

THE FALLS IN MIDWINTER.

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THIRD ANNUAL REPORT
OF THE
NEW YORK
ZOOLOGICAL SOCIETY

CHARTERED IN 1895

OBJECTS OF THE SOCIETY
A PUBLIC ZOOLOGICAL PARK
THE PRESERVATION OF OUR NATIVE ANIMALS
THE PROMOTION OF ZOOLOGY

1898



NEW YORK
OFFICE OF THE SOCIETY, 11 WALL STREET
MAY 1, 1899

TROW DIRECTORY

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HOYT, JESSE.....	257 West 73rd Street
HUMBERT, ARTHUR C.....	6 West 53rd Street
HUNTINGTON, GEORGE.....	437 West 59th Street
HUSTED, H. B.....	276 Gates Avenue, Brooklyn
HUTCHINS, AUGUSTUS SCHELL.....	69 Wall Street
HYDE, B. T. BABBITT.....	20 West 53rd Street
HYDE, CLARENCE M.....	206 Madison Avenue
ISELIN, ADRIAN, JR.....	9 East 26th Street

* Deceased.

ISHAM, CHARLES H.....	123 East 37th Street
JACKSON, FREDERIC WENDELL.....	Westchester, N. Y. City
JACKSON, THEODORE F.....	10 West 37th Street
JACOB, LAWRENCE.....	36 West 59th Street
JACOBI, DR. A.....	110 West 34th Street
JACQUELIN, HERBERT T. B.....	34 East 38th Street
JACQUELIN, JOHN H.....	34 East 38th Street
JAMES, ARTHUR CURTISS.....	92 Park Avenue
JAMES, DR. WALTER B.....	31 West 54th Street
JARVIS, NATHANIEL, JR.....	62 East 55th Street
JENNINGS, OLIVER G.....	54 William Street
JENNINGS, WALTER.....	11 East 41st Street
JOLINE, ADRIAN HOFFMAN.....	1 West 72nd Street
JONES, MRS. JOSEPHINE K.....	Fifth Avenue Hotel
JONES, LEWIS Q.....	Bay View, Newport, R. I.
KANE, JOHN INNES.....	49 West 23rd Street
KANE, S. NICHOLSON.....	23 West 47th Street
KEECH, FRANK B.....	14 East 65th Street
KELLY, EUGENE.....	763 Fifth Avenue
KEMP, ARTHUR T.....	720 Fifth Avenue
KENNEDY, JOHN S.....	6 West 57th Street
KERSTING, RUDOLF.....	104 Fulton Street
KING, WILLIAM F.....	17 East 63rd Street
KIP, COL. LAWRENCE.....	452 Fifth Avenue
KLOPSCH, LOUIS.....	100 East 17th Street
KNAPP, DR. HERMAN.....	26 West 40th Street
KNAPP, JOHN M.....	66 Broadway
KNAUTH, PERCIVAL.....	302 West 76th Street
KNIGHT, CHARLES R.....	American Museum of Natural History
KNIGHT, HENRY E.....	109 Spring Street
KNOEDLER, ROLAND F.....	122 West 13th Street
KOCH, HENRY C. F.....	224 Lenox Avenue
KUHNE, PERCIVAL.....	22 West 56th Street
KUNHARDT, HENRY R.....	124 West 74th Street
KUTTROFF, ADOLF.....	17 East 69th Street
LAGAI, DR. GEORGE.....	17 Park Place
LAMBERT, DR. ALEXANDER.....	125 East 36th Street
LANDON, FRANCIS G.....	27 William Street
LAWRENCE, NEWBOLD T.....	51 Liberty Street
LAWRENCE, W. V.....	969 Fifth Avenue
LEAVY, DR. EDWARD N.....	166 East 61st Street
LEFFERTS, MARSHALL C.....	34 East 65th Street
LE GENDRE, WILLIAM C.....	59 Wall Street
LESHER, A. L.....	9 East 75th Street
LICKMAN, ALBERT E.....	2683 Third Avenue
LITCHFIELD, EDWARD H.....	59 Wall Street
LIVINGSTON, GOODHUE.....	287 Fourth Avenue
LIVINGSTON, ROBERT R.....	9 East 9th Street

LIVINGSTON, WILLIAM S.....	670 Lexington Avenue
LOBENSTINE, WILLIAM CHRISTIAN.....	245 Central Park West
LOGAN, WALTER S.....	206 W. 72nd Street
LUSK, PROF. GRAHAM.....	New Haven, Conn.
LUTTEN, WALTHER.....	23 Nassau Street
LYDIG, DAVID.....	49 East 29th Street
LYDIG, PHILIP M.....	Honolulu, S. I.
LYMAN, FRANK.....	39 Remsen Street, Brooklyn
MCALAN, JOHN.....	4 West 84th Street
MCALPIN, CHARLES W.....	11 East 90th Street
MCALPIN, MRS. CHARLES W.....	11 East 90th Street
MCALPIN, COL. E. A.....	146 Avenue D
MCALPIN, GEORGE L.....	9 East 90th Street
MCCALL, JOHN A.....	54 West 72nd Street
MCCLURE, S. S.....	141 East 25th Street
McGEE, JAMES.....	26 Broadway
McGOWAN, DR. JOHN P.....	20 East 29th Street
McKIM, REV. HASLETT.....	33 West 20th Street
McLEAN, JAMES.....	16 West 55th Street
MAGEE, JOHN.....	Corning, N. Y.
MALI, CHARLES.....	93 Willow Street, Brooklyn
MALI, PIERRE.....	8 Fifth Avenue
MARLOR, HENRY S.....	Care Hatch & Foote, 3 Nassau Street
MARSHALL, LOUIS.....	33 East 72nd Street
MARTIN, F. E.....	28 Pine Street
MARX, GEORGE B.....	340 East 118th Street
MAXWELL, ROBERT.....	64 Worth Street
MEAD, WALTER H.....	222 West 23rd Street
MILLER, CHARLES R.....	41 Park Row
MILLS, ABRAHAM G.....	38 Park Row
MONTANT, ALPHONSE.....	326 West 22nd Street
MOORE, FRANCIS C.....	1 West 72nd Street
MOORE, JOHN G.....	11 East 65th Street
MORGAN, J. P., JR.....	J. S. Morgan & Co., London, England
MORRIS, DAVE H.....	Westchester, N. Y. City
MORRIS, FORDHAM.....	16 Exchange Place
MORRIS, DR. LEWIS R.....	60 West 58th Street
MOTT, JORDAN L., JR.....	17 East 47th Street
MUNN, HENRY NORCROSS.....	Orange, N. J.
MURGATROYD, JOHN.....	458 Pacific Street, Brooklyn
NASH, J. WARREN.....	Union Club
NICOLL, DE LANCEY.....	123 East 38th Street
NICHOLS, ACOSTA.....	27 Pine Street
NICHOLS, GEORGE L.....	66 East 56th Street
NILES, J. BARRON.....	66 Broadway
NILES, ROBERT L.....	66 Broadway
NILES, W. W.....	11 Wall Street
NORTH, DR. JAMES H., JR.....	23 East 64th Street

NOTMAN, JOHN.....	54 Wall Street
NUNAN, D.....	37 Park Row
OSBORN, MRS. HENRY F.....	850 Madison Avenue
OUTERBRIDGE, DR. PAUL.....	35 West 53rd Street
OWEN, MISS JULIETTE A.....	306 North 9th Street, St. Joseph, Mo.
OWEN, MRS. THOMAS JEFFERSON.....	23 W. 34th Street
PALMEDO, U.....	28 Exchange Place
PALMER, S. S.....	52 Wall Street
PANCOAST, RICHARD.....	28 Platt Street
PARSONS, MRS. EDWIN.....	90th Street & Riverside
PATTERSON, J. M.....	Highbridge Road, Fordham
PEABODY, A. J.....	15th West 10th Street
PECK, THEODORE G.....	Haverstraw, N. Y.
PELL, ALFRED.....	Highland Falls, N. Y.
PELTON, FRANKLIN D.....	Calumet Club
PENFOLD, WILLIAM HALL.....	10 East 40th Street
PENNIMAN, GEORGE H.....	536 Fifth Avenue
PETERS, CHARLES G.....	13 East 76th Street
PETERS, W. R.....	23 W. 73rd Street
PHIFER, ROBERT F.....	46 West 17th Street
PIEL, GOTTFRIED.....	333 West 76th Street
PIERREPONT, JOHN JAY.....	Pierrepont Place, Brooklyn
PIERSON, J. FREDERICK.....	20 West 52nd Street
PINCHOT, GIFFORD.....	Department of Agriculture, Washington, D. C.
PLYMPTON, GILBERT M.....	30 West 52nd Street
POND, A. EDWARD.....	124 Fifth Avenue
PORTER, H. H.....	120 Broadway
POST, ABRAM S.....	29 Liberty Street
POST, EDWARD C.....	250 West End Avenue
POST, GEORGE B., JR.....	Mills Building
POSTLEY, CLARENCE A.....	817 Fifth Avenue
PRATT, DALLAS B.....	24 West 48th Street
PRYER, CHARLES.....	New Rochelle, N. Y.
PYLE, JAMES TOLMAN.....	673 Fifth Avenue
PYNE, M. TAYLOR.....	52 Wall Street
RAND, GEORGE C.....	Lawrence, L. I.
RANDOLPH, L. V. F.....	39 William Street
RANDOLPH, WILLIAM W.....	31 Nassau Street
RAUCH, WILLIAM.....	Union Club
REDMOND, HENRY S.....	114 East 19th Street
REEBER, GEORGE A.....	118 East 111th Street
REYNOLDS, JAMES BRONSON.....	184 Eldridge Street
RHOADES, JOHN HARSEN.....	559 Madison Avenue
RICHARD, AUGUSTE.....	12 East 69th Street
RICHARDS, CHARLES F.....	326 W. 20th Street
RIKER, SAMUEL.....	27 East 69th Street
ROBBINS, CHANDLER.....	64 West 47th Street
ROBBINS, S. HOWLAND.....	20 East 27th Street

ROBINSON, WILLIAM.....	18 Wall Street
ROBINSON, NELSON.....	23 East 55th Street
ROCKEFELLER, WILLIAM.....	26 Broadway
ROGERS, E. L.....	576 Madison Avenue
ROGERS, HENRY PENDLETON.....	35 West 49th Street
ROLLE, AUGUST J.....	College Point, L. I.
ROOT, ELIHU.....	32 Liberty Street
ROSENWALD, ISAAC.....	141 Water Street
ROWLEY, JOHN, JR.....	American Museum of Natural History
RUNDE, A. THEODORE.....	3rd Avenue & 184th Street
RUNGIUS, CARL.....	107 Kent Street, Brooklyn
RUPPERT, JACOB.....	1116 Fifth Avenue
RUSSELL, ROBERT HOWARD.....	3 West 29th Street
SACKETT, CLARENCE.....	196 Madison Avenue
SACKETT, S. E.....	196 Madison Avenue
SAGE, DEAN.....	Albany, N. Y.
SAINT GAUDENS, AUGUSTUS.....	3 rue de Bagneux, Paris
SAUTER, FREDERICK.....	3 North William Street
SCHARMANN, H. B.....	170 West 59th Street
SCHIEFER, CARL.....	40 West 37th Street
SCHIEFFELIN, WILLIAM J.....	170 William Street
SCHIRMER, RUDOLPH E.....	241 East 17th Street
SCHLATTER, CHAS. F.....	129 West 120th Street
SCHRANK, GEORGE.....	183rd Street & Jackson Avenue
SCHULTZE, JOHN S.....	59 Wall Street
SCHUMACHER, C.....	31 East 81st Street
SCHUYLER, MISS LOUISA LEE.....	135 East 21st Street
SELIGMAN, ALFRED L.....	Mills Building
SEWELL, CORNELIUS V. V.....	68 West 45th Street
SEYMOUR, JULIUS H.....	35 Wall Street
SEYMOUR, WILLIAM W.....	35 Wall Street
SHAW, WALTER W.....	Care of Metropolitan Trust Co., 39 Wall Street
SHIELDON, GEORGE R.....	89 Park Avenue
SHERMAN, GARDINER.....	235 West 72nd Street
SHIELDS, GEORGE O.....	19 West 24th Street
SHURTLEFF, R. M.....	44 West 22nd Street
SIMPSON, JOHN BOULTON, JR.....	97 Fifth Avenue
SKIDMORE, SAMUEL TREDWELL.....	71 West 50th Street
SKIDMORE, WILLIAM L.....	49 West 52nd Street
SMILLIE, CHARLES F.....	29 East 38th Street
SMITH, DR. EDWARD A.....	105 East 18th Street
SMITH, FRANK SULLIVAN.....	54 Wall Street
SMITH, GEORGE WARREN.....	Metropolitan Club
SMITH, PHILIP S.....	46 Johnson Park, Buffalo, N. Y.
SMITH, WILLIAM ALEXANDER.....	412 Madison Avenue
SMITHERS, CHARLES.....	507 Madison Avenue
SMYTH, PHILIP A.....	57 East 127th Street
SOPER, A. W.....	150 West 59th Street

SPENCER, SAMUEL.....	80 Broadway
SQUIBB, DR. E. H.....	36 Doughty Street, Brooklyn
STANDISH, MRS. MYLES.....	27 Fifth Avenue
STARIN, JOHN H.....	Pier 13, North River
STEBBINS, JAMES H.....	80 Madison Avenue
STECHERT, GUSTAV E.....	1369 Dean Street, Brooklyn
STERN, ISAAC.....	858 Fifth Avenue
STEWART, WILLIAM R.....	31 Nassau Street
STIMPSON, DR. DANIEL M.....	11 West 17th Street
STOKES, H. B.....	New Rochelle, N. Y.
STOKES, J. G. PHELPS.....	229 Madison Avenue
STONE, MASON A.....	20 East 66th Street
STONEBRIDGE, CHARLES H.....	2656 Third Avenue
STONEBRIDGE, WM.....	951 E. 184th Street
STORCK, GEORGE H.....	30 West 9th Street
STOW, GEORGE C.....	49 E. 25th Street
STRATFORD, PROF. WILLIAM.....	263 West 52nd Street
STUART, INGLIS.....	69 Wall Street
STURGES, FREDERICK.....	36 Park Avenue
STURGES, HENRY C.....	56 East 34th Street
STUYVESANT, RUTHERFURD.....	18 Exchange Place
SULLIVAN, MRS. JAMES.....	36 Park Avenue
SWAYNE, FRANCIS B.....	326 West 90th Street
TAYLOR, MISS ALEXANDRINA.....	Plaza Hotel
TAYLOR, DWIGHT W.....	500 Madison Avenue
TAYLOR, GEORGE.....	8 West 126th Street
TEFFT, F. GRISWOLD.....	1 West 72nd Street
TEFFT, WILLIAM E.....	22 East 64th Street
TERRY, REV. RODERICK.....	169 Madison Avenue
TESLA, NIKOLA.....	46 East Houston Street
THACHER, MRS. GEORGE W.....	Park Avenue Hotel
THAYER, HARRY BATES.....	57 Bethune Street
THOMAS, SAMUEL.....	17 West 57th Street
THOMSON, DAVID.....	14 East 73rd Street
THOMSON, GIRAUD F.....	141 Broadway
THOMPSON, ROBERT MEANS.....	5 East 53rd Street
THOMPSON, PROF. W. GILMAN.....	34 East 31st Street
THORNE, EDWIN.....	Babylon, L. I.
THORNE, W. V. S.....	Metropolitan Club
TIFFANY, LOUIS C.....	7 East 72nd Street
TILFORD, HENRY M.....	3 West 46th Street
TILT, ALBERT.....	5 East 67th Street
TOD, J. KENNEDY.....	45 Wall Street
TOEL, WILLIAM.....	20 East 57th Street
TOOTHE, WILLIAM.....	Madison, N. J.
TOWNSEND, HOWARD.....	29 West 39th Street
TOWNSHEND, JOHN.....	302 West 73rd Street
TOWS, COE DOWNING.....	Buckingham Hotel

TRASK, SPENCER.....	27	Pine Street
TROWBRIDGE, EDWIN D.....	123	East 39th Street
TROWBRIDGE, FREDERICK K.....	115	E. 37th Street
TURNBULL, ROBERT J.....	6	W. 47th Street
TURNURE, GEO. E.....	115	E. 36th Street
TURNURE, LAWRENCE.....	417	Fifth Avenue
TYTUS, ROBERT DE PEYSTER.....	10	East 77th Street
UPP, THOMAS M.....	57	West 137th Street
VALENTINE, DR. WILLIAM A.....	45	West 35th Street
VAN BRUNT, C. H.....	10	East 46th Street
VAN CORTLANDT, AUGUSTUS.....		Tuxedo Park, N. Y.
VAN EMBURGH, D. B.....	30	East 38th Street
VANDERPOEL, MRS. JOHN A.....	224	Madison Avenue
VAN NEST, G. WILLETT.....	345	Fifth Avenue
VAN PELT, GILBERT S.....	123	East 69th Street
VAN WINKLE, EDGAR B.....	115	East 70th Street
VIELE, HERMAN K.....	12	West 18th Street
VIVANTI, FERRUCCIO ANSELMO.....	995	Madison Avenue
VORCE, A. D.....	353	Fifth Avenue
WADSWORTH, CLARENCE S.....		Middletown, Conn.
WADSWORTH, W. P.....	25	East 30th Street
WAGSTAFF, C. DU BOIS.....		Babylon, L. I.
WAHLE, CHAS. G. F.....	1048	Boston Road
WANNINGER, CHARLES.....	1143	Park Avenue
WARD, CHAS. H.....	159	West 73rd Street
WARDWELL, WILLIAM T.....	21	West 58th Street
*WARING, COL. GEORGE E.		
WATERBURY, JOHN I.....	20	Wall Street
WATSON, CHARLES F.....		South Orange, N. J.
WEBB, G. CREIGHTON.....	47	E. 44th Street
WEBB, DR. W. SEWARD.....		Shelbourne, Vt.
WEBER, LOUIS.....	9	East 93rd Street
WELLS, OLIVER J.....		Waldorf Hotel
WHITE, JOHN JAY.....	103	East 57th Street
WHITE, LEONARD D.....	39	East 74th Street
WHITE, STANFORD.....	160	Fifth Avenue
WHITNEY, CASPAR.....	254	Madison Avenue
WHITNEY, HARRY PAYNE.....	2	West 57th Street
WIGGIN, FREDERICK HOLME.....	55	West 36th Street
WILLARD, E. A.....	132	Front Street
WILLIAMS, G. G.....	34	West 58th Street
WILLIS, CHARLES T.....	309	West 82nd Street
WILMERDING, GUSTAV L.....	135	Madison Avenue
WINTHROP, EGERTON L.....	23	East 33rd Street
WINTHROP, R. DUDLEY.....		Knickerbocker Club
WITHERBEE, FRANK S.....	40	Wall Street
WOLFF, EMIL.....	115	West 70th Street
WOOD, ARNOLD.....	40	East 35th Street

* Deceased.

WOOD, GILBERT CONGDON.....	126 East 37th Street
WOOD, J. WALTER.....	South Orange, N. J.
WOOD, J. WALTER, JR.....	Short Hills, N. J.
WOOD, WILLIAM C.....	45 East 10th Street
WOOD, WILLIAM H. S.....	45 East 10th Street
WOODWARD, F. F.....	Hotel San Remo
WOOSTER, NOYES C.....	38 West 35th Street
WORTHINGTON, CHARLES C.....	214 Broadway
WORTMAN, DR. J. L.....	American Museum of Natural History
WRIGHT, J. DUNBAR.....	346 Lexington Avenue
WRIGHT, J. HOWARD.....	346 Lexington Avenue
WRIGHT, MRS. MABEL OSGOOD.....	118 West 11th Street
YUMANS, EPHRAIM M.....	202 Broadway
YOUNG, FREDERICK STAFFORD.....	11 West 19th Street
YOUNG, RICHARD N.....	18 West 21st Street
ZABRISKIE, ANDREW C.....	716 Fifth Avenue

Corresponding Member.

STONE, A. J.....	Missoula, Montana
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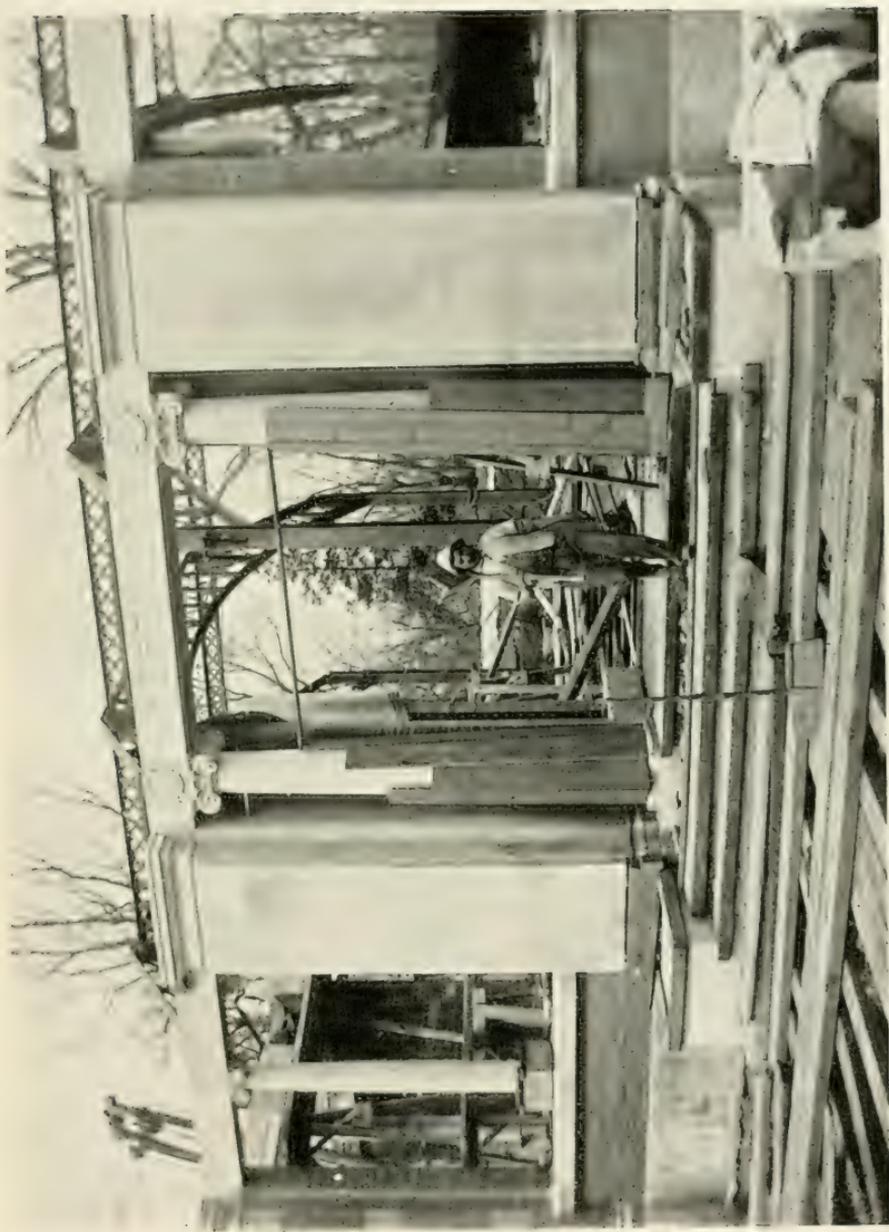
Summary of Membership.

To MAY 1, 1899.

Total number of Founders.....	17
“ “ Associate Founders	6
“ “ Patrons	27
“ “ Life Members	79
“ “ Annual Members	554
	683
Members Deceased, 1898-99.....	6

CONDITIONS OF MEMBERSHIP:—Any two members of the Society may recommend candidates for membership, and all members are requested to add to the working strength of the organization by enlisting the interest of their relatives and friends. There is no initiation fee. The annual dues for Annual Members are \$10.00. The Life Member's fee is \$200; Patron's fee, \$1,000; Associate Founder's fee, \$2,500; Founder's, \$5,000; Benefactor's, \$25,000.

Application blanks will be supplied by the Secretary upon request.



THE REPTILE HOUSE, ON APRIL 14.

PROGRESS OF THE YEAR.

REPORT OF THE EXECUTIVE COMMITTEE TO THE BOARD OF MANAGERS.

Again the Executive Committee has the pleasure of reporting to the Society a year of unbroken progress. The year's work has been devoted almost wholly to the development of the Zoological Park, and because of the imperative demands in that direction, all plans for other scientific work, save in the cause of bird protection, have been held in abeyance. The Society has steadily fulfilled its obligations to the City in the matter of raising funds and expending them, it has assumed control of the grounds allotted for use as a Zoological Park, and vigorously undertaken the erection thereon of the various installations for animals that were proposed last year. The Board of Estimate of the City of New York has appropriated and made available the fund of \$125,000 promised for the preparation of the Zoological Park site, and the Department of Parks for the Borough of the Bronx is actively engaged in carrying out the Society's scheme of ground improvements. Altogether about 150 men are employed in the Park in the many kinds of work now in progress. Efforts are being made to secure a satisfactory staff of experienced keepers, and animals are being engaged for delivery subsequent to July 1, when the Society hopes it will be possible to open the Park to the public.

THE BUILDING FUND.

Thanks to the generosity of the subscribers to the Building Fund, the Society completed its first obligation toward the City—to raise \$100,000 within one year from March 24, 1897—on February 17, 1898.

The following is a complete list of special subscriptions to the

fund for the erection of buildings, and the purchase of animals with which to fill them:

OSWALD OTTENDORFER	\$5,000 00
PERCY R. PYNE	5,000 00
WILLIAM K. VANDERBILT	5,000 00
LEVI P. MORTON	5,000 00
WILLIAM E. DODGE	5,000 00
ROBERT GOELET	5,000 00
J. PIERPONT MORGAN	5,000 00
JACOB H. SCHIFF	5,000 00
WILLIAM D. SLOANE	5,000 00
WILLIAM C. WHITNEY	5,000 00
C. P. HUNTINGTON	5,000 00
HENRY A. C. TAYLOR	5,000 00
GEORGE J. GOULD	5,000 00
SAMUEL THORNE	5,000 00
CORNELIUS VANDERBILT	5,000 00
MRS. ANTOINETTE ENO WOOD	5,000 00
ANDREW CARNEGIE	5,000 00
JOHN L. CADWALADER	2,700 00
JOHN S. BARNES	2,500 00
PHILIP SCHUYLER	2,500 00
F. AUGUSTUS SCHERMERHORN	2,500 00
TIFFANY & Co.	2,500 00
MORRIS K. JESUP	2,500 00
HENRY F. OSBORN	1,000 00
A. NEWBOLD MORRIS	1,000 00
EVA VAN CORTLANDT MORRIS	1,000 00
NEWBOLD MORRIS	1,000 00
EDWARD J. BERWIND	1,000 00
WILLIAM H. WEBB	1,000 00
CHARLES T. BARNEY	1,000 00
MRS. WILLIAM H. OSBORN	1,000 00
HENRY W. POOR	1,000 00
GEORGE CROCKER	1,000 00
CHARLES W. HARKNESS	1,000 00
GEORGE T. BLISS	1,000 00
WM. C. SCHERMERHORN	1,000 00
J. HOWARD FORD	1,000 00

WM. C. OSBORN.....	\$1,000 00
ABRAM S. HEWITT	1,000 00
MRS. JOHN B. TREVOR	1,000 00
H. MCK. TWOMBLY	1,000 00
JAMES C. CARTER	1,000 00
HENRY O. HAVEMEYER	1,000 00
HENRY H. COOK	1,000 00
GEORGE F. BAKER	1,000 00
JAMES B. FORD	1,000 00
ROSWELL P. FLOWER	1,000 00
MISS CAROLINE PHELPS STOKES	1,000 00
JOSEPH STICKNEY	1,000 00
LISPENARD STEWART	1,000 00
WALTER H. BURNS	500 00
EUGENE G. BLACKFORD	500 00
JAMES H. HIGGINSON	500 00
SAMUEL D. BABCOCK	500 00
WOODBURY G. LANGDON	250 00
CASH	100 00
	<hr/>
	\$130,550 00

On February 17, 1898, a certificate of deposit for \$100,000 was placed in the hands of the Board of Parks, with a request that an application be made to the Board of Estimate and Apportionment for the fund necessary to the proper preparation of the grounds. Pending the result of this correspondence, and in full reliance upon the good-will of the city government toward the Zoological Park, the Executive Committee ordered construction work to proceed on buildings and dens for animals, which would cost \$30,000. The necessary plans for these improvements having been laid before the Board of Parks, and approved by that body, bids were called for, and in due time contracts for the work were executed.

WORK OF THE ZOOLOGICAL SOCIETY.

On May 4th the Executive Committee of the Zoological Society authorized the expenditure of \$30,000 on the construction of the Elk House, Bear, Wolf, and Fox Dens, Winter Bird House and Flying-Cage. On July 1 working drawings and specifications for

all the above were submitted to the Board of Parks, and approved by that body one week later. On July 14th the Executive Committee ordered, in addition to the above, the construction of other installations for animals, one of which was the Reptile House, to cost a total of \$62,500.

On August 15th ground was broken for the Winter House for Birds, and a contract was made with William Wilson for the Elk House. On August 17th work began on the construction of the Elk House, and on August 18th the plans of the Reptile House were approved by the Park Board. On August 22d ground was broken for the Reptile House. On August 29th the Park Department began the work of excavating the south pond. On September 7th work began at the Bear Dens, and on September 13th work began on the stone wall to enclose the Prairie Dogs' Knoll. A trench was dug to bed rock, the depth of earth varying from two to eight feet. The enclosure is circular in form, and its diameter is eighty feet. On September 21st the excavation for the Buffalo House was begun. On September 26th a force of men began to excavate for the water-courses at the Ducks' Aviary, and construct three islands. On October 10th the same force began to excavate the Beaver Pond.

ZOOLOGICAL SOCIETY WORK COMPLETED TO MARCH 15, 1899.

The Elk House has been completed in all respects, except the bark-covered slabs, and fitted for temporary use as offices and workshops.

The Bird House is ready to receive its cage work and boilers.

The walls of the Reptile House have been completed, and the roof will be added forthwith.

The steel cage work for the first series of Bear Dens will arrive about April 15th, and, with the exception of the sleeping dens, the Bear Dens will be completed about May 15th.

The excavation of ponds for the Ducks' Aviary and the construction of three islands have been completed. On the south island twelve enclosures have been laid out, two shelter houses have been erected, and about one hundred native shrubs have been planted. The iron fencing has been completed, and will be erected at once.

A stone wall, going down to bed rock, has been constructed

around the Prairie Dogs' Knoll (eighty feet in diameter), and capped with cut stone, on which the iron fence will be erected by May 15.

Excavations have been made for the walls and stone work of eight Wolf and Fox Dens, and the walls have been laid ready for the cage work.

About five hundred cubic yards of sandy earth have been hauled to the Pheasants' Aviary, to make dry ground for the runways. This was removed by necessity from the Bear Dens, at no cost to the Aviary.

The excavation for the Beaver Pond has been completed, and all the grading necessary thereto; the iron fence has been made, and a suitable foundation wall to support it is now being constructed.

The excavation necessary for the Buffalo House has been completed, and the foundation and side walls are ready for the wood-work.

Stone walls have been laid, with proper drainage, at the Burrowing Rodents' quarters, to carry the fences. Total length of walls, 643 feet.

A considerable amount of grading has been done on the eastern side of the hill for Mountain Sheep in properly exposing the rock; and a great quantity of loose stones and rubbish has been removed from the base of the hill to increase its height.

One thousand feet of plank and 500 feet of macadam road have been built to enable teams hauling materials to reach the Reptile House and Bear Dens; and about 1000 feet of plank walks have been built for temporary use. A large temporary wooden shed 28x96 feet has been erected for use as a general storehouse, stable, tool-house, etc.

Several thousand cuttings of willow and other species of trees and shrubs have been prepared for planting during the spring, and several hundred indigenous shrubs and tree sprouts have been gathered into a small nursery. A three-acre nursery has been established in the Northeastern portion of the Park, on ground that has previously been used for agricultural purposes, and is well screened from observation.

EXPENDITURES AND ESTIMATES.

The operations of the Society in the Zoological Park are best shown by the following list of improvements, expenditures and estimates, revised to May 1, 1899.

	Cost to Date.	Cost to Complete.
Reptile House	\$10,672.59	\$23,006
Bird House	10,428.33	6,467
Cage work for Reptile House.....	2,717
Elk House	1,697.83	Complete
Buffalo House	865.07	1,308
Bear Dens, } Wolf Dens, } Fox Dens, }	3,659.91	8,452
Pheasants' Aviary	45.00	3,155
Ducks' Aviary	1,144.60	535
Beaver Pond	819.04	1,249
Prairie Dogs' Knoll.....	396.75	345
Flying Cage	224.75	6,000
Burrowing Rodents' Quarters.....	519.72	937
Crocodile Pool	404.90	895
Mountain Sheep Hill.....	379.55	900
Otters' Pool	500
Antelope House	392.87	30,000
General Construction	2,922.22
Architects' Commissions	3,360.80	1,760
	<hr/>	<hr/>
	\$37,933.93	\$88,224

In addition to the above expenditures, the Society has been compelled to expend in temporary road making, drainage, etc., a considerable sum from its Building Fund. These expenditures were made very reluctantly, and only because they were absolutely necessary in order that building materials might be hauled to the buildings now in progress, and because the roads and sewers to be constructed by the City are not yet ready for use.



MAIN HALL OF THE REPTILE HOUSE, MARCH 31.



AN ANGLE OF THE REPTILE HOUSE, APRIL 5.

GROUND IMPROVEMENT EXPENSES.

Plank and stone roads, walks, drainage, grading, etc.	\$2,836.61
General Forestry work and Maintenance	237.44
Engineering, for all purposes	1,566.91
Store House	551.50
Insurance	46.38
	<hr/>
	\$5,238.84
Total expended from Building Fund, to May 1	43,172.77

THE CITY AND THE ZOOLOGICAL SOCIETY.

Soon after the new administration came into office it was definitely learned that the new Board of Parks was very friendly toward the new undertaking, and would promote it to the limit of its power. The debt limit question made it necessary to postpone for several months our application for the appropriation to be granted by the City for ground improvements; and when it became positively known that no new city bonds could be issued without an amendment of the Charter, the outlook was decidedly doubtful. Fortunately, however, it was learned that the Mayor was well disposed toward the plans of the Zoological Society; and when, upon June 21st, an application for \$125,000 to be expended on ground improvements was presented to him, it was promptly taken up by the Board of Estimate and referred to Comptroller Coler for report. Later on it was also referred to Corporation Counsel Whalen. Both reports were favorable; but it was declared to be impossible to provide, in 1898, so large a sum as \$125,000.

In view of the fact that half the year had then passed away, and that it would be almost impossible to complete all the ground improvements during the year 1898, the Society proposed that one-half the whole sum be appropriated for use during that year, at the same time agreeing to expend from its Park Improvement Fund an amount equal to any appropriation the City might choose to make. On July 27th, without a voice being raised in opposition, the Board of Estimate appropriated \$62,000, and made it immediately available for expenditure by the Commissioner of Parks for the Borough of the Bronx, Hon. August Moebus, in accordance with the plans of the Zoological Society.

During the summer the attention of the Department of Sewers was called to a very offensive stream of sewage from Belmont, which empties into the Zoological Park and flows through Birds' Valley on the surface. Plans for a small sewer were prepared, and Acting Commissioner Donohue, upon the recommendation of Deputy Commissioner Byrnes, applied to the Board of Estimate for \$2,250, with which to construct the sewer. The amount applied for was promptly granted, and a contract for the work was let on November 30th. Owing to the severity of the winter the work of construction was greatly delayed, but the sewer is now complete.

GROUND IMPROVEMENT WORK BY THE CITY.

The fund of \$62,000, appropriated by the Board of Estimate for 1898, was placed to the credit of the Department of Parks, and became available on July 28th. On August 1st, the plans and specifications for all the ground improvements to be made in the Zoological Park by means of that fund were submitted to the Board of Parks, and promptly approved. These plans were immediately taken in hand by the Chief Engineer of the Park Department, Mr. Daniel Ulrich, and steps taken to carry them into effect.

On August 29th, the City's work was inaugurated at the Aquatic Rodents' Pond, where a force of teams and laborers began to excavate a bog of rich, black earth, and convert a nuisance into a feature of use and beauty. This work was prosecuted throughout the autumn, and was almost completed when the great storm of November 24th stopped all work for an indefinite period. It is now certain that this pond cannot be completed until about June 1, 1899.

On November 7th, William Masterson began to excavate, at his own expense, a large quantity of earth from Cope Lake, to be used in completing his contract for the construction of the Pelham Avenue roadway. Since that date a large quantity of earth has been removed from the lower end of the lake, and about one-third of its entire area has been graded nearly to the bottom level. The completion of this commanding landscape feature of the Park is a matter of pressing importance, and its expense will probably have to be met from the fund of \$10,000 now available for grading and excavating Baird Court and its surroundings.

The present operations of the City in providing ground improvements may briefly be summarized as follows:

Walks of stone and gravel, from 12 to 20 feet in width, 134,000 square feet.....	}	Contract
Croton water pipes, to reach collections to be installed in 1899		let on
Sewers leading from first buildings, aviaries, and dens.		Dec. 22,
Service road of Telford macadam from Southern Boulevard to Reptile House.....		1898,
Drainage as necessary for roads, walks, and buildings.		to
Macadamizing corrals for large animals.....		Bart.
Fencing for animal ranges, corrals, and boundary of Park, contract let on March 9 to the Page Woven Wire Fence Co. (work to be completed by July 1)		Dunn,
Expended to date on pond excavation about.....		for
To be expended on pond excavation.....		\$33,375.00
Balance available for restaurant, entrances, workshops, engineering, etc.		10,802.50
	4,500.00	
	500.00	
	13,625.00	

In view of the fact that no extensive park improvements can be made by the municipality without the lapse of several months spent in preparation therefor, on January 17th the Society presented to the Board of Estimate and Apportionment a request that the remaining \$63,000 be appropriated and made available. In response to a request from the Mayor for specific information regarding the amount expended by the Zoological Society, and its obligations on contracts for work in progress, a schedule was submitted on March 7th, showing all contracts and requisitions either completed or in force for the Society's work in the Zoological Park. Immediately following the receipt of this schedule, the Board of Estimate and Apportionment adopted a resolution authorizing the Comptroller to issue bonds of the City of New York to the amount of \$63,000 "for the purpose of providing means for the improvement of that portion of Bronx Park allotted and set apart to the New York Zoological Society and for the construction and equipment of buildings thereon."

The schedule of estimates submitted to the Board of Estimate, showing the purposes to which it is proposed to devote this fund, and to which no objection was offered by the Board, is as follows:

SCHEDULE OF GROUND IMPROVEMENTS TO BE MADE IN THE NEW YORK ZOOLOGICAL PARK IN 1899 AND 1900, AND PAID FOR FROM REMAINDER OF THE FUND APPLIED FOR JUNE 21, 1898, \$63,000.

Preparation of Baird Court for Buildings:

For excavating earth and rock to a uniform level of 64 feet; filling as necessary for Monkey House and on east side of Court; for grading, resurfacing, seeding, and building retaining walls as necessary \$10,000

Croton Water Supply Pipes:

1,000 feet 6-inch main	}	6,600
3,558 feet 4-inch main		
500 feet 1½-inch main		

Sewers:

1,500 feet of 12-inch	}	6,600
1,240 feet of 10-inch		
2,688 feet of 8-inch		

System of Walks:

For extension \$16,000
 For asphaltting surface of walks constructed in 1899 10,800—\$26,800

Service Roads:

Extensions to Workshops and Bear Dens . .	2,000
Benches	1,500
Completion of Workshops, Stables, etc.	2,000
Entrances	1,500
Large Restaurant	7,000
Macadamizing additional yards for animals	3,000
1,000 cubic yards sand for Ponds	1,300
Boat House	1,300

\$63,000

MAINTENANCE OF THE ZOOLOGICAL PARK.

During the preparation of the annual estimates for 1899, Park Commissioner Moebus requested the Society to forward a memorandum stating the amount of money likely to be required for the maintenance of the Zoological Park during that year and the purposes for which it would be expended. The Society applied for \$60,000 for the year, furnishing a detailed statement of the various expenditures necessary. The Commissioner called upon the City treasury for \$30,000 as a maintenance fund for six months, with the understanding that if the Zoological Park is stocked with animals early in 1899 it will be proper to apply later in the year for whatever supplementary appropriations for maintenance may become necessary to carry the institution through the year.

It is to be noted, therefore, that the City of New York is faithfully and cheerfully performing all its obligations toward the Zoological Park. Every department which the officers of the Society has been obliged to call upon for assistance—the Board of Estimates, the Finance and Law Departments, and the Departments of Sewers, Police, Water, and Fire—each has responded promptly and in a spirit of cordial helpfulness which has not only materially aided, but very greatly encouraged, the Society in the execution of its great task. It is this spirit of co-operation which now renders it absolutely certain that the Zoological Park will be to this city not only all that its founders have desired, but even more.

PROTECTION OF OUR NATIVE ANIMALS.

Owing to the great pressure of work for the Zoological Park the Society has not been able to devote to this important object more than a small proportion of the effort it would gladly have put forth. Our members are again reminded that the protection of our native animals is one of the three great objects for which the Society was organized.

Despite the pressure of other business, however, the Society accomplished during the past year one task in this line which it is safe to say has proven of great importance, if not of practical value, to our native birds. In accordance with a resolution adopted at the last annual meeting, the Director made a systematic inquiry,

which was the first ever made, covering nearly the whole United States, into the present condition of bird life as compared with fifteen years ago, and the causes for any important changes which have taken place. The result of this inquiry, when published in the Society's Second Annual Report, showed such startling percentages of decrease, it attracted wide attention to the subject, and aroused bird lovers quite generally. One thousand separate copies of the Report were printed for the benefit of those who were actually working for more effective protection for our birds. At the request of Senator Hoar a copy of this Report was sent to each member of Congress to aid the passage of the Senator's bill for bird protection.

At a recent meeting of the Executive Committee it was unanimously voted that the sum of \$100 be paid into the treasury of the League of American Sportsmen, to be expended by its State Warden for New York, Mr. A. E. Pond, a member of this Society, in field work in the protection of birds and quadrupeds. In view of the fact that this League, which is chiefly managed by men who are members of our Society, is appointing and maintaining wardens all over this State, its practical field work is more effective and far reaching than that of any similar organization. It is to be hoped that other scientific societies will also aid in sustaining the field work of the League.

EXHIBITIONS AND PUBLICATIONS.

In April, 1898, the Society published its Second Annual Report, and in December News Bulletin No. 3 was issued. The Society made an exhibit at the Annual Exhibition of the Academy of Science, and at the Architectural League's Annual Exhibition, held in February of last year, the preliminary studies of the larger buildings for the Zoological Park were shown.

GIFT TO THE SOCIETY.

Animal Drawings.—The Committee takes great pleasure in announcing the receipt of a valuable gift from five of its members—Messrs. Edward J. Berwind, Henry W. Poor, Charles T. Barney, Charles A. Peabody, Jr., and John L. Cadwalader—consisting of fifty original drawings of American animals by Ernest Seton

Thompson, also a member of this Society.* This collection is specially intended to form a part of the artistic equipment of the proposed school of animal painting and sculpture. The following is a list of the subjects represented:

Elk and Mountain Lion.	Polar Bear.
Black Bear.	Gray Wolf and Deer.
Arctic Fox.	Fox and Rabbit.
Otter and Fisher.	Martin and Squirrel.
Mink and Rabbit.	Badger.
Ocelot.	Bassaris.
Ermine.	Wolverine.
Raccoon.	Spilogale.
Fur Seal.	Harbor Seal.
Caribou.	Musk Ox.
Rocky Mountain Goat.	Peccary.
Musk Rat.	Beaver.
Porcupine.	Wood Rat.
Kangaroo Rat.	Pocket Mouse.
Cotton Rat.	Jack Rabbit and Kangaroo Rat.
Woodchuck.	Rabbit and Woodpecker.
Flying Squirrel.	Pocket Gopher.
Striped Gopher.	Jumping Mouse.
Rocky Mountain Gopher.	Marsh Rabbit.
Marsh Rat.	Little Chief Hare.
Chipmunk.	Least Shrew.
Vole.	Star Nosed Mole.
Manatee.	Sperm Whale.
Dolphin.	Finback Whale.
Porpoise.	

OPENING OF THE ZOOLOGICAL PARK.

A year ago it was hoped that the improvement of the Zoological Park could proceed so rapidly that the Park might be opened to the public in May, 1899; but this hope has not been realized. The volume of work has proven so great and so complex, and the necessity for caution at every point has been so imperative, it has proven a practical impossibility to rush the work sufficiently to make possible a satisfactory opening on the date mentioned.

*The majority of these drawings measure 9x13 inches, but a few are 11x15.

Between the Society and the Park Department, reckoning the erection of buildings, dens, aviaries, and ponds, and the construction of roads, walks, sewers, steps, fences, and grading, work is now proceeding at about twenty-five different points. If the rapid progress now being made all along the line can continue without interruption for three months, the Society will be ready to welcome the public at the Zoological Park about July 15th. It is of course to be understood, however, that by that date only certain portions of the general equipment will be in readiness, and that work must progress steadily for about three years ere the Society will reach a point where it may pause in its labors and look back upon its work.

Respectfully submitted,

HENRY F. OSBORN, *Chairman.*

MADISON GRANT, *Secretary.*

EXECUTIVE COMMITTEE:

LEVI P. MORTON, *ex-officio,*

HENRY F. OSBORN, *Chairman,*

JOHN L. CADWALADER, *Counsel,*

CHARLES E. WHITEHEAD,

JOHN S. BARNES,

PHILIP SCHUYLER,

MADISON GRANT,

W. W. NILES, JR.

FORM OF BEQUEST.

I do hereby give and bequeath to the "NEW YORK ZOOLOGICAL SOCIETY," of the City of New York,.....



EXCAVATING THE CROCODILES' SUMMER POOL.



THE EXCAVATION.

REPORT OF THE DIRECTOR OF THE ZOOLOGICAL PARK.

When a city is so rich in park lands that such a magnificent temple of nature as South Bronx Park can lie for fourteen years practically unknown and wholly unappreciated, that city is to be envied. To persons living elsewhere, the profound ignorance of the majority of our people respecting the public land now known as the Zoological Park is one of the wonders of New York. Even to-day, notwithstanding all that has been published of descriptions and maps, a large percentage of the residents of this city who set out to make their first visit to this tract strike a mile wide of the mark and land in the upper end of the Botanical Gardens.

Of all the 4,500 acres of public parks acquired in the annexed district during 1884 no other portion has remained for all that period so thoroughly unknown, so overlooked, and so neglected as the 261 acres of South Bronx Park. The last serious question as to its immediate future was settled on July 27, 1898, when Mayor Van Wyck and the Board of Estimate and Apportionment appropriated the first instalment of the city's fund for ground improvements, and made it immediately available.

On August 1 the Zoological Society submitted to the Board of Parks its plans and specifications for those improvements, and without further ceremony came into possession, as custodian, of the allotted land. At that time the site of the Zoological Park was an unbroken wilderness, to the eye almost as wild and unkempt as the heart of the Adirondacks. It was a jungle of ragged forest trees, brambles, bushes, and tall weeds. There were three extensive bogs, in any one of which an elephant might easily have become entombed. Poison dogwood and poison ivy grew in many places, and a deadly sewer stream flowed for nearly half a mile on the surface of what is now Birds' Valley. Throughout the whole 260 acres there was not a drop of drinking water available, not a seat, sidewalk, nor shelter of any kind other than those which nature had provided. Worse than all else for personal comfort,

the tangle of tall weeds, blackberry bushes, and green-briar which grew up from the earth was met by the low-drooping branches of the trees, and the breathing of the forest was seriously obstructed. The heat was intense, and the mosquitoes were very troublesome. It was a rare sight to see in the Park any other visitors than those of the kind parks are best without.

Such was the condition of South Bronx Park last summer when it passed into the control of this Society. Fairness to the Department of Parks demands at this point the statement that in view of the agreement existing between the Zoological Society and the city, the Department had, during the first half of 1898, purposely refrained from clearing the ground of weeds and surplus undergrowth, as would otherwise have been done. This was directly in the interest of the Society, and was due to the friendly forethought of Commissioner Moebus, not to neglect.

FIRST WORK ON THE GROUNDS.

On August 1, 1898, the Zoological Society assumed control of the Zoological Park site by erecting at various conspicuous points in and around the grounds a series of permanent signs, partly as a notice of possession, partly as a warning against the infliction of damage, and also as an invitation to the public generally to co-operate with the Society in its efforts to preserve the natural beauties of the Park.

For many reasons it was indeed high time for South Bronx Park to receive the diligent care which at present could come to it only from a large body of individuals specially interested in it. Previous to 1898 the very scanty attention available for it from the Department of Parks, which had then its own police force, caused it to suffer damage from the neglect of its forest growth and also at the hands of malicious persons who regularly raided it for firewood. Westward and southward of the Zoological Park live many Italian laborers who during past years have become thoroughly grounded in the conviction that it is right for them to cut any tree in Bronx Park which they can cut without detection, and to remove anything that can be carried away.

Finding that in their raids for fallen timber these parties did not always respect lumber and living trees, it was forbidden that any firewood should be removed from the Zoological Park. To this the raiders paid not the slightest attention, until personally

ordered to desist. Even then the raids continued. The police captain of the Forty-first Precinct was appealed to, and promptly doubled the force of policemen patrolling the Park. The raiders cunningly dodged the policemen, and very defiantly went on. Further reports to Captain Fitzpatrick resulted in the detailing of two detectives in citizen's clothes, who promptly arrested a number of persons, and, for a time at least, checked the ardor of the others.

But even now the Zoological Park is by no means secure from damage at the hands of miscreants. The setting of forest fires and the destruction of valuable trees by tramps and boys engaged in smoking out squirrels, has indeed been permanently stopped; but not until several of the Society's regular employees are commissioned as special policemen, and a sufficient number of depredators caught red-handed and severely punished, will the Zoological Park be known as a good place for miscreants to avoid. In view of this necessity the Executive Committee has already secured the appointment of the Society's Chief Forester as a special policeman.

CIVIL ENGINEERING WORK.

Ever since January 1, 1897, Messrs. William Barclay and H. de B. Parsons have been the consulting engineers of this Society and furnished advice and services as occasion required. During the year 1898 the most noteworthy service rendered by them was the planning of a very complete and perfect, as well as economical, system of water supply and sewerage for the whole of the Zoological Park that is to be devoted to collections. They also designed a highly satisfactory system of plumbing for the Bear Dens and the steel-pipe skeleton frame to carry the wire netting of the Flying Cage. It is only just to add that because of the fact that their services were required by a scientific society, and not by a money-making concern, these gentlemen have voluntarily rendered bills for less than half the sums that would otherwise have been charged as a fair compensation.

In addition to the valuable services of our consulting engineers, Mr. George M. Beerbower was regularly employed as engineer and draughtsman to stake out on the ground the various lines of the official plan of the Zoological Park, and perform general work in his line. Survey work was prosecuted vigorously throughout

the summer of 1898. At its inception, the Director applied to the Park Department for the Borough of the Bronx for a force of men to work under his supervision in mowing weeds, grass, and brush from the sites of various installations for animals which were about to be erected. The labor requested was immediately supplied by Commissioner Moebus, and one after another the sites of the Bird House, Flying Cage, Reptile House, Bear Dens, and Wolf and Fox Dens were cleared. This force was kept at work until all the rank weeds which obstructed our surveys had been mown down and burned. Finding that in several places quantities of unsightly and worthless bushes still obstructed the lines of walks and fences, two picked men, one furnished by the Park Department and one by the Society, were detailed to clear away such underbrush as was from time to time marked by the Director in person for removal. This removal of underbrush was chiefly confined to proposed fence lines, walks, and pond sites, and carefully avoided interference with any shrubbery which may become of landscape value.

With the completion of this clearance work it was possible to see, satisfactorily and adequately, the exact character of each portion of the Park which is to be utilized as an individual feature, and the advantages gained by this work very greatly benefited subsequent work.

Prior to August 1 our engineer made an elaborate series of profiles of the ground and rock ledges which enter into the construction of the twelve large open-air yards for bears, wolves, and foxes, and also prepared suitable ground plans for the three series of dens. Owing to the fact that the steel cage-work is to be fitted against, and also upon, irregular ledges of natural rock, the engineering work necessary was very considerable in amount, as well as exacting in its requirements.

Not only were all the fourteen improvements now under construction accurately located and staked out by the Society's employees, but also the fence lines and shelter houses of all the ranges for large game, and all the buildings of Baird's Court. All masonry and excavating done by the cubic foot under contract is measured and calculated by our own force, and a very considerable amount of general work has been done under the personal supervision of our engineer.



ESTABLISHING WATER LEVELS AT THE DUCKS' AVIARY.



ERECTING DUCKS' SHELTER HOUSES.

SPECIAL IMPROVEMENTS BY THE DIRECTOR.

A number of installations for animals are being constructed, partly by day labor and partly by contract, under the personal supervision of the Director. These are the Ducks' Aviary, the Beaver Pond, the Prairie Dogs' Knoll, the Burrowing Rodents' Quarters, the Mountain Sheep's Hill, Pheasants' Aviary, Crocodile Pool, Aquatic Rodents' Pond, and Otters' Pool. A brief memorandum regarding each of these improvements may be of some interest.

The Ducks' Aviary is designed to accommodate about thirty species of wild ducks and geese, separately installed, and also one mixed flock of large and showy species. Between the site of the Flying Cage and Cope Lake about three acres of level, swampy ground have been converted into ponds containing three islands, the surfaces of which are high and dry. Two of these islands have been laid out to form fifteen separate enclosures, each one of which, when fully completed, will contain an area of running water, with sandy banks, grass, shrubbery, a sanded runway, and a room in a low and inconspicuous shelter-house. Every yard is thoroughly under-drained. The outer boundary fence will be a barrier to rats and weasels, and all the fences will be low and inconspicuous. This aviary will be completed about May 15.

The Beaver Pond is situated in the wildest and most secluded spot in the Zoological Park, in a narrow valley between two timbered ridges of granite rock which rise quite steeply to a height of about seventy feet. Heretofore the valley has been an impassable bog, choked with weeds, but sufficiently free from forest trees that a pond area of about two acres has been secured. In order to obtain a good depth of water, and prevent too great an accumulation of back water, about two feet of earth was excavated and deposited in suitable places on the banks. About a dozen small maple trees, now standing on tiny islets in the pond area, will be given to the beavers to cut down for use as food wood and materials for their dams. The large and valuable trees within the enclosure will, of course, be protected from all injury. An iron fence three feet in height is now being constructed to enclose the area to be devoted to the beaver colony. Beyond question, the work of the beavers in dam-building, tree-cutting, and house-making in this ideal situation will prove of general interest.

For the Prairie Dog colony a fine, open knoll near the Antelopes' Range has been encircled by a stone wall going down to bed rock, and thoroughly drained. The enclosure is eighty feet in diameter, and the earth within it is undisturbed virgin soil, admirably adapted to the wants of burrowing animals. The depth of earth varies from three to eight feet. The wall is now ready to receive the iron fence, which has been completed and will be erected very shortly.

The Burrowing Rodents' Quarters represent a feature never yet seen in a zoological garden,—a series of thirteen roomy open yards of clean, dry soil, each enclosure to contain either one or two important representative species of our native marmots and ground squirrels, of which our fauna possesses such an immense number of distinct forms. The stone walls of this installation are now complete, and the iron-work will be added early in the summer.

The Mountain Sheep's Hill and shelter-house are so far from completion that further reference to them will be deferred; and the same may be said of the Otters' Pool and Pheasants' Aviary. It is hoped that both these, however, will be completed during the spring.

To obtain a large summer pool for the use of the crocodiles and alligators, a beautiful natural basin in the granite ledge adjacent to the southeastern corner of the Reptile House has been lengthened by excavating soil and rock, to a total length of 100 feet. Thanks to the natural seams in the rock, the sides of the pool are of Nature's own finish, and no signs of blasting will be visible. The pool is water-tight, and when enclosed by a suitable iron fence it will undoubtedly prove a very novel and attractive feature of the reptilian display. This will be ready for use about June 1.

On such work as that involved in the foregoing installations the Society has found it very advantageous to employ intelligent laborers—citizens of this country and city—working by the day. Under capable and conscientious foremen, and a fair rate of pay, the Society has been able to accomplish some very difficult work in a satisfactory manner, in quick time, and at very reasonable cost. It is a pleasure to state that even the day laborers employed by the Society take a personal interest in their work, and willingly render as diligent service as we are accustomed to believe can be obtained only by contractors. It is to be understood, however, that selection has much to do with the formation of a good force of workmen.

FORESTRY WORK.

From the first moment of possession the Zoological Society has recognized the serious nature of the responsibility it has assumed touching the protection and preservation from decay and general deterioration of the magnificent forest in the Zoological Park. It has long been apparent to the Society that its duty toward the trees and shrubs of the Park is not even second to its obligations toward the live animals which soon will be installed. A live animal can nearly always be replaced, usually within a few months; but a century-old oak tree or chestnut, a giant tulip or elm, when once dead through decay and neglect, is gone forever. And the death of a large forest tree anywhere within the limits of New York City is nothing less than a calamity.

In view of the condition of our forest, and the work necessary to its proper preservation and maintenance, the Society resolved to assume all responsibility therefor, and charge the cost of labor and materials to the regular maintenance fund. At first it was thought desirable to defer all forestry work until January 1, 1899, when the maintenance fund would become available; but the visible deterioration of the forest was so great it was found impossible to wait for city funds. In October the Society selected and appointed an experienced and energetic man, Mr. Herman W. Merkel, as Chief Forester, and supplied him with laborers, tools, and materials. The work of preservation was begun forthwith and prosecuted with vigor throughout the entire winter. Until January 1st the cost of this work was met by the Society, but on that date it became chargeable to the maintenance fund.

Preservation.—The most serious task in this branch of work lies in preserving from death by drought the hundreds of trees now in imminent danger because of the thinness of the soil in which they stand. Thousands of loads of soil must be hauled and spread over several granite ledges whereon the soil is now too thin for trees to long endure. Hundreds of trees are endangered by decaying cavities that are steadily eating, ulcer-like, into their trunks. Many fine chestnut and oak trees have been partially burned out at the root by fires that were purposely built against or within them. All such cavities, whether due to fire or decay, require to be filled up, water-tight, either with stone and Portland cement, or with pieces of zinc very carefully fitted. All dead limbs

require to be cut away, and hundreds of dead trees which are literally a standing menace to the safety of the public must be cut down and removed.

The work of preservation, as it has been carried on by the Chief Forester and a force of from eight to twelve trained men, has been very interesting, and at a later date will be reported upon in detail. During the month of February, for example, the dead limbs were removed from 202 trees, 33 dead trees were removed, and the trunks of 19 trees were filled in with masonry. In removing dead wood from some of the larger trees sometimes as many as 200 cuts were necessary.

Propagation.—Equal in importance with the preservation of the existing forest growth in the Park is the work of propagation. The creation of extensive border plantations along the Southern Boulevard and Kingsbridge Road is the most urgent demand, and one which will receive attention as rapidly as climatic conditions will allow. Along with this, a great amount of careful planting must be done around Cope Lake, on Audubon's Hill—which is capable of development as a pinetum—and, to a limited extent, in the ranges for big game. Hot-beds were started early in March, and as soon as possible a commodious greenhouse should be erected. For some years to come the border plantations can be used as nurseries for many kinds of young trees.

During the autumn and winter Mr. Merkel prepared several thousand cuttings of native trees and shrubs, planted in seed-boxes about 100 kinds of seeds, and in March established a small nursery on a bit of tillable ground in a secluded spot near the northeastern corner of the Park. A small shed was erected at that point, in a clump of bushes, for the proper administration of the nursery and other work on the eastern side of Bronx Lake. This nursery will be of great value to the Park, not only for the propagation of trees and shrubs, but also as a storage place for the stock that will be purchased of nurserymen prior to its final setting out on the grounds.

In a short time the completion of the Reptile House will furnish a conservatory which will be of great value in connection with the extensive supply of living plants that must be provided for the larger animal buildings, for which purpose it was specially designed.

THE CITY'S WORK.

The work to be done by the Department of Parks under the head of Ground Improvements began on August 20th in excavating for the Aquatic Rodents' Pond. The pond was staked out, and levels given, by the Society's surveyor, and the work was conducted throughout to meet the Society's wishes. On account of the presence of a remarkable terminal moraine, of glacial boulders, at the north end of the pond, clearly marking the southern end of a glacier, it was necessary to alter slightly the intended shape of the excavation in order to avoid an expense which would have made the pond almost impossible. As a result, the shape of the completed pond will be almost identical with its outline as laid down provisionally on the preliminary plan of the Park. Owing to the soft nature of the ground, the excavation of this pond was more difficult and expensive than had been anticipated. Its completion will consume all of the \$5,000 allotted for pond excavating, leaving the Elks' Pond to be provided for from some other source.

Cope Lake has been partly excavated by the contractor for Pelham Avenue, who required earth in order to meet the terms of his contract. The remainder of this very important piece of work, without which the north end of the Park will be exceedingly unsightly, will have to be paid for out of the item of \$10,000 for excavating that has been allowed by the Board of Estimate in the appropriation of \$63,000 recently granted.

By great good fortune, Pelham Parkway has recently been improved all the way through Bronx Park, and our northern boundary boulevard is now handsomely and permanently completed. The general level of the roadway has been raised about five feet. It is now possible for the Society to make all its projected improvements in the northern end of the Park at an early date and give them a permanent character. The view of the Zoological Park from Pelham Parkway promises to be very fine.

It is almost unnecessary to state that the amount of filling, grading, and modelling to be done in the northern end of the Zoological Park is really great, and it would be very much to the interest of the city, financially, if the work necessary could be performed by a selected force of laborers and teams working under the direction of our own foremen.

A very important piece of work to be done by the city forth-

with from the remaining \$63,000 of the improvement fund, recently appropriated, is the levelling of the top of the hill in Baird Court, between the Lion House and the Monkey House. The material removed will be used as filling for the low ground along the eastern side of the glade, where it is very necessary for the requirements of the Monkey House.

Stated in the briefest manner, the quantities of work contracted for by the city on December 22d, and to be performed in 150 consecutive working days, are as follows:

Gravel walks to be constructed.....	134,000 square feet
Service road of macadam	1,253 lineal feet
Water mains and supply pipes.....	6,660 feet
Sewers and drains for walks and roads	6,050 feet.
Stone steps	2,000 feet
Macadamizing of animal corrals.....	3,700 square yards

Mr. John P. Schermerhorn, Assistant Engineer, has been specially detailed by Commissioner Moebus and Chief Engineer Ulrich to take charge of all the Park Department's work in the Zoological Park, and, in order that he may be able to exercise constant supervision, an office has been provided for him within the grounds. In this connection the Director takes pleasure in recording the fact that all three of the officers of the Park Department named above are in full sympathy with the work of the Zoological Society, and join very heartily in the task of developing the general scheme of improvements so that it will fit the ground perfectly and satisfactorily.

On March 9th a contract for the construction of all the steel-wire fences for the animal ranges, corrals, and boundary of the Park, west of the Boston Road, was let to the Page Woven Wire Fence Company, of Adrian, Mich., at \$10,802, and the whole work will be completed about July 1st. As fast as these range fences are erected these important enclosures can be stocked with animals, in order that the Park may be opened to the public in July.

ANIMALS OFFERED AS GIFTS.

The following live animals have been offered to the Society as gifts for the Zoological Park: a Grizzly Bear, a Polar Bear, two Ocelots, two Gray Wolves, two White-tailed Prairie Dogs (very



REPAIRING FIRE DAMAGES, WITH MASONRY.

rare), one Porcupine, three Eagles, three Deer, and five Elk. For obvious reasons—lack of accommodations—all were reluctantly declined; but the Gray Wolves and rare species of Prairie Dogs are being held for us by their owners until the homes for those animals are ready. The Engineers' Club, of New York, has appropriated a sum of money for the purpose of purchasing a young Grizzly Bear, to be presented to the Society; and the Camp-Fire Club has resolved to present a Polar Bear as soon as the Society is ready to receive it.

It is hoped that as soon as the Zoological Park is ready to receive animals, gifts to it will be numerous and valuable.

CONCLUSION.

For the Zoological Society and its Park, the year 1899 is certain to be crowded with important events. It will be a year filled with labor and care. Pending the next publication of this nature, and during the hurly-burly of construction, of the selection of competent employees, the purchase and installation of animals, the establishment of rules and regulations, and of routine business relations with the various departments of the city government—for himself, at least, the Director craves the indulgence of the Society until the lapse of time has allowed a fair opportunity for the evolution of the order, and system, and general polish which eventually should characterize everything in or connected with our Zoological Park

Respectfully submitted,
WILLIAM T. HORNADAY,
Director of the Zoological Park.

May 1, 1899.

TREASURER'S
For the Year ending

RECEIPTS.

Annual dues from 410 members	\$4,100 00
Life membership fees, 15 @ \$200.....	3,000 00
F. H. Cook, dues for 5 years to May 1, 1903.....	50 00
W. G. Langdon.....	50 00
Founders' Fees :	
From Henry A. C. Taylor	\$5,000 00
Percy R. Pyne, balance	2,800 00
George J. Gould.....	5,000 00
C. P. Huntington, balance.....	4,000 00
Jacob H. Schiff, balance.....	4,000 00
Levi P. Morton, balance	4,800 00
W. K. Vanderbilt	5,000 00
Wm. D. Sloane	5,000 00
Wm. C. Whitney	5,000 00
Robert Goelet.....	5,000 00 — 45,600*00
Associate Founders' Fees :	
From Philip Schuyler, balance.....	1,150 00
John S. Barnes, balance.....	2,300 00
Morris K. Jesup	2,500 00 — 5,950 00
Patrons' Fees :	
From Wm. C. Schermerhorn.....	1,000 00
Charles W. Harkness.....	1,000 00
J. Howard Ford.....	1,000 00
Emily N. Trevor, balance	800 00
George F. Baker	1,000 00
H. O. Havemeyer	1,000 00
Wm. Church Osborn.....	1,000 00
Henry H. Cook	1,000 00
H. McK. Twombly.....	1,000 00
E. J. Berwind.....	1,000 00
C. T. Barney	1,000 00
James B. Ford	1,000 00
Henry W. Poor	1,000 00 — 12,800 00
Subscriptions :	
From James C. Carter.....	1,000 00
James T. Higginson.....	500 00
Newbold Edgar	100 00
Samuel D. Babcock.....	500 00
Tiffany & Co.....	2,500 00
E. G. Blackford.....	500 00
J. W. Pinchot.....	500 00 — 5,600 00
Interest on Deposits :	
Fifth Avenue Trust Company.....	145 20
Atlantic Trust Company	\$533 70
	290 54
	41 60
	29 05 — 804 89 — 1,040 00
Henry F. Osborn	16 00
W. T. Hornaday, return of petty cash.....	2 00
Total receipts in the year 1898	\$78,208 00
Add balance in Treasury December 31, 1897, as stated in last Annual Report.....	37,862 66
	\$116,070 75

STATEMENT

December 31, 1898.

EXPENDITURES.

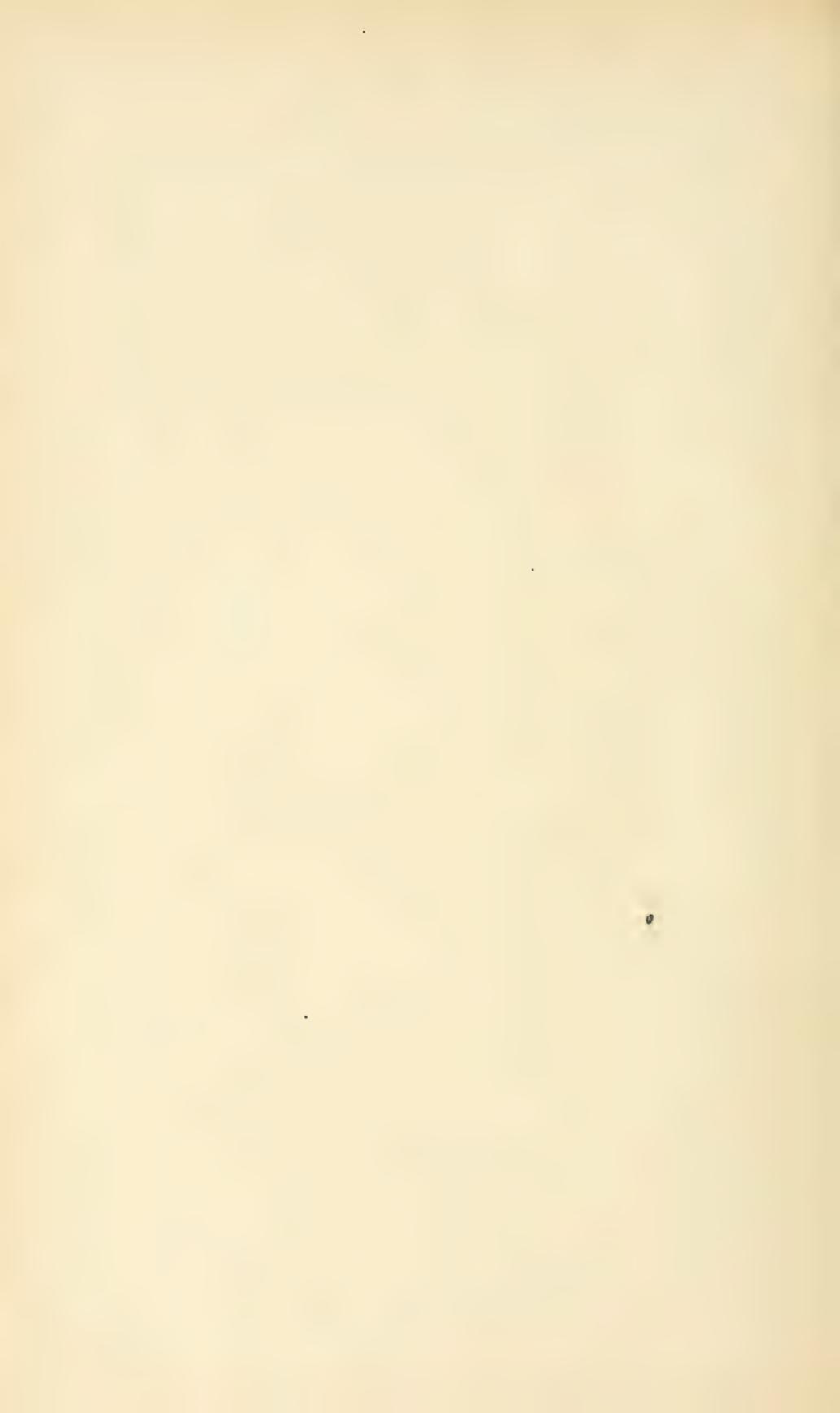
Stationery and office supplies.....	\$248 58
Office furniture.....	184 19
Office rent.....	300 00
Maps, plans, and profiles, and material for same.....	376 39
Cost of Annual Report, 1898, and Bulletin.....	1,270 15
Photographs, prints, albums, slides for lecture work, etc..	97 28
Engrossing and drawing.....	62 51
Architectural drawings.....	312 50
Stenographic work and typewriting.....	210 90
Press clippings.....	11 30
District messenger service.....	66 22
Shades, badges, battery wire, etc.....	50 15
Books.....	230 73
Surveying instruments, tools, ladders, lamps, stakes, signs, etc.....	233 77
Stoves, coal, etc.....	31 20
Advertising.....	100 00
Delivering reports.....	34 68
Telephone rent.....	16 65
Seal, engravings, etc.....	333 93
Expense of meetings, hire of hall, etc.....	88 55
Salary of Director.....	4,999 96
Clerical and other services.....	470 75
Engineers' and surveyors' wages.....	243 00
Labor.....	64 50
Draughtsman's wages.....	147 50
General expenses, including petty cash disbursed by the Director, for office and other expenses.....	511 93
Architects' commissions.....	1,050 00
Work on elk house, bear dens, etc.....	1,666 32
Granite, stone and brick work.....	6,296 75
Iron work.....	2,402 00
Lumber, brick, etc.....	142 88
Roofing slate and tile.....	108 84
Painting.....	52 97
Cement, sand, gravel, sewer pipe, and other materials..	1,034 80
Excavating.....	2,714 63
Pay-rolls for labor, etc.....	1,750 99
Livery hire.....	10 50
Total disbursements in the year 1898.....	\$27,937 00
Cash balance in Treasurer's hands (in Atlantic Trust Company) December 31, 1898, <i>subject to check</i> :	
At credit of general account.....	510 67
At credit of "Park Improvement Fund".....	17,623 03
Certificate of deposit in Treasurer's hands, <i>subject to use on April 1, 1899</i> : *	
Certificate of Fifth Avenue Trust Company...	50,000 00
Certificate of Atlantic Trust Company.....	20,000 00—83,133 75

* These sums, representing "Park Improvement Funds," were, pursuant to direction of the Executive Committee, placed as special deposits in the above trust companies for a period of ten months from June 1, 1898, *i.e.*, until April 1, 1899, at three per cent. interest per annum.

\$116,070 75

Respectfully submitted,

L. V. F. RANDOLPH, Treasurer.



FIELD NOTES ON THE LARGER MAMMALIA OF
THE STICKINE, DEASE, AND LIARD RIVERS,
N. W. BRITISH COLUMBIA.*

BY A. J. STONE.

I have the honor to lay before the Zoological Society the following field notes of my observations throughout the Stickine, Dease, and Liard River basins, accompanied by two rough charts, such as I could prepare in the heart of this great wilderness.

A brief mention of the difficulties of travelling through this great stretch of inland waste may not prove amiss.

I left the Pacific coast by way of the Stickine River at Fort Wrangel, Alaska, the first of July, 1897. Part of my travel up the Stickine was by steamer and part by canoe. The end of canoe navigation is 175 miles from salt water. Although the Stickine carries a large volume of water, it is a swift and treacherous stream. Nearly the whole of its basin is mountainous, and it is fed by many large and important glaciers. The glacier region extends from very near the coast as far inland as the crest of the main coast range, though many smaller fields of ice continue to confront the traveller throughout all the headwaters, much farther inland.

The mountains throughout this region do not form into continuous ridges, but everywhere seem much broken and creviced,

* Dated at Ft. Simpson, N.W.T. June 30, 1898. Abstract read at the Annual Meeting of the Society on Jan. 10, 1899.

Mr. Stone is in charge of an exploring expedition known as Recreation's Northland Expedition, which for the past three years has been exploring the least-known portions of the far northwest, under the auspices of Mr. G. O. Shields' *Recreation Magazine*. The American Museum of Natural History is also interested in the scientific results of the work. Mr. Stone's first year in Alaska and British Columbia resulted in the discovery of a strikingly handsome species of mountain sheep, new to science, which has been described by Dr. J. A. Allen as *Ovis stonei*. Dr. Allen has recently described several new species of small mammals which were recently discovered by Mr. Stone.

and therefore the traveller must continuously ascend or descend these elevations, many of which are so steep as to render travel extremely difficult.

My party made two trips northward from the Stickine into the mountains, three to the south, and also followed the general course of the stream nearly to its source. Returning, we penetrated the Cassiar Mountains to the north of the Tanzilla, an important tributary of the Stickine. On all such side trips into the mountains, packs containing food, blankets, and necessary supplies must be carried, the weight of which must be determined by the distance to be travelled, and the time occupied in making the trip. Not infrequently the traveller's necessities burden him with a weight of 100 pounds.

From the head of navigation on the Stickine we transported our supplies on pack horses to the head of Dease Lake, a distance of 75 miles, from which point they were boated across the Lake, 24 miles. From thence we went down Dease River, the outlet of the lake, 170 miles to the Liard River, and down the Liard 85 miles to the mouth of Black River, the end of open water navigation on the Liard until after Hell Gate is passed, a distance of 110 miles from Black River. At that point winter overtook us.

During the winter the only dogs available for my use were kindly supplied by Mr. W. S. Simpson, who was trading in furs at this place. With the aid of the dogs we made an interesting trip on the ice up Black River in December, and in January sleighed our heaviest supplies down the Liard to Hell Gate and returned.

During February and March the snow was so deep as to render travelling next to impossible. During this period my help became discouraged at further travel toward the north, and left me. By the greatest effort I secured the help of one Indian and his team of dogs. I managed to purchase one excellent animal, but could get no more. With these dogs we sleighed the remnants of my outfit down to Hell Gate the first of April. The ice was badly broken, and heaved out of its shapely plane into very unsightly masses, with water almost everywhere covering the lower levels, through which we were compelled to wade for hours.

My Indian would not remain with me at Hell Gate, and I was left alone with my equipage among the worst lot of Indians known to the entire country. I could have proceeded on the ice to Fort

Liard, 120 miles down the river, but this would have meant the sacrifice of my outfit, a great part of which was necessary to the success of my trip. I therefore decided to protect my property if possible, and, after the breaking of the ice, make an effort to boat it to Fort Liard.

I could not secure any help from the Hell Gate Indians, for their only ambition was to rob me; and for about ten days they made my life almost a burden. First of all they insisted upon knowing what my cache contained. Failing in their attempts to find out, they began a campaign of begging, lasting daily from early morn until late at night. Failing to accomplish their purpose in that way, they began to offer insults and threats, until at last I was compelled to drive them from my camp with a club. Although I expected the affair to terminate in serious trouble, fortunately it resulted in the departure of the Indians from my camp, from whence they travelled toward their hunting grounds. After ten days of time lost in keeping these people at bay, I again found myself a free man. Immediately I set to work and moved my baggage and supplies (about 2,000 pounds) four miles farther down stream, to a place where I could get suitable material for constructing a boat.

I had not a particle of experience in boat-building, and although I possessed a saw suitable for cutting lumber, there was no one to assist in using it, and I was forced to build a boat without lumber. Canvas was my only resource, and with this I was fortunate enough to be supplied, although the quality was rather too light for the construction of such a boat as I required. However, I set to work cutting, hewing, and planing young spruce, and after a good many days of very hard work at last completed a good frame of bent timber. This frame I covered with spruce bark, to furnish a smooth support for the canvas, made my canvas into one sheet, seven feet six inches by twenty-five feet, and after gathering gum from the native trees, pitched one side of it, then stretched it over the frame, leaving the unpitched side out. After the canvas was securely fastened in place, I gave the outside a heavy coat of pitch, and my boat, twenty-four feet long and five feet beam, was complete.

The ice had been running for five days, and the river was almost clear of it. Getting under this immense boat, I moved it, "inch by inch," until the edge of the water was reached, and then man-

aged to roll it fairly into the stream. The next morning I loaded everything into my hard-earned craft, and was soon gliding down a swift and mighty river of which I had no personal knowledge. My boat was so large and so heavily laden it required all my strength and skill to manage it alone. Two days later, however, I reached Fort Liard in safety, and there I secured excellent help.

On my way from Fort Liard down to the Mackenzie I stopped at the Nahanna Mountains, a spur on the eastern slope of the Rockies, and made a successful hunt for the white mountain sheep (*Ovis dalli*). When selecting this route of travel, I knew it offered many obstacles to navigation, but I believed I could overcome them, and in doing so penetrate a vast area of country never (to my knowledge) yet explored by any one interested in natural history work. I also recognized that while the Rocky Mountain range—always prolific in animal life—had been quite fully explored throughout the States and lower British Columbia in the interest of natural history, its northern reaches seemed to be but little known, at least so far as a knowledge of its mammalia is concerned. I was therefore ambitious to penetrate this region, and decided to travel through the range from west to east by way of the Liard River, which cuts through the mountains at about 60° N. I also determined to penetrate them from the east at about 65° N., and again at $67^{\circ} 30'$ N., and follow them from there to the Arctic coast.

I resolved to give no part of my time to ornithology, partly because my work on the mammalia and ethnology of that region would require all my time and means of transportation. I am forwarding to the American Museum of Natural History specimens from many localities along my route from which the identity of the smaller species collected by me will presently be learned. Meanwhile I summarize for the Zoological Society, as requested, a few facts in relation to the larger mammalia of the regions explored by me on the Stickine and Liard Rivers.

MOOSE.—Travelling up the Stickine, the range of the moose is entered about 160 miles from the coast, but individuals are not found in any considerable number until another 75 miles have been passed over. Throughout the headwaters of the Stickine, along the Dease River, and throughout the Liard River basin, moose can be said to be abundant. In the Liard basin are many thousand square miles of muskeg lands overgrown with willows

and scrubby brush, and even in the mountainous country many small muskeg valleys exist. Country of this nature is everywhere dotted with small swamp lakes. Many large tracts that are higher and more dry are frequently swept by fire, after which heavy crops of willow soon spring up through the fallen timber and afford ideal feeding grounds for the moose. Everywhere the country is difficult to traverse, even for the native. Compared with the size of the country, the number of Indians is insignificant, while of white hunters there are none. We may therefore conclude that the life of the moose is here well preserved, and that nothing will ever drive out these creatures unless some great change takes place in the character of the country or in the number of its inhabitants.

The females generally bring forth their young in close proximity to the streams, on the lower levels of the country, and on the islands in the large streams. The latter places are especially sought by them. These islands are generally well wooded, and furnish most excellent hiding places. Swimming to one of these islands, the female will travel its length and breadth. If food is to be had, if the surroundings are agreeable, and free from wolves and other enemies, she is most likely to remain until her offspring is sufficiently strong to follow her to the main shore. In making the trip through the water the mother has often been known, especially when the current is swift, to swim just below her calf, and in that way steer it safely across. On reaching the mainland they generally seek the higher ridges, and remain there until the heavy snows of the following winter drive them back to the low ground, which generally occurs in February. The bulls always precede the females to the hills by several weeks, but return with them in the winter.

Throughout this country the breeding season is from the latter part of September to the latter part of October, and the calves are usually dropped between May 20th and June 15th. Last fall I travelled through a splendid moose country during the entire breeding season, and my opportunities for observation, and for inquiry of the natives, gave me a very fair knowledge of the habits of this animal.

From May 1st to 20th of the present year I frequently visited Indian camps where female moose had just been slaughtered, and found that none of them had dropped their calves. On May 21st, when my party started for the Nahanna Mountains, we passed a

party dressing a female that had not yet dropped her calf. We travelled across muskeg, and up a small stream about thirty-five miles before reaching the mountains, reaching the foot of the range on May 22d. Tracks of adult moose were everywhere plentiful along this small stream, but no calf tracks were visible. On the 27th one of my party killed a cow and calf moose at the foot of the mountain, and the calf looked to be about a week old. Returning down this same stream the first week in June, calf tracks were often observed.

The females do not often attain a size equal to the largest males, but I do not believe the difference in the size of the adults is as great proportionately as in the caribou family. Throughout the entire Mackenzie basin the Hudson Bay Company are extensive purchasers of dressed moose, the weights of which are recorded, and I was informed by one of the oldest employees now in their service that the largest animal ever received by them was a female, received at Fort Norman, about 65° N., which weighed, when dressed, 672 pounds. When alive this animal would probably have weighed 1,300 to 1,400 pounds.

Two young are frequently produced at a birth, but very rarely three, though the Indians claim to know of cases. The moose may be considered to have but one enemy other than the native—the wolf; but they do not suffer much from his attacks, except in the deep, crusted snow of March.

WOODLAND CARIBOU.—Caribou are abundant throughout the headwaters of the Stickine and almost all its tributaries from the south; also on the headwaters of the Tooga, to the north, and on Level Mountain, between the Tooga and the Tahltan; but very few are found on the Tahltan. They are plentiful throughout the Cassiar Mountains and the main ranges of the Rockies, as far to the north and the south as I could trace them through the Indians, a distance of about 200 miles each way. For the present I am compelled to speak of them merely as woodland caribou, but I fully believe them to be a new sub-species. Having consigned specimens to the American Museum of Natural History, I await with much interest Dr. Allen's report upon their identity.

According to my observations these animals are as superior in size to the woodland caribou as the woodland are to the barren ground caribou. At no time of the year do they inhabit timbered country, but range in the high mountains the greater part

of the time. In the spring they follow the snow well back into the rugged mountains, working their way back in September to the high, bald ridges, and spend considerable time in the narrow and almost barren muskeg valleys, crossing from one high country to another. During heavy storms in winter they are sometimes known to come into the edge of the timber, remaining there during the storm only, but almost all of their feed is taken from the high country. Even in midwinter they will be found feeding in these high places, where the wind sweeps the snow off the moss, or where it is not too deep for them to paw it away. Their feeding grounds extend lower than those of the sheep, but lap far into it, stopping short of only the most rugged of the sheep paths.

This caribou is in every way a grand animal, and for many reasons I pronounce it the king of American game animals. In size it is equal to, if not larger than, the wapiti. The breeding season is almost identical with that of the moose found here. Seldom but one calf is dropped. The last of May and first of June is the period in which nearly all calves are dropped, though cases have come under my observation showing at least six weeks difference in the age of calves of the same summer, dropped in the same locality. Like the moose calves, they grow with great rapidity. I hope to continue my study of these animals further north in the Rockies.

SHEEP.—The *Ovis stonci*, or "black sheep," as the natives call them, are found throughout most of the mountain ranges in the upper Stickine country. In the Cassiar Range of the Rocky Mountains I traced them as far south as the headwaters of the Nass and the Nelson Rivers. Their northern limit in the Rockies, however, is reached soon after leaving the Liard River, toward the north. Beaver River, a tributary of the Liard, represents their northern boundary.

They range slightly higher than the caribou described. During the summer months the old rams seek seclusion in very rugged districts, feeding in the little canyons high up in the mountains and on the small meadows on the summit of the ranges they inhabit, growing very fat in these quiet retreats. Seldom do they congregate in very considerable numbers, rarely more than five being seen together. The ewes remain one floor below, where the table-lands or meadows are more extended, and if left undisturbed will be found throughout the entire summer season feeding

in the same localities in bunches of ten to thirty, showing more of an inclination to be sociable than the old males. They seldom drop but one lamb. The rutting season is in November, and the lambs are dropped between April 1st and May 1st, though in the first week of August, 1897, I killed a lamb that I am sure could not have been more than six weeks old. In the second week in August I killed one that was fully four months old. The young rams, up to three years of age, are very unsettled in mind, and range back and forth between the pastures of the females to those of the old males, doing a great deal of travelling, and consequently never acquire as much flesh as the old rams. Like the caribou, they rarely go into the timber, but feed during the winter on the high plateaus, where the wind-swept ridges are usually free from deep snow. During stormy weather they seek shelter among the rocks, in nooks that are protected from the piercing wind.

WHITE MOUNTAIN SHEEP.—I first came into the range of the *Ovis dalli* to the north of Beaver River, heretofore described, and I have every assurance that this is their extreme southern range in the Rockies. I also learned beyond doubt that the *Ovis stonci* and *Ovis dalli* do not intermingle in any way, and that the entire coat of the *Ovis dalli* is white the year round. Specimens killed by me in the Rockies, or, more properly, the Nahannas, a spur of the Rockies, in the latter part of May, showed both the old and new coats, and both were white.

Further studies of these animals will be made in their northerly ranges.

MOUNTAIN GOAT.—White goats are much more plentiful in the Coast Range than in the interior, though they are found in most of the rugged mountains of the entire country travelled by me, with one notable exception. Extending northward from the Liard for a distance of 100 miles, the Indians invariably agreed that no white goats are found in the Rocky Mountain range. The Indians hunt them but little, yet they do not seem to be found anywhere in very large numbers.

BEARS.—The Sitka bear is plentiful on the lower Iskoot, the principal tributary of the Stickine.

The common brown bear is plentiful throughout the first 100 miles of the Stickine as you proceed from the coast, but farther inland, along my route, becomes rare.

Grizzly bears in considerable numbers are found in all the mountains.

Black bears are found everywhere, and in many districts are plentiful.

MISCELLANEOUS SPECIES.—Large black and gray wolves are everywhere more or less common.

The wolverine is found everywhere, but in limited numbers.

Few beavers are found in the Stickine Valley, but they are found plentifully along the Dease and Liard Rivers.

Marten are found almost everywhere in timbered districts.

Otter are occasionally met with, but in very limited numbers.

Mink occupy the coast country in large numbers, but are not so common in the interior.

Lynx are everywhere, sometimes in large numbers, and then they seem to gradually disappear, and will not again be plentiful for several years. The people who inhabit the country claim that during seasons of scarcity in the rabbit crop the lynx die off in large numbers.

Foxes are most numerous and prolific in a belt of country about 100 miles wide, just inside of and following the main coast range. It is claimed that their fur is of superior quality.

Porcupines are plentiful throughout the Stickine and Dease River country, but are found in very limited numbers in the Liard River country.

Marmots are found throughout all the mountain ranges.

The pine squirrel is found almost everywhere that spruce grows.

Muskrats are found in limited numbers on the Liard River.

Parmigan and several species of the grouse family are quite numerous.

CHARTER
OF THE
New York Zoological Society.

CHAPTER 435.

AN ACT to incorporate the New York Zoological Society and to provide for the establishment of a zoological garden in the city of New York.

Accepted by the city. Became a law April 26th, 1895, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. Charles A. Dana, Oswald Ottendorfer, Andrew H. Green, William H. Webb, Henry H. Cook, Samuel D. Babcock, Charles R. Miller, George G. Haven, J. Hampden Robb, Frederic W. De Voe, J. Seaver Page, Rush C. Hawkins, David James King, Wager Swayne, Charles A. Peabody, Jr., Charles E. Whitehead, Charles R. Flint, Samuel Parsons, Jr., Mornay Williams, Henry E. Gregory, Isaac W. Maclay, Isaac Rosenwald, Hugh N. Camp, Andrew D. Parker, Cornelius Van Cott, William F. Havemeyer, Frederick Shonnard, William W. Thompson, Alexander Hadden, Edward L. Owen, John H. Starin, Rush S. Huidekoper, William W. Goodrich, Albert H. Gallatin, Frederick S. Church, Edward C. Spitzka, Robert L. Niles, Madison Grant, C. Grant La Farge, William Van Valkenburg, and such other persons as may, under the provisions of its by-laws, become members of the corporation hereby created, are hereby created a body corporate and politic, by and under the name of the New York Zoological Society.

SEC. 2. Said corporation shall have power to establish and maintain in said city a zoological garden for the purpose of encouraging and advancing the study of zoology, original researches in the same and kindred subjects, and of furnishing instruction and recreation to the people, and may purchase and hold animals, plants and specimens appropriate to the objects for which said corporation is created.

SEC. 3. The managers of said corporation shall have power to make and adopt by-laws for the management and government of its affairs and business, for the admission, suspension and expulsion of its members, and for the terms and conditions of membership; to prescribe the number and mode of election of its officers; to define their duties; to provide for the safe-keeping of its property, and from time to time to alter and modify its by-laws.

SEC. 4. The affairs and business of said corporation shall be managed and controlled by a board of managers, the number of whom shall be prescribed by the by-laws. The first board of managers shall be divided by lot into three classes, equal in number, one of which classes shall hold office for one year, another for two years, and the other for three years; and all persons elected to be managers at any subsequent election shall hold office for three years, and until others are elected in their stead. There shall be a president, two vice-presidents, treasurer and secretary, to be elected by the board of managers annually, who shall hold office until others are elected in their stead. The first meeting under this act may be held at any time upon a notice of five days, signed by any five of the incorporators named in the first section of this act, fixing a time and place for such meeting, a copy whereof shall be mailed to each of said incorporators at his usual post-office address, and twelve of such incorporators shall be a quorum for the purpose of organization, adoption of by-laws and election of officers. No manager of said corporation shall receive any compensation for his services, nor be interested, directly or indirectly, in any contract concerning its property or affairs.

SEC. 5. Said corporation may raise money by the issue of its bonds, secured by a mortgage on any or all of its property not acquired from said city or state.

SEC. 6. Said corporation may take, purchase and hold real and personal estate necessary for the purpose of its incorporation, the net annual income of which shall not exceed fifty thousand dollars, and shall possess the general powers and be subject to the restrictions and liabilities prescribed in the third title of the eighteenth chapter of the first part of the revised statutes.

SEC. 7. The commissioners of the sinking fund of the said city are authorized in their discretion to allot, set apart and appropriate for the use of said corporation, any of the lands belonging to said city north of One Hundred and Fifty-fifth street, but not in the Central Park, and such appropriation may be revoked if, after the expiration of five years from the passage of the act, a zoological garden is not established thereon; said grounds thus set apart and appropriated shall be used for no purpose whatsoever except those aforesaid. As soon as any lands are set apart the Mayor of the said city of New York, and the President of the Department of Parks of said city, shall become and be ex-officio members of the board of managers of said corporation. If at any time the animals now composing the menagerie at Central Park shall be removed therefrom by the authorities having charge thereof, said authorities may make an arrangement with the incorporators named in this act or the corporation formed by them for leasing or sale of such animals to such incorporators or corporation, and said incorporators or corporation shall have a preference over any other person or corporation in respect thereto upon the same terms which said authorities could make with any such other person or corporation, or upon such other terms as to such authorities may seem proper, but nothing herein provided shall be construed as giving the

commissioners of the Department of Public Parks authority to sell, lease, transfer, or in any otherwise dispose of said animals or other property connected with or belonging to said menagerie.

SEC. 8. Admission to the said garden shall be free to the public for at least four days, one of which shall be Sunday, in each week, subject to such rules and regulations as shall be prescribed by said corporation.

SEC. 9. This act shall take effect immediately.

STATE OF NEW YORK,
OFFICE OF THE SECRETARY OF STATE, } ss:

I have compared the preceding with the original law on file in this office, and do hereby certify that the same is a correct transcript therefrom, and of the whole of said original law.

Given under my hand and the seal of office of the Secretary of State, at the city of Albany, this third day of May, in the year one thousand eight hundred and ninety-five.

ANDREW DAVIDSON,
Deputy Secretary of State.

{ L. S. }

BY-LAWS
OF THE
New York Zoological Society.

ARTICLE I.

MEETINGS OF THE SOCIETY.

SECTION 1. The office and place of business of the New York Zoological Society shall be in the City of New York, unless otherwise ordered.

SEC. 2. The Society shall hold its annual meeting for the election of Managers, and other business, on the second Tuesday of January, or such day thereafter during the month of January to which said annual meeting shall adjourn.

SEC. 3. Special meetings of the Society shall be called by the Secretary, upon the request of the President or the Chairman of the Executive Committee, or at the written request of ten members.

SEC. 4. Notices of all meetings shall be mailed to each member of the Society at least three days before such meeting.

SEC. 5. At meetings of the Society twenty members shall constitute a quorum.

SEC. 6. The order of business shall be as follows :

1. Roll call.
2. Reading of minutes not previously read.
3. Report of Executive Committee.
4. Report of Secretary.
5. Report of Treasurer.
6. Report of Director.
7. Election of Managers.
8. Communications.
9. Miscellaneous business.
10. Reports and resolutions.

ARTICLE II.

BOARD OF MANAGERS.

SEC. 1. The Board of Managers shall consist of thirty-six members, together with the Mayor of New York and President of the Park Board, or Commissioner for the Bronx, who shall be members *ex-officio* of the board.

SEC. 2. Nineteen managers shall constitute a quorum, but ten managers may transact current business, and adjourn, subject to the subsequent approval of a meeting at which a quorum shall be present.

SEC. 3. The Board of Managers shall hold an annual meeting on the third Tuesday of January, or on such day thereafter to which said annual meeting shall adjourn. Regular meetings of the Board may also be called by the Secretary on the third Tuesdays of October and April, upon the request of the President or Chairman of the Executive Committee. Special meetings of the Board shall be called at any time by the Secretary, upon the request of the President or the Chairman of the Executive Committee, or at the written request of five Managers.

SEC. 4. Notices of meetings of the Board shall be mailed to each Manager at least three days before such meetings.

SEC. 5. The successors to the outgoing class of Managers shall be elected by the Society at its annual meeting, but vacancies in the Board may be filled for the unexpired term by the Board of Managers, or by the Executive Committee.

SEC. 6. A Nominating Committee shall be annually appointed by the Executive Committee, and shall consist of three members of the Society at large, who shall nominate and post ten days before the annual election the names of twelve persons to succeed the outgoing class of Managers in a conspicuous place in the office of the Society.

SEC. 7. No person shall be eligible for election to the Board of Managers, except to fill vacancies, unless his name shall have been posted as a candidate by such Committee, or by not less than ten members, in writing, in a conspicuous place in the office of the Society ten days before the annual election.

SEC. 8. Any Manager who shall fail to attend three consecutive meetings of the Board, unless excused by vote of the Board, shall cease to be a Manager.

SEC. 9. The Board of Managers shall at its annual meeting elect a President, two Vice-Presidents, a Secretary and a Treasurer, who shall hold office for one year, or until their successors are elected. The President, Vice-Presidents and Treasurer shall be members of the Board.

SEC. 10. The Director of the Zoological Park, and all other persons employed by the Society, shall be appointed by the Board or by the Executive Committee, and shall hold office during the pleasure of the Board.

SEC. 11. The Board shall, at its annual meeting, elect an Executive Committee and Auditing Committee, which shall hold office for one year, or until their successors are elected. The Board of Managers and the Executive Committee shall also have authority to appoint such other Committees or Officers as they may at any time deem desirable, and to delegate to them such powers as may be necessary.

SEC. 12. The order of business of the meetings of the Board shall be as follows :

1. Roll call.
2. Reading of minutes not previously read.
3. Report of Executive Committee.
4. Report of Secretary.
5. Report of Treasurer.

6. Report of Auditing Committee.
7. Report of Director.
8. Election of Officers.
9. Election of Committees.
10. Election of new members.
11. Communications.
12. Miscellaneous business.

SEC. 13. All reports and resolutions shall be in writing, and the ayes and nays may be called on any resolution at the request of one Manager.

SEC. 14. Whenever the funds of the Society shall permit, the Board of Managers or the Executive Committee may award medals or other prizes for meritorious work connected with the objects of the Society.

ARTICLE III.

OFFICERS.

SEC. 1. The officers of the Society shall consist of a President, two Vice-Presidents, a Treasurer, a Secretary and a Director of the Zoological Park. These officers, with the exception of the Director, shall be elected at the annual meeting of the Board of Managers, but any vacancy may be filled for an unexpired term by the Board of Managers, or by the Executive Committee, until the next annual election.

SEC. 2. The President shall preside at all meetings of the Board and of the Society, and shall be *ex-officio* a member of the Executive and Auditing Committees.

SEC. 3. The Vice-Presidents shall, in the absence of the President, perform his duties and possess his powers, acting in the order of their election.

SEC. 4. The Treasurer shall receive, collect and hold, subject to the order of the Board of Managers, or the Executive Committee, all dues, subscriptions, fees and securities. He shall pay all bills as ordered by the Board of Managers or the Executive Committee, and shall report to the Society at its annual meeting, and to the Board of Managers at all regular meetings and to the Executive Committee at each meeting. He shall keep all moneys and securities in some bank or trust company to be approved by the Board of Managers or Executive Committee. The books of the Society shall at all times be open to the inspection of the Managers.

SEC. 5. The Secretary shall be a salaried officer of the Society. He shall be present, unless otherwise relieved by the Board or Executive Committee, at all meetings of the Society, of the Board and of the Standing Committees. He shall keep a careful record of all proceedings, shall have the custody of the seal, archives and books, other than books of account, and shall conduct the correspondence of the Society. He shall issue all notices and tickets and shall perform such other duties as the Board may direct. He shall be a member *ex-officio* of the Executive and Auditing Committees and of the Scientific Council.

SEC. 6. The Director of the Zoological Park shall be elected annually by the Executive Committee at a salary to be determined by said Commit-

tee, and paid monthly from funds of the Society.* He shall be the responsible administrative officer of the Park, and shall recommend to the Executive Committee candidates for the various positions in the Park. He shall also perform all such other duties in connection with the business, scientific and literary administration of the Society as may be assigned to him by the Executive Committee.

ARTICLE IV.

COMMITTEES.

SEC. 1. There shall be two standing committees, the Executive Committee and the Auditing Committee, which shall hold office for one year or until their successors are elected.

SEC. 2. The Executive Committee shall consist of seven Managers, together with the President and Secretary of the Society *ex-officio*. Four members shall constitute a quorum, and all meetings shall be called by the Chairman. The Executive Committee shall fill all vacancies in its own number and shall have the full powers of the Board of Managers, except so far as such delegation of power may be contrary to law.

SEC. 3. The Executive Committee shall have the control and regulation of the collections, library and all other property of the Society, and shall have power to purchase, sell and exchange specimens and books, to employ and control all officials and employees of the Society and Park, and generally to carry out in detail the directions of the Board of Managers and the terms of any contract between the City, or Park Board, and the Society.

SEC. 4. All the rules and regulations for the examination of applicants for the various positions in the Park shall be made or approved by the Executive Committee.

SEC. 5. The Executive Committee may regulate the auditing and payment for all current accounts.

SEC. 6. The Executive Committee shall annually appoint a Nominating Committee, whose duties and powers are set forth in Sections 6 and 7, Article II. of these By-Laws.

SEC. 7. It shall also appoint a Scientific Council whose powers and duties are set forth in Section 2 of Article V. of the By-Laws.

SEC. 8. The Committee shall make a written report at each regular meeting of the Board of Managers.

SEC. 9. The Auditing Committee shall consist of three regular members of the Society, in addition to the President and Secretary, members *ex-officio*, and vacancies shall be filled by the Executive Committee. It shall be the duty of the Auditing Committee to audit, annually, the accounts of the Treasurer and of the Director, and any other accounts of the Society, and shall report to the Board of Managers at its annual meeting.

*Until such time as he enters fully upon his public administrative duties.

ARTICLE V.

SCIENTIFIC COUNCIL.

SEC. 1. The Executive Committee shall annually appoint a Scientific Council of not more than ten members, and shall fill all vacancies. Members of the Council shall hold office until their successors are appointed.

SEC. 2. The duties of the Council shall be to act as an advisory board in all matters pertaining to the scientific administration of the Society, and especially as to the scientific features of the Park, the promotion of zoology by publications and otherwise, and the preservation of the native fauna of America.

SEC. 3. Four members, including the Chairman, shall constitute a quorum. The Chairman shall be elected annually by the Council. The Secretary of the Society shall be a member and Secretary *ex-officio* of the Council.

ARTICLE VI.

MEMBERS.

SEC. 1. The present members and such others as shall become associated with them, under the conditions prescribed by the By-Laws, shall be members of this Society as long as they shall comply with the By-Laws.

SEC. 2. Members failing to comply with these By-Laws, or for other good and sufficient cause, may be expelled from the Society by the Executive committee.

SEC. 3. Candidates for membership shall be proposed and seconded by members of the Society. The name, occupation and place of residence of every member so proposed shall be submitted for election to the Board of Managers or the Executive Committee, and such person, when elected, shall become a member upon payment of the annual dues, or of the fees as prescribed below.

SEC. 4. The annual dues shall be ten dollars, payable in advance, on the first day of May of each year, but the Executive Committee may remit the dues for the current year in the case of members elected between January 1st and May 1st of each year. The classes of membership shall be as follows:

SEC. 5. The payment of \$200 at one time shall constitute any member a Life Member.

SEC. 6. The payment of \$1,000 at one time, or in the case of a Life Member, of \$800, shall constitute any member a Patron.

SEC. 7. The payment of \$2,500 at one time, or in the case of a Patron of \$1,500, or of a Life Member of \$2,300, shall constitute any member an Associate Founder.

SEC. 8. Any member who shall donate to the Society \$5,000, or property of equal value, or any Associate Founder who shall donate \$2,500, or any Patron who shall donate \$4,000, may be elected by the Board of Managers or Executive Committee a Founder.

SEC. 9. Any member who shall donate to the Society \$25,000, or any Founder who shall donate \$20,000, may be elected by the Board of Managers or Executive Committee a Benefactor.

SEC. 10. Persons who have rendered marked service in the science of zoology or natural history may be elected Honorary Members, but not more than three such Honorary Members shall be elected in any one calendar year.

SEC. 11. Residents who have rendered scientific services to the Society, or marked services in zoology or natural history, may be elected as Permanent Fellows.

SEC. 12. Non-residents who communicate valuable information to the Society, or who have rendered marked service in the science of zoology or natural history may be elected Corresponding Members.

SEC. 13. Benefactors, Founders, Associate Founders, Patrons, Life Members, Honorary Members, Permanent Fellows and Corresponding Members shall be exempt from annual dues.

ARTICLE VII.

PRIVILEGES OF MEMBERS.

SEC. 1. A member's ticket admits the member and his immediate family to the Park on reserve days, and to all lectures and special exhibitions, and may be used by the member's immediate family, and shall be good for the current year.

SEC. 2. Admission tickets, each admitting two persons on reserve days, are issued to members for distribution, and are good for the current year.

SEC. 3. Each member of the Society is entitled annually to a member's ticket and to ten admission tickets.

SEC. 4. Each member shall also receive one copy of the catalogue or handbook, the report and official publications of the Society, and shall have all the privileges of the Library and Members' Building.

SEC. 5. No member shall be entitled to the privileges enumerated in this Article unless his annual dues shall have been paid.

SEC. 6. The Life Members shall have all the privileges of Members and ten additional admission tickets.

SEC. 7. Benefactors, Founders, Associate Founders and Patrons shall have all the privileges of Life Members, and shall in addition receive copies of all scientific works published by the Society.

SEC. 8. Any member who shall fail to pay his annual dues within three months after the same shall have become due, and after notice of thirty days, by mail, shall cease to be a member of the Society; subject, however, to reinstatement by the Board of Managers or Executive Committee for good cause shown.

SEC. 9. Any person elected to membership who shall fail to qualify within three months after notice of his election shall be considered to have declined his election; but such term may be extended by the Board of Managers or Executive Committee.

ARTICLE VIII.

FINANCES.

SEC. 1. The fiscal year of the corporation shall be the calendar year commencing January 1st and ending December 31st.

SEC. 2. Neither the Society nor any of its Managers or Officers shall contract any debt which, with existing debts, shall exceed in amount the funds then in the Treasury.

ARTICLE IX.

AMENDMENTS.

SEC. 1. Amendments to these By-Laws may be proposed, in writing, at any meeting of the Board of Managers, and adopted by unanimous consent of the Managers present, or if such proposed amendment shall fail to receive unanimous consent, the Secretary shall, with the notices of the next meeting, send a copy of it to each Manager and state that it will be brought up for action at such meeting, when it may be passed by a majority vote.

GRANT OF SOUTH BRONX PARK

TO THE

New York Zoological Society.

At a special meeting of the Commissioners of the Sinking Fund, City of New York, held on March 24, 1897, a resolution was passed allotting South Bronx Park for the use of the New York Zoological Society upon conditions entirely satisfactory to the Society.

The full text of the resolution is as follows :

WHEREAS, by chapter 435 of the Laws of 1895, entitled "An act to incorporate the New York Zoological Society and to provide for the establishment of a Zoological Garden in the City of New York," it is provided that the Commissioners of the Sinking fund of the City of New York are authorized in their discretion to allot, set apart and appropriate, for the use of said corporation, any of the lands belonging to said city north of 155th Street, but not in Central Park,

RESOLVED, that the said Commissioners of the Sinking Fund do hereby allot, set apart and appropriate for the use of said corporation, a tract of land in the southern portion of Bronx Park, embracing an area of about 261 acres, and consisting of so much of said park as lies south of Pelham Avenue, upon the following terms and conditions, to wit :

First. That said grounds thus set apart and appropriated, shall be used for no other purpose whatsoever except for the purposes of said Zoological Garden as the same are specified in the act aforesaid, and that said appropriation of said lands hereby made shall be revoked if, after the expiration of three years from the date of the commencement of the work by the Park Department for the necessary improvement of the grounds as referred to and described in the sixth paragraph of this Resolution, a Zoological Garden is not established upon said tract of land.

Second. That the original equipment of buildings and animals for said Zoological Garden shall be paid for from funds contributed by the New York Zoological Society, and that said Society shall, before it enters into occupation of the allotted land and within one year from the date of this Resolution, raise one hundred thousand dollars by subscription, and within three years from the date of the commencement of the work by the Park Department for the necessary improvement of the grounds as referred to and described in the sixth paragraph of this Resolution, the further sum of at least one hundred and fifty thousand dollars. If the said Society shall fail or neglect to raise said funds within the periods respectively fixed therefor,

it shall, on demand of the Commissioners of the Sinking Fund, surrender to the City of New York the land allotted to it as a site for said Garden, and all improvements made thereon. The said Society shall not mortgage its buildings or animals, or any of its property within said Garden, which is directly or indirectly maintained by the City of New York.

Third. The said Zoological Society shall have the power to establish an endowment fund from the donations and bequests, which fund shall be used solely, unless otherwise specified by the donors thereof, for the general uses and purposes of said Society. The funds of said Society, other than the sums contributed to said endowment fund, shall be expended upon buildings and other enclosures for animals, for the collections of animals, and for the general purposes of the Society. Among the funds thus to be expended shall be the subscriptions of members, life members and patrons, and all cash donations to said Society, other than those made for the purposes of the endowment fund, and all moneys derived from the sale of animals; and the net proceeds of the privileges that may be developed in said Garden, such as refreshments, boating, riding animals, the sale of photographs, etc., shall be used for, and expended in the increase of the collections; and payments from the funds of such Society, including the endowment fund, shall be made directly from the treasury of the Society.

Fourth. The library, pictures, maps, office furniture, and other movable property purchased and owned by the Society shall remain the property of the Society, and excepting living animals, may be removable at will, and every piece of such property shall bear a distinguishing mark. But no buildings, aviaries or cages may be sold or removed by said Society without the written consent of the Board of Parks. All property paid for from the maintenance fund, hereinafter referred to, shall belong to the City.

Fifth. So long as the said Society is entrusted with the control and management of the said Zoological Garden, and the city provides for the proper maintenance and care of the animals and collections therein, the said Society shall not remove any of its animals or collections for exhibition elsewhere without the consent of the Board of Parks, but if the City shall ever cease to provide for the proper maintenance and care of the said animals and collections, the said Zoological Society shall have the right, upon giving three months' notice in writing to the Board of Parks, to remove the said animals and collections owned by it. The said Society shall have the right to improve its collections by the exchange of animals, and also by the sale of animals not needed for exhibition; but all moneys derived from such sale or exchange of animals shall be used only for the purpose of increasing said collections.

Sixth. The City of New York shall annually provide the necessary funds for the maintenance and care of the Zoological Garden, its buildings, inclosures and other improvements made from time to time therein, and the animals and collections of said Society; but the appropriation for the first year is not to exceed Sixty thousand dollars (\$60,000). It shall be the duty of the City to provide from such sums or appropriations, as may be applicable thereto, the cost of the necessary improvement of the ground

prior to the erection of buildings and inclosures, including such roads, walks, fences, grading, water supply, drainage and heating as may be or become necessary for the proper development of said Zoological Garden, all of which work of preparation and construction shall be performed in conformity with the plans therefor to be agreed upon between the Park Department and the Zoological Society. The said City shall also furnish the necessary supply of water, and adequate police patrol and protection, and the salaries of all persons employed directly in the service and development of the Zoological Garden shall be paid from the maintenance fund, and from such other funds as may be available for and applicable to the purpose. Payments from the maintenance fund shall be made upon vouchers filed with the Comptroller and drawn in such form as he may direct; and said Society shall annually render to the Mayor of the City of New York, a report showing all expenditures during the year then past, made on account of the said Zoological Garden, all revenues and resources thereof, a statement of the number of the members of said Society, of the donations received and of the number of animals in the Garden, the chief items of improvement made during the year, and all other information that the said Mayor may require.

Seventh. The Park Department shall at all times have access to the grounds, buildings and other inclosures of the said Zoological Society for general police visitation and supervision, and for all other lawful purposes. Prior to the commencement of any work on said Garden the general plan therefor shall be submitted to and approved by the Park Board, and all subsequent plans for buildings, roadways and paths shall also be so submitted and approved. No living tree shall be cut down or removed, except by the express authority of said Park Department, but the said Zoological Society shall have the right to remove dead trees and such bushes as it may be necessary to remove in the preparation of inclosures for animals, or in making other improvements. The said Department of Parks shall plant such and so many shade trees, aquatic plants, shrubs and flowers as may be necessary to enhance and secure the seclusion, beauty and usefulness of the park, and shall do and perform all the work of gardening necessary to carry out the general plan of improvement and the subsequent plans as may be agreed upon between the said Zoological Society and the said Department of Parks.

Eighth. The said Zoological Garden and its collections shall be free to the public without the payment of any admission fee or gratuity whatsoever for not less than seven hours a day on at least five days of the week, one or which shall be Sunday, and also on all legal holidays and half holidays, subject to such reasonable regulations as may be made by said Society, but the said Society may close the area devoted to the collections of animals on not more than two days in each week, and on such days may charge an admission fee which shall be fixed by said Society, and all moneys derived from such admission fees shall be expended by said Society in the increase of the collections or in the improvement of said Garden or its buildings; but the portion of the grounds situate east of Boston Road, and all the Bronx River below the Boston Road bridge shall be open to the public

at all times as pleasure grounds, subject to such reasonable regulations as may be adopted by said Society with the approval of the Park Department, and the occupancy of that portion of the park by herds of animals or by collections, shall be subject to the consent of the Park Department.

Ninth. The said Zoological Society shall have the right and power to appoint, direct, control and remove all persons and officers employed by them in and about the Zoological Garden, and to fix the salaries of such persons and officers and to make promotions, but all regular employees shall be chosen, and their salaries fixed and promotions made, by reason of special fitness and ability.

Tenth. Subject to the conditions hereinbefore contained, the said Zoological Society shall exercise entire control and management over all the affairs of the said Zoological Garden.

ACT PROVIDING FOR GROUND IMPROVEMENTS IN THE ZOOLOGICAL PARK.

CHAPTER 510.

AN ACT to provide for the improvement of a portion of Bronx Park in the City of New York to be allotted and set apart to the New York Zoological Society.

Accepted by the City. Became a law May 18, 1897, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows :

SECTION 1. Whenever the commissioners of the sinking fund of the city of New York shall, pursuant to the provisions of section seven of an act entitled "An act to incorporate the New York Zoological Society, and to provide for the establishment of a zoological garden in the city of New York, being chapter four hundred and thirty-five of the laws of eighteen hundred and ninety-five," allot, set apart and appropriate for the uses of the said corporation, a portion of Bronx park, in the city of New York ; and in making such allotment shall by contract executed between the said commissioners of the sinking fund and the said zoological society, or otherwise, fix the terms and conditions upon which said land shall be so allotted, and thereafter had, used and occupied, pursuant to the provisions of the said act ; the department of public parks in the city of New York shall forthwith make such improvements upon the said portion of Bronx park so allotted, set apart and appropriated as shall be necessary to provide proper sites for the buildings and fenced enclosures for the animal collections of said society, and for the use of said land in carrying out the objects and purposes of the said society and for the accomodation of the public ; roads and approaches ; the excavation and construction of pools and ponds ; the grading of building sites and other parts of said land ; the construction of a system of drains and sewers ; the construction of water supply and heating plants ; the erection of the necessary fences and guard-rails or barriers ; the macadamizing or paving of enclosures for large animals, the construction of suitable entrances ; planting of trees, shrubs and plants, and at least two buildings for the public comfort, and in addition such other changes or improvements as may be deemed necessary for the use of said ground as a public zoological garden or park, by said society pursuant to the provisions of said act ; and the conditions or provisions on which the same has been allotted to or is held by said society.

SEC. 2. Such improvements, construction and erections shall be made pursuant to general plans to be made and prepared by said the New York Zoological society, when approved by said department of public parks ;

and no work shall be performed upon the said land pursuant to the provisions of this act until such plans have been presented to and approved by the said commissioners, nor until specifications shall have been made to carry out the same, in like manner approved by the said department of public parks; nor except in accordance with such plans and specifications as so approved; nor until the said zoological society shall have raised by subscription or otherwise the sum of one hundred thousand dollars for the prosecution of its work, and the same shall have been actually paid in to said society or secured to the satisfaction of said commissioners of public parks.

SEC. 3. For the purpose of providing means for carrying into effect the provisions of this act, it shall be the duty of the comptroller of the city of New York, upon being thereunto authorized by the board of estimate and apportionment of the city of New York, to issue and sell consolidated stock of the city of New York at such rate of interest as may be fixed by the comptroller of said city, not exceeding four per centum per annum, as said board of estimate and apportionment may from time to time prescribe. The said stock shall provide for the payment of the principal and interest thereof in gold coin of the United States of America, and shall be free from taxation and be redeemable within a period not exceeding forty years from the date of its issue. The same shall not be sold for less than the par value thereof, and the proceeds thereof shall be paid out and expended for the purposes hereinabove indicated, and for which the same are issued, upon vouchers certified by the department of public parks. The aggregate amount of said stock to be issued under the provisions of this act shall not exceed one hundred and twenty-five thousand dollars.

SEC. 4. All acts or parts of acts inconsistent with the provisions hereof are hereby repealed.

SEC. 5. This act shall take effect immediately.

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Annual report.
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