THE FISHERIES AT THE WORLD'S FAIR.

Read before the American Fisheries Society by Capt. J. W. Collins, Chief of Division of Fish and Fisheries.

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It is doubtless safe to assume that all who are prominently identified with commercial fishing, with angling, with fishculture, or with the scientific study of questions relating thereto will feel an interest in that section of the World's Columbian Exposition which will be specially devoted to an exhibition of all that pertains to them. It may well be a matter of special gratification that the fisheries will receive more consideration at this exposition than has ever been accorded them elsewhere under similar circumstances. And it should be all the more satisfactory to Americans because heretofore there has never been adequate and suitable provision made at any exposition in this country for a fishery exhibit, and all attempts in this direction have been limited by small appropriations and inadequate space.

It is true that there have been numerous fishing expositions in different European countries, some of which have been national and others international. It is also well known that the United States has participated in two of these, and the highest honors were awarded to America and Americaus at Berlin and London. But while the National Fish Commission succeeded so well in securing recognition for our fisheries abroad, and though all honor is due to Prof. G. Brown Goode, who so ably represented this country on these occasions, it nevertheless will be apparent to all that, while it was then practicable to illustrate the principal features of American fisheries and fishculture, it was not possible with the means and time available to make a thoroughly exhaustive presentation of them.

Never before has the occasion presented itself to do this, and, as has been stated, it should be a matter of much satisfaction that the management of the World's

cumference, around which will be placed the largest aquaria that it is practicable to use; while in the center will be a pond 20ft. in diameter with a beautiful fountain, beneath the spray of which will disport many ornamental fishes. Entering galleries near the side of the building the visitor will pass two rows of large aquaria, in which, as in those previously alluded to, there will be representations of the fauna of the Atlantic, the Gulf of Mexico, the Pacific and interior waters, including the Great Lakes. No words of mine will, I believe, convey anything like an adequate idea of the beautiful architectural effect of this aquarial building, to the construction and equipment of which the exposition authorities have very generously contributed. I will not, therefore, attempt a description, but will content myself with the hope that all present will be there to see it in the summer of 1893.

In this building the U. S. Fish Commission will make a great national exhibit of our fishery resources, embracing many varieties of fish, marine invertebrates, etc. It is the purpose of the Commission, as it is of the Exposition management, to give consideration to species that are economically important, while the occasion will be improved to call attention to the great work that has been done, by the State and National Governments, in the artificial propagation and acclimatization of fish and other aquatic species, thereby restoring and maintaining abundance in waters that had become depleted by over-fishing or other causes. It is impossible to overestimate the consequence of this work, either in the present or future, and it is beyond question desirable that this opportunity should be improved to make the public better acquainted with it than ever before.

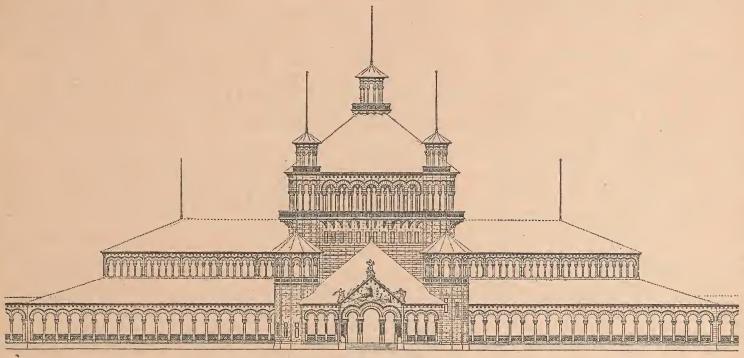
The western building of the group is similar in form and construction to that devoted to the live-fish display. Here it is expected there will be assembled a magnificent and exhaustive exhibit of all that pertains to angling, and let us hope that the thousands of en

may see object lessons which will convey in the most emphatic manner information concerning the methods and magnitude of our fisheries, and their history and development from the earliest settlement of the country. In the same way the world may learn what has been done in America by the States and Federal Government to maintain and increase the supply of fishes by artificial propagation, etc., and may become familiar with the results which have been achieved here by scientific exploration of our inland waters and the ocean depths.

I have reason also to believe that the fisheries of several foreign countries will be fairly illustrated. It is not necessary to speak of how much this will add to the interests and importance of this part of the Exposition, since I am sure this will be understood by all. But it is certain that it must be of great moment to us as a nation to gather here the arts and appliances which are used for the capture and preparation of fish in other lands, for, in addition to the interest we may naturally feel in seeing the exhibits of foreign countries and comparing them with our own, it must be assured that our fisherman can learn many things of value and importance to them by a study of such exhibits.

But, aside from the mere question of trade, and the enthusiasm which comes from recollection of sport we have enjoyed in angling, or the official zeal felt by those who are charged with great responsibilities, there is a peculiar reason why our love of country should prompt us to a special effort to bring prominently to the notice of the world an American industry which has played so prominent a part in the history and development of this nation. It is not perhaps so well known as it ought to be that fishing was the first industry prosecuted in the Western World, and that it led to the settlement of regions that offered small attraction of other kinds.

It is nevertheless an historical fact that fleets of fishing vessels followed close in the wake of Columbus, and



UNITED STATES FISHERIES BUILDING, WORLD'S

Fair have arranged to construct a group of buildings specially designed for the purpose of a fisheries exhibit—an action which should result in the most hearty cooperation of all who are interested in fishing and the industries dependent thereon, and the inauguration of such an effort on their part as will result in making this section of the exposition equal to any in completeness and attractiveness.

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effort on their part as will result in making this section of the exposition equal to any in completeness and attractiveness.

Before proceeding to a more detailed consideration of these buildings, permit me to say that the exhibit of the U.S. Fish Commission, illustrative of its work and functions—including scientific exploration, fishculture and fisheries, but exclusive of live fish—will be located in the Government building, immediately opposite the center of the main fisheries building, with which it will be connected by a bridge crossing the ornamental lagoon.

For the reception and accommodation of general exhibits of fish, fisheries, and fishculture, both domestic and foreign, there will be a group of three buildings, most admirably and appropriately located on an island in the lagoon at the northern part of Jackson Park, near the outlet of Lake Michigan. These buildings have been designed in the Spanish style by the well-known architect, Mr. Henry Ives Cobb. They will be somewhat unique, but exceptionally graceful and pleasing to the eye, while their ornamentation, form and dimensions have been considered with the special object of adapting them to the purposes for which they will be erected. Withal, they will have a warm tone of color which will offer a pleasing contrast to the other exposition buildings. The illustrations herewith presented will doubtless render unnecessary any elaborate description, since a consideration of them will enable one to form a correct estimate of the leading features of Mr. Cobb's design.

The main central structure is rectangular in form, 450tt. long and 150tt. wide. This will be the great central hall, where will be displayed all that pertains to commercial fishing and fishculture, including apparatus of capture, boats, vessels, products, models of fish-breeding establishments, ponds, etc.

Connected with each end of the main hall by an elegant curved arcade is a circular building about 135tt. in diameter. The one at the east, nearest the lake shore, will be devoted to a

public-spirited anglers in America and other countries, as well as all those interested in the manufacture and sale of anglers' outlite will, join hands in making this the rever in the world's history has there been such satisfactory provision for showing all the details of the gentle art. Not only will there be ample room for installation of exhibits, but here, right in the shadow of the building, fly-casting and bait-casting can be held, and the art of the angler may be tested, from shore or boat, in friendly trials of skill, and in the exhibition of the various modes and methods of angling.

As to what may be embraced in this fisheries exhibit, believe the classification adopted is sufficiently broad in its scope to permit the inclusion of anything which will be strictly germane to fish or fishing. This seems to over the whole field, and under it not only will it be proper to show living and mounted specimens of all their strictly germane to fish or fishing. This seems to ever the whole field, and under it not only will it be proper to show living and mounted specimens of all the proper to show living and mounted specimens of any any and the apparament of the capture, but it will also include the products of the fisheries and their manipulation in all their varied forms of methods and material. Besides this, there will be sample opportunity to illustrate angling of every description, together with fishculture and the literature of fishing and all that pertains thereto. Indeed, I can think of nothing which would be of value to the fisheries exhibit. It now remains with others to make this true and successful features of the proper to show the proper to show the proper trains the proper to show the proper trains the proper to show the proper trains the proper to show the proper to show

do. I could wish that they had stood on the banks of the Delaware River in 1777, in that bitter night when the Commander-in-Chief had drawn up his little army to cross it, and had seen the powerful current bearing onward the floating masses of ice, which threatened destruction to whomsoever should venture upon its bosom. I wish that when this occurrence threatened to defeat the enterprise, they could have heard that distinguished warrior demand: 'Who will lead us on?' and seen the men of Marblehead, and Marblehead alone, stand forward to lead the army along the perilous path to unfading glories and honors in the achievement of Trenton. There, sir, went the fishermen of Marblehead, alike at home upon land or water. Alike ardent, patriotic and unflinching, whenever they unfurled the flag of the country.

The privateers of that period were manned mostly by fishermen, and their captures of British merchantmen undoubtedly had much to do with the conclusion of the war and the establishment of American independence. Sabine remarks that the books of Lloyd's Coffee House show "that from May, 1776, to February, 1778, the American privateers (173 in number) made prizes of 783 British vessels, which, with their cargoes, were worth more than \$25,000,000, after deducting the value of the property retaken and restored. * * * The mercantile interests became at last so clamorous as to render the war unpopular, and to embarrass the ministry in their measures to continue it."

I deen it unnecessary to enter into a fuller discussion of the public services of our fishermen, who, in the second

I deem it unnecessary to enter into a fuller discussion of the public services of our fishermen, who, in the second war with Great Britain, manned our war ships and swarmed in every sea on privateers, and who at all times, whenever the occasion demanded it, have "rallied round the flag" to maintain and uphold it against all aggression. But I will say that this is a matter that should not be passed umoticed, and is one that should prompt us to make an additional effort, if need be, in gathering and placing on exhibition at the World's Fair all that may tend to illustrate every phase and condition of those industries in which we are especially interested, and for the conservation and maintenance of which we are in duty bound to exert ourselves to the utmost of our ability. I deem it unnecessary to enter into a fuller discussion of

FISH IN MAINE WATERS.

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FISH IN MAINE WATERS.

THE Harry Moore party, already mentioned in the FOREST AND STREAM, is back from Moosehead Lake. The trip was a most successful one, as indeed the trips of this party usually are. There is no use of denying the fact that experience and familiarity with the waters lished has a great deal to do with the success of fishermen. The party took nearly 200 trout, saving none of less than 11b, weight. Mr. J. A. Faulkner, of Lowell, was "high line" of the party, in the way of the heaviest fish eaught. He took a lake trout weighing 21-libs. The fish measured 34in. length, was 10jin. In depth. Across the tail the measure was 10in. A diagram of the trout was shown on 'Change at the Beston Chamber of Commerce the day of the return of the party. It was curious to note the comments of those who saw it, but were not a militar with the possibilities of Moosehead Lake. The diagram was made by laying the trout on paper and drawing around him wilt a pencil; but the wise ones did not believe that there ever was a trout as large. They undged one another with the wink that the figure was a put up job.

Those trout at Swan Lake, Swanville, Me, are attracting a good deal of attention. The wonder is that Inhough fishing in the pond has been done for years, and that the lake is within a few miles of the city of Belfast, yet the work of taking of such trout by trolling has waited all these years to be initiated in the spring of 1891 by Fish Commissioner H. O. Stanley. It has long been known that these great trout were in the lake, but no one has succeeded in getting them. One was shown at H. C. Litchheid's tackle shop, on Washington street. Boston, the other day. The fish weighed 7lbs, was 22in. long and 15in. in girth. It was caught by Col. C. B. Hazeltine, of Belfast, who has taken much interest in these trout. By Mr, Litchheid's tackle shop, on Washington street. Boston, the other called water. Others declare

could get! Those days are gone forever. The march of the iron horse has driven the buffalo into the past, and the result will doubtless be the same with the trout and

the iron horse has driven the buffalo into the past, and the result will doubtless be the same with the trout and the deer.

A party of the members of the Inglewood Club started for the preserves of that club on Wednesday. This is the first full party of sportsmen to these preserves in New Brunswick this season, and they go with great expectations. There is but little chance but what their expectations will be realized, for the club controls some of the finest fishing grounds in the country. The names of the party are: Jerome Hilburn, of Gilman Bros.; Samuel Shaw, of the Murdock Parlor Grate Co.; E. Noyes Whitcomb, of Whitcomb & Burleigh; Gen. W. Walker, of Pawtucket, R. I.; E. H. Sampson, paper and twine dealer; J. H. Houston, of the dry goods house of R. H. White & Co.; W. H. Mitchel, banker; Geo. H. Rimback, of Goodwin & Rimback, of the Crawford House; John W. Wetherbee, lumber dealer; H. P. Brigham, Boston agent of P. Lorillard's tobacco; L. S. Brown, of Blaney, Brown & Co. Mr. Brown has taken a great deal of interest in the Inglewood Club. A slight change in the programme of leaving Boston has been made. The party will all go on Friday, with the exception of Mr. Brown and Mr. Brigham, who left on Wednesday.

A late dispatch from J. A. French, proprietor of the Union Waterpower's camps at the Upper Dam, Me., says that on Tuesday C. J. Bateman, of Boston, hooked on to what proved to be a landlocked salmon at 7:45 A. M.. but did not land the fish until 8:20. The fish weighed 7lbs. and 14oz. It was 29in. long. It was taken on a Leonard \$3\cdot z\$. or d and a Montreal fly, in the pool below the dam. Lewis Chadwick did the netting of the fish. Mr. French adds that the fishing is good. In four days 250 trout have been taken. One weighed 6\cdot bis. and another 5lbs. Mr. Bateman and Mr. Kelley are among the most successful. They fish with the fly only.

TROUT AND PICKEREL.

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DROOKLYN, May 30.—The grippe seized me on March 28, holding me fast here in Brooklyn for three full weeks, before I could gain strength and pluck enough to get to my home among the hills of H—, Conn., consequently like many another I lost my trouting season almost entirely.

One afternoon Jim was going out to cut the inevitable and annual peabrush and beanpoles, and I mustered courage enough to ride out with him, and while he was getting his load I wet my line in a convenient brook, taking in about an hour and a half, eighteen small trout; and after giving three to a sick neighbor, the remainder made us a good breakfast the next morning. Jim and I went out once after that, and from the same brook took twenty-eight which gave us two pleasant meals. We threw back into the stream many that would not bear the 6in. law test. The same brook had been fished by several others this season with good success as far as numbers are concerned, and I could not help thinking what fine sport this brook would afford if it could only be left unfished for two or three years; and the same would be true of all other streams in that locality. Could this suspension of fishing the streams be accomplished, while I might not "be there to see," I should have splendid sport. Something has got to be done to protect trout, either by shortening the open season very much, or suspension of fishing for one, two or three years, or else lovers of the sport must content themselves with fingerlings, or in sitting on the fence watching posted-brook fishermen catch trout. I meant to have told you of the big scheme I had for catching pickerel through the ice; and though it is a little "out of season" now, and besides the scheme did not materialize for reasons hereinafter named, it may amuse you to hear it. During last February I had determined trying the pickerel through the ice, and knowing that minnows or batfish were difficult to procure, I just imagined I could fool the voracious pickerel with spirling otherwise called smelt; s

AFTER CANADA'S SALMON AND TROUT,

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Editor Forest and Stream:

Senator D. M. Read, of Bridgeport, and Mr. and Mrs.

Walter Briggs, of the same place, returned here a few days ago from their charming summer headquarters on the Metabetchouan River, a few miles off the line of the Quebec & Lake St. John R. R. They were delighted with their trip and took a very large number of handsome red trout, some exceeding 3lbs. in weight. It is the intention of Messrs. Read and Briggs to return to their preserve in the early autumn, accompanied by other members of the Metabetchouan Fishing and Game Club.

U. S. Consul Ryder, of Quebec, has just made a very large catch, all with the fly, at Cedar Lake, or Kiskisink, which is 135 miles from Quebec. His fish averaged over a pound in weight.

Other large catches have been made in Lake Edward, the largest lake between Lake St. John and Quebec, which measures over 20 miles in length. Messrs. McCormick and Odell, of this city, recently took there, in two days, 60 trout weighing 100lbs., besides a number of smaller ones. Guests at the hotel on Lake Edward, which adjoins the railway station, are conveyed to their camping or fishing grounds by steam yacht. Members of the Quebec Press Club had good sport early this week and took some heavy fish at the mouth of flat River on the westerly side of Lake Edward. Recent departures from Quebec to Lake Edward include Messrs. P. J. Enwright and A. L. Barrows, of Burlington, Vt., who left here by train yesterday morning. They are both members of the Laurentian Fishing Club and have hitherto done most of their Canadian trout fishing in the lake country north of Three Rivers. The well-known author of "Where the Trout Hide," Mr. Kit Clarke, of New 10 canadian trout fishing in the lake country north of Three Rivers.

York, was here a couple of days ago, on his way to his favorite camping ground at Isle Paradise, in Lake Edward, and is accompanied by Mr. Nat Rogers, of New York. The Paradise Fin and Feather Club, of which Mr. Clarke is a prominent member, has a splendid club house on an island in the lake, and Mr. Clarke will probably camp there for two or three weeks and then go to Lake St. John to wrestle again with the gamy ouananiche. Messrs. William Lee and D. Rickaby took twelve dozen speckled trout last week in the lakes belonging to the latter mentioned, on the line of the Lake St. John Railway, none being under half a pound in weight. Lieut. Governor Angers has just returned from the lakes of the Laurentide Club with some ninety fish. A 3lb. trout was taken last week in one of these lakes. While the lake fishing has been exceptionally good, nothing of any consequence has so far been done in Canadian trout streams, the rivers being still high, and the snow water from the inland woods being still in them. Indications are that later in the season a number of camping and exploring parties will arrange for excursions this season through the country north of Lake St. John. A New York gentleman, writing to your correspondent, proposes to canoe it up to Ashuapruouchouan for several miles, then, with his Indians, portage or carry his canoe, provisions, etc., into Lac Jeanne, the source of the Wassiemska, which is one of the southwesterly tributaries of the Mistassini River, and float down these streams into Lake St. John. This trip will occupy about a fortnight. Salmon fishermen are rushing to their respective rivers. There, are already on the Restigouche, Cornelius J. Vanderbilt, H. B. Holland, Chester Griswold, Billy Florence, Dudley Olcott, Abraham Lansing, Charles Berryman and W. H. Sage of New York, and Messrs. I. H. Stearns and Ives of Montreal. Henry Hogan of Montreal left to-day for St. Aune des Monts to fish the St. Aune River, and R. G. Dun of New York and Hodges of Boston are on the Natashquan on the north shore.

ANGLING NOTES.

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A N enthusiastic fly-fisherman residing in California writes for information regarding the Dolly Varden (Salvelinus malma). He complains that they will not rise to the fly, though they take bait very well, even the humble "barnyard hackle," generally known as "wums." He is of the opinion that they need educating, and suggests the introduction of a few of our sprightly Eastern brook trout for companions in order that a good example might teach them to appreciate the beauties of the "finttering fly."

Many others have made inquiries about these Western trout, and the subject has been pretty well discussed, still such matters are always interesting to fishermen, and particularly to those who are about going on Western trips.

I have fished in some of the waters of the far West, and, as far as I could observe, I found three species of the salmon family, the Dolly Varden (Salvelinus malma), the black-spotted salmon trout (Salmo mykiss), and the rainbow (Salmo rideus). The natives call these by all sorts of names regardless of rule, and it is impossible when they speak of "mountain trout," or "spotted trout," or "salmon trout," or "brook trout," etc., to know what they mean or what species they refer to. The Dolly Varden is the only true trout or member of the Salvelinus family found on the Pacific slope, but its habits resembles the lake trout more than the speckled trout. We could not eatch them on the fly, though I was told that they did occasionally take a bright salmon fly. What few we caught we took by trolling with a mottled pearl bait. It was in the month of September and they were just spawning, so we did not make any great effort to capture them. The largest we killed weighed 9Hbs.

The rainbows we took were small and did not seem very anxions to make our acquaintance. These fish spawn in the spring and were as indifferent about our flies as their brethren that have been introduced in our own waters. The Salmo mykiss or purpuratus (the black spotted trout) was decidedly superior to the rainb

and rivers and furnish food and sport to thousands of anglers.

The quiet colored flies seem to be the favorites, such as the light and dark-coachman, brown-palmer, professor, brown-hen, golden-spinner and cowdung. The addition of jungle-cock shoulders adds to their killing qualities, and the patent fluttering flies are great favorites in the West. The sizes of hooks depend on the waters they are to be used in, the same as in the East, but No. 8 will answer for most localities.

When first visiting the West the Eastern angler will find some difficulty in hooking these fish, for they show their salmon blood in the manner of taking the fly, and it does not answer to strike them quickly. All that is necessary is to tauten the line as they turn to go down. They are splendid fighters and jump freely, and a 2lbs. fish will take off line in a manner that will make the reel buzz. They also spawn in the spring. Why these fish were not introduced on the Atlantic coast, instead of the rainbow, is a mystery that will never be explained.

SCARLET-IBIS.

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SKOWHEGAN, Me., June 9.—Large forest fires are raging in the vicinity of the Upper Enchanted Ponds and on the Parlin Stream. The region within a radius of thirty miles is completely enveloped in a dense suffocating cloud of smoke. The extent of the lires is unknown, but it is feared that all the dams on the Parlin Stream and the lumber camps there and on the Upper Enchanted will be destroyed. Nothing but rain will keep fires from spreading.

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