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131.—REPORT OF A TRIP BY THE STEAMER FISH HAWK TO THE SAINT MARY'S AND SAINT JOHN'S RIVERS TO HATCH SHAD.**By Lieut. W. M. WOOD, Commanding.**

I have the honor to report that under present conditions but little can be done in the way of shad propagation on the Saint Mary's River. The stream is narrow, deep, without shoal places, and has strong tidal currents. Its banks are very steep and overgrown by thickets to the water's edge. The only fishing done is with the bow-net and a very few gill-nets. I have only been able to find eight gillers fishing in the few reaches, miles apart, that are comparatively free from snags. On account of snags and the narrowness of the river the longest nets used by these men are only 25 fathoms and some as short as 12 fathoms. They commenced fishing the 1st of January, and the catch to date, for the various gillers, runs from 100 to 700 shad. An average of about eight per day for the best.

I have had one gill-net fished every tide since the very day of our arrival. The best any one net has done on a tide has been eleven shad and two sturgeon. The ordinary catch is from two to nine. I have also sent spawn takers to overhaul the fish taken by the other gillers who are within reach.

Of all the fish we have seen, but a very small number have been ripe; and never yet have male and female been taken together in proper condition. As the total daily catch of fish is so small the odds are largely against many of both sexes being in proper condition. A few of the few ripe shad taken have been over-ripe, but the majority have been as hard as when first caught in the Potomac.

While Hamlen was here I took him 25 miles further up the river to overhaul the fish taken in the bow-nets fished there and to try one of our gill-nets. He could not fish the latter on account of snags, and the fish taken in the bow-nets were in the same condition as further down.

I have made every effort to use our seine but have at last given it up. We took even less fish in that way than in the gill-nets. There is only one place I could find where it was practicable at all. It took two days hard work to partially clear the haul of snags and saw-logs, and in all the hauls we made not one was perfectly clear. The snags could probably be removed in time but even then it would not pay to fish a seine on this river. As the Saint Mary's is so narrow it can only be hauled on slack water, for if laid up or down stream while the tide is running, to cover a part of a reach, it will either be swept into the other bank or below before it can possibly be landed.

Our biggest haul with the seine was four shad. Usually we caught nothing. I doubt whether any but gill-nets will ever be used here by professional fishermen. The fyke-nets might be used here successfully in place of the bow-nets. The latter are fished in the deep water close to the bank and the fish seem to follow the shore close at certain places, probably look for spawning-beds. A fyke set in these spots would probably take a large number of fish.

A firm of Northern fishermen, engaged in shipping shrimp and fish from Fernandina, asked me to let them know if it would be possible to haul a seine in the Saint Mary's. If so they would fish one next year, but, as stated above, they would not be justified in attempting it.

So far we have not been fortunate enough to secure a single impregnated egg, and for the reasons given above I do not think this river will ever be a favorable locality for shad propagation. Since the first two days we have taken no sturgeon. The only other fish taken have been one small rock, several gar, a few bream, and some catfish.

KING'S FERRY, FLA., *March 26, 1884.*

I have just returned from Jacksonville, where I went to see if there was any chance for shad work on the Saint John's. There was no chance there for shad propagation. I consulted the principal fish dealers, and they told me that very few shad are now coming in. Much longer nets are fished in the Saint John's than here, but the heaviest catch for the season, from January 1 until now, for one boat, was only 1,100 shad. Mr. Mervin, the largest dealer, spoke vaguely of some lakes way up the Saint John's, where he thought enough spawning fish could be taken in the height of the season to make it an object. He also said that the Saint John's shad are smaller fish than those taken elsewhere. The Saint Mary's shad run as large as those taken North.

I have nothing to add to my former report. We have kept up our operations steadily, and have caught about the same number of shad, but still have not been able to get an impregnated egg.

KING'S FERRY, FLA., *March 27, 1884.*

132.—RECONNAISSANCE OF THE SHAD FISHERIES OF WINYAW BAY AND ITS TRIBUTARIES BY THE STEAMER FISH HAWK.

By Lieut. W. M. WOOD, Commanding.

After leaving Fernandina, Fla., I proceeded in this vessel to Georgetown, S. C., to investigate the shad fisheries there, and have the honor to submit the following report:

We arrived on the afternoon of the 5th instant. The shad season was found to be about over and most of the fishermen had left. I was fortunate enough to find Mr. E. Barnes still in town. Mr. Barnes is the largest owner of nets and bags, and ships all the fish caught in the vicinity. Accompanied by him I took the launch and went up the