lobsters he raised in the bathtub; he and his wife had to come to our house to take a bath.

One time we went out on the *Junior*, which by now had an inboard motor with a big flywheel. Frances, Don Fry, and I went out to tag mackerel off the outer Long Beach breakwater. The first thing that came right by us—of course, if they had known we were Fish and Game they would have stayed away—was a purse seiner. It swamped our engine, and there we were stranded, and the three of us sat there. Don and I pulled our arms off on the great flywheel. Finally, I got mad and said, "Excuse me, Frances"—or "Clarkey," as we called her in those days. I sat up on the bow and I cursed that engine until I was blue in the face. Then I marched back to the engine and gave it one turn and chug-chug-chug-chug. Frances said, "I never knew that swearing was any good at all!"

After we finished tagging mackerel, we had made such slow progress getting out there that we knew the bottom was fouled. Anyway it had been a long day, and there were no accommodations on board, so we'd

go over the side to scrape the seaweed and the growth off the bottom. In those days one never mentioned going to the bathroom when in a situation like that, so we could do it while we were scraping off the bottom.

So that's the kind of thing we had to do. One day, the fellow over at the dock where we kept this *Junior* phoned me up and said, "Mr. Croker?" I said, "Yeah." "I'd like to tell you that the boat *Junior* sank at the dock." I just said, "Good," and hung up. That's the kind of equipment we had to work with. This wasn't pioneering; this was second-, third-generation stuff.

As I said, there was no respect for us, except among ourselves and our colleagues up and down the coast. We were sort of second-class citizens, and no one took us at all seriously, no matter what we had to say. You've seen that television comedian who always says, "I don't get no respect." Well, that was us. . . . Maybe we still don't.

We didn't have much contact with the outside world except through literature and correspondence. Frances mentioned the library, and Pat will be too modest to indicate the part it played, but it eventually became the finest fishery library in the world. Occasionally big shots even in those ancient days would come by, and we'd have a little seminar. In fact, I remember one embarrassing situation when I fell asleep during a talk. Gee, did I catch hell.

There were our cruises down off the Mexican coast that Frances mentioned and our contacts at Seattle, so we knew that our world really extended from Puget Sound to Cape San Lucas. It was kind of a parochial situation; I guess the people in New Brunswick and in Hull or Lowestoft in England were the same way.

The first profound interrelationship was the sardine group of British Columbia, Washington, Oregon, and California. As the sardines were progressively fished farther north, we got together. One way or another, the laboratory and the library achieved a growing respect abroad, but still none at home. We were just like an expert: the farther from home he is, the better he is rated.

As Frances said, during those prewar years the state fishery laboratory was sort of a prep school for federal jobs. People just graduated and went on, and when they left, they always thought—I remember one of them telling me—that they were the top people, and they left the scum behind. That didn't go over very well with us. There was—Frances alluded to it, but I'm going to talk about it—a growing rivalry between the federal Fish and Wildlife Service and the three Pacific states. It was not California alone. Oregon and Washington were even more bitter. We were trying to do something the federals weren't doing, and that was

to conduct research and manage the fisheries at the same time, which was quite different—as I am going to expound upon—from just conducting research.

Up until World War II the fish stocks, in general, were in pretty good shape. Some of the minor fisheries needed and received some conservation protection. We achieved quite a few things, largely through N.B. Scofield's influence in Sacramento. He was universally respected, and he could get some things done. But he couldn't buck the big canning industry. About that time, everybody was beginning to worry if the salmon could survive both heavy fishing pressure and the destruction of the environment. There was a great deal of interest in salmon at this time. But out on the coast the sardine was king.

World War II was an interruption in several ways, and I'll list about four of them. First, the demand for food caused intensification of fishing. Many of the tuna boats and the crews were drafted into the armed forces, so the tuna fishery stopped short. All of the other fisheries expanded greatly, however, to meet the demand, and perhaps some of them kind of overdid it, as in the case of the soupfin shark, for example. Overfishing was the name of the game. Many of the fisheries biologists and the state's two research vessels went off to war, leaving behind only a small, dedicated group to hold the research program together.

Another result of the war was that our horizons were broadened. The biologists returned from service all over the world having seen how the rest of the world lived and died, having observed fisheries in the field, and having met foreign scientists. It was a broadening episode in all our lives—traumatic, in fact. A worldwide view of the fisheries began to emerge. We began to realize that fish were being caught everywhere and that fish respected no national boundaries.

Another result, only in California, really, was a tremendous growth in population that resulted from the war. It was unequalled by any migration of western peoples in historical times, I guess. I could see it while I was still in the service, even overseas. I don't know how many service people I met who planned to move to California, especially Texans. I like Texas actually. It was great, no kidding! I love the Texans, too. They knew exactly how much they could take you for, and they told you. I remember my corporal in Texas said once, "Lieutenant, don't tell anybody, but I'm sick and tired of hillbilly music"—he played the guitar—"and I am going to throw the damn thing away. As soon as this war is over, I'm coming to California." These new residents overtaxed all public services, causing water pollution, water shortages, destruction of aquatic habitat, and most of them fished; it all put a strain on our marine resources.

After World War II, and now we're getting places, not only was there the broadening I just mentioned, but there also came a change in thinking. Instead of single-species research, a gradual change took place, and we began to think in terms of multiple-species fisheries. The multidiscipline concept of the total ocean emerged; we began to think more of the whole picture. The same occurred in game work and in freshwater work, too.

One place where two disciplines got together was funny: we'd always laugh. We could always tell an oceanographer by his beard and, before we knew it, the biologists were wearing them, and we couldn't tell them apart! Even some of the oceanographers shaved theirs off. I don't know whether that had any meaning or not, but they did begin to work together.

The several Pacific Coast agencies began to cooperate and formed the Pacific Marine Fisheries Commission. It included the states of California, Oregon, and Washington, and was approved by Congress. It was either the first or second of the present three interstate commissions. There are now five states in our commission.

The Canadians were invited to sit in, and they contributed greatly. The U.S. Fish and Wildlife Service was also an invited participant. But most of us realized, though we never said it out loud, that the interstate commission was in part created to keep the feds from assuming too big a role.

Incidentally, the federal agency changed its name so often that I can't keep track of it. But we'll call them the feds and, a sort of pejorative, *los federales*. Those of you from Mexico, particularly, will know how esteemed *los federales* were!

Back to the Pacific Marine Commission: at first the commission was heavily involved with sardines. That didn't last long because the fisheries progressively collapsed from north to south: B.C., Washington, Oregon, California. Then emphasis shifted to fisheries still of mutual concern to the three states and B.C.—the Dungeness crab, the albacore, the bottom fisheries, shrimps, and so on. But from the beginning, really, salmon was the big deal, and the federal salmon program became closely integrated with state programs. Instead of being kept out, the federal people were brought in, and a marvelous working relationship developed.

In California, everyone began to wonder if the sardine supply really was inexhaustible. Some people were genuinely concerned, but many in the industry refused to worry. They were making big money and couldn't care less about the future. Others wanted to stay in business, and they just desired to learn if the collapse was temporary, what caused it, and what, if

anything, could be done to bring back the sardines. Everything you can imagine was blamed, including the scientists, ocean currents, water temperature, sea lions, offshore oil exploration, and all sorts of flights of fancy. But nobody would even dream of saying out loud that it might be heavy fishing, because depletion was a dirty word.

After countless meetings of everyone involved, the Marine Research Committee was formed. The industry proposed it and funded it, and for thirty years you might say the industry has been the sponsor of a world-acclaimed ocean research program.

We all entered into the new concept with disparate motives and mixed emotions, but there was always a surprisingly good program even if it didn't save the sardine fishery or bring back the sardine. In fact, an underlying reason that it was started was to discredit those fishery scientists whose studies had led them to believe that the resource could and should be safeguarded by imposing moderate restraints on over-fishing.

Meanwhile, a number of us went abroad to see how foreign fisheries were operated and to help the developing countries manage their fisheries. It became almost unwritten policy to hire scientists who had had overseas service, or to grant leaves of absence so that researchers could get the experience that overseas work involved.

Now, let's list the participating agencies. The several agencies that were brought together and literally forced to cooperate, kicking and screaming, had different viewpoints and responsibilities that were bound to result in friction. It was indeed remarkable that their research staffs could swallow their pride and subordinate their feelings to work together.

First was California Fish and Game: this agency had, and still has, a dual responsibility under state law, as Miss Clark stated, to study all aspects of the state fisheries and recommend appropriate conservation measures even if the state legislature is under no mandate to heed any such recommendations. State scientists accepted the new setup as a slap in the face, as it was intended to be, and kept right on working. Very little of Marine Research Committee funds ever filtered down to California Fish and Game because, after all, if the sardines disappear, it's the fault of California Fish and Game.

Personally, a second drumbeat sounded when I came back and took an administrative job. I heard the bagpipes. When I signed on back there, like the air traffic controllers, I had to take an oath to do my job, and that job was to save the fishery resources. I didn't, and that made a profound impression on me. If I sometimes sound a little bitter, I am, because I

couldn't find any way to save the sardine resource from disappearing. Maybe nobody could anyway. I took it personally and waited for the next bagpipe.

The second agency was the federal Fisheries Service, which, as I said, we called *los federales*. This staff had no management responsibility or expertise. Remember now, the Fish and Wildlife Service didn't manage or regulate any fishery except in Alaska, and the less said about their efforts up there the better! (Not that the state of Alaska has done too much better.) I mean the Fish and Wildlife Service just wasn't set up for managerial responsibility. They were responsible to no one for anything except their conduct of research, at which they were and still are good—better than good. If the sardines disappear, too bad, but the research was good, and this was a great way to get a foothold in California anyway.

The third participant was the university and academy group—Hopkins Marine Station, Cal Academy, and Scripps. Their staffs conducted pure research on the fish and the ocean, and this was a good way to get outside funds, which were indeed put to good use. Their research was and is of top quality. We must note that one agency was included largely so its very wise and diplomatic director could act as an arbitrator and peacemaker among the big three. Now I'd like to express my thanks to Bob Miller for a job done well above and beyond the call of duty, and for keeping the brass working together.

There came a change in attitudes toward Fish and Game biologists. I'm speaking of the working stiffs. As a result of the long, drawn-out death agonies of the sardine fisheries, there was a great change in the relationship between the staff of Fish and Game and its constituents—the fishing industry and the sports fishermen. After all is said and done, these two groups paid the salaries of the state biologists through various user fees, so how the fishing public perceived the staff, no matter right or wrong, is important to all concerned.

In general, before World War II the biologists were more or less tolerated with amusement. We liked our customers, and they sort of liked us. We were welcome in each other's homes and on their fishing boats. The legislature rather ignored us, but our bosses pushed through much useful conservation legislation with respect to several minor fisheries—those in which the participants didn't have much political clout. Many of these fisheries, including the salmon and trawl fisheries, whose fishermen actually asked for more restrictions, continued to fare well.

I would like to put in a word for fishermen. I said that we liked them and they liked us. I can honestly say now I don't think there is any greater bunch of

people to work with, whether you are for them or against them, than fishermen—sport fishermen or commercial fishermen, and the fish packers and dealers and the whole rigmarole. I have worked with these people literally all over the world, and there are no people like fishermen. You can make friends with them, you can empathize with them, and sympathize with them, and they with you, I think. To reiterate more or less what the people up here said earlier, we're working with people, not fish. If you are in management research, and I think maybe ivory tower research, too, there are people involved. You run into people as you go along, and you have great times ahead of you working with the fishing industry and the sports fishermen.

I remember once when there was some kind of hassle up in the legislature, and the then assemblyman from San Pedro, good old Vince Thomas, had a bright idea. He invited the assembly committee to go out on a Fish and Game boat and observe a commercial fishing boat in action. So special permission was granted to a purse seiner to set a net in a closed area in Catalina because it would be calm and the legislators wouldn't get seasick. The fishermen chose a crew composed entirely of old captains, all Yugoslav and Italian boat captains. So when they set the net, I could see how incompetent we were. They could do everything right when it came to locating the fish and starting the set, but, boy, when they started to haul them in, they weren't as good as their crewmen.

But anyway, the assemblymen and assemblywomen that were there were very impressed by the rapport that existed between our patrol, enforcement, and research personnel and the fishermen. Some of our people, both on enforcement and research, had taken the trouble to learn enough Serbo-Croatian to talk with the Yugoslav fishermen and enough Italian or Sicilian to talk with the Italian fishermen. We went aboard each other's ships, the purse seiner and the *Scofield*, or it might have been the *Yellowfin*. We ate in the galleys of the fishermen and on our boat. The legislators were impressed with that rapport, even though we were on opposite sides during some squabbles. I think that's important, and you all have a great opportunity to make real friends. Some of them are miserable rascals and, you can imagine, crooks. But they were great guys!

I met a man from the Better Business Bureau once who said that the most charming people he ever met were bunco artists. And some of the fish canners were. So there was a friendly feeling at first, and it persisted on a personal basis. But as the sardine industry faltered, attitudes changed. The state biologists stepped up their talk about the need for catch restrictions,

based on what seemed to them to be a classic and actual drop in sardine abundance.

This was threatening to the sardine industry. If the recommendations were put into effect, their money-making machine would have to slow down. The industry took various delaying actions. One was to convince the legislature that the scarcity was temporary. Another was to fish even harder, following the old Japanese theory of conservation, which is "wise use" interpreted as "catch the fish before someone else does." We call it the Alaska ethic. If it moves, shoot it or catch it. If it doesn't move, chop it down or dig it up! Since the new administration came to Washington, we call it the James Watt syndrome.

The crowning success of the sardine industry was to bring in outside scientists who might, just might, endorse the theory that ocean fisheries are inexhaustible. To cloud the picture and cast doubt on the management biologists, the Marine Research Committee was established. It was founded on the premise that research should be stepped up and carried on until the sardine is wiped out, no matter what wipes it out, and by then no one would care.

In any event, the research goes on, and now we're in a peculiar position. Herb Frey mentioned to me this morning that if the sardines did reappear, the industry wouldn't know what to do with them. They've lost their markets; the fish would just be a nuisance. There are lines set up for mackerel and tuna, mostly tuna, and maybe if the sardines came back, nobody would really care except the sport fishermen and the bait haulers.

Meanwhile, the Department of Fish and Game's other customers—the sport and commercial fishermen who fish for the predatory fish that depend on sardines for food—were screaming at the department for not doing something to save the sardines. Right or wrong, those fishermen were convinced that the purse seine fleet was destroying the sardine resource, not to mention the mackerel.

This morning Paul Smith mentioned something I had completely forgotten: that there was once an initiative measure on the ballot to prohibit all purse seining south of central California, and it won a million yes votes. A million out of three million voters wanted to do away with purse seiners altogether. So there was some very large public appreciation of trouble, trouble, trouble. The sportsmen pounded us and gave us hell for letting it happen.

By now—about 1960—instead of being ignored or tolerated, the state biologists were denounced from both sides. It became frustrating to watch an industry die while we continued really useful research, which was doomed from the start never to answer to

everyone's satisfaction the simple question: where have the sardines gone and why?

About then I heard the third skirl of the bagpipes. I had become aware of the world crisis in resources and environment, and world hunger and shortage of water, and all those things. I marched off again to try to do something, and I found I couldn't even lick that. So finally I gave up. I said to hell with it and I'll go fishing!

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Question: What was the role that Wib Chapman played in the organization of the association between the feds and the state and the academic people?

Croker: You're asking a complex question about a very complex person: a man of vision, one of my best friends, the man with whom I have disagreed more than anyone else. As far as I know, at least in his productive years, he never worked for the feds or the Fish and Wildlife people. He never worked for Cal Fish and Game. In fact, he was at the Academy of Sciences in San Francisco and later was to become the fisheries honcho, head man in the U.S. Department of State. He left State and turned it over to Bill Herrington, who also got his schooling in San Pedro, right near the lab. Then Wib went to work for the tuna people. It was while he was with the Academy that he helped bring the various agencies together.

I remember one enlightening conversation I had with him during his tuna industry days. He was being very antagonistic toward what he called, in his inimitable way, our parochialism. He spoke in lofty terms of five hundred, a thousand million tons, and how the world is full of fish, and people have got to eat, and we in California were so parochial.

Then I said to him, "Wib, remember, as you stream around the world writing your wonderful long letters and flying on exotic airlines, you're in the jet set, and here I am, stuck in California. I too spend time in the jet set, but mostly I am in the DC-3 set. I have to take care of the salmon and the shrimp and the crab and the sport fisherman and all the nitty gritty. I just can't afford to spend all of my time in a 707 or a DC-8 like you can." Wib realized what I meant, that he could take care of the big world picture without being on the firing line, while my staff and I had to stay home and

fight the local wars. He thought about it for a while, and we saw eye-to-eye from that time on. But I never could swallow his idea that the total supply of all kinds of fish in the world was inexhaustible, and we could expand world fisheries *ad infinitum*. There we had to disagree.

From the time we had this little conversation, he did everything in his power to bring all the agencies closer together. He was not a disruptive factor as far as I was concerned.

Clark: Although my answer was, no, Wib Chapman never worked with us, many times he did work for us, and in his wonderful way he did a great deal for us.

Question: Is this Gilbert whose name came up today the same one who conducted the Philippine fish survey?

Croker: Yes. Several people pioneered ichthyological research and laid the groundwork for Carl Hubbs to carry on for so long; they were Gilbert, Evermann, Jordan, and, a little bit later, Snyder. Snyder once told me about a trip to Kodiak or somewhere where the crew kept drinking all of his alcohol for preserving specimens. So he put some formaldehyde in the alcohol and put a big sign on it that said, "I have added formaldehyde; it will poison you," and the entire crew got sick!

I remember a scientist from Montana who was, I think, with Gilbert during early work in the Philippines. He got so seasick that when they put ashore, he somehow got home—I don't know how—and he never again left Montana. He gave up fisheries work! Seasick all the way to Manila. So those were the pioneering days.

Question: Dick, I would be awfully disappointed if you didn't tell the folks your perception of how people felt about a fishery biologist back in the early years. You know what I mean.

Croker: Oh, this is going to be tough on the interpreter, but I'll give it in English. I told you that we didn't get no respect. That double negative is all right in Spanish. One of our fellows received a letter from his mother asking, "Son, what are you doing now?" It's alleged that he was so ashamed to admit being a fishery biologist that he wrote, "Dear Mom, I am sure you would be happy to know that I am the piano player in a whorehouse." Times have changed, I hope!