
A PLAN FOR AN EDUCATIONAL EXHIBIT OF FISHES



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In preparing an educational collection of fishes I should divide the subject into the two classes of game fishes and economic or edible fishes.

The game fishes would include in a general way tarpon, bonito, white sea bass, black sea bass, gray and other snappers, grunts, barracuda, ladyfish, bluefish, weakfish, swordfish (*Tetrapturus*), black grouper, yellowtail, long-finned tuna, yellow-finned tuna, whitefish (California), sheepshead (Florida), swordfish, amberfish, channel bass, striped bass, salmon (various kinds), trout (all kinds), black bass, and all the game fishes that can be taken with a rod and afford good sport, eliminating all doubtful ones, such as rock bass, sunfish, etc.

I would have papier-maché casts made, showing a side of the fish colored to life, to hang on a wall; or, better, half of a fish, the skin drawn over a model of wood or plaster. A label under it would give its common and technical name, geographical range, and a number for reference to a catalogue, which would be called "Guide to the Exhibit of Fishes." Near the fish I would have a framed photograph of a living specimen, taken in a tank where the natural surroundings have been provided. At Avalon, Cal., I have such a tank about 3 feet long and 8 inches wide. I can arrange this tank with natural grouping of weed in which the fish lives, place the specimen in it, and with camera near the glass obtain a perfect picture. I have photographed all the southern California small fishes in this way. I would exhibit also a drawing of the eggs, or photograph of the nest, if the fish makes one. The catalogue number, we will say, is no. 1, "Tarpon, not edible, very valuable as game fish; scales valuable in commerce. Range, the world, in latitude —; — species. Tackle, 9-ounce rod over 6 feet, nine-thread — line; bait, mullet. Famous tarpon fishing grounds, Aransas Pass, Tex.; Tampico, Mexico; Florida (south coast); India. Authorities (—)." Here quote the best angling authorities and the books in which technical descriptions can be found. Also give the name of authoritative tackle dealers who are specialists; size of adult fish; food, seasons, fresh or salt water, etc. This book could be sold for cost, say 10 cents, or the data could be printed cheaply and given away. By this means a visitor walking down the room would contemplate a life-size facsimile of the fish, beside its

skeleton would read its name and geographical range, see a picture of it alive, a photograph or cut of its nest, and in the guide read in a few words its complete story and economic value; and he could, if desirous of studying it, make a note of the various works referred to. If the fish has a decided economic value, as the salmon, I would have near an album of photographs showing the complete history of the fishing on the Columbia, photographs of nets in use, canning, etc.; and if very important, show models of the nets used.

In some part of the room in the game fish section I would have a case of tackle for game fishes, tackle which could be provided by a good firm. Here would be shown the tackle for tarpon, tuna, swordfish, black sea bass, etc., according to the accepted classification. There would be a perfect 9-ounce rod, with samples of nine-thread lines from all the big makers. Then the reels used for this rod, the gaffs that go with it, photographs of the boats of the angler who follows these fishes, photographs of the fishing localities in California, Florida, and elsewhere. This would refer to a number in the book in which would be given an account of the economic value of the sport, an estimate of the amount invested in rods, reels, and lines. It could be shown, as an example, that California considers that anglers alone spend over \$1,000,000 annually in that State. Each rod, reel, and line would have prices marked on them showing cost. There would be the reference to books on rod making, line manufacturing, etc., to be found in public libraries. Then would come the 6-ounce sea rod, the casting (bait) rods, and the various other rods; then salmon rods (salt-water salmon, fresh-water salmon), showing every possible rod and line. Then flies numbered on cards—English, American, Irish; spoons, imitation live baits, nets, gaffs, fish baskets; and with each rod a photograph of an angler holding that rod, showing it in action. In a word, the whole story would be told, and in the guide would be read the number of thousands of dollars invested in salmon as sport, for the renting of rivers, maintenance of hatcheries, cost of tackle. Then the trout rods of all kinds, flies, leaders, pictures showing silk, worm, or gut maker, bamboo from which the rod is made, fly hooks, creels, nets, etc., bait cans, gut leader cans, worm cans, bait minnow cans, etc.; pictures of trout, anglers casting, records of long-distance casting for accuracy, etc. Coming to black bass, there would be the same plan—rods, pictures of the black bass, skiffs of the St. Lawrence River, etc. In fact, collect about this tackle section every possible factor that will tell the story of the utilization of the fish, its value to man, the number of guides and boats employed, cost of boats, reference to manufacturers.

In this way, passing tarpon, trout, tuna, salmon, and other rods the visitor would come to boats. Here I would show a typical St. Lawrence skiff with dummy figures, the angler in the stern holding the rod, the boatman behind him. I would show also a typical Catalina launch for big game fishes, fully

equipped with figures. Then other boats could be shown in photographs. All the dealers in fishing boats would contribute cuts or photographs of their models and equipment, such as steel fishing boats, the engines used in modern fishing boats, etc.

In the section relating to bait for game fishes I would show "cast" and other nets, flying-fish gill nets, etc., used by boatmen to catch bait; the colored cotton lures used by Japanese in America for sardines, etc. In a corner I would have a complete photographic set of California game fishes, showing the angler standing with the fish, and the exact tackle used.

Next I would show photographs or models of famous angling clubhouses, as Tuna Club, Aransas Pass Tarpon Club, Asbury Park Club, New York Club, Salmon Club, California Light Tackle Club; and in the guides would be found the estimated value of club houses. For example, Avalon, Cal., has the \$7,000 house of the Tuna Club; the two angling clubs there have 2,000 members and \$1,500 in cups; the boatmen have \$150,000 invested in angling boats, glass-bottom boats, and others, all relating to sport. Over 175,000 persons go to this place every year for the fishing alone. Transportation to the island and back costs \$2.50, living expenses \$2 to \$10 a day, and from \$5 to \$10 per day is expended for hire of guides and launch; all of which amounts to a large sum, representing the economic value of the sport at this one island. A collection of photographs of the famous angling piers of the Pacific coast could be shown. Some of these cost \$100,000 and are given over entirely to the angler.

In one section of the sport appliances I would show all kinds of spears, as grain, harpoons, turtle pegs, floats, lances, etc., shark harpoons, etc., and every appliance used in taking a game fish in sport. This collection could be augmented by photographs of anglers taken at the great angling tournaments of the country, as that of the California Tuna Club, from May to October, and the various casting tournaments of the trout, bass, and salmon clubs. There should be in this hall copies (photographs) of the most famous paintings of trout, salmon, etc., by the best artists, and series of photographs could be given showing the peculiar economic uses to which game and other fishes are put, such as the light of the candlefish, tarpon scales as post cards, fish scales in art, shark skin as leather, ear stones of white sea bass (California) as jewelry, etc., eyes of Santa Catalina fish as pearls, hardened by a peculiar process. In connection with the exhibit of game fish tackle I would have a case or collection called "ancient angling appliances." Here I would show the fishing tackle of the ancient Americans, as, for California, the abalone hooks, and others in all stages of making from the circular disk to the punctured disk, and then the complete hook as found in the mounds; hooks with the barb on the outside; the kelp line; spears used for fishing, bone, stone, wood; fish clubs of whalebone; in fact, make

this tell the complete story of ancient fishing methods in America. I would follow this with the fishing appliances of the last two centuries, so that it would be possible for a student or angler to observe at a glance the complete evolution of the rod, line, or hook, sinker, or the art of angling as a sport in America. He could turn from the shell hook to the perfect series of modern hooks of all kinds and varieties.

In connection with this educational display of fishes, if in a large museum, I would advocate the placing of a library of sport where the principal books on angling from the time of Walton down to to-day could be seen or consulted daily. Thus a visitor could turn from the ocular demonstration to the literature of the subject. I would also include a map or maps colored to show the localities and distribution of all game or food fishes. Thus could be seen at once the localities for tarpon, salmon, black bass, etc., as on the sportsman's or angler's map published by various railroad interests.

If the museum had special days or had lectures to teachers or others, a series of lectures could be illustrated by the stereopticon, showing the great trout streams of the country and the famous fishing grounds of California.

In the field of economic fishes, interesting histories could be given and illustrated by photographs, valuable fisheries to be given as types being the sardine fisheries and canneries of San Pedro, Cal.; the sardine fisheries of France and Italy; the tuna fisheries of Sicily; tuna fishing at Santa Catalina; jack fishing in Florida; the shad fisheries of St. Johns River, St. Marys River, etc.; the various fishes of New York; bluefish fishing in New England; the whitefish fisheries of the Great Lakes; grouper fishing in California; sand-dab fishing at Santa Catalina; the red-snapper fisheries of the Gulf of Mexico; the mackerel fisheries of Gloucester; the cod fisheries of the Grand Banks; the mullet fisheries of Florida; swordfishing off Cape Cod, Block Island, etc.; all of which have their literature, and photographs of which can be had to form a most interesting collection.

Under each fish model, or facsimile, I would place a perfect skeleton of the fish as before, with specimens of its scales mounted, and in the guide would be given brief references telling the story of the economic value of the fish, its use as food for other fishes, or as guano, as in the case of dogfishes on the Maine coast.

In this connection some data should be collected to show the work of private organizations, the national and the state governments in stocking streams and otherwise aiding the interests of the angler and commercial fisherman, so that there would be represented the evolution of angling and the complete history of the fishes, either in sport or in economics, not as a dry and prosaic exhibit, but as a great popular picture of a valuable public interest.