

CONTENTS.

REPORT OF THE COMMISSIONER.

A—INQUIRY INTO THE DECREASE OF THE FOOD-FISHES.

	Page.
1. INVESTIGATIONS OF 1873	vii
Reason for selecting Portland, Me., as base of operations	vii
Assistance rendered by the Navy Department	vii
The steam-tug Blue Light	vii
Associates in the inquiry	viii
Numbers of living forms found in the waters of the region	viii
Mackerel, cod, and herring fisheries	viii
Fish-food	viii
Biological researches	ix
Physical researches	ix
Collections for scientific museums	ix
List of visitors at Peak's Island station	ix
Apparatus used on the Blue Light	ix
The region southeast from Cape Elizabeth	x
The region at the upper end of Casco Bay	x
Proof of climatic changes on the northern Atlantic coast	x
Assistance rendered by the United States Coast Survey	x
The steamer Bache	x
Assistance rendered by the Treasury Department	xi
The revenue steamer McCulloch	xi
The revenue steamer Chase	xi
Assistance rendered by the Quartermaster Department of the Army	xi
2. INVESTIGATIONS IN 1874	xi
Reasons for selecting Noank, Conn., as base of operations	xi
Assistance rendered by the Navy Department	xi
The steam-tug Blue Light	xi
General character of work prosecuted	xi
Experiments in propagating sea-bass	xii
Visit to shad-hatching station at Holyoke, Mass	xii
Experiments in inuring ombryo shad to sea-water	xii
Shipment of shad to Germany	xii
Discoveries of species before unknown to the coast	xiii
Associates in the inquiry	xiii
List of visitors to the Noank station	xiii
Special report to be made on invertebrates	xiv
Cold currents	xiv
Assistance rendered by United States Coast Survey	xiv
The steamer Bache	xiv
Experiment with preservatives	xv
B—THE PROPAGATION OF FOOD-FISHES.	
3. EXTENT OF THE WORK	xv
Regions benefited	xv
The value of fish-propagation to China	xvi
Reasons why the work cannot be left to State action	xvi
The plan as regards the propagation of the shad	xvi
Extent of the California-salmon work	xvii
The possible resources of rivers	xvii
The proposed introduction of the carp	xvii
Former abundance of fishes	xvii

	Page.
4. THE SHAD	XVIII
The hatching and distribution of 1874.....	XVIII
The waters benefited in the United States	XVIII
The shipment to Germany	XVIII
The hatching and distribution of 1875.....	XVIII
The Neuse River of North Carolina.....	XIX
The Pamunkey River of Virginia	XIX
The reconnaissance of the Potomac fisheries	XIX
The stations and results on the Potomac	XIX
Distribution from Coeymans Landing, N. Y., on the Hudson.....	XIX
Distribution from South Hadley Falls, Mass., on the Connecticut River	XIX
Distribution from Point Pleasant, Pa., on the Delaware River	XX
Review of the labors of the season.....	XX
Experiments by Fred Mather and H. W. Welsler, with a view to transporting shad long distances.....	XXI
The shipment to Germany	XXI
Experiments with a view to transporting shad in sea-water.....	XXII
Experiments with a view to transporting shad of several inches length	XXII
5. THE CALIFORNIA SALMON.....	XXII
Mr. Livingston Stone's operations in 1873.....	XXII
The final hatching of the eggs in eastern waters.....	XXIII
Mr. Livingston Stone's operations in 1874.....	XXIII
Qualities of the California salmon	XXIV
Observations of temperature in San Joaquin River.....	XXV
Observations of temperature in McCloud River.....	XXVI
Observations of temperature in Columbia River.....	XXVI
Comparison of physical conditions of the rivers of the Atlantic slope and Gulf of Mexico with Pacific streams	XXVI
Distances which anadromous species will travel inland.....	XXVIII
The great vigor of the California salmon	XXIX
The reasons for expectation of success in introducing California salmon in eastern waters.....	XXIX
The great addition to the food resources.....	XXX
6. THE ATLANTIC SALMON.....	XXX
Mr. Atkins' operations in 1873-74 and 1874-75	XXX
The number of breeding salmon bought and manipulated.....	XXXI
Marking the fish when released	XXXI
Recapture of marked fish	XXXI
7. THE WHITE FISH	XXXII
8. THE CARP OF EUROPE.....	XXXII
Its qualities and habits	XXXII
Numerous domesticated varieties	XXXIII
The best varieties	XXXV
Its artificial propagation	XXXV
Localities in Europe where they are bred	XXXV
Desirability of the carp for the United States.....	XXXVI
9. THE AQUARIUM CAR.....	XXXVII
The trip of 1873	XXXVII
The trip of 1874	XXXVII
10. TABLES OF DISTRIBUTION OF FOOD-FISHES	XXXVIII
Tables of shad hatching and distribution	XXXVIII
Tables of California salmon distribution	XL
Tables of Atlantic salmon distribution.....	XLV