

STATE OF MICHIGAN.

FOURTH REPORT

OF THE

STATE COMMISSIONERS

AND

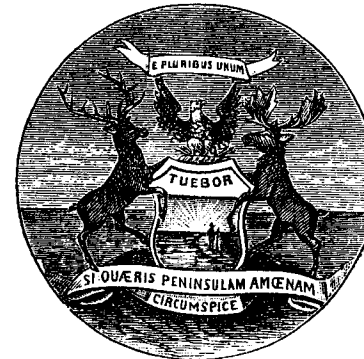
SUPERINTENDENT

ON

STATE FISHERIES

FOR 1879-1880,

ENDING DECEMBER 1, 1880.



BY AUTHORITY.

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1881.

FOURTH BIENNIAL REPORT
OF THE
COMMISSIONERS AND SUPERINTENDENT
OF THE
MICHIGAN STATE FISHERIES.

To His Excellency DAVID H. JEROME,
Governor of the State of Michigan:

The Board of the State Fish Commissioners, in compliance with their official duty, herewith transmit their fourth biennial report upon the results and successes of their work, covering a period extending from December 20, 1879, to December 1, 1880.

For an exhibit of the causes which have so largely, and still are operating to a great degree, to deplete our public waters of their fish, with the importance of each species to the public want for food supply, and general characteristics with their adaptation and importance to the different portions of our noble State, we would refer you to the three previous biennial reports, in which these have been fully discussed.

Only two new varieties have been introduced during the period covered by this report,—the German carp and California trout. Special mention will be given them further on.

At the close of the last report, Dec. 16, 1878, we had upon our trays, and in our automatic jars, at the Detroit hatchery, about seventeen million white-fish eggs (see tabulated statement A). At the Pokagon hatchery, one hundred and seventy-five thousand California salmon (B). Four hundred thousand salmon or lake trout (C). Three hundred thousand brook trout eggs (D).

On April 15th, 1879, this stock was increased by the arrival at the latter hatchery, of forty thousand Schoodic or land lock salmon eggs (E), apportioned to Michigan by Prof. Spencer F. Baird, U. S. Commissioner.

A very creditable work was also accomplished in planting eels (F).

FOURTH REPORT—STATE FISHERIES.

WHITEFISH (*Corregonus albus*).

TABLE A.—Showing the Plant of the Hatch of 1878-9.

COUNTY, AND NAME OF LAKE.	Township in which Located.	Date of the Deposit.	Name and Address of the Depositor.	Number of Fish.
<i>Allegheny Co.</i>				
Miner.....		April 3, 1879.	W. W. Vosburgh, Allegheny.	45,000
Minkler.....		" 3, 1879	" " " "	15,000
Base Line.....		" 3, 1879	" " " "	45,000
Sixteen.....		" 3, 1879	" " " "	30,000
Witmore.....		" 3, 1879	" " " "	20,000
Dumont.....		" 3, 1879	" " " "	45,000
<i>Antrim Co.</i>				
Grass.....		April 16, 1879.	Wm. Ketchum, Mancelona.	45,000
<i>Berrien Co.</i>				
Salmon.....	Berrien.....	March 29, 1879	C. H. Brownell, Pokagon.	30,000
Tinkham.....	Niles.....	" 29, 1879	Porter Tinkham, Sumner's l.	15,000
Clear.....	Bertrand.....	" 29, 1879	H. A. Swartz, Niles.	30,000
Big Paw Paw.....	Watervliet.....	April 9, 1879.	H. Pierce, Watervliet.	100,000
<i>Branch Co.</i>				
Morrison.....		April 1, 1879.	J. E. Perry, Girard.	45,000
<i>Calhoun Co.</i>				
Town Line.....		March 29, 1879	H. Willis, Battle Creek.	25,000
St. Mary.....		" 29, 1879	H. H. Hubbard, Battle Creek.	30,000
Turtle.....	Burlington.....	April 5, 1879.	S. S. Wemple, Union City.	40,000
Copanacon.....	Le Roy.....	March 29, 1879	H. H. Hubbard, Battle Creek.	25,000
Steamburg.....		" 29, 1879	H. D. Bushnell, Battle Crk.	30,000
East.....	Tekonsha.....	April 5, 1879.	A. D. Eldred, Tekonsha.	40,000
West.....	"	" 5, 1879	" " " "	40,000
Mud.....	"	" 5, 1879	" " " "	40,000
Shedd's.....	"	" 5, 1879	" " " "	40,000
Warner's.....	"	" 5, 1879	B. Ellis, Jr., "	40,000
Lane's.....	"	" 3, 1879	G. W. Briggs, Marshall.	40,000
Alcott.....	"	" 3, 1879	" " " "	40,000
Brace.....	"	" 3, 1879	" " " "	40,000
Nottawa.....	"	" 3, 1879	" " " "	40,000
Fish.....	"	" 3, 1879	" " " "	40,000
<i>Cass.</i>				
Laferty.....	Mason.....	April 5, 1879.	John H. Keene, Cassopolis.	100,000
Long.....	Porter.....	" 1, 1879.	G. Meacham, Union.	40,000
Baldwin.....	"	" 1, 1879.	" " " "	30,000
Indiana.....	"	" 1, 1879.	" " " "	30,000
Pine.....	Howard.....	" 5, 1879.	R. Rose, Edwardsburg.	40,000
Big Wood.....	Porter.....	" 5, 1879.	S. Shivel, Constantine.	40,000
Little Wood.....	"	" 5, 1879.	" " " "	20,000
Birch.....	"	" 5, 1879.	J. F. Merritt, Williamsville.	60,000
Barron.....	Howard.....	March 29, 1879	B. Cousins, Niles.	40,000
<i>Clare.</i>				
Crooked.....	Surrey.....	March 19, 1879	H. B. Roney, East Saginaw.	150,000
Roney.....	"	" 19, 1879	" " " "	30,000
<i>Grand Traverse.</i>				
Crooked.....	Traverse.....	April 13, 1879	W. Chandler, G'd Traverse.	90,000
Spider.....	"	" 13, 1879	J. C. Boughton, "	80,000
Selon.....	"	" 15, 1879	H. D. Campbell, "	80,000
<i>Hillsdale.</i>				
North Sand.....		" 1, 1879	G. W. Underwood, Hillsdale.	40,000
South Sand.....		" 1, 1879	" " " "	40,000

FOURTH REPORT—STATE FISHERIES.

WHITE FISH HATCH AND DEPOSITS OF 1878-9.—Continued.

COUNTY, AND NAME OF LAKE.	Township in which Located.	Date of the Deposit.	Name and Address of the Depositor.	Number of Fish.
<i>Hillsdale.</i>				
Middle.....		April 1, 1879	G. W. Underwood, Hillsdale.	20,000
Duck.....	South Allen.....	" 1, 1879	A. I. Darling, Allen.	80,000
<i>Jackson.</i>				
Crispell.....	Liberty.....	March 29, 1879	J. Crispell, Liberty.	30,000
<i>Kalamazoo.</i>				
Gourdneck.....		" 29, 1879	H. C. Dallaway, Kalamazoo.	40,000
Bodfish.....	Ross.....	" 29, 1879	S. Howland, Galesburg.	40,000
Blue.....	Charleston.....	" 29, 1879	F. Hodgman, Climax.	25,000
<i>Kalamazoo.</i>				
Long.....	Springfield.....	April 15, 1879	W. R. Fuller, Fife Lake.	40,000
<i>Kent.</i>				
Pine Island.....	Plainfield.....	" 3, 1879	F. Port, Belmont.	60,000
Scotch.....	"	" 3, 1879	" " " "	60,000
Nagle.....	Vergennes.....	March 22, 1879	E. W. Dodge, Lowell.	60,000
<i>Lapeer Co.</i>				
Upper Twin.....		" 19, 1879	C. W. Fuller, Baldwin.	25,000
Lower Twin.....		" 19, 1879	" " " "	25,000
Star.....		" 19, 1879	G. N. Jones, "	70,000
<i>Lapeer Co.</i>				
Bailey.....	Hadley.....	" 25, 1879	Wm. Hemingway, Lapeer.	30,000
Wolf.....	Metamoras.....	" 25, 1879	A. B. Coryell, Thomas.	20,000
Pitcher.....	"	" 25, 1879	" " " "	10,000
Teepie.....	"	" 25, 1879	" " " "	10,000
Horton.....	Oregon.....	" 25, 1879	R. Bowden, Lapeer.	20,000
Hemingway.....	Marathon.....	" 25, 1879	J. D. Brown, Columbiaville.	50,000
<i>Livingston Co.</i>				
Half Moon.....	Putnam.....	" 29, 1879	J. H. Cook, Pinckney.	45,000
Walker's.....	Hamburg.....	" 27, 1879	C. D. Stewart, Brighton.	30,000
Appleton.....	"	" 27, 1879	H. B. Appleton, "	25,000
School.....	Brighton.....	" 27, 1879	L. Hicks, "	25,000
Maxfield.....	Hartland.....	" 20, 1879	H. S. Holdridge, Highland.	40,000
Long.....	"	" 20, 1879	" " " "	40,000
Lee.....	"	" 20, 1879	R. H. Tenny, "	40,000
Fonda.....	Brighton.....	" 27, 1879	P. B. Holdridge, Brighton.	30,000
Island.....	Green Oak.....	" 27, 1879	" " " "	40,000
Briggs.....	"	" 27, 1879	L. B. Fonda, "	30,000
Flickerel.....	Brighton.....	" 27, 1879	" " " "	30,000
Drews.....	"	" 27, 1879	G. Bashford, Howell.	20,000
Thompson.....	Howell.....	" 27, 1879	C. G. Jewett, "	40,000
Long.....	"	" 27, 1879	" " " "	20,000
Urooked.....	Howell.....	" 27, 1879	" " " "	20,000
Cedar.....	Marion.....	" 27, 1879	D. O. Smith, "	40,000
Lakes.....	"	" 27, 1879	" " " "	30,000
Beardsley.....	"	" 27, 1879	P. L. Reed, "	15,000
Webster.....	Genoa.....	" 27, 1879	Geo. Gale, "	20,000
Gale.....	"	" 27, 1879	" " " "	15,000
Triangle.....	"	" 27, 1879	E. Gaston, Marion.	30,000
Ore.....	Hamburg.....	" 20, 1879	C. Thompson, Brighton.	100,000
Mort.....	"	" 20, 1879	" " " "	20,000
Lime.....	Genoa.....	" 20, 1879	" " " "	10,000
Noble.....	"	" 20, 1879	" " " "	10,000
Worden.....	"	" 20, 1879	B. T. O. Clark, "	10,000

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WHITEFISH HATCH AND DEPOSITS OF 1878-9.—Continued.

COUNTY, AND NAME OF LAKE.	Township in Which Located.	Date of the Deposit.	Name and Address of the Depositor.	Number of Fish.
<i>Livingston.</i>				
Kellogg.....		" 20, 1879	B. T. O. Clark, Brighton.....	20,000
Round.....		" 20, 1879	" " ".....	15,000
Niger.....	Genoa.....	" 20, 1879	" " ".....	15,000
<i>Montcalm.</i>				
Loon.....	Eureka.....	March 27, 1879	B. B. Crawford, Greenville.....	40,000
<i>Oakland.</i>				
Walnut.....	W'st Bloomfield.....	" 22, 1879	J. A. Bigelow, Birmingham.....	60,000
Wing.....	Bloomfield.....	" 22, 1879	" " ".....	40,000
Gilbert.....	".....	" 22, 1879	L. B. Peabody, ".....	40,000
Woodhull.....	Waterford.....	" 22, 1879	W. K. Vansyckle, Drayton P's.....	40,000
Sears.....	Milford.....	" 20, 1879	R. H. Tenny, Highland.....	40,000
Tenny.....	".....	" 20, 1879	" " ".....	40,000
Dunham.....	Highland.....	" 20, 1879	" " ".....	40,000
Andrus.....	".....	" 20, 1879	H. S. Holdridge ".....	40,000
Hopkins.....	".....	" 20, 1879	" " ".....	25,000
Rowe.....	".....	" 20, 1879	" " ".....	25,000
Lewis.....	Highland.....	" 20, 1879	" " ".....	40,000
Honewell.....	Milford.....	" 20, 1879	" " ".....	40,000
Stony.....	Oxford.....	" 25, 1876	T. L. Pierce, Oxford.....	40,000
Long.....	Springfield.....	" 22, 1879	E. A. Botsford, Davisburg.....	40,000
Union.....	W'st Bloomfield.....	" 22, 1879	D. B. Allen, 4 Towns.....	40,000
Eagle.....	Brandon.....	April 24, 1879	P. L. McIntire, Ortonville.....	40,000
Orion.....	Orion.....	March 25, 1879	C. K. Carpenter, Orion.....	80,000
<i>Ogemaw.</i>				
Clear.....	Klacking.....	April 24, 1879	E. T. Slayton, Beaver Lake.....	60,000
<i>Roscommon.</i>				
Higgins.....		" 24, 1879	G. W. Love, Roscommon.....	200,000
<i>Shiawassee.</i>				
Euler.....		March 22, 1879	J. E. Martenis, Byron.....	40,000
Kranouse.....		" 22, 1879	" " ".....	40,000
<i>Van Buren.</i>				
Hazy.....	Porter.....	" 29, 1879	J. Elyea, Lawton.....	30,000
Eagle.....	Paw Paw.....	" 29, 1879	C. Engle, Paw Paw.....	30,000
Mud.....	Autwerp.....	" 29, 1879	" " ".....	15,000
Wolf.....	".....	" 29, 1879	P. Buckhout, Kalamazoo.....	30,000
Taylor.....	Lawrence.....	" 29, 1879	L. Alden, Lawrence.....	25,000
Three Mile.....	Paw Paw.....	" 29, 1879	A. J. Sartore, Niles.....	40,000
<i>Washtenaw Co.</i>				
Blind.....	Lyndon.....	" 29, 1879	J. H. Cook, Pinckney.....	30,000
Independence.....	Webster.....	" 29, 1879	W. Low, Webster.....	40,000
Total deposits in the inland Lakes.....				4,790,000

FOURTH REPORT—STATE FISHERIES.

WHITEFISH HATCH AND DEPOSITS OF 1878-9.—Continued.

LAKE.	Place of Deposit.	Date of Deposit.	No. Fish.
Lake Erie.....	Two or three miles from the city of Monroe, in deep water.....	April 19, 1879	340,000
Lake Huron.....	In Saginaw Bay.....	" 12, 1879	350,000
Lake Michigan.....	At the mouth of St. Joseph River.....	" 17, 1879	245,000
" ".....	At Grand Haven in deep water.....	" 8, 1879	360,000
" ".....	" " ".....	" 14, 1879	350,000
St. Clair River.....	At Port Huron.....	" 21, 1879	340,000
" ".....	" " ".....	" 11, 1879	305,000
Detroit River.....	At Ives & Green's dock.....	" 17, 1879	350,000
" ".....	At various points on the river from yacht of J. P. Clark.....	Mar. Apr. 1879	5,550,000
" ".....	At A. M. Campau's fishery.....	" 1879	1,025,000
" ".....	At Belle Isle.....	Apr. 8, 9, 1879	400,000
" ".....	" " ".....	" 22, 23, 1879	140,000

SUMMARY OF WHITEFISH DEPOSITS.

Total deposits in the inland lakes.....	4,790,000
Lake Erie.....	340,000
Lake Michigan.....	1,050,000
Lake Huron.....	595,000
St. Clair River.....	655,000
Detroit River.....	7,115,000
Total deposits of whitefish for the year.....	14,545,000

FOURTH REPORT—STATE FISHERIES.

CALIFORNIA SALMON (*Salmo gairdneri*).

TABLE B.—Plant of 1879.

DATE OF DEPOSIT.	Lake, Stream, or River.	County Where Planted.	By Whom Deposited.	Number of Fish.
Jan'y 6, 1879.	Rogue River.....	Wayne.....	O. M. Chase.....	20,000
" 8, 1879.	Buck's Creek, Tributary of Paw Paw River.....	Van Buren.....	L. E. Wood.....	15,000
" 8, 1879.	Mill Stream.....	" ".....	J. N. Jerome.....	10,000
" 9, 1879.	Pokagon Creek.....	Cass.....	" ".....	10,000
" 10, 1879.	Peavine ".....	" ".....	" ".....	5,000
" 10, 1879.	Pine ".....	" ".....	" ".....	10,000
" 23, 1879.	St. Joseph River.....	Berrien.....	L. E. Wood.....	20,000
" 30, 1879.	Grand River, Jackson.....	Jackson.....	Geo. H. Jerome.....	10,000
" 30, 1879.	" " ".....	" ".....	" ".....	10,000
" 30, 1879.	" " ".....	" ".....	" ".....	10,000
Feb'y 7, 1879.	Manistee River.....	Wexford.....	C. F. Holt.....	25,900
" 13, 1879.	Raisin ".....	Washtenaw.....	D. W. Palmer.....	17,500
" 13, 1879.	" ".....	" ".....	J. N. Jerome.....	5,000
" 13, 1879.	" ".....	" ".....	S. Robinson.....	7,500
" 14, 1879.	Cass River.....	Saginaw.....	H. B. Roney.....	30,000
" 26, 1879.	Gourd-neck Lake.....	Kalamazoo.....	H. C. Dolloway.....	2,000
" 26, 1879.	Miner ".....	Allegan.....	W. W. Vosburg.....	1,000
" 26, 1879.	Minckler ".....	" ".....	" ".....	1,000
" 26, 1879.	Wetmore ".....	" ".....	" ".....	1,000
" 26, 1879.	Lake Sixteen.....	Oceana.....	F. J. Russell.....	500
April 19, 1879.	Crystal Lake.....	" ".....	" ".....	500
" 19, 1879.	Round ".....	" ".....	" ".....	500
July 12, 1879.	In private ponds of J. L. Benjamin; Romeo.....	" ".....	" ".....	346
Total.....				212,846

FOURTH REPORT—STATE FISHERIES.

LAKE TROUT (*Salmo gairdneri*).

TABLE C.—Plant of 1879.

COUNTY AND NAME OF LAKE.	Township where Located.	Date of the Deposit.	Name and Address of the Depositor.	No. Fish.
Berrien Co.				
Salmon.....	Berrien.....	April 2, 1879	L. E. Wood, Summerville..	5,000
Branch Co.				
Lehr.....		" 7, 1879	Wm. Lehr, Sherwood.....	3,000
Calhoun Co.				
Town Line.....		" 12, 1879	H. Willis, Battle Creek....	6,000
Capanacon.....	LeRoy.....	" 12, 1879	H. H. Hubbard, Battle Creek	6,000
Steamburgh.....		" 12, 1879	H. D. Bushnell, ".....	6,000
West.....	Tekonsha.....	" 7, 1879	A. D. Eldred, Tekonsha....	6,000
Shedd's.....	" ".....	" 7, 1879	" ".....	6,000
Warner's.....	" ".....	" 7, 1879	B. Ellis, Jr., ".....	6,000
Cass Co.				
Birch.....		" 7, 1879	J. E. Merritt, Williamsville	6,000
Barron.....	Howard.....	March 31, 1879	L. E. Wood, Summerville..	10,000
Indian.....		April 1, 1879	" " ".....	5,000
Sister.....		" 2, 1879	" " ".....	5,000
Diamond.....		" 2, 1879	" " ".....	5,000
Stone.....		" 8, 1879	" " ".....	10,000
Emmet Co.				
Round.....		" 18, 1879	" " ".....	12,000
Gr. Traverse Co.				
Crooked.....	Traverse.....	April 19, 1879	J. C. Boughton, Mayfield..	9,000
Rainy.....	" ".....	" 19, 1879	" " ".....	3,000
Spider.....	" ".....	" 19, 1879	J. L. Gibbs, Mayfield.....	3,000
Hillsdale Co.				
Half Moon.....	Fayette.....	" 10, 1879	H. C. Adams, Jonesville....	6,000
Long.....	Reading.....	" 10, 1879	D. W. Mickle, Reading.....	9,000
Hemlock.....	" ".....	" 10, 1879	" " ".....	12,000
North Sand.....	" ".....	" 10, 1879	G. W. Underwood, Hillsdale	6,000
South Sand.....	" ".....	" 10, 1879	" " ".....	6,000
Middle Sand.....	" ".....	" 10, 1879	" " ".....	3,000
Head.....	" ".....	" 10, 1879	" " ".....	3,000
Duck.....	South Allen.....	" 10, 1879	A. J. Darling, Allen.....	9,000
Jackson Co.				
Vineyard.....	Norvell.....	" 12, 1879	E. N. Palmer, Brooklyn....	9,000
Kalamazoo Co.				
Badfish.....	Ross.....	" 12, 1879	S. Howland, Galesburgh...	6,000
Blue.....	Charleston.....	" 12, 1879	F. Hodgman, Climax.....	6,000
Kent Co.				
Clear.....	Solon.....	" 17, 1879	G. H. Dalrymple, C. Springs	3,000
Maxwell.....	" ".....	" 17, 1879	" " ".....	3,000
Stocks.....	Oakfield.....	" 25, 1879	J. Banks, Greenville.....	3,000
Monroe Co.				
River Raisin.....		" 10, 1879	J. N. Jerome, Niles.....	9,000
Livingston Co.				
Half Moon.....	Putnam.....	" 12, 1879	J. N. Cook, Pinckney.....	6,000

FOURTH REPORT—STATE FISHERIES.

TABLE C.—Plant of 1879.—Continued.

COUNTY AND NAME OF LAKE.	Township where Located.	Date of the Deposit.	Name and Address of the Depositor.	No. of Fish Planted.
Cedar	Marion	" 25, 1879.	D. O. Smith, Howell.	4,500
Lake's Lake	"	" 25, 1879.	" " "	4,500
<i>Montcalm Co.</i>				
Corodiu	Maple Valley	" 25, 1879.	E. H. Stryker, Coral	6,000
Derby	Sidney	" 25, 1879.	G. Gilbert, Stanton	3,000
Holland	Oakfield	" 25, 1879.	G. Holland, Sheridan	3,000
Hovington	"	" 25, 1879.	" " "	3,000
Leader	"	" 25, 1879.	" " "	3,000
<i>Oakland Co.</i>				
Walnut	West Bloomfield	" 15, 1879.	J. A. Bigelow, Birmingham.	3,000
Wing	Bloomfield	" 15, 1879.	" " "	3,000
Gilbert	"	" 15, 1879.	L. B. Peabody, "	3,000
Woodhull	Waterford	" 15, 1879.	W. K. Vansyckle, Drayton	3,000
	"	" 15, 1879.	Plains	3,000
Long	Springfield	" 15, 1879.	E. A. Botsford, Davisburgh	6,000
Union	West Bloomfield	" 15, 1879.	D. B. Allen, Four Towns.	6,000
<i>Oceana Co.</i>				
Smith	"	" 19, 1879.	F. J. Russell, Hart	3,000
Stony	"	" 19, 1879.	" " "	9,000
Pentwater	"	" 19, 1879.	" " "	6,000
Cobmosa	"	" 19, 1879.	" " "	9,000
Round	"	" 19, 1879.	" " "	9,000
Mill Pond	Hart	" 19, 1879.	" " "	2,000
<i>St. Joseph Co.</i>				
Portage	Mendon	" 7, 1879.	A. P. Emory, Mendon	6,000
<i>Van Buren Co.</i>				
Hazy	Porter	" 12, 1879.	J. Elyea, Lawton	9,000
Mud	Antwerp	" 12, 1879.	C. Engle, Paw Paw	6,000
Eagle	Paw Paw	" 12, 1879.	" " "	9,000
Wolf	"	" 12, 1879.	T. Buchhout, Kalamazoo	6,000
Three Mile	Paw Paw	" 17, 1879.	A. J. Sartore, Niles	9,000
<i>Washtenaw Co.</i>				
Blind	Lyndon	" 12, 1879.	J. H. Cook, Pinckney	6,000
<i>Wexford Co.</i>				
Big Clam	Clam	" 17, 1879.	E. L. Metheany, Cadallac	12,000
Little Clam	"	" 17, 1879.	" " "	6,000
Total deposited				379,000

FOURTH REPORT—STATE FISHERIES.

BROOK TROUT (*Salmo fontinalis*).

TABLE D.—Plant of 1879.

COUNTY AND NAME OF CREEK.	Township Where Located.	Date of the Deposit.	Name and Address of the Depositor.	Number of Fish.
<i>Cass County.</i>				
Mechanicsburg	"	Mar. 28, 1879.	L. E. Wood, Summerville.	3,000
Dowagiac River	Pokagon	April 2, 1879.	C. H. Brownell, Pokagon	1,000
<i>Berrien County.</i>				
Blue Creek	Bainbridge	" 29, 1879.	J. G. Portman, Watervliet.	3,000
<i>Kalamazoo Co.</i>				
Spring Brook	Kalamazoo	" 31, 1879.	T. S. Cobb and others, Kalamazoo	2,500
Wait Brook	"	" 31, 1879.	T. S. Cobb and others, Kalamazoo	1,000
Four Brooks	"	" 31, 1879.	T. S. Cobb and others, Kalamazoo	1,500
Total deposited				12,000

(Retained at the Pokagon hatchery ponds to rear as breeders from 3,000 to 5,000.)

LAND-LOCKED SALMON (*Salmo sebago*).

TABLE E.—Plant of 1879.

Planted in Salmon Lake, Pokagon township, Cass County, June 2, 1879. 4,867

TABLE F.—Plant of 1879.
EELS (*Anguilla communis*).

COUNTY.	Where Deposited.	Number.
Branch County	Morrison Lake	5,000
"	Hog Creek	5,000
"	Coldwater Lake	10,000
Hillsdale	Sand Lakes, five of them	15,000
"	Duck Lake	5,000
"	Half Moon Lake	10,000
Lenawee	Comfort's Mill Pond	10,000
"	Bean Creek	5,000
St. Joseph	Thompson Lake	5,000
Washtenaw	York Mill Pond	5,000
"	Parson's Mill Pond	5,000
"	Kline's "	5,000
"	Iron Creek	5,000
"	Round Lake	5,000
"	Norvill Mill Pond	10,000
"	Saline River	20,000
Jackson	Vineyard Lake	10,000
Kalamazoo	Campbell "	10,000
"	Gourd-neck "	5,000
"	Long "	5,000
"	Gull "	800
"	Round "	3,000
"	Story "	4,000
"	Duck "	5,000
"	Hemlock "	5,000
"	Tamarack "	10,000
Cass	Barron "	10,000
"	Salmon "	5,000
Berrien	Paw Paw	5,000
"	Bayou, at mouth of St. Joseph River	5,000
Livingston	School Lake	10,000
"	Shiawassee River	5,000
"	Cedar Lake	5,000
"	Luke's "	5,000
"	Triangle "	10,000
"	Cedar "	5,000
"	Cook and Mud Lake	5,000
onia	Long Lake	15,000
"	Flat River	5,000
"	Holland Lake	5,000
"	Harrington Lake	5,000
"	Ledar Lake	10,000
"	Derby "	10,000
Allegan	Miner, and other lakes in vicinity	10,000
Total deposited		317,000

Distribution of California salmon one year old and upwards, as shown by the records of the former Superintendent:

Sept. 16, 1878.	Exhibited and disposed of at State Fair	500
Jan. 15, 1879.	Delivered to O. D. Rupel, of South Bend, Ind., in exchange for 2,500 Cal. salmon eggs	500
Aug. 27, 1879.	Planted in Barron Lake, Cass County	1,000
" 2, "	" Salmon Lake, "	400
Total		2,400

The legislative appropriation, which in the years previous had been \$7,000 per year, was reduced at the last session of the legislature to \$5,000 for each of the years 1879 and 1880. This, for the interests of this State industry, was a most deplorable measure, necessitating as it did, a radical change in the plan of operations, requiring more time at the hands of the Commissioners, and rendering a reduction of the running expenses an absolute necessity, only to be brought about by discharging some of the valuable and efficient employes of the Board.

At a meeting of the Board, held in Detroit, June 25 and 26, 1879, Hon. G. H. Jerome, Superintendent of State Fisheries, and Secretary of the Board, tendered his resignation, to take effect on the 15th of September following, which resignation was accepted. To avoid embarrassment in prosecuting their public duties, and secure the property of the State against loss, it was deemed best to elect a successor in advance that there might be no interregnum in the service; and James G. Portman, of Watervliet, Berrien County, Mich., a practical pisciculturist, was chosen to succeed him, and to occupy as his headquarters the State hatchery residence at Pokagon.

This change in the superintendency and plan of operations threw out of the employ of the Commission the Overseer and his corps of helpers at the above hatchery. Mr. Orin M. Chase, Overseer at the Detroit works, being the only one of the old employes retained by the Commission, the Board deeming his services too valuable to be dispensed with.

A great reduction in the running expenses of the Pokagon hatchery was secured by this arrangement with Mr. Portman, he thereby doing the correspondence and work formerly performed by the former Superintendent and the Overseer and his assistants.

WHITEFISH (*Coregonus albus*).

This fish is the only one mentioned in the act creating the Commission. Therefore your Board feel bound by law—so long as there exists any law upon the subject—to make the cultivation and distribution of this—the best of food fishes—a prominent part of their work. With this in view, and also owing to the reduction in the appropriations for the past biennial term, nearly all of the funds have been given to their propagation and distribution. By the introduction of Chase's *automatic glass jar*, together with the Holton boxes already in use, the Board found the capacity of the Detroit hatchery increased at the beginning of the years 1879 and 1880 to twenty million of whitefish, and aimed to put in that many eggs, but they reckoned without knowledge. The season had been one of great drouth, affecting the waters of the great lakes and rivers of the northwest to a considerable extent. Detroit river, at Col. Gray's fishery on Grosse Isle (where all the whitefish eggs for previous years had been obtained) was found to be so low, on the first of November, that the fish failed to visit their spawning beds except in limited numbers. As a result, only few fish were caught, and only about one-half the number of eggs desired could be obtained. Not willing to be defeated, Hon. Eli R. Miller, President of the Board of Commissioners, applied unsuccessfully to the various fishermen of Detroit for a permit to handle the fish they had in their pens; but no persuasion nor price offered could induce them to grant this privilege. Mr. Miller then telegraphed to parties at Alpena, "Can we get whitefish eggs here?" who replied, "Yes, any quantity; but come at once." The next morning O. M. Chase and George Armstrong started for Alpena, but before

reaching their destination a furious storm came on that swept every vessel from the lakes and soon closed the fishing season at that point, and they returned without accomplishing their mission. Meantime the Superintendent determined as far as possible to redeem such an accumulation of misfortunes, visited Petoskey on the first of December, with the mercury twelve degrees below freezing, and amid pelting snow and fearful winds, demonstrated that eggs could be obtained at that point by taking nearly half a million on the second day's effort. This number was subsequently increased to one million four hundred thousand by Mr. Chase, who, in answer to a telegram, went to Petoskey to continue the work. This closed the take of whitefish eggs for the year.

The subjoined exhibit shows the hatch and plant of whitefish for 1879 and 1880:

March 1st, 1880.	In Detroit River, Green's dock.....	200,000
" 6th, "	" " " "	300,000
" 15th, "	" " " "	1,000,000
April 3d, "	" " " "	300,000
" 6th, "	" " " "	80,000
" 19th, "	" " " "	160,000
March 17th, "	" " from tug of J. P. Clark....	600,000
" 22d, "	Lake St. Clair, " "	1,200,000
" 26th, "	" " " "	1,250,000
" 9th, "	Lake Michigan, Grand Haven.....	1,135,000
" 11th, "	" " South Haven.....	870,000
" 11th, "	" " Ludington.....	900,000
April 5th, "	" " Petoskey.....	1,250,000
" 19th, "	" " " "	1,030,000
March 30th, "	Lake Huron, Saginaw Bay.....	1,030,000
	Total in large lakes and rivers.....	10,275,000

PLANT IN INLAND LAKES.

March 11th, 1880.	Big Paw Paw, Berrien Co., H. Pierce, depositor.	200,000
April 1st, "	Gull Lake, Kalamazoo Co., Eli R. Miller, depositor	200,000
" 6th, "	Englehart and Clear, Muskegon Co., Rand & Jennings, depositors.....	10,000
" " "	Hemlock and Lewis, Cass Co.....	10,000
	Total in inland lakes.....	420,000
	Grand total deposited for the year.....	10,695,000

It will be seen by the above tables that nearly all the hatch of 1879 and 1880 was planted in the great lakes and rivers.

From the inland lake plants no very extensive reports have been received, and we regard it as unwise and improvident to persist in placing fish in waters which do not yield encouraging returns. A few lakes in the interior abound with whitefish natively, and nature and common sense encourages us to believe that in such waters they will do well.

BROOK TROUT (*Salmo fontinalis*).

We have become satisfied that this fish is capable of a much wider range throughout the State than was formerly supposed. Some having escaped from private ponds into the different streams in almost all parts of the State, have so grown and multiplied as to leave no doubt of the perfect practicability of their successful introduction and propagation in nearly all of the smaller streams. We shall therefore, if the work be continued, make the hatching and distribution of this popular fish, together with the California trout, a matter of as much attention as possible, believing that it will meet the wishes and wants of a large majority of the people of the State. A most unlooked for and unexpected result attended the hatch of brook trout at the Pokagon hatchery for 1878 and 1879. To meet an increasing demand for them, the Commission authorized the purchase of 250,000 eggs, which, with the quantity obtained at the hatchery ponds, increased the number to 300,000. But owing to causes at that time wholly undetermined, only about fifteen thousand young fish were produced. The possibility of another and similar failure in 1879 and 1880 inclined the Commission to move with deliberation and caution in their attempts at the hatching of this popular fish at Pokagon. But the public demand for them was so persistent and increasing that they purchased 156,000 eggs, which added to the 14,000 obtained at the State ponds, gave them 170,000. These were placed upon the trays and every care and attention which the experience of the Superintendent could command was given to them; but a large percentage of the eggs died, and after hatching, many of the fish, before the food vesicle was absorbed, died by scores and hundreds. An examination of them microscopically revealed little raised blisters on the gill covers, distended and inflamed eyes, with a fungoid condition of the gills. In all respects their condition with those lost of the hatch of the previous year was similar.

Not less than 1,000,000 brook trout fry should be hatched yearly for Michigan streams, which would, aside from the luxury placed upon our tables, invite the sportsmen at the proper season from the less favored adjoining States to our wooded streams, furnishing transportation to our railroads and money to our citizens.

Mr. I. Canby, Treasurer of Emmet County, with other gentlemen of culture and observation, estimates the money put in circulation in the Grand Traverse region by tourists who visit that section for the sport and pleasure of angling for trout and other fish, at not less than \$30,000. Much the larger portion of this sum comes from abroad and enters into the channels of trade, helping to enrich the State and adding largely to its taxable property. Vigorous measures are needed to keep up the supply of trout and other fish in the lakes and streams of that region, or soon they will be exhausted, and the golden harvest annually gathered by our people will be borne on to more remote districts where these gamy fish abound.

The following is a tabulated statement of the hatch and deposits of Brook Trout for the year commencing July 1, 1879, and ending June 30, 1880:

FOURTH REPORT—STATE FISHERIES.

DEPOSITS OF BROOK TROUT.

COUNTY AND NAME OF STREAM.	Township where Located.	Date of the Deposit.	Name and Address of the Depositor.	Number of Fish.
<i>Allegan.</i>				
Silver Creek	Gunplains	March 16, 1880	Eli R. Miller, Richland	550
Chart's "	"	April 21, 1880	J. G. Portman, Pokagon	1,100
Delano's "	"	" 14, 1880	W. R. Delano, Plainwell	1,100
<i>Berrien.</i>				
Eau Claire	Pipestone	March 31, 1880	W. C. Hunter, Eau Claire	550
Pipestone	"	" 10, 1880	J. G. Portman, Pokagon	1,100
<i>Cass.</i>				
Dowagiac Creek and branches	Wayne, Silver Creek and Pokagon	At different dates	J. G. Portman, Pokagon	6,350
H. H. Taylor's Lake	Wayne	March 10, 1880	H. H. Taylor, Dowagiac	1,000
Pine Creek	"	" 9, 1880	J. G. Portman, Pokagon	1,000
<i>Calhoun.</i>				
Emmett Brook	Emmett	Feb. 27, 1880	M. Metcalf, Battle Creek	1,000
<i>Clare.</i>				
Tobacco River	17 N., R. 5 W.	April 4, 1880	J. G. Portman, Pokagon	1,300
<i>Kalamazoo.</i>				
Bluff Brook	Kalamazoo	April 22, 1880	T. S. Cobb, Kalamazoo	1,000
<i>Kent.</i>				
3 Brooks	Walker	April 6, 1880	J. C. Parker, Grand Rapids	1,100
<i>Mecosta.</i>				
Parish Creek	Green	April 6, 1880	H. A. Portman, B. Harbor	1,200
Buck Horn "	"	" 14, 1880	J. G. Portman, Pokagon	1,500
Stanwood Creek	Austin	" 4, 1880	C. Barnard, Stanwood	1,050
<i>Newaygo.</i>				
Head waters of White River	Everett	March 30, 1880	D. Patterson, White Cloud	4,000
Crockery Creek	Ashland	" 30, 1880	C. F. Nason, Grand Rapids	1,200
Penoyer "	Brooks	" 30, 1880	D. P. Clay, Grand Rapids	500
Clay's Brook	"	" 30, 1880	" " "	500
4 Mile "	Ashland	" 30, 1880	H. A. Portman, B't'n Harbor	1,100
<i>Oceana.</i>				
Fly Creek	Shelby	Feb. 16, 1880	E. D. Richmond, Hart	500
Spring Creek	"	" " "	" " "	500
Ludd & Hand's Creek	"	" " "	" " "	900
Russell's Creek	"	" " "	" " "	500
Doolett's "	"	" " "	" " "	400
Damorell's "	"	" " "	" " "	800
Tennant's "	Eldridge	" " "	" " "	400
Hiles' Creek	"	" " "	" " "	100
Andrus' "	"	" " "	" " "	800
Generaw Creek	"	" " "	" " "	1,000
Crystal Spring	Crystal	March 20, 1880	" " "	1,000
"	"	" " 1880	" " "	"

FOURTH REPORT—STATE FISHERIES.

DEPOSITS OF BROOK TROUT—Continued.

COUNTY AND NAME OF STREAM.	Township where Located.	Date of the Deposit.	Name and Address of the Depositors.	No. of Fish Planted.
<i>Oceana.</i>				
Branch of Spring	Eldridge	March 20, 1880	E. D. Richmond, Hart	300
Turner Spring	Hart	" " 1880	" " "	300
North Branch	Shelby	" " 1880	" " "	1,000
<i>Osceola.</i>				
Tustin Creek	Burdell	March 10, 1880	F. Ernst, Pokagon	1,100
Hershey, East Branch	Lincoln	April 6, 1880	H. A. Portman, B't'n Harbor	1,200
Ewart Creek	Osceola	" 4, 1880	J. R. Ermer, Ewart	1,400
<i>Van Buren.</i>				
Tributaries of North branch of Paw Paw River				
Almena	Almena	April 10, 1880	C. Engle, Paw Paw	4,200
South branch of Paw Paw River				
Paw Paw	Paw Paw	April 10, 1880	C. Engle, Paw Paw	1,000
Cook's Creek	Keeler	March 23, 1880	Wm. Cook, Keeler	500
Mink Creek	"	" 10, 1880	J. G. Portman, Pokagon	500
Bigelow's Creek	"	" 10, 1880	" " "	500
Willow Creek	"	" 10, 1880	" " "	1,000
<i>Washtenaw.</i>				
Paint Creek	Ypsilanti	Feb. 25, 1880	P. D. Martin, Ypsilanti	550
<i>Wexford.</i>				
Manton Creek	Greenwood	April 6, 1880	H. A. Portman, B't'n Harbor	1,300
3 Branches of Pine River	Cherry Grove	March 10, 1880	H. W. Marsh, Pentwater	1,100
Total				50,400

There was retained ten thousand fry in the hatchery ponds to raise for stock fish.

LAKE TROUT (*Salmo confinis*.)

No work was contemplated upon the lake trout for 1879 and 1880; but the Superintendent learning that eggs could be obtained at St. Joseph, at trifling expense, procured, hatched and distributed the number shown by the subjoined table:

COUNTY AND NAME OF LAKE.	Township where Deposited.	Date of the Deposit.	Name and Address of the Depositor.	Number of Fish.
Berrien.				
Big Paw Paw	Watervliet	March 20, 1880	H. Pierce, Watervliet	10,000
Calhoun.				
Lyon Lake	Fredonia	April 2, 1880	F. Laberteaux, Marshall	5,000
Muskegon.				
Clear Lake	Holton	" 5, 1880	Rand & Jennings, Holton	5,000
Oakland.				
Walnut Lake	W'st Bloomfield	" 16, 1880	J. A. Bigelow, Birmingham	2,500
Wing	Bloomfield	" 16, 1880	" " " "	2,500
Charlevoix.				
Walloon Lake		June 5, 1880	J. G. Portman, Pokagon	1,500
Total deposited				26,500

For want of ice, 4,000 were held at the hatchery ponds, but they have nearly all died from the impure condition of the water.

BLACK BASS. (*Gryles nigricans*.)

A large experiment was proposed by the Superintendent upon this fish during the year, but the limited appropriation at the disposal of the Board made it impracticable. Still enough was accomplished to establish its practicability. From three females 3,500 young fish were produced, and were planted as follows:

In Keeler Lake, Keeler township, Van Buren county	1,000
In Brown Lake, Keeler township, Van Buren county	1,000
In Goguac Lake, Battle Creek, Calhoun county	1,500

Plants were made by Hon. Charles E. Duncomb of Keeler, and N. A. Osgood of Battle Creek, and reported to have been effected without the loss of one. They were the first fish of the kind ever distributed by the Commission. If the work continues it is their purpose to give more attention to their cultivation in the future. This fish is indigenous to our waters, and has a reputation second to none for gaminess and gustatory enjoyment.

EELS. (*Anguilla communis*.)

Considering the number of this fish planted in the waters of the State, none have reported themselves more frequently. Many of them have been taken and exhibit a remarkable growth. The Board were compelled to relinquish work upon them for lack of funds, and this, too, with a very large number of

applications for them on file. Work will be renewed on them in the future if funds at the disposal of the Board will permit.

LAND-LOCKED SALMON. (*Salmo sebago*.)

On the 19th of January 30,000 land-locked salmon eggs were received at the Pokagon hatchery, 10,000 of which were to be hatched for parties in Indiana. They were apportioned to the State by the U. S. Commissioner, Prof. Spencer F. Baird. In accordance with instructions, one-third of the hatch of young fish was delivered to parties in Laporte, Ind., and placed in Stony Lake, near that city. The balance were planted by Hon. Eli R. Miller and Dr. J. C. Parker, in Higgins Lake, Roscommon county, on the 7th of May, 1880.

HYBRIDIZATION.

During the fall of 1875, some eggs of lake trout were fertilized with the sperm of the brook trout. These were placed upon the trays, and in about the same period of time occupied with brook trout, hatched; the percentage of loss being about the same. Their appearance is very much like the brook trout, somewhat more slender, but less so than the lake trout. There is quite a variation in their markings, the fin rays having a strong resemblance to the brook trout, while the back has a most delicate and finely wrought mottled gray. Below the median line, in irregular form, they are covered with spots of deep olive color, and on one or two of them in the center of these, appear the bright carmine spots of the speckled trout. Last fall (1879), on examination, these hybrids being three years old, were found to be gravid. One of them was spawned, artificially, and 1,300 eggs obtained and fertilized. They were irregular in size, ranging from that of a B shot to that of a full-sized lake trout egg. Placed upon the trays, they hatched in 84 days. Great numbers of these were deformed, and only 14 perfect fish were developed. These are now at the hatchery. They have a beauty of form and color unsurpassed, but their markings are not sufficiently distinct at this writing to give a specific description. They exhibit a wild and untamed nature, unknown in their grand parents. More extended experiments are now (1880) in progress at the hatchery. It seems quite clear that fish of the same genera may be crossed and recrossed, at will.

GRAYLING.—(*Thymallus tricolor*.)

Drawing a line from the mouth of the Muskegon River on the west, across the peninsula to Tawas Bay on the east, and all the streams north of it are the natural habitat of the grayling. When the country was first settled they were so abundant that the people caught them with baskets and other rude devices. For a considerable period they went by the name of Michigan trout, and furnished a most excellent food to help the hardy pioneer to keep the "wolf from the door."

They are, however, rapidly disappearing from some of the streams where they were most abundant. In the Jordan and Boyne Rivers they are nearly if not entirely extinct. With man's rapacity on land, and the brook trout's voracity in the water, they cannot increase so as to maintain their existence.

It is a matter that the people should know, that the brook trout is the natural enemy of the grayling. It is quite true that the adult fish live in seeming good fellowship together, the trout deeming it prudent to refrain

from attempting to swallow a neighbor fully his own size and weight, and more than his equal in strength. But the tender young grayling, with their slender, translucent bodies, furnish a toothsome morsel for his troutship; and, be assured, he does not hesitate to take it. For this reason good grayling streams should never be planted with trout; and it is hoped that the people will have such care to the preserving of the grayling as not to allow it to be wholly destroyed.

During the past year a slight measure of success has crowned the efforts of the Commission in their endeavors to fertilize and hatch, by artificial methods, the grayling eggs taken from fish kept in confinement. The experiments were conducted by Mr. Martin Metcalf, at his private hatchery, near Battle Creek, of which the following is a condensed report:

The eggs were taken April 24, and placed in a revolving drum—the invention of Dr. J. C. Parker, of the Commission—the water registering 60°. Time occupied in their incubation was 14 to 14½ days. The young fish are reported to be thriving vigorously. Of adult grayling, the Board have planted 60 in the Dowagiac Creek, opposite the Pokagon hatchery, at different times through the year. They have frequently been seen, and some of them have been caught by people fishing along the stream.

Thirty-two were planted in Mill Creek, a branch of the Paw Paw River, in Bainbridge, Berrien County. There are about three hundred and fifty still in the hatchery ponds.

ADULT CALIFORNIA SALMON. (*Salmo gairdneri*.)

As the adult California salmon reared in the State ponds were gradually dying from their constrained quarters, they were planted in lakes as follows:

Calhoun County, Goguae Lake, M. Metcalf, depositor	80
“ “ Lyon “ G. W. Briggs, “	175
Kalkaska “ Blue “ A. A. Bleazby, “	200
Roscommon “ Higgins “ C. H. Brownell, “	120

In addition to the above, 150 were placed on exhibition at the exposition at Chicago.

GERMAN CARP. (*Cyprinus carpio*.)

Prof. Baird, on the 5th of November, last, sent 20 pairs of this fish to the State.

Although a foreign fish, their growth certainly justifies all that has been published, officially and otherwise, of them. At thirteen months old, some of them measured 17 inches in length, 13 inches in girth, and weighed 3¼ lbs. As a food fish, they rank in the European markets next to the Trout and Salmon. They are so easily reared, that with a few square rods of water, having a depth of three or four feet, and but limited supply, the farmer can raise his fish at less cost than he now does his pork; they will eat and thrive on much the same food, being vegetable feeders, and very prolific,—a single female of four or five pounds weight often yielding three hundred thousand eggs. They must be admirably adapted to our warm shallow lakes, in the southern and central portion of the State.

A large supply has been promised to various parties in the State this fall, upon condition that the Board meets the expense of their transportation and delivery. Not less than \$4,000 will be expended in fitting up ponds, by the

applicants for these fish, during the fall of 1880 and spring of 1881; and the Board will do all in their power to increase their distribution throughout the State.

CALIFORNIA TROUT. (*Salmo iridia*.)

A limited number of California trout eggs, of the McCloud River species, were distributed by the U. S. Commissioner last spring, as an experimental work. Michigan received 2,000 at the hatchery on the 14th day of April; 1,800 fish were produced from them, one-third of which were planted in the north branch of the Paw Paw River, near its head waters, in Almaena Township, Van Buren County, by C. Engle; one-third in Boyne River, Charlevoix County, from the G. R. & I. R. R. train (conductor Banks' holding it for the purpose), between Elmira and Boyne Falls; and one-third were kept at the hatchery ponds.

“They are not quite as beautiful as the native trout, wanting the carmine spots; but in the matter of flavor and taste, are fully their equals.” For certainty in hatching they are far superior, and more their compeers in game qualities. Being purely a fresh water fish, without migratory instincts, they will be likely to remain in the streams where they have been placed.

If those set at liberty have thrived equally with those kept at the ponds, they will prove a valuable acquisition to our public waters.

DETROIT STATE HATCHERY.

During the past summer the hatchery at Detroit has been overhauled and remodeled to harmonize with our improved apparatus for hatching, and its interior is a model of economy and convenience. The superiority of Chase's automatic glass jar over the Holton box for hatching whitefish was so apparent that the Board directed their discontinuance and authorized the purchase of 275 jars to take their place, which added to the number on hand gives a total of 300 jars, with a hatching capacity of 100,000 to each jar, and a grand total of 30,000,000. Two hundred and forty of these are in position and ready for their supply of eggs. By this arrangement a saving of one hundred dollars royalty on the Holton box is had, and four hundred dollars for help to feather and pick over a full hatch of eggs. At the same meeting of the Board, Feb. 14, 1880, which authorized the above change in the Detroit hatchery, Prof. Baird made application for six of the jars to place on exhibition at the International Exposition, which opened April 20, at Berlin, Prussia, with the privilege of leaving them with the German Fishery Association. In view of the many favors Prof. Baird had extended to the State, it was deemed proper to grant the application, and they were accordingly forwarded as desired. The superiority of the jar as a “hatching instrument,” over all others exhibited, secured to Mr. Chase the “golden medal of honor.”

AID FROM THE GENERAL GOVERNMENT.

In March last, 200,000 whitefish, hatched at Mr. F. Clark's hatchery, near Northville, by direction of Prof. Baird, were turned over to the State, and were planted at Monroe. On the 16th of September he wrote officially that he had authorized Mr. Clark to hatch, for the waters of Lakes Michigan and Erie, “fifteen or twenty millions the coming winter.”

This is certainly encouraging coöperation, and what the Commission have long felt to be the duty of the U. S. Commission. Our large lakes are the domain of the Nation, and the continued supply of whitefish is of national

importance. While some of the States bordering on them refuse to aid in the artificial production of young fish for this purpose, those of Ohio and Wisconsin, with the Canadian provinces, are doing, or attempting to do, as much or more than Michigan. It would seem, therefore, that the national revenues should be employed in sufficient amount commensurate with its general public character. It is gratifying, therefore, to know that Prof. Baird recognizes the justice of governmental aid, and equally so to know that the government has selected a gentleman of such broad culture and patriotic devotion to the general good, to preside over and foster the fisheries of the nation.

THE SITUATION AT THE POKAGON HATCHERY.

When the hatchery was located the temperature registered was 48° in the springs, but during the last three years it has risen to 52°, and in connection with this change, has, in the after part of the summer, decreased in volume nearly three-fourths. Nor is this all; an analysis of the water, solicited by the President of the Board of Dr. S. P. Duffield, of Dearbornville, and gratuitously performed by him in the interest of fish culture, strips it of all its crystal semblances, and proves it to be positively unclean.

The analysis is herewith subjoined: "I have finished the jug of water sent me for testing. This water is contaminated to a high degree with decomposing vegetable matter. There is a serious contamination; sewage from some slaughter-house or glue factory courses into it. I should not think it would breed fish at all. What surprises me, where can the source of the contamination be. This you will have to hunt up."

With less knowledge than they now possess, the Board appealed to the legislature of two years ago for an increase of the appropriation in sufficient amount to enable them to go forward with the whitefish work at Detroit, and move the Pokagon hatchery to some point in the northern part of the State, where an abundance of good water could be had, and of a temperature cold enough to produce all the *Salmonidae* under the same roof.

The Legislature not only withheld the amount asked for, but cut down the appropriation, as has already been shown, making it impossible for them to carry out this much needed work. In anticipation of accomplishing it in the near future, they instructed the Superintendent on June 5th, at a meeting held at Boyne Falls, to procure a lease of so much land and water of Mrs. Eliza Powers, as would be necessary to operate a hatchery at that point.

By the assistance of Hon. T. S. Cobb of Kalamazoo, who met with the Board, a lease was procured for a period of 99 years, of about two acres of land, and so much water as will flow through an aperture of 7 by 24 inches. Mrs. Powers required a consideration of sufficient value only, to legalize the lease.

But with land, and water from Boyne river, as pure as ever flowed, what could the Commission do without money? That an experimental work might be done this winter, Hon. T. S. Cobb, and other friends of fish culture, gratuitously proffered a sufficient sum to carry it forward; with this donation a building having a capacity of 6,000,000 whitefish, and 25,000 each of brook and lake trout, has been constructed. As soils possessing different chemical elements, and affected with different degrees of heat and moisture, are needed to develop in perfection and vastness the different productions of nature, so different surroundings are demanded to produce animal and fish life and

growth in abundance. At the Pokagon hatchery ponds, the trout and salmon are attacked with a fungus disease, having its incipency in fine blisters, which appear on the surface of the skin, and ultimates in certain death; while the large mouthed bass and German carp are remarkably healthy and vigorous, appearing in all their perfect beauty. This will enable the Commission to use this hatchery successfully and profitably in the production of these varieties of fish. It can, therefore, be seen that no one location can be found, with water and surroundings fully adapted to the successful prosecution of this popular interest, and a just and broad legislation is demanded, that it may meet the success of which the present is but the beginning. For succeed it will, as it has on the European continent, by adapting fish to water and food supply, until no industry prosecuted pays better dividends back into the hands or stomachs of the people.

EVIDENCES OF SUCCESS.

This is the all important matter to consider, for if the State is not receiving something like just returns for the money expended, economy and wisdom demand a discontinuance of the work. And yet to reach a full knowledge of the measure of success is a most difficult and perplexing endeavor. Certain facts, however, loom up before us, which compel the belief that the plants of whitefish in our larger lakes and rivers have lived and have constituted a very large proportion of the catch of the past fall. As evidence of this we present an excerpt from a paper read by the Superintendent at the State Sportsman's Association, held at Bay City in February last:

"From the inland lake plants, not very extensive reports have been received, yet a few have fallen into our hands by mere stealth and persevering efforts.

"The law prohibiting net or seine fishing in the lakes, leads parties who disregard its provisions to conceal that class of evidence, which, to the Board, is most reliable in establishing the success of whitefish growth. But I have indubitable evidence that large numbers of small whitefish were netted in Paw Paw Lake, Berrien County, last spring, and quite a number of catches of individual fish in various lakes of the State.

"But it is to the great lakes and rivers, the natural home of this fish, that we are to look for proofs of the wisdom and practicability of their culture.

"And here looms up a class of evidence that ought to convince the most skeptical.

"It is well known among fish dealers that there exists a marked difference in the structure or form and flesh of the fish caught in different localities. This is so clear and distinctive, they are able to select from a promiscuous pile bought at different lakes, the fish belonging to each. This dissimilarity is so apparent that a mere novice in ichthyology can distinguish it when attention is called to it.

"For instance: The whitefish of Lake Erie and Detroit River are remarkably thick and wide, with large fins and scales, rather coarse meated, with a rapid rise from the neck, or atlas joint, to the dorsal fin, with an excess of adipose, or fatty tissue. On the other hand: The same fish caught in Lake Michigan is symmetrical in form, with small scales, flesh fine-grained, and but little adipose matter. This variance doubtless arises from the crustacea upon which they feed, and temperature of water—Lake Erie being only 200 feet deep, and fed with water which reaches a high temperature in the rivers before being emptied into it; while Lake Michigan has a depth of 900 feet, with the

cold streams of the north pouring their crystal floods unceasingly into its rocky basin."

When at Petoskey last December (1879), looking up whitefish eggs, Mr. McCormic, a large fish dealer in Erie and Michigan Lake fish, said:

"Your work explains what had been a mystery to me this fall. We have been taking Lake Erie fish here, and could not account for it. Now, it is clear. The fish you have planted in Lake Michigan were hatched from eggs taken in the Detroit River, and they have grown up with the structural character of their progenitors."

I have no question of the truth of this statement, as Mr. McCormick is a gentleman of ability and character.

But one other class of evidence let me adduce here: Some 30 years since, Geo. Clark, of Ecorse, now deceased, pursued fishing in Lake St. Clair, above the Detroit River, and pronounced it the very best fishing ground in the Western lakes.

Within a few years, from excessive seine and pound net-fishing, it was so depleted of whitefish that fishermen abandoned it altogether. This last fall, however, the catch has been reasonably remunerative, and of fish of uniform size, weighing about two pounds. Fishermen, without a dissenting voice, ascribe their success to the planting by the Commission, since the commencement of their work, in the rivers of St. Clair and Detroit, and Lake St. Clair.

"They claim that their uniform weight corresponds with what is known of the growth of such fish, in the same period of time, and there can be no reasonable doubt that they are the product of the plant made in 1876 and 1877 of 4,478,000."

It should also be added that the catch of Mr. Moran of Detroit, at Grosse Point, three years ago this fall, was about twelve hundred, and that of two years since, between seven and eight thousand, while the past fall, up to the time he was compelled to relinquish work by the heavy storms, the catch with the same number of nets, was on an average of five to one of the previous year (1879). The catch of fish on the river has greatly increased during the same period, and of a size under that of former years.

Formerly the average weight of the season's catch ran at 2½ lbs., but as the number decreased the weight dropped off until the average was about 2 lbs. The past season, however, with increased numbers, the average weight is only 1½ lbs., while scarcely any old fish have been taken.

On consulting the fishermen and dealers of Detroit River, only one opinion is found to prevail among them as to the decrease in weight, and increase in numbers of fish.

With uniform assent, they declare them to be the product of the plants made by Michigan and Canada, since the commencement of their work in 1874; and this is the only rational solution to be given of the facts.

Below is added a statement given by the fishermen and dealers, over their own signatures, embodying their views upon this question:

Detroit, December 9, 1880.

Deeming it essential to the people and legislature of Michigan to have, as far as possible, a correct understanding of the success which has attended the efforts of the Fish Commissions of Canada and Michigan, in increasing the supply of white-fish in Lake St. Clair and Detroit River, we the undersigned, who have followed the business of catching and handling fish for a term of years, desire to make the following statement:

Formerly but very few, if any, could be taken in Lake St. Clair, but for the past three years there has been a steady increase of a size quite uniform, an average weight of 1½ lbs.

We can see no way to account for this, than that of ascribing it to the work of the commissioners during the past five years.

We give it therefore our firm endorsement, and firmly believe that we are catching the identical fish hatched by the commissioners in the hatcheries of Detroit and Sandwich, and planted in the lake and river.

P. Beaubien,	Geo. Martin,	Fred Moran,
Geo. Collins,	Ed. Moran,	Wm. E. Moran,
E. B. Paxton,	Gilbert Delaurier,	Louis G. Moran,
S. H. Davis & Co.,	Alexander Moran,	Robert Marter.
Jas. Craig,	Richard Moran,	

Names of fishermen on Detroit river, on Canada side:

James McKee,	Joseph Maloche,	Michael Antio,
D. Meloshe,	David Peforter,	A. P. Donfour,
Louis Gerod,	Antoine Lashorty,	A. A. Donfour,
Richard Gignac,	D. Boudy,	Tantau Donfour,
Michael Gignac,	Joseph Paric,	Henry Cottie,
Mariso Reno,	Joseph Bisso,	L. Reaume.
Jacob Gerod,	Joseph Giraub,	

RAILROAD AND CORPORATION.

The Board desire to make special mention of the consideration which this work has received at the hands of railway and other corporations.

Our fish and attendants have mostly been carried without charge, and over the Michigan Central, Detroit & Bay City, Flint & Pere Marquette, Detroit, Lansing & Northern, Detroit, Grand Haven & Milwaukee, and Grand Rapids & Indiana railroads, special cars were furnished and hauled with our large plants of whitefish to South Haven, Bay City, Ludington, Petoskey, and Grand Haven, free of charge.

The city and village corporations at the above mentioned points, voluntarily met the cost of the deposits where there was any, and in nearly every instance willing hands were ready to assist in planting fish. This voices the general interest and confidence which the people have in the utility and final success of fish culture under the management of the Board.

STOCK ON HAND.

At this date, Dec. 20, 1880, we have in the automatic jars of the Detroit hatchery, only 5,000,000 whitefish spawn.

Storms and cold weather have combined to prevent the Commission from securing anything like the number of whitefish spawn desired, and they will endeavor to use the balance of the appropriation in the production of brook trout, grayling, and possibly eels—140,000 brook trout eggs are now upon the trays at the Pokagon hatchery, and will be increased to not less than 500,000 for the winter's hatch.

BETTER PROTECTION

is imperatively demanded for the class of fish which the Board are endeavoring to establish in the inland lakes and streams. The rapacity of a certain portion of our fellow citizens shows itself in nothing more fully than in the

eagerness with which they seek to take from our public waters the fish planted, before they have reached the age and period of spawning.

We would therefore recommend:

1. The passage of a law, prohibiting the catching of fish from any stream or streams, stocked with *brook trout* by the Superintendent of Fisheries, for a period of three years thereafter.

2. Any stream or streams stocked to *California trout*, for a period of four years thereafter.

3. A close period for catching black and striped bass from April 1st to July 1st of each year.

4. Prohibiting the use of the spear in any and all waters of the State.

Where exception is made in the statute, in favor of spearing soft fish at certain portions of the year, it weakens its remaining provisions, and makes it a nullity; for the offender will plead his inability to distinguish in the water the kinds of fish prohibited, from those the law allows him to take, and our courts in their leniency will mostly exonerate him.

FINANCIAL EXHIBIT.

STATEMENT of Monthly Expenditures from Dec. 1, 1878, to the first day of July, 1879, covering term of the Third Appropriation.

DEBIT.	
To balance of appropriation, Laws 1877.....	\$4,523 48
CREDIT.	
By amount of December bills.....	\$427 18
paid F. W. Eddy for brook trout spawn.....	500 00
of January bills (1879)	483 53
of February bills	549 30
paid W. S. George & Co., for printing, etc..	55 00
of March bills	465 79
of April bills	530 23
paid to Detroit City Board Water Works...	200 00
of May bills	384 21
of June bills.....	903 24
	\$4,498 48
Balance unexpended.....	25 00
	\$4,523 48

Vouchers for the foregoing amounts disbursed and expended are on file in the Auditor General's office.

STATEMENT under Fourth Appropriation, commencing July 1, 1879, and ending June 30, 1880; covering Expenditures from July 1, 1879, to December 1, 1880.

DEBIT.	
To amount of appropriation for 1879-1880.....	\$10,000 00
sale of iron safe.....	25 00
CREDIT.	
By amount paid to Eli R. Miller for disbursements as Fish Commissioner	\$98 90
to J. C. Parker, for disbursements as Fish Commissioner	26 35
to A. J. Kellogg, for disbursements as Fish Commissioner	86 04
G. H. Jerome, as Superintendent of the State Fisheries to Sept. 15, 1879.....	250 00

FOURTH REPORT—STATE FISHERIES.

By amount paid	Ó. M. Chase, for salary as overseer of Detroit hatchery.....	\$1,416 65
	Jas. G. Portman, as Superintendent of State Fisheries from Sept. 15, 1879.....	946 00
	for stationery and postage.....	81 03
	E. M. Wattles, for spring wagon for hatchery.....	50 00
	for 156,000 brook trout spawn.....	312 00
	Seth Green as royalty on Holton box.....	100 00
	Wm. Cowie, for rent of hatchery lot.....	40 00
	to Detroit Board of City Water Works.....	200 00
	Bakewell, Pears & Co., for hatching jars.....	309 50
	Gillender & Sons, for glass tubes.....	113 63
	for repairs on hatchery wagon.....	29 97
	for exchange.....	3 08
	for hay, etc., for horse.....	71 24
	O. M. Chase's bill, less salary.....	971 36
	C. H. Brownell, for wages and disbursements.....	242 26
	H. A. Portman, for work planting fish, gathering eggs, etc.....	43 67
	J. A. Montague, for hardware goods, for hatchery.....	11 90
	D. Sheehan, for plumbing.....	7 10
	J. S. Tuttle, for building, paper, etc.....	7 56
	Laramore & Dean, for wall-paper, border, etc., for residence.....	1 90
	L. E. Wood, for teaming.....	6 75
	J. Gale, for work.....	5 00
	E. Hudson, for work.....	7 50
	J. Willis, for work.....	7 50
	J. A. Hudson, for work.....	4 00
	Rentz & Lebot, for making jar tops.....	9 20
	H. Gray, for privilege of taking spawn and board of men.....	67 00
	Geo. W. Armstrong, for disbursements and wages, gathering spawn.....	89 00
	E. O. Chase, for wages and disbursements, gathering spawn.....	24 56
	L. Portman, for wages and disbursements, gathering spawn.....	34 45
	Frederick Ernst, for wages and board as employé at the hatchery.....	279 00
	A. E. Brown, for making buck-board wagon.....	22 00
	for incidental expenses, repairing hatchery and residence.....	586 31
	for express on California trout and other fish eggs and packages.....	15 60
	F. Clark, for expenses planting whitefish at Monroe.....	6 50
	for expenses, procuring German carp, from Goshen, Indiana.....	5 70
		\$6,555 21
Balance on hand, December 1, 1880.....		3,469 79

INVENTORY

OF BUILDINGS, FURNITURE, FISH-HATCHERY APPARATUS, AND OTHER PROPERTY OF THE DETROIT STATE HATCHERY BELONGING TO MICHIGAN FISH COMMISSION, ON HAND DECEMBER 1, 1880.

Hatchery building.....	\$409 00
Out-buildings.....	25 00
454 feet 4-inch-bore stone tiling.....	90 00
300 Chase's self picking glass hatching jars.....	375 00
300 glass tubes for jars.....	99 00
30 Holton boxes and trays.....	150 00
15 tanks for Holton boxes.....	15 00
12 carrying boxes for transporting spawn.....	24 00
30 feet old rubber hose.....	1 50
40 fish cans.....	20 00
1 stove and pipe.....	20 00
1 grind-stone.....	2 00
1 clock.....	1 00
1 bed-lounge.....	5 00
1 mattress.....	1 00
2 quilts, 2 sheets, 1 pillow and cases.....	2 50
2 pairs rubber boots.....	7 00
2 oil-cloth coats and 1 rubber coat.....	10 00
1 oil-cloth hat.....	50
2 bracket lamps, two lanterns.....	3 00
1 oil can.....	50
1½ doz. tin pans.....	4 50
2 large tin pans.....	1 00
3 dippers.....	75
6 large tin pails.....	4 50
1 snow shovel.....	50
1 sprinkler.....	50
1 looking-glass.....	50
1 step-ladder.....	1 75
12 stools.....	1 50
1 pair large shears.....	2 00
1 pair pinchers.....	50
1 table.....	50
1 desk.....	50
2 thermometers.....	50
1 ax and helve.....	1 00
1 square.....	75
1 saw.....	1 00
1 hammer.....	75
1 bench vise.....	6 00
	\$1,290 00

INVENTORY

OF BUILDINGS, FURNITURE, FISH-HATCHING APPARATUS, AND OTHER
PROPERTY OF THE POKAGON STATE HATCHERY BELONGING TO
THE MICHIGAN FISH COMMISSION.

1 brace and bit.....	\$2 50
1 looking glass.....	50
6 small tin pans.....	90
1 large tin pan.....	50
2 long oil cloth coats.....	6 00
1 pair hip rubber boots.....	5 00
3 scoop nets with long handles.....	1 50
2 scoop nets with short handles.....	30
27 cans for carrying fish.....	8 10
1 scythe and snath.....	1 00
Total.....	\$2,289 47

Hatching house, ponds and fishery.....	\$1,192 00
Residence.....	396 00
Barn and outbuildings.....	50 00
Ice house.....	75 00
Shed for teams and storing hatching boxes.....	30 00
9 fish preserves, including partitions and passage ways.....	179 92
24 hatching troughs, with screens, trays and fixtures.....	108 00
2 spawning tanks.....	40 00
1 hand saw.....	1 00
36 large iron faucets and 12 wooden ones.....	24 00
3 dirt shovels.....	2 50
1 scoop shovel.....	1 25
2 steel garden rakes.....	1 50
1 grub ax.....	1 00
1 large fish-egg tin pail.....	1 00
1 kerosene can.....	50
2 heating stoves and pipe.....	15 00
250 feet 4-inch-bore pump logs.....	35 00
1 mattress.....	1 00
2 wool pillows.....	50
4 chairs.....	1 00
1 old table.....	5 00
50 feet old rubber tubing.....	75
2 thermometers.....	1 00
2 wash tubs.....	1 00
1 lantern.....	7 25
2 rubber overcoats.....	1 00
1 buck saw.....	1 00
2 sets ice tongs.....	1 50
Meat block and chopping ax.....	5 00
Iron pond rake.....	1 00
1 large seine.....	9 00
1 40-foot seine.....	13 00
Seal and set of dies for marking goods.....	50
1 hatchet.....	75
Ax and helve.....	10 00
One large tent, stakes, pole and fixtures.....	20 00
1 large seine, floats and fittings complete.....	50 00
1 3-spring wagon for hauling fish, etc.....	22 00
1 buck-board wagon.....	3 50
1 rubber cover.....	3 00
1 copying pad.....	3 50
1 office pen.....	16 00
2 row boats, with oars and fixtures.....	75
1 draw shave knife.....	

INVENTORY

OF BUILDING, FURNITURE, FISH-HATCHING APPARATUS OF THE
BOYNE FALLS STATE HATCHERY, BELONGING TO THE MICHIGAN
FISH COMMISSION.

Hatchery building.....	\$85 36
1 large tank, with supply and waste troughs.....	39 00
40 automatic hatching jars.....	50 00
40 glass tubes.....	13 20
1 stove and pipe.....	6 00
1 large tin pan.....	75
1 scoop net.....	15
Total.....	\$197 46

APPENDIX.

UNITED STATES FISHERY ACT.

The appended joint resolution is of special importance to the people of Michigan, as its provisions are in the interests of the lake fisheries as well as the coast. Besides, it will be noticed that it was under this Act that a U. S. Fish Commissioner was appointed and the U. S. Fish Commission established—a Bureau that has rendered to the Michigan Fish Commission, as well as to other State Commissions, services of great value:

JOINT RESOLUTION for the protection and preservation of the food-fishes of the coast and lakes of the United States.

WHEREAS, It is asserted that the most valuable food-fishes of the coast and the lakes of the United States are rapidly diminishing in number, to the public injury and so as materially to affect the interests of trade and commerce; therefore,

Be it resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That the President be, and he hereby is, authorized and required to appoint, by and with the advice and consent of the Senate, from among the civil officers or employes of the Government, one person of proved scientific and practical acquaintance with the fishes of the coast, to be Commissioner of Fish and Fisheries, to serve without additional salary.

SEC. 2. *And be it further resolved,* That it shall be the duty of said Commissioner to prosecute investigations and inquiries on the subject, with the view of ascertaining whether any and what diminution in the number of the food-fishes of the coast and the lakes of the United States has taken place; and, if so, to what cause the same is due; and also whether any protective, prohibitory, or precautionary measures should be adopted in the premises; and report upon the same to Congress.

SEC. 3. *And be it further resolved,* That the heads of the Executive Departments be, and they are hereby, directed to cause to be rendered all necessary and practicable aid to the said Commissioner in the prosecution of the investigations and inquiries aforesaid.

SEC. 4. *And be it further resolved,* That it shall be lawful for said Commissioner to take, or cause to be taken, at all times, in the waters of the sea-coast of the United States, where the tide ebbs and flows, and also in the waters of the lakes, such fish or specimens thereof as may in his judgment, from time to time, be needful or proper for the conduct of his duties as aforesaid, any law, custom, or usage of any State to the contrary notwithstanding.

Approved February 9, 1871.

ACT CREATING THE BOARD OF FISH COMMISSIONERS.

[No. 124.]

AN ACT to establish a Board of Commissioners to increase the product of the fisheries, and to make an appropriation therefor.

SECTION 1. *The People of the State of Michigan enact*, That it shall be the duty of the Governor, by and with the consent of the Senate, to appoint two persons, residents of this State, who, with the Governor, shall constitute a Board of Fish Commissioners. The persons so appointed shall hold their office until the expiration of the next regular session of the Legislature, whose duty it shall be to select a suitable location for a State fish-breeding establishment, for the artificial propagation and cultivation of whitefish and such other kinds of the better class of food-fishes as they may direct, upon the best terms possible. Said Board may receive from the State Treasurer all the expenses actually disbursed by them while in discharge of their respective duties.

SEC. 2. It shall be the duty of said Board to appoint one Superintendent of Fisheries of the State, whose duty it shall be to obtain the ova from such fish, and at such places as said Board may direct, take charge of the establishment during the hatching seasons, and report to the Governor annually upon the practical results and success of the enterprise; at a salary, however, not to exceed twelve hundred dollars per annum.

SEC. 3. The said Board may take, or cause to be taken, any fish in any manner, or at any time, for purposes connected with fish-culture or with scientific observation. And it shall further devolve upon said Board to supervise generally the fishing interests and secure the enforcement of all the laws relating to the protection of fish and fisheries in the State.

SEC. 4. The sum of seven thousand five hundred dollars is hereby appropriated for the year eighteen hundred and seventy-three, and a like sum for the year eighteen hundred and seventy-four, for the necessary expenses in carrying this act into effect, which the Treasurer shall pay to them on the warrant of the Auditor General, from time to time, as their vouchers for such expenses shall be exhibited and approved.

SEC. 5. In case appropriations by other States contiguous to the waters of the State of Michigan shall be made, and a disposition for a joint action with the State of Michigan be expressed, it shall devolve upon the Governor to communicate and arrange the action for the said Commissioners, with the Governors of said States.

Approved April 19, 1873.

[No. 11.]

JOINT RESOLUTION giving instruction to section four (4) of act number one hundred and twenty-four (124) of the laws of eighteen hundred and seventy-three, relative to the expenses incurred by the Board of Commissioners on fisheries.

[Approved February 20, 1875. Laws of 1875, p. 300.]

Resolved by the Senate and House of Representatives of the State of Michigan, That the years eighteen hundred and seventy-three, and eighteen hundred and seventy-four, mentioned in section four of act number one hundred and twenty-four, laws of eighteen hundred and seventy-three, shall be construed as commencing on the first day of July, eighteen hundred and seventy-three, and the first day of July eighteen hundred and seventy-four, and continuing for one year from said first days of July, respectively.

Approved February 20, 1875.

[No. 71.]

AN ACT to amend section one (1) of act number one hundred and twenty-four (124) of the session laws of eighteen hundred and seventy-three, entitled "An act to establish a Board of Commissioners to increase the product of the fisheries, and to make an appropriation therefor," approved April nineteen, eighteen hundred and seventy-three.

[Approved April 8, 1875. Laws of 1875, pp. 109-10.]

SECTION 1. *The People of the State of Michigan enact*, That section one (1) of act number one hundred and twenty-four (124) of the session laws of eighteen hundred and seventy-three, entitled "An act to establish a board of commissioners to increase the product of the fisheries, and to make an appropriation therefor," approved April nineteen, eighteen hundred and seventy-three, be amended so as to read as follows:

SECTION 1. *The People of the State of Michigan enact*, That it shall be the duty of the Governor, by and with the advice and consent of the senate, to appoint three persons, residents of this State, who shall constitute a board of fish commissioners. The persons so appointed shall hold their office, one for two years, one for four years, and one for six years; and their successors to be appointed at the expiration of the several terms of office, shall each hold their terms of office for six years. It shall be the duty of the persons so appointed to select a suitable location for a State fish-breeding establishment, for the artificial propagation and cultivation of whitefish and such other kinds of the better class of food fishes as they may direct, upon the best terms possible. Said board may receive from the State Treasurer all the expenses actually disbursed by them while in discharge of their respective duties.

SEC. 2. This act shall take immediate effect.

[No. 117.]

AN ACT making appropriation for the board of fish commissioners for the year eighteen hundred and seventy-five and the year eighteen hundred and seventy-six.

[Approved April 8, 1875. Laws of 1875, p. 151.]

SECTION 1. *The People of the State of Michigan enact*, That the sum of seven thousand dollars is hereby appropriated for the year eighteen hundred and seventy-five, commencing July first, eighteen hundred and seventy-five, and ending June thirty, eighteen hundred and seventy-six, and a like sum for the year eighteen hundred and seventy-six, commencing July first, eighteen hundred and seventy-six, and ending June thirty, eighteen hundred and seventy-seven, for the necessary expense incurred by the board of fish commissioners, which the State Treasurer shall pay to said board on the warrant of the Auditor General, from time to time, as their vouchers for such expenses shall be exhibited and approved.

SEC. 2. This act shall take immediate effect.

GENERAL FISH LAWS.

GENERAL LAW ON THE PROTECTION OF FISH AND PRESERVATION OF FISHERIES.

"AN ACT to protect fish and preserve the fisheries of this State."

[Approved March 21, 1865. Laws of 1865, p. 717.]

(2072.) SECTION 1. *The People of the State of Michigan enact*, That it shall be unlawful for all persons to put into any of the waters of this State, where fish are taken,

any offal, blood, putrid brine, putrid fish, or filth of any description; and any person so offending shall be fined in any sum not exceeding three hundred dollars, or imprisonment not exceeding thirty days, or both, at the discretion of the court.

(2073.) SEC. 2. All fish, offal, or filth of any description whatsoever, accruing from the catching and curing of fish, shall be burned or buried ten rods distant from the beach or shore of the river or lake.

(2074.) SEC. 3. The size of the meshes of all the lead of pound or trap nets used in the waters of this State, shall not be less than five inches in extension, knot to knot; and the size of the meshes of all the pot of said nets, shall not be less than two and a half inches in extension, knot to knot, in pound or trap nets used for catching white-fish; and the size of the meshes of all the lead of pound or trap nets used in catching other kinds of fish, shall not be less than four inches in extension, knot to knot; and the size of the meshes of all the pot of said pound or trap nets shall not be less than two inches in extension, knot to knot, under penalty and on pain of forfeiture of the nets, or fine not exceeding three hundred dollars, or both, at the discretion of the court: *Provided*, That the penalties of this section shall not apply or work injury to persons who are the present owners of pound or trap nets, but apply to all pound or trap nets hereafter manufactured.

(2075.) SEC. 4. The spawn of all the white fish caught shall be forthwith deposited, by all persons catching said fish, in the waters in or near the spawning places from which said fish were taken.

(2076.) SEC. 5. No speckled trout shall be killed at any time, by means of nets or seines, in any inland lake, river, or stream.

(2077.) SEC. 6. Any act in contravention of sections two, four, and five of this act, shall subject all parties concerned in the breach of the said sections, whether the actual transgressors or accessories, to a penalty of not more than one hundred dollars nor less than twenty-five dollars with all expense of prosecution, or to imprisonment in the county jail for a period not exceeding thirty days, or both, at the discretion of the court.

(2078.) SEC. 7. The board of supervisors of each county, or a majority of them, shall from time to time, make rules and regulations for regulating the fishing with pound or trap nets, gill nets and line, and all manner of fishing tackle carried on upon all lake and river shores, or upon any water adjacent to or passing through any county of this State.

(2079.) SEC. 8. The board of supervisors of each county, or a majority of them, shall grant, on the application of any transient or non-resident person or persons, a written permission or license for one year, for each and every pound or trap net used, on payment of fifty dollars legal money. All persons concerned in the breach of this act, shall forfeit the sum of one hundred dollars, with all costs of suit. It shall be the duty of the board of supervisors, or a majority of them, to enforce the provisions of this act; and all moneys accruing from fishing licenses and forfeitures shall be paid over to the county treasurer.

(2080.) SEC. 9. All forfeitures occurring under sections one, two, three, four, five, six, eight, and nine of this act may be recovered by action of debt, with costs of suit, before any court of competent jurisdiction, one moiety thereof to the person who sues for the same, and the other moiety to be paid into the hands of the county treasurer, which [shall] be exclusively used as a pauper fund.

(2081.) SEC. 10. It shall be unlawful for any person or persons to put into any of the waters fronting or bordering land where fish are taken by the legal owners or occupants of such lands, any vessel or ship ballast, stone, sand, coal, cinder, ashes, log or to place or drive any pound net piles or stakes, or any other piles or stakes, or posts, or build any platforms or piers, or any species of seines or continuous trap nets, to the extent of the breadth of such legal owner or occupant's lands so far as the channel banks of the rivers, and to one mile from the beach or shore, at low-water mark of the lakes, straits, inlets, and bays on said waters fronting such owner or occupant's lands, and it shall subject any boat owner, or captain of any vessel, to a fine of not exceeding fifty dollars, who shall willfully run into or molest any pound net, trap, or other stationary nets, or fixtures set in the lakes for fishing purposes.

(2082.) SEC. 11. Any person or persons offending against the provisions of section ten of this act, shall be deemed guilty of a misdemeanor, and, on conviction thereof, shall be liable to a fine not exceeding one hundred dollars, or imprisonment in the county jail not more than ninety days, or both such fine and imprisonment, in the discretion of the court; and such person or persons shall also be liable civilly for all

¹ As added by Act 94 of the laws of 1869, p. 159, approved and took effect April 2, 1869.

damages done such fishing grounds to the legal owners or occupants thereof, to be recovered in an action of trespass, in any court of the county where such fishing grounds may be situate, having jurisdiction thereof.¹

AN ACT to prevent fishing with seines and every kind of continuous nets, in waters of the counties of Branch, Livingston, Cass, St. Joseph, Kent, Ionia, Genesee and Calhoun, or in any of the lakes, rivers, or streams of Macomb county.

[Approved March 9, 1867. Laws of 1867, p. 58.]

(2083.) SECTION 1. *The People of the State of Michigan enact*, That it shall not be lawful hereafter to fish with seines or any species of continuous nets in any of the inland lakes or small streams of the counties of Branch, Livingston, Cass, St. Joseph, Kent, Ionia, Genesee, and Calhoun, nor in any of the lakes, rivers, or streams of Macomb county.

(2084.) SEC. 2. Any person offending against any of the provisions of this act, on conviction thereof, be liable to a fine of not more than one hundred dollars, or imprisonment in the county jail not more than sixty days, to be determined by a court of competent jurisdiction.

AN ACT to amend an act entitled "An act to amend an act to amend an act to prevent fishing with seines, and every kind of nets in certain counties in the State of Michigan," approved March sixteen, eighteen hundred and sixty-one.²

[Approved March 4, 1865. Laws of 1865, p. 163.]

SECTION 1. *The People of the State of Michigan enact*, That section one of an act entitled "An act to amend an act entitled 'An act to prevent fishing with seines and every kind of nets, in certain counties in the State of Michigan,'" and approved March sixteenth, eighteen hundred and sixty-one, be and the same is hereby amended so as to read as follows:

(2085.) SECTION 1. That it shall not be lawful hereafter to fish with seines or any species of continuous nets, in any of the inland lakes or small streams of the county of Jackson, Hillsdale, Washtenaw, Van Buren, Calhoun, Kalamazoo, Barry, Eaton and the townships of Rollin, Medina, Seneca, Dover, Hudson, Cambridge, Franklin Woodstock, in Lenawee county.

(2086.) SEC. 2. Any person offending against any of the provisions of this act shall on conviction thereof, be liable to a fine of not over one hundred dollars, or imprisonment in the county jail not over sixty days, to be determined by a court of competent jurisdiction.

SEC. 3. This act shall take immediate effect.

AN ACT to prevent fishing with seines and pound and trap nets in the small inland lakes and streams in the State of Michigan.

[Approved March 16, 1865. Laws of 1865, p. 352.]

(2087.) SECTION 1. *The People of the State of Michigan enact*, That it shall not be lawful hereafter to fish with seines, trap nets, pound nets, or any species of continuous nets, in any of the inland lakes or small streams of all the territory, according to the United States survey, north of the township line numbered twenty north.

(2088.) SEC. 2. Any person offending against the provisions of this act shall, on conviction thereof, be liable to a fine of not over one hundred dollars, or imprisonment in the county jail not over sixty days, to be determined by a court of competent jurisdiction.

¹ As added by Act 94 of the laws of 1869, p. 159, approved and took effect April 2, 1869.
² This amendatory act inserted in the place of the original, as it supersedes it.

AN ACT to amend an act entitled "An act to provide for the erection and maintenance of shutes for the passage of fish through the dams across the streams of this State."¹

[Approved March 21, 1865. Laws of 1865, p. 685.]

(2089.) SECTION 1. *The People of the State of Michigan enact*, That an act entitled "An act to provide for the erection and maintenance of shutes for the passage of fish through the dams across the streams in this State," approved March sixteenth, in the year of our Lord eighteen hundred and sixty-one, be and the same is hereby amended so as to read as follows:

(2090.) SEC. 2. There shall be erected and maintained in each dam across any stream which by law is a public highway, by the owner or occupant thereof, or by those persons using the waters thereof, through the medium of any canal or race, sufficient and permanent shutes to admit the passage of fish in such stream during the months of April, May, and June in each year; and if the owner or occupant of any such dam, or person or persons using the water thereof, through the medium of any canal or race, shall neglect or refuse for the period of sixty days to construct and maintain such shutes, as aforesaid, whenever requested, in writing, so to do by any ten freeholders of the same county, such person or persons shall be deemed guilty of a misdemeanor, and for each and every sixty days that such person or persons shall so neglect or refuse, he or they shall be punished by a fine not exceeding one hundred dollars, or by imprisonment in the county jail not exceeding ninety days, or by both such fine and imprisonment, in the discretion of the court.

(2091.) SEC. 3. Whoever obstructs the main channel or course of any river or creek, by placing therein nets or fishing apparatus of any kind whatever, for the purpose of taking or stopping fish of any kind, shall thereby incur for each offense a fine not exceeding twenty-five dollars; and in no case shall the said channel or course so left open be less than one-third of the whole breadth of the river.

AN ACT to prevent the obstruction of the free passage of fish along streams and inland rivers, by the interposition of fish weirs, weir dams, or weir nets.

[Approved March 30, 1869. Laws of 1869, p. 145.]

(2092.) SECTION 1. *The People of the State of Michigan enact*, That it shall not be lawful for any person or persons to place a weir dam, fish weir, or weir net across any race, drain, or stream, or inland river of this State, in such a manner as to obstruct the free passage of fish up and down the same; and any person violating the provisions of this act shall be liable to a penalty of not less than five nor more than fifty dollars for each such violation, and also for the payment of two dollars additional for every day he shall continue to keep up such fish weir or weir net, in violation of this act, after having been duly notified by any elector of the township wherein such fish weir or weir net may be, feeling himself aggrieved thereby, to remove the same; said penalty or penalties to be recovered before any court of competent jurisdiction, in the township or county where such offense shall have been committed.

SEC. 2. This act shall take immediate effect.

¹ This amendatory act is inserted in the place of the original, as it supersedes it.
² As amended by Act 66 of the laws of 1867, p. 94, approved March 20, 1867.

AMENDMENTS TO GENERAL FISH LAW.

The following are the amendments of the General Law:

AN ACT to amend section two thousand and eighty-seven of the compiled laws eighteen hundred and seventy-one, being section one of an act entitled "An act to prevent fishing with seines and pound or trap-nets in the small inland lakes and streams in the State of Michigan," approved March eleven, eighteen hundred and sixty-five.

SECTION 1. *The People of the State of Michigan enact*, That section two thousand and eighty-seven of the compiled laws of eighteen hundred and seventy-one be and the same is hereby amended so as to read as follows:

(2087.) SECTION 1. *The people of the State of Michigan enact*, That it shall not be lawful hereafter at any time to fish with seines, trap-nets, pound-nets, dip-nets, any species of continuous nets, or during the months of March, April, May, and June by spearing or shooting in any of the waters of the State of Michigan, except Lake Michigan, Superior, Huron, St. Clair, the St. Clair and the Detroit Rivers, and Lake Erie: *Provided*, Nothing in this act shall be construed as prohibiting the sole owner of fish ponds from fishing therein, as they may think proper, or as prohibiting any person from catching mullet, suckers, reddsides, wall-eyed pike, or sturgeon, during the months of March, April and May, by spearing or with dip-nets.

Approved March 27, 1873.

AN ACT to amend section five of an act entitled "An act to protect fish and preserve the fisheries of the State," approved March twenty-first, eighteen hundred and sixty-five, being section two thousand and seventy-six of the compiled laws of eighteen hundred and seventy-one.

SECTION 1. *The People of the State of Michigan enact*, That section five (5) of an act entitled "An act to protect fish and preserve the fisheries of this State," be and the same is hereby amended so as to read as follows: No speckled trout or grayling shall be killed at any time by means of nets, traps, or seines, in any inland lake, river or stream, nor by any other means, between the first day of October and the first day of April next succeeding.

Approved April 15, 1873.

[No. 188.]

AN ACT to regulate the catching of fish in certain waters of this State.

[Approved May 1, 1875. Laws of 1875, p. 221.]

SECTION 1. *The People of the State of Michigan enact*, That no person shall extend any pound, trap, stake, or set-net of any kind, or any other device for the purpose of taking fish in Lake Erie (within the jurisdiction of this State), further than one mile in an easterly direction measured from a line running from Point Moville, in township of Berlin, in Monroe county, in this State, to Stony Point, in said county, nor further than one mile out from a line running from Stony Point to Raisin Point, in said county, nor further than one mile out from a line running from Raisin Point to Bay Point, or North Cape, of Maumee Bay, at the State line between the States of Michigan and Ohio. Nets, or other devices for taking fish, extending from the shores of islands in Lake Erie within this State, shall not be extended further than one mile from shore of said islands.

SEC. 2. No person shall use any pound, trap, stake, or set-net, or device of any kind for taking fish, in the Detroit River, or the head of Lake Erie to Point Moville, one mile in an easterly direction from said point, nor in Lake St. Clair within a radius of two miles from the different mouths or outlets of St. Clair River, or within a radius of the same distance from the present light-house, near the outlet of Lake St. Clair, within the waters of this State.

¹ As added and approved May 21, 1875.

SEC. 3. No person shall use any net whatever, or device of any kind, for the purpose of catching fish, in the waters of Lake Erie or St. Clair, within this State, beyond such limits as may be designated in this act. No person shall use any pound, trap, stake, fyke, set-net, or device of any kind for taking fish, in the St. Clair River within the jurisdiction of this State, excepting as provided for in section four of this act.

SEC. 4. No sweep net exceeding one hundred and fifty fathoms in length shall be used in any waters in this State for the purpose of taking fish. No sweep net exceeding sixty fathoms in length shall be used in the waters of Detroit River or St. Clair River within the boundaries of this State.

SEC. 5. No person shall attach, either directly or indirectly, to any bridge across either of said Detroit River or St. Clair River, or to any pier, part, or appurtenance of said bridge, or net or device by which the passage of fish shall be prevented or impeded. No bridge company, or other company, or person having the control of such bridge, shall license or permit, either for hire or gratuitously, any such net or device to be in any way attached thereto, or to any part thereof.

SEC. 6. It shall not be lawful for any person to catch or take whitefish between the twentieth day of November and the first day of March succeeding in each year, in any of said waters of Lake Erie or Detroit and St. Clair Rivers; and immediately after said twentieth day of November, all nets, piles, stakes, and all other appliances of every kind which have been used in the business of fishing, shall be carried or caused to be carried to the shore, or inside the channel bank, by the person or persons who have used them; and they shall also cause the ground beneath the waters where such fishing has been carried on, to be cleared, so far as may be reasonable to be done, from all debris and material found thereon, which has resulted from said business.

SEC. 7. Any person who shall attempt to divert the natural progress or running of whitefish within any of the waters mentioned in the different sections of this act, by shingling, or any other device calculated to frighten or divert such fish from their natural course, shall forfeit the sum of one hundred dollars, and imprisonment not exceeding sixty days, at the discretion of the court. Pound nets or seine shall not be construed to come within the provisions of this section, when used in compliance with this act.

SEC. 8. Any person charged with offending against the provisions of this act, may be tried before a justice of the peace of the county in which the offense is charged to have been committed, in the same manner as other offenders are tried where the justice has jurisdiction, and, upon conviction, such person shall be subject to a fine not exceeding fifty dollars, for each and every offense, and to imprisonment in the county jail until such fine is paid; but not for a period exceeding sixty days.

SEC. 9. It shall be the duty of said Commissioners of State Fisheries, or of the sheriffs of the different counties in their respective jurisdictions, to enforce the provisions of this act, and when, upon information or otherwise, said Commissioners or sheriffs shall discover any violations thereof, to institute the necessary proceedings to punish such violation.

SEC. 10. No part of this act shall be construed as a prohibition upon fishing with hooks or with spears, or any instrument or device similar in principle of its operation to such hooks or spears, at any time, and in any waters, nor upon fishing with sweep nets of any length not exceeding one hundred and fifty fathoms, in the waters where pound, stake, trap, or set-nets, or set devices of any kind for taking fish, may be used under the provisions of this act.

SEC. 11. It shall not be lawful to use sweep nets within two miles of the mouths of St. Clair River during the months of December, January, and February, in each year, nor to use seines in the above-named locality during the spawning season of black bass.

SEC. 12. Nothing in this act contained shall prohibit the catching of soft fish, sturgeon, pike, or carnivorous fish at any time.

[No. 195.]

AN ACT to amend section two of chapter sixty-three, being section two thousand and ninety of the compiled laws of eighteen hundred and seventy-one, relative to the protection of fish and the preservation of fisheries.

[Approved May 1, 1875. Laws of 1875, p. 227.]

SECTION 1. *The People of the State of Michigan enact*, That section two of chapter sixty-three, being compiler's section two thousand and ninety of the compiled laws

of eighteen hundred and seventy-one, be and the same is amended so as to read as follows:

SEC. 2. There shall be erected and maintained in each dam across any stream which by law is a public highway, by the owner or occupant thereof, or by any person or persons, or the officers of any corporation using the waters thereof, through the medium of any canal or race, sufficient and permanent shutes or fish ladders to admit the passage of fish in such stream during the months of April, May and June in each year; and if the owner or occupant of any such dam, or person or persons, or the officers of any corporation using the waters thereof through the medium of any canal or race, shall neglect or refuse for the period of sixty days to construct and maintain such shutes or fish ladders as aforesaid, whenever requested in writing so to do by the Fish Commissioner of this State, such person or persons, or officers of any corporation, shall be deemed guilty of a misdemeanor, and for each and every sixty days that such person or persons, or officers of such corporation, shall so neglect or refuse, he or they shall be punished by a fine not exceeding five hundred dollars, or by imprisonment in the county jail not exceeding ninety days, or by both such fine and imprisonment, in the discretion of the court.

SEC. 2. There shall be added to said act one section to stand as section four, to read as follows:

SEC. 4. In respect to the construction and maintenance of fish shutes or fish ladders at dams owned by corporations, the duties and liabilities imposed by this act shall devolve and be imposed upon the president and secretary of such corporation.

[No. 204.]

AN ACT to amend an act entitled "An act to amend section five of an act entitled 'An act to protect fish and preserve the fisheries of this State,' approved March twenty-first, eighteen hundred and sixty-five, being section two thousand and seventy-six of the compiled laws of eighteen hundred and seventy-one," approved April fifteen, eighteen hundred and seventy-three.

[Approved May 3, 1875. Laws of 1875, p. 232.]

SECTION 1. *The People of the State of Michigan enact*, That an act entitled "An act to amend section five of an act entitled 'An act to protect fish and preserve the fisheries of this State,' approved March twenty-first, eighteen hundred and sixty-five, being section two thousand and seventy-six of the compiled laws of eighteen hundred and seventy-one," approved April fifteen, eighteen hundred and seventy-three, be and the same is hereby amended so as to read as follows:

(2076.) SEC. 5. No person shall catch or take from any lake, river, or stream of this State, by any means whatsoever, any speckled trout from the first [day] of September in any year until the first day of May following thereafter; nor shall any person catch or take any grayling, by any means whatsoever, from any such lake, river, or stream, from the first day of November, in any year, until the first day of June following thereafter; nor shall any person purchase, buy, or sell any such fish during said prohibited time; nor shall any person take or catch any speckled trout or grayling, in any such lake, river, or stream, by means of a spear, net, or seine, or in any other manner whatever, except by hook and line, at any time during the year. In all prosecutions under this act it shall be *prima facie* sufficient on the part of the people to show that the defendant was found in possession of any such fish at any time within the period when the catching or taking of such fish is prohibited as aforesaid. It is hereby made the duty of the prosecuting attorney, the sheriff and his deputies, and every constable of any county, and the supervisor of any township, to prosecute any person for a violation of any of the provisions of this section when complaint is made before a justice of the peace. It shall be lawful, however, for the Superintendent of Fisheries to give permits in writing to any person to catch or take any such fish in such manner as such superintendent shall direct, at any season of the year, for the purposes of propagation; but in any prosecution for a violation of any of the provisions of this section, such permission must be shown affirmatively by the defendant.

SEC. 2. This act shall take immediate effect.

GAME LAWS.

The protection of game, and the preservation of elk, deer, birds, and wild fowl, are so intimately connected with the subject of fish culture and the preservation of our waters and fisheries, that it is deemed proper to give the Game Laws a place with the compiled Fish Laws. Parties having occasion to refer to either classes will find the reference under one head of great convenience:

THE GAME LAWS OF MICHIGAN.

AN ACT to revise and consolidate the several acts relating to the protection of game, and for the better preservation of elk, deer, birds, and wild fowl.

[Approved April 3, 1869. Laws of 1869, p. 211.]

(2093.) SECTION 1. *The People of the State of Michigan enact*, That no person or persons shall pursue, or hunt, or kill any wild elk, wild buck, doe, or fawn, save only during the months of October, November, and December in each year, or kill or destroy, by any means whatever, or attempt to take or destroy any wild turkey at any time during the year, except in the months of September, October, November, and December, in each year; or kill or destroy, by any means whatever, any woodcock until after the fifth day of July, nor any prairie chicken, or pinated grouse, ruffed grouse, commonly called partridge, or pheasant, or any wood duck, teal duck, or mallard duck, save only from the fifth day of August in each year to the first day of February next following.¹

(2094.) SEC. 2. No person or persons shall kill or destroy, or attempt to kill or destroy, any quail, sometimes called Virginia partridge, save only during the months of October, November, and December, in each year; and no person or persons shall kill or destroy any quail in this State, at any time after the passage of this act, until the first day of October, eighteen hundred and seventy-two, under a penalty of five dollars for each quail destroyed.¹

(2095.) SEC. 3. No person or persons shall at any time, with a trap, or snare, or net, take any partridge, prairie chicken, wood duck, teal duck, mallard duck, or quail, or attempt to take, with any trap, snare, or net, any partridge, prairie chicken, or quail: *Provided, however*, That it shall be lawful to trap quail and take them alive, for the purpose of keeping them alive through the winter, and for no other purpose whatever; and it shall also be lawful to take with a trap, snare, or net, any wood duck, teal duck, or mallard duck for breeding purposes.¹

(2096.) SEC. 4. No person or persons shall at any time kill or attempt to kill any wild duck, or other wild fowl, with or by means of a swivel or punt gun, or rob or destroy the nests of any wild ducks or wild geese, or in any manner kill or molest the same whilst they are sitting at night on their nesting places.

(2097.) SEC. 5. No person or persons shall sell, or expose for sale, or have in his or her possession for the purpose of selling or exposing for sale, any of the birds or animals protected by this act after the expiration of thirty days next succeeding the times limited and prescribed for the killing of any such birds or animals: *Provided, however*, That it shall be lawful to expose for sale, and to sell, any live quail for the purpose of preserving the same alive through the winter.¹

(2098.) SEC. 6. Any person or persons violating any of the foregoing provisions of this act shall be deemed guilty of a misdemeanor, and shall likewise be liable to a penalty of fifty dollars for each offense, and shall on conviction thereof, stand committed to the county jail until such penalty is paid, provided that such imprisonment shall not exceed thirty days.

(2099.) SEC. 7. No person shall at any time, within this State, kill any robin, night-nawk, whippoorwill, finch, thrush, lark, sparrow, cherry bird, swallow, yellow bird, blue bird, brown thrasher, wren, martin, oriole, woodpecker, bobolink, or any song bird, nor rob the nest of such birds, under a penalty of five dollars for each bird so killed, and for each nest so robbed.

(2100.) SEC. 8. That any railroad, express company, or other common carrier, or

¹ As amended by Act 135 of the Laws of 1871, p. 212, approved and took effect April 15, 1871.

any of their agents, or servants, or other persons having any of the above named birds or animals in their possession for transportation, or shall transport the same, after the expiration of the thirty days next succeeding the times limited and prescribed for the killing of such birds or animals, shall be punished by fine not less than ten dollars, nor more than one hundred dollars: *Provided*, That such penalty shall not apply to the transportation of live quail which are to be kept alive through the winter, or to the transportation of such birds or animals *in transitu* through this State from other States, where it is lawful to kill such birds or animals at the time of such transportation.¹

(2101.) SEC. 9. No person or persons shall use any gun or guns, or fire-arms, to maim, kill, or destroy any wild pigeon or pigeons, at or within one-half mile of the place or places where they are gathered in bodies for the purpose of brooding their young, known as pigeon nestings; and no person or persons shall use any gun, guns, or fire-arms, to maim, kill, or destroy, any wild pigeon or pigeons within their nestings, anywhere within the limits of this State; and every person so offending against the provisions of this section, or any part thereof, shall be subject to a penalty of fifty dollars, with costs of suit.

(2102.) SEC. 10. A prosecution may be brought by any person in the name of the people of the State of Michigan against any person or persons violating any of the provisions of this act, before any justice of the peace of any county in which such violation is alleged to have taken place, or before any court of competent jurisdiction; and it is made the duty of all prosecuting attorneys in this State to see that the provisions of this act are enforced in their respective counties, and they shall prosecute all offenders, on receiving information of the violation of any of the provisions of this act; and it is made the duty of sheriffs, under-sheriffs, deputy-sheriffs, constables, and police-officers, to inform against and prosecute all persons whom there is probable cause to believe are guilty of violating any of the provisions of this act.

(2103.) SEC. 11. The provisions of this act shall not apply to any person who shall kill any of the birds or animals protected by this act for the sole purpose of preserving them as specimens for scientific purposes, nor to any person who shall collect the eggs or nests of any bird for such scientific purposes: *Provided*, That in a prosecution for the violation of any of the provisions of this act it shall not be necessary for the prosecution to prove that the killing of the bird or animal, or the taking of the nest or eggs, as the case may be, was not done for scientific purposes.

(2104.) SEC. 12. All prosecutions under the provisions of this act shall be commenced within three months from the time such offense was committed.

(2105.) SEC. 13. All acts and parts of acts contravening any of the provisions of this act are hereby repealed.

AN ACT to prevent the destruction of muskrat and muskrat houses, in the marshes along the shores of Lakes Erie, St. Clair, Huron, and Michigan.

[Approved April 3, 1869. Laws of 1869, p. 187.]

(2106.) SECTION 1. *The People of the State of Michigan enact*, That no person or persons shall kill, destroy, or take, by any means whatsoever, within the limits of the marshes bordering on the waters of Lake Erie, Detroit River, Lake St. Clair, River St. Clair, Lake Huron, and Lake Michigan, any muskrat found in said marshes, or in or on the banks of any bayous or creeks in said marshes, between the fifteenth day of April and the first day of January, under the penalty of three dollars for each muskrat so killed, destroyed, or taken, in violation of this act.

(2107.) SEC. 2. It shall be unlawful for any person or persons to destroy or disturb any muskrat houses in said marshes, under penalty of five dollars for each muskrat house destroyed in violation of this act.

(2108.) SEC. 3. Every penalty prescribed by the preceding sections of this act shall be sued for in the name of the people of the State of Michigan, before any justice of the peace in the county where the alleged offense was committed, which suit shall be commenced and carried on the same manner that prosecutions for misdemeanors are, and the penalties collected in pursuance of this act shall be paid into the county treasury of the county where the offense was committed, for the support of the township libraries of such county.

(2109.) SEC. 4. This act shall not be so construed as to prevent the catching and killing of any animals specified in the foregoing sections, where there is danger of their doing injury to property, either public or private.

¹ Vide Note to Section 1 of this Act.

AN ACT to amend section one of an act entitled "An act to revise and consolidate the several acts relating to the protection of game, and for the better preservation of elk, deer, birds, and wild fowl," approved April third, eighteen hundred and sixty-nine, being section two thousand and ninety-three of the compiled laws of eighteen hundred and seventy-one.

SECTION 1. *The People of the State of Michigan enact*, That section one of an act entitled "An act to revise and consolidate the several acts relating to protection of game, and for the better preservation of elk, deer, birds, and wild fowl," approved April three, eighteen hundred and sixty-nine, being section two thousand and ninety-three of the compiled laws of eighteen hundred and seventy-one, be and the same is hereby amended so as to read as follows:

(2093.) SECTION 1. *The People of the State of Michigan enact*, That no person or persons shall pursue, or hunt, or kill any wild elk, wild buck, doe or fawn, save only during the months of October, November, and December in each year; or kill, or attempt to take or destroy, any wild turkey at any time during the year, except in the months of September, October, November, and December, in each year; or kill, or destroy, by any means whatever, any woodcock until after the fifth day of July; or any prairie chicken, or pinnated grouse, ruffled grouse, commonly called partridge or pheasant, or any wood duck, teal duck, or mallard duck, save only from the first day of September in each year, to the first day of January next following.

Approved March 27, 1873.

[No. 201.]

AN ACT to amend sections one and eight of an act entitled "An act to revise and consolidate the several acts relating to the protection of game, and for the better preservation of elk, deer, birds, and wild fowl," approved April third, eighteen hundred and sixty-nine, being sections two thousand and ninety-three and two thousand one hundred, of the compiled laws of eighteen hundred and seventy-one, as amended by act number forty-six of the session laws of eighteen hundred and seventy-three.

[Approved May 3, 1875. *Laws of 1875, p. 231.*]

SECTION 1. *The People of the State of Michigan enact*, That sections one and eight of an act entitled "An act to revise and consolidate the several acts relating to the protection of game, and for the better preservation of elk, deer, birds and wild fowl," approved April third, eighteen hundred and sixty-nine, being sections two thousand and ninety-three, and two thousand one hundred, of the compiled laws of eighteen hundred and seventy-one, as amended by act number forty-six of the session laws of eighteen hundred and seventy-three, be and is hereby amended so as to read as follows:

(2093.) SEC. 1. That no person or persons shall pursue, or hunt, or kill any wild elk, wild buck, doe, or fawn, save only in the Upper Peninsula, from the first day of August, and in the Lower Peninsula from the fifteenth day of September, to the fifteenth day of December in each year, or kill or destroy by any means whatever, or attempt to take or destroy any wild turkey, at any time during the year, except in the months of October, November, and December in each year, or kill, or destroy, by any means whatever, any woodcock until after the fifth day of July, or any prairie chicken, or pinnated grouse, ruffled grouse, commonly called partridge or pheasant, or any wood duck, teal duck, or mallard duck, or any water fowl, save only from the first day of September in each year to the first day of January next following.

(2100.) SEC. 8. That any railroad, express company, or other common carriers, or any of their agents or servants, or other persons having any of the above named birds or animals in their possession for transportation, or shall transport the same after the expiration of ten days next succeeding the time limited and prescribed for the killing of such birds or animals, shall be punished by fine not less than ten dollars, nor more than one hundred dollars: *Provided*, That such penalty shall not apply to the transportation of live quail which are to be kept alive throughout the winter, or to the transportation of such birds or animals *in transitu* through this State, from other States where it is lawful to kill such birds or animals at the time of such transportation.

[No. 64.]

AN ACT to amend section one of chapter sixty-four, compiled laws of eighteen hundred and seventy-one, as amended by act number forty-six of the session laws of eighteen hundred and seventy-three, as amended by act number two hundred and one of the session laws of eighteen hundred and seventy-five, approved May third, eighteen hundred and seventy-five, relative to the preservation and protection of game.

SECTION 1. *The People of the State of Michigan enact*, That section one of chapter sixty-four of the compiled laws of eighteen hundred and seventy-one, being chapter's section two thousand and ninety-three, as amended by act number forty-six of the session laws of eighteen hundred and seventy-three, as amended by act number two hundred and one of session laws of eighteen hundred and seventy-five, and approved May third, eighteen hundred and seventy-five, be amended so as to read as follows:

(2093.) SECTION 1. That no person or persons shall pursue, or hunt, or kill any wild elk, wild buck, doe, or fawn, save only in the Upper Peninsula, from the first day of August to the fifteenth day of November, and in the Lower Peninsula from the fifteenth day of September to the fifteenth day of December in each year, or kill or destroy by any means whatever, or attempt to take or destroy any wild turkey, at any time during the year, except in the months of October, November, and December in each year, or kill or destroy by any means whatever, any woodcock between the fifth day of July and the first day of January, or any prairie chicken, or pinnated grouse, ruffled grouse, commonly called partridge or pheasant, or any wood duck, teal duck, mallard duck, or gray duck, save only from the first day of September in each year, to the first day of January next following.

SEC. 2. This act shall take immediate effect.

Approved April 21, 1877.

[No. 104.]

AN ACT to encourage the propagation of fish in the State of Michigan.

SECTION 1. *The People of the State of Michigan enact*, That it shall be unlawful for any person or persons to kill or take speckled trout or other fish from any private lake, pond, or stream used for the propagation of such fish (except by the consent of the proprietor of such lake, pond, or stream).

SEC. 2. Any person or persons violating section one of this act shall be deemed guilty of a misdemeanor, and, upon conviction, shall pay a fine of not less than ten dollars and not exceeding one hundred dollars for each offense, and shall, on conviction thereof, stand committed to the county jail until such penalty is paid: *Provided*, That such imprisonment shall not exceed three months.

SEC. 3. A prosecution may be brought in the name of the people of the State of Michigan against any person or persons violating the provisions of this act, before any justice of the peace of the county in which such violation is alleged to have taken place, or before any court of competent jurisdiction; and it is made the duty of all prosecuting attorneys in this State to see that the provisions of this act are enforced in their respective counties, and they shall prosecute all offenders on receiving information of the violations of this act.

SEC. 4. It shall be the duty of the proprietor of any such private lake, pond, or stream, who is engaged in the propagation of fish as contemplated by this act, to post or cause to be posted in a conspicuous manner, at places not more than twenty rods apart, commencing on either side of such private lake, pond, or stream where it enters the premises of the owner sought to be protected, and extending along or near either bank to the place where such waters leave such premises, public notices, painted on boards in large and plain letters, that the owner, naming him, is engaged in such business, and all persons are prohibited from killing, taking, or catching any fish in the waters within the limits of such notices.

Approved May 9, 1877.

[No. 122.]

AN ACT for the incorporation of associations for yachting, hunting, boating, fishing, rowing, and other lawful sporting purposes.

SECTION 1. *The People of the State of Michigan enact*, That any ten or more persons of full age, citizens of the United States, a majority of whom shall also be citizens of this State, who shall desire to associate themselves for yachting, hunting, fishing, boating, rowing, and other lawful sporting purposes, may make, sign, and acknowledge before any officer authorized to take acknowledgment of deeds in this State, and file in the office of the Secretary of State, and also in the office of the county clerk where the business of the association shall be conducted, a certificate in writing, in which shall be stated the name or title by which such association shall be known in law; the particular business and object of such association; the number of directors or managers to manage the same, and the names of such directors, or managers, for the first year of its existence, but nothing in this act contained shall authorize the incorporation of any association for any purpose repugnant to any statute of this State or prohibited thereby.

SEC. 2. Upon filing a certificate as aforesaid, the persons who shall have signed and acknowledged the same, and their associates, and successors, shall thereupon, by virtue of this act, be a body politic and corporate by the name stated in such certificate, and by that name they and their successors shall and may have succession and shall be persons in law, capable of suing and being sued, and they and their successors may have and use a common seal, and the same may alter and change at pleasure; and of taking and receiving real and personal estate, either by purchase, gift, grant, lease, or bargain and sale, devise and bequest, not exceeding twenty-five thousand dollars in the aggregate, for the purpose of their corporation, but for no other purpose, and the same at pleasure, grant, bargain, mortgage, sell or lease, for the use of said association; make all needful rules, regulations, and by-laws for the management of its affairs, not inconsistent with the constitution and laws of the State or of the United States, to elect and appoint the officers and agent of such association, and to allow them a suitable compensation.

SEC. 3. As soon as such certificate shall have been filed as above provided, any ten of the corporators may call the first meeting of such association in the following manner, that is to say, they shall file with the said county clerk and the Secretary of State a written call for the said meeting, which call shall be signed by such persons, and shall briefly set forth the day, hour, and place of meeting, and the purposes thereof. The time of such meeting shall be not less than four weeks nor more than eight weeks from such call. After filing such call as aforesaid, they shall also cause a correct copy thereof to be published in some paper circulating in the county wherein the clerk's office is situated in which the said call is filed, once in each week for three successive weeks before the time of meeting. At such meeting, and annually thereafter, there shall be elected from such members as shall be residents of this State the officers of such association, not exceeding four in number, as shall be designated by the by-laws of such association, shall constitute the Board of Directors. The said Board shall have the control and management of the funds, and the business affairs of the said association. A majority of the said Board shall constitute a quorum for the transaction of business, and when any vacancy shall occur among such directors by death, resignation, neglect to serve, ineligibility, or otherwise, such vacancy shall be filled in such manner as shall be provided by the constitution and by-laws of such association.

SEC. 4. In case it shall at any time happen that an election of officers, directors, or managers, shall not be made on the day designated by the constitution and by-laws, said association for that cause shall not be dissolved, but it shall and may be lawful on any other day to hold an election for officers, directors, or managers, in such manner as may be directed by the constitution and by-laws of such association.

SEC. 5. Any association organized under this act may, by its constitution and by-laws limit and fix the amount of expenditure in any respect; and if said directors or managers may incur on behalf of said association in any respect; and if said directors or managers shall incur an indebtedness exceeding the amount so limited and fixed, the association shall be liable for same, and the directors and managers shall be severally and jointly liable to the said association, its successors and assigns, in an action founded on the statute for all and any indebtedness which shall exceed the amount so fixed and limited by the constitution and by-laws and which such association shall have paid.

SEC. 6. No such corporation shall use the name or style of any other existing corporation organized under this act.

SEC. 7. The articles of association filed as required by this act or a copy thereof certified by the officer with whom they are so filed, may be given in evidence in an court of this State for or against said association; said association shall possess the general powers conferred by and be subject to the provisions and restrictions of chapter fifty-five, title ten, of the revised statutes of eighteen hundred and forty-six so far as the same may be applicable to associations formed under this act.

SEC. 8. This act shall take immediate effect.
Approved May 14, 1877.

[No. 202.]

AN ACT to amend section two of an act entitled "An act to provide for the erection and maintenance of shutes for the passage of fish through the dams across the streams of this State," being compiler's section two thousand and ninety of the compiled laws of eighteen hundred and seventy-one, as amended by act number one hundred and ninety-five, of the session laws of eighteen hundred and seventy-five approved May first, eighteen hundred and seventy-five, and to add five new sections thereto, to stand as sections five, six, seven, eight, and nine of said act.

SECTION 1. *The People of the State of Michigan enact*, That section two of an act entitled "An act to provide for the erection and maintenance of shutes for the passage of fish through the dams across the streams of this State," being compiler's section two thousand ninety of the compiled laws of eighteen hundred and seventy-one, as amended by act number one hundred and ninety-five of the session laws of eighteen hundred and seventy-five, approved May first, eighteen hundred and seventy-five, be and the same is hereby amended so as to read as follows:

SEC. 2. There shall be erected and maintained in each dam now existing, or which may hereafter be constructed across any (stream or) river in this State, sufficient and permanent shutes or fish ladders to admit of the free and uninterrupted passage of fish over such dam or dams during the months of March, April, May and June in each and every year. Such shutes or fish ladders shall be put in or provided for such dam or dams in such manner as shall be prescribed by the Board of Fish Commissioners of this State.

SEC. 2. There shall be added to said act five new sections, to stand as sections five, six, seven, eight, and nine, to read as follows:

SEC. 5. It shall be the duty of the owners or occupants of any dam across any stream in this State, and the owner or occupant of any dam hereafter constructed across any stream in this State, or the owner, occupant, firm, corporation, company, person, or persons using such dam or dams, or enjoying the use of the same for any manufacturing purpose whatever, or for the purpose of furnishing water to propel any machinery, to cause to be erected in such dam or dams such permanent shutes or fish ladders, and of such construction and material as shall be prescribed by the "Fish Commissioners" of this State, such shutes or fish ladders to be completed and placed in all dams in existence at the date of the passage of this act, on or before the first day of March, eighteen hundred and seventy-eight, and all dams hereafter built shall be constructed with such shutes or fish ladders at the time of the building of said dams. All such shutes or fish ladders shall be maintained and kept in good repair by the owners or occupants of such dam or dams, or by the persons using the waters thereof as aforesaid, during the whole time of the existence of said dam or dams, and they shall keep said shutes or fish ladders open for the free passage of fish during all of the months of March, April, May, and June of each year as aforesaid: *Provided*, That on all streams where there is not a surplus of water for all legitimate purposes of the dam owner, during all of the months of March, April, May, and June, that said owner shall only be required to keep such shute open when there is waste water, and to cause such waste water to pass through such shute sufficient to furnish free passage for fish up such stream.

SEC. 6. It shall be the duty of the Fish Commissioners of this State to procure made, a draft of a general plan on a scale of sufficient size for a working plan for a suitable shute or fish ladder, of such construction as will, in their opinion, best subserve the free passage of large and small fish, both up and down the streams at the dams, on which plan shall be designated the greatest allowable slope per foot run of said shutes or fish ladders when in place in the dam; also the proper width and depth,

together with such other details and specifications in respect to materials and construction, and connection with the dam, as will enable an ordinary carpenter to properly construct and place the same; and it shall be the further duty of said plan and commissioners to procure to be lithographed two thousand fair copies of said plan and specifications, and to cause to be mailed to the address of the township clerk of each organized township in the State one copy of said plan and specifications, and not to instructions to said township clerks to place the same on file in their offices, and not to allow said plans and specifications to be taken thence, but to keep them open to inspection of owners and occupants of dams, and persons using the water thereof in the township for their purpose of taking copies of the same; said plan and specification shall also be open to the inspection of the general public when not in use, as above, by the owners and occupants of dams, who shall make their shutes and fish ladders in accordance with said plan and specifications in all essential details; the expenses incurred in procuring and mailing of said lithographed copies of said plans and specifications shall be audited by the Board of State Auditors, and paid by the State Treasurer out of any moneys in the State Treasury, not otherwise appropriated.

SEC. 7. The supervisor of each township is hereby made inspector of dams in his township during his term of office, and it shall be his duty to prosecute, in all cases of the people, with the aid of the prosecuting attorney of his county, in all cases where this law is not complied with, upon the complaint of any twelve citizens of the county. The supervisor shall be paid out of the contingent fund of the county the sum of two dollars for every day actually spent in the inspection of any suit township, or while actually employed or engaged in the prosecution of any suit under this act, to be allowed and paid by the board of supervisors. And the prosecuting attorney of any county, the citizens of any portion of which are or may be affected by the erection or continuance of any dam across any river flowing through any portion of such county, whether such dam shall be located in such county or in any other county in this state, shall, upon the application of the supervisor of any township or supervisor district of his county, prosecute any person or persons for any violation of any of the provisions of this act.

SEC. 8. If the owner or occupant, or any firm, corporation, company, person, or persons using or enjoying the use of any dam or dams across any stream in this State which is now built, or which may be built hereafter, shall fail to comply with all the provisions of this act with respect to the construction and maintenance in good repair of such shutes or fish ladders in any such dam or dams, after having been notified in writing by said supervisor to construct the same, he or they shall be deemed guilty of a misdemeanor, and for each and every thirty days that such owner or occupant shall neglect or refuse to comply with all the provisions of this act applicable to him or them, he or they shall be punished by a fine not exceeding two hundred dollars, or by imprisonment in the county jail not exceeding ninety days, or by both fine and imprisonment, in the discretion of the court.

SEC. 9. All fines and penalties arising under this act shall be paid into the county treasury of the county wherein said dam or dams are located, and the same shall be credited to the contingent fund of such county.

SEC. 3. All acts or parts of acts inconsistent with the provisions of this act are hereby repealed.

SEC. 4. This act shall take immediate effect.

Approved May 23, 1877.

[No. 136.]

AN ACT making appropriation for the Board of Fish Commissioners for the year eighteen hundred and seventy-seven, and the year eighteen hundred and seventy-eight.

SECTION 1. *The People of the State of Michigan enact*, That the sum of seven thousand dollars is hereby appropriated for the year eighteen hundred and seventy-seven, commencing July first, eighteen hundred and seventy-seven, and ending June thirty, eighteen hundred and seventy-eight; and the sum of seven thousand dollars for the year eighteen hundred and seventy-eight, commencing July first, eighteen hundred and seventy-eight, and ending June thirty, eighteen hundred and seventy-nine, for the necessary expense incurred by the Board of Fish Commissioners, which the State Treasurer shall pay to said board on the warrant of the Auditor General, from time to time, as their vouchers for such expenses shall be exhibited and approved: *Provided*, That not more than two hundred dollars per annum be applied for the use of water in the city of Detroit.

SEC. 2. The sum of seven thousand dollars the Auditor General shall add to and incorporate with the State tax for the year eighteen hundred and seventy-seven, and the further sum of seven thousand dollars he shall add to and incorporate with the State tax for the year eighteen hundred and seventy-eight, which sums, when collected shall be paid into the treasury to reimburse the same for the amounts to be drawn as provided in section one of this act.

Approved May 16, 1877.

[No. 199.]

AN ACT to prevent hunting for game with fire-arms, dogs, or otherwise on an enclosed lands or premises of another, in this State, without the consent of the owner or lessee of such lands or premises.

SECTION 1. *The People of the State of Michigan enact*, That it shall be unlawful for any person or persons to hunt for game with fire-arms, dogs, or otherwise on an enclosed lands or premises of another, in any county of this State, without the consent of the owner or lessee of such lands or premises.

SEC. 2. Any person or persons violating the provisions of the foregoing section of this act, shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall pay a fine not less than five nor more twenty dollars, in the discretion of the court and costs of prosecution. And in case the fine imposed and costs of prosecution shall not be paid, the defendant shall be confined in the county jail of the county, not less than five nor more than thirty days: *Provided, however*, That no complaint shall be made or entertained against any person for the violation of any of the provisions of this act, unless the same shall be made by the owner or lessee of the land or premise so trespassed against [upon].

Approved May 23, 1877.

NAMES AND ADDRESSES OF COMMISSIONERS OF FISHERIES.

<i>United States.</i>		} Smithsonian Institute, Washington, D. C.
PROF. SPENCER F. BAIRD.....		
<i>Arkansas.</i>		
N. H. FISH.....	Pine Bluffs.	
J. R. STEELMAN.....	Little Rock.	
N. B. PEARCE.....	Fayetteville.	
<i>California.</i>		
B. B. REDDING.....	Sacramento.	
S. H. THROCKMORTON.....	San Francisco.	
J. D. FARWELL.....	San Francisco.	
<i>Colorado.</i>		
WILSON E. SISTY.....	Brookvale.	
<i>Connecticut.</i>		
WILLIAM M. HUDSON.....	Hartford.	
ROBERT G. PIKE.....	Middletown.	
JAMES A. BILL.....	Lyme.	
<i>Georgia.</i>		
THOMAS P. JAMES, Commissioner of Agriculture and Fisheries.....	Atlanta.	
<i>Illinois.</i>		
N. K. FAIRBANKS.....	Chicago.	
<i>Iowa.</i>		
B. F. SHAW, Commissioner and Superintendent.....	Anamosa.	
<i>Kansas.</i>		
D. B. LONG.....	Ellsworth.	
<i>Kentucky.</i>		
PACK THOMAS, President of the Board.....	Louisville.	
P. H. DARBEBY.....	Caldwell County.	
POLK LAFFOM.....	Hopkins County.	
S. W. COOMBS.....	Warren County.	
C. J. WALTON.....	Hart County.	

JAMES B. CASEY.....	Kenton County
JOHN A. STEELE.....	Woodford County
J. H. BRUCE.....	Garrard County
T. T. GARRARD.....	Clay County
W. C. ALLEN.....	Bath County

Maine.

E. M. STILLWELL.....	Bangor
HENRY O. STANLEY.....	Dixfield

Maryland.

T. B. FERGUSON.....	Baltimore
P. W. DOWNES.....	Denton

Massachusetts.

THEODORE LYMAN.....	Brookline
E. A. BRACKETT.....	Winchester
ASA FRENCH.....	South Braintree

Michigan.

ELI R. MILLER.....	Richland
ANDREW J. KELLOGG.....	Detroit
J. C. PARKER.....	Grand Rapids
JAS. G. PORTMAN, Superintendent.....	Pokagon

Minnesota.

ROBERT ORMSBY SWEENEY.....	St. Paul
WM. W. SWEENEY.....	Red Wing
DANIEL CAMERON.....	La Crescent

Nevada.

H. G. PARKER.....	
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New Hampshire.

SAMUEL WEBBER.....	Manchester
ALBINA H. POWER.....	Grantham
LUTHER H. HAYES.....	Milton

New Jersey.

B. P. HOWELL.....	Woodbury
J. R. SHOTWELL.....	Rahway
G. A. ANDERSON.....	Trenton

New York.

HORATIO SEYMOUR.....	Utica
EDWARD M. SMITH.....	Rochester.
ROBERT B. ROOSEVELT.....	New York City.
SETH GREEN, Superintendent.....	Rochester.

North Carolina.

Gov. C. B. VANCE.....	Raleigh
W. C. KEW.....	Raleigh
R. P. BATTLE.....	Chapel Hill

APPENDIX.

S. M. HOLT.....	Haw River.
S. B. ALEXANDER.....	Charlotte.
JONATHAN EVANS.....	Fayetteville.
J. R. TRISPAN.....	Tarboro.
<i>Ohio.</i>	
JOHN C. FISHER.....	Coshocton.
L. A. HARRIS.....	Cincinnati.
ROBERT CUMMINGS.....	Toledo.
EMERY D. POTTER, Superintendent.....	Toledo.
<i>Pennsylvania.</i>	
B. L. HEWITT.....	Hollidaysburgh.
HOWARD J. REEDER.....	Easton.
JAMES DUFFY.....	Marietta.
<i>Rhode Island.</i>	
NEWTON DEXTER.....	Providence.
ALFRED A. REED, JR.....	Providence.
JOHN H. BARDEN.....	Scituate.
<i>Tennessee.</i>	
GEO. F. AKERS.....	Columbia.
<i>Utah Territory.</i>	
A. P. ROCKWOOD.....	Salt Lake City.
<i>Vermont.</i>	
W. H. LORD.....	Montpelier.
M. GOLDSMITH.....	Rutland.
<i>Virginia.</i>	
MARSHALL McDONALD.....	Lexington.
<i>West Virginia.</i>	
HENRY B. MILLER.....	Wheeling.
C. S. WHITE.....	Romney.
I. W. HARRIS.....	Lewisburg.
<i>Wisconsin.</i>	
Gov. W. E. SMITH, <i>ex officio</i>	Madison.
WILLIAM WELCH.....	Madison.
MOSES HOOPER.....	Oshkosh.
P. R. HOY.....	Racine.
MARK DOUGLASS.....	Melrose.
JOHN F. ANTISDEL.....	Milwaukee.
CHRISTOPHER HUTCHINSON.....	Beetown.
II. W. WELCHER, Superintendent.....	Madison.