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THE NEW BEARCAT

EXERCISE BOOK BIGGER AND BETTER

NAME DWARD FISHING IN

SCHOOL NOVA

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OWORD- FISHING Per Capt Veal, of Broad Gove Lookat watching to Sarboard 34 fr. mash. Lookout watching to port. Lookent, steering vessel on what regard on months and also controls engine auntal and choke by means of times Reg-busy out as him leaves to the well then peat off in darry to kill the first off in darry to 14 foot day tags passed on storn. One man can bounch it by simply gumping in and valuning into the overhousing from Striker, standing in pulpit Cabin 20 feet Versel is 45' long on water line. Arisen by a 98 h. P. Buck motor car engine which of course only developed about 32 h.p. in water. Planking is 1'4" white pine. Equipped with electric light and a radio for receiving broadcasts.

live tucked and be been been been been forward live present forward live 100 from of 6 - thread live Pole 15 plang rod of " iron about I for long filts into socket Beb line factured to pulpitor deck to present loss of pole Detail of dark. actual sign TOP VIEW SIAE VIEW lote for hospoon line

a fishing station 15 fh U for sword fishing middle-helght, clas hair; a pair of big deanliners of a fishe with trousers and William Race bout knee boots patcher leather cap. He He has quite a doesn't like the! the other son. Teal himself is drew of 5 in 100 fathomof grounds. Like 6. Stread line fifteen fathern of which he loose Teal makes Port sometimes fishes land could in 3 beaked Glade Bay is of one on the shaft as Teal joins the shown, one on the stand, the They ci other in the cabin house, The line is cooled in a tab & the diagram. end is fashened to a keg. plank fastened and U-shape pole holds the to the cabin house. The dark is in its place for striking - felled on the iron rod at the police and, with the fish line hitched through the transverse hole in the darks shaft. The line is pended into a small clear on the pole, to keep it from fouling before the

15 fh 6. thread line fathom of which he loose land confish in 3 beaks - one on the shaft as shown, one on the stand, the other in the cabin house. The line of cold in a tab of the end in fastened to a key. Jefory 45 miles of Glace Bay in 175 fallow. [19] A 201 -45'-> 98 H.P. Buck (car) engine = 32 hp. in a book. Planking = 1 ty white pine . Sword period it & slock 6" though . Sword is 3' to 4'2' long. Weight: Fish aught off Louding in 1939 weight 800 lbs doesed, Probably 900 gross.

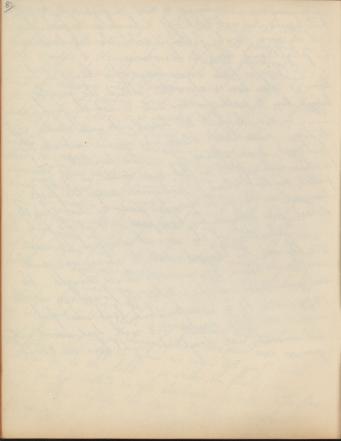
Capt Veal is a farmer fisherman from Broad bove. He has a fishing station on boffin Coland. Has two boats one small motor boah for ordinary inshore fishing, the other a 45-foot craft for sword fishing. He is a sturdy brown faced man heavily built of middle height, clean sharen, with blue gray eyes large lidded; thening brown hair; a pair of big hard hands, callowed but with the unexpected pallor and cleanlines of a fisherman hands. At the time I saw him he were the common rig of the instone follower - blue denin overallo (jacket's tornson) well padded will torusers and suraters & undergreas beneath, a pair of worn black rubber how boots patched in several places with bright sell time-patches. a leather cap. He chewed tobaces > talked and spar with gusto. He has quite a farm at Broad Cove but leaves one son (who doesn't like the sea home to look after it, and goes fishing with the other son. "The air Carl would rather fish than farm any time". Teal himself is a man of about 45 or 50. Covery July they outfit the big 45 footer & with a Growness. Like all the swordfishermen from the western countries Seal makes Poop Bickerton (S.W. of Country Harbons) a port of call, and sometimes fishes out of that place while the swordfish are running. Glace Bay is of course the chief base of the swordfish fleet and Leal joins the flech there when the fish appear in numbers. They cruise along with the crew stationed as shown in diagram. The striker stands the pulpit (nothing more than a plank fastened on the bonsprit, with uprights of galvanued iron pipe and U-shaped iron straps) balanting the pole. The butt of the pole holds the bib-line which is fastered to the "stand" (pulpit) or to the cation house. The dark is in its place for striking - felled on the iron rod at the poles and, with the pich line hitched through the transverse hole in the darks shaft. The line is punched into a small clear on the pole, to keep it from fouling before the Naturale is made Amilarly it is nipped in a clear on the calon house before the tub is breaked. The first good pull on the line drags it out of these cleats but often the boatman aft will run up and pull the line clear when a strike is made, push to make sure. The line is civiled down in a tub aft so as to run free, with a king busy fastened to the end.

When a sevordfish is sighted "finning" (the tall dorsal fin cuts the surface though the fish is actually submerged) the helmsman in the mash cross-trees steam the boat straight for it, by means of the steering wheel regged in the mast! (He also has lines to the engine choke, spring and the electric switch, so that he can alter speak or cut the engine dead) Iwenty or thirty feet from the fish he cuts his engine so as not its warm the fish of the boats approach. To the boat is still under fast headway, the stocker has only a second or two in which to make, his thrush before the boal runs over the fich. as soon as the fish is struck it starts to sound, and the pull perks the dark clear of the irm shaft. The pole then floats clear Is is recovered by means of the bib line - an emportant but of salvage, for lonce a stocker has, got used to a pole he I is more suche of his aim than with another. In the meantime the fleeing fish papielly drago the 100- fathern line out of the tub, and the book man tosses the key overboard. Whe keg has two purposes; it acts as a surface drag on the fish, Thelps to tire him, and it makes the end of the line and the presence of the fish. If a school of fish is encountered there may be half to dozen lines and klyp abroad at a time and these bounded fish may run in as many directions.). Caunching. Teal like this method of launching because

it is almost immediate - a dory in the water as soon as the fish starts to rean. This is a job for a strong active man with no fear of the sea or of the fish; Teal reserves this job for himself unless there are more kgs abroad than one boatman can handle. He jumps into the bow of the dory, typing it overboard by his own weight, shifting quickly aft as it falls - an acrobatic feat in itself. He roles to the Rig which is usually floating placedly as the big fish goes down . If the water is deep, - (and 45 miles off Loursburg, where much of the fishing is done, there Imay be 175 fathoms or more) - there is danger that the moddened fish may drag the king under bodily, in which case the keg might collapse; and Seal akes to bend on another 108; fathor line if there is a chance. Ultimately the drag of the Reg on the surface forces a change of tactics on the fish, which comes to the surface fighling This is the time of personal danger to the both man In seeking to run down and destroy the mysterious their which at one stroke wounds and binds him, the swordfield lunges to and for on the surface, often leaping blear into the air. On one occasion at hig fish struck the side of the vessel itself in one of the struggles, the crew fell the jas, but thought nothing of it at the time. They gaffed the wounded fish after of your member ? ght him aboard & found his sword broken off short an ordinary "sword" is 3 or 4 feet long. The inference was that the sword had broken when the fish

Struck the boats side, but a quick glance all round below, showed no damage. It the end of the day's fishing Teal noticed water vising over the planking in the Vouddy & blamed it on a foulty packing in the stuffets box. They premped the bilges gut several times of the way into Coursburg, and that night by the light of and electric torch they got the big 45- footer ashers by the stern & re-packed the stuffend box. They bouled, her off and turned in Teal waked in the night with an uneasy sensation & leaved water in the boat. He reached up of turned on the efectors light and discovered four inches of water over the cuddy offor. all hands turned out in a heavy. They pumped her out again. Then they made a systemation hands for the leak, beginners aft of tearing up the plankings as they went. They came of the lungling fish had pierced the 1's "white planking. with eace and was protouding 6 inches into the locker. Veal remembers another wild fish which attacked his dory. The fish came at him I from below on the port side - "like a torpedo, now, I till you!"and the sword came through the 1" red pine side, wear and the sword came arrange one the bottom and "kep" on comin, sir, now I tell you!" until it was in to the hill - or rather the fish's nose with the tip resting on the starboard generale. The force of the Man lifted the dory bodily & rearly capsized it but Seal Steaded ther with

agile sumprings & managed to kill the fich with his gaff. The bevord did not break off I he held the fish there with the day slowly filling, until the big boat saw his plight and dame to his rescue. another fish made lunge after lunge of his dory , when bon & the others abound the resigle begged him to pull for her side & let the fish "go" i.e. let the fish tere himself out with the keg, not the dory. But Leal's blood was up - I ain't seen the fish yet I was a feared of " - and he stuck it out waiting with gaff lat his fleet, and standing at the vary, pulled, the Most ahead by astern to escape the fisher lunges. One lunge, he remembers, came so close that the dorsal fin scraped his bow post. He get the fish. Apeaking of the size of swordfish, he said 570 lbo was his biggest but the average was much smaller - between \$50 and 400 lbs he thought. He saw a monster swordfish taken off Lousilung in the 1939 season by a Newfoundland boat; this fish weighed 800 lbs dressed i.e. with head, sword and toil removed; Seal thought it might have been 900lbs































NOVA SCOTIA COOKERY "round" indeed of "split". The best was left on; the threak was cut out and the guts (but not the roe) drawn out through the hole. The body carry was then filled with salt. This method is known as the "Letch cure" x was revived in N. S. during the World War 1939 -) About 1880. W.S. fisherman began to split their herring, semoring the guto (known as "gibo") entire. The split fish were then salted in water. Ofter the split fish have bain in salt for 9 days, they are sufficiently preserved. The salt is then said to have "struck," or the fish are well struck". SousEN HERRING This is simply raw herring that has been "struck" with salt. It is cat in large chanks (first having been skenned) and "sowed" in a pickle of venegar & onions for serval hours It is served with a generous amount of the ringal & onesis in the plate. Some like to add spices to the venigar. In 1942 I found sound herring served thus (but called on the menu marrinated herring") at the american House, Middleton, N.S.

Seafoods

"Clam Stew"

2 dozen clams.

1 teaspon salt. 1 tablespoon butter. 1 cup bread crumbs.

Shell clams, slice potatoes and onions thin. Add to 1½ quarts salted water, boil for 15 minutes. Add butter and bread crumbs, let simserve. This is enough for 6 persons.

-Mrs. John O'Connor, Murray Harbor South, P. E. I.

> 4 0 0 0 Scalloped Clams

1 quart shelled clams, bread-crumbs, butter, pepper, milk.

Method: In a pudding pan, place alternate layers of uncooked clams and bread crumbs with bits of butand fread crumbs with bits or but-ter and pepper between each layer, having bread crumbs and bits of butter for the top. Add milk to nearly consume. Bake in the oven \$4 hours, or until top is nicely \$4 hours, or until top is nicel Scotia.

. . . . "Eggs and Lobster Creamed"

A small lobster (or a can if you can get it) 4 hard-boiled eggs (shelled and

cut in wedges). ½ cup diced celery (optional). 1 tablespoon chopped parsley. Salt and pepper, a piece of bay

White sauce (2 cups milk, 2 tablespoons flour, 2 or 3

Make the sauce in double boiler. When thickened add lobster cut in pieces, celery, salt, pepper, then fold in the parsley and egg wedges. This is a nice luncheon dish to serve with Mrs. Jack Hudgins, Kingston, Kings County, Nova Scotia.

0 0 0

Salmon Salad

1 cup cold salmon. 1 cup chopped celery or cabbage. A small amount of lettuce.

1 cup of cold salmon minced and mixed with an equal amount of chopped celery or cabbage. Line a dish with lettuce leaves, turn it into the mixed salmon and celery or cabbage, and over all pour dressing made of two tablespoonfuls of oil, three tablespoons of vinegar, salt and pepper. A mayonnaise dressing may be used, but with salmon the plain dressing is preferred.—Mrs. Daniel H. Dixon, Breadalbane, Prince Edward Island.

0 0 0 Halibut Salad

1 tablespoon lemon juice. 2 tablespoons salad oil (I use

34 teaspoon salt.

1/4 teaspoon dry mustard. 3 medium sized freshly boiled 2 tablespoons mild vinegar or

Hard boiled eggs. Pickled beets.

Method:

Flake the halibut, pour over it the lemon juice and oil, add the salt and pepper and toss all lightly together. Mash the potatoes, season sair and pepper and toss all lightly together. Mash the potatoes, season with celery salt, mustard and lemon juice or mild vinegar. Mix with the fish, chill and garnish with sliced hard boiled eggs, lettuce and diced pickled beets. Serves six—Mrs. F. L. Grice, Rockingham, Nova Mrs. F. L. Grice, Rockingham, Nova Scotia.

. . . . Fish Salad

2 cups flaked fish, add 1½ cups minced celery, a tablespoon each of minced green pepper and grated onion and cucumber (pealed, seeded and dieed). Add 4 tablespoons French dressing, then mayonnaise. Serve on lettuce leaves.—Miss Mary Fullerton, Parrsboro, Nova Scotia.

Chowders

Clam Chowder

or 1 can clams 3 medium potatoes

2 thin slices of fat pork or two slices of bacon

Method:-Cut fat pork up small, dice potatoes, carrot, onion, add salt and put into a two quart pot. Cover with boiling water, and boil until vegetables are tender. Add milk and wait until it is hot before adding the clams. Then cook clams and other ingredients about 10 minutes before serving. Serves 5 or 6. —Miss Doris Lisson, 54 Johnson Avenue, Dart-mouth, Nova Scotia.

. . . . Fish Soup

1/2 lb. fresh fillets. pint water. 1 medium onion diced. 2 medium potatoes diced.

teaspoonful butter.

Cover fish with water and cook Cover fish with water and cook slowly for 10 minutes. Remove fish from water. Add potatoes and onions and cook till tender. Add milk, butter and seasonings. Heat through but do not allow to boil. 6-8 servings. Make fish cakes for supper with the cooked fish.—Mrs. Will Ross, P. O. Box 221, Stellarton, Nova Scotia.

Fish Chowder

Two cups flaked cod or fresh cod or soaked salt cod, six potatoes, cut

Fry out fat, add sliced onion and Strain fat in a saucepan, add seasoning. Heat to boiling point and serve with crackers.—Mrs. Raymond Porter, Springhill Mines, Nova Sco-

20 11 11

2 cups flour (to mix dough). 4 teaspoons baking powder. ½ teaspoon salt.

1/2 cup shortening. 1/2 cup milk.

1 can salmon 4 tablespoons milk.

2 tablespoons lemon juice. 2 teaspoons scraped onion.

Sift together first three ingredients, Add shortening, mix in wew.
with fork. Beat egg slightly in
measuring cup. Add milk to make
4 cup. Add to first mixture. Roll
board in sheet 8 inches remaining ingredients to

on floured board in sheet 8 inches long and about 1/4 inches thick. Mix remaining ingredients to spread evenly on dough. Roll up like jelly roll. Bake on baking sheet in hot oven, 425F about 30 minutes. Serve in slices with hot egs sauce. Serves eight—Mrs. J. Burton Bayers, Bayers Settlement, Halifax County, Nova Scotia. 0 0 0 0

Salmon Pie With Potato Crust

1 can (1 lb. size) salmon cup cooked peas tablespoon flour cups milk Salt and pepper to taste 2 cups mashed potatoes.

Drain salmon, and separate into flakes, reserve liquid. Combine with neas. Melt butter, blend in flour, gradually add milk and cook until thick. Add salmon liquid and mix well. Season and combine with

salmon and peas. Put in baking dish and top with mashed potatoes, and bake in hot oven until nicely browned.—Mrs. A. R. Jackson, 12 Morris Street, Halifax, Nova Scotia. * * * *

Salmon Loaf

2 cups salmon. 1 teaspoon salt. cup rolled oats. Bread crumbs.

1 cup water. Directions:To one cup of rapidly Directions:To one cup of rapidly boiling water, sattled, add rolled oats. Cook five minutes. Mix with two cups flaked salmon, the salmon oil and mineed onion. Shape into loaf in greased pan, and cover with bread crumbs. Bake 20 minutes in a moderate oven and seeve. Sauce for salmon loaf, met. Sauce for salmon loaf, and it ablespoon of butter in a saucepan,

add milk and seasoning. Thicken with cornstarch or flour and serve. Mrs. Edith Marshall, 12 Commercial Street, Dartmouth, Nova Scotia.

* * * * Baked Salmon With Macaroni

1 can salmon. 1 cup macaroni.

1 cup rich milk. 1 cup bread crumbs.

Butter, pepper and salt.
Break macaroni and boil 20 minutes. Free salmon from bones and skin and break in small pieces. in layers in baking dish alternately with chopped onion and macaroni, with chopped onion and macaroni, pepper and salt. Pour in milk and cover with buttered bread crumbs. Bake about 30 minutes.—Mrs. Ed-ward B. Mosher, Summerville, Hants 1 lb. fresh fillets.

½ cup stale bread crumbs or rolled corn flakes. 1 teaspoon finely chopped or grated onion.

cup of milk. Salt, pepper.

Put half the crumbs in hollow of small baking dish. Cut fish in three serving portions. Sprinkle with onion. Add milk and seasonings. Sprinkle rest of bread crumbs over top and bake in moderate oven. Serves three.-Mrs. Will Ross, Stellarton, Nova Scotia.

Baked Fish With Tomatoes and Onions

2 lbs. fish (sliced or filleted). 3 cups of canned tomatoes. 3 medium onions sliced

4 celery stalks chopped. Salt and pepper to taste. 1 teaspoon butter melted. 3 teaspoons flour. 1/4 cup cold water.

Prepare fish. (Wash well and remove skin). Place in shallow baking pan, Put tomatoes, onions, celery and seasoning into saucepan and cook gently for 15 minutes. Blend butter with flour and mix into a smooth paste, with 1/4 cup of cold water. Add tomato mixture and cook another 10 minutes. Pour and cook another 10 minutes. Pour this mixture over the fish and bake at 350 degrees F. for 45 minutes.— Miss Emma Edwards, R. R. 1, Georgefield, Nova Scotia.

* * * * Baked Fish and Spinach

2 cups of cooked spinach (canned 1/2 lbs. fresh fillets.

1/2 teaspoon dry mustard. 1/2 teaspoon salt. Dash of pepper. 1/2 cup grated cheese.

cup milk. I teaspoon butter.

City.

Method-Boil the spinach, drain well, chop and season. Put spinach in bottom of baking dish. Cut the in bottom of baking dish. Cut une fillets in medium sized pieces and lay them on the spinach. Sprinkle them with the mustard, salt and pepper and bake in moderate oven for half an hour. Melt the butter and stir in the flour, season and then add milk. When sauce has thickened remove from stove and stir in the grated cheese. Pour this over the fish and spinach and brown in the oven for ten or fifteen minutes. -Mrs. D. G. Turner, 155 North St.,

* * * * Baked Herring

Bone the fish and place in a baking pan. Cover them with a thick tomato soup and bake in hot oven. toothpick. Serve hot with baked potatoes. Other fish besides her-ring may be used. —Lillian P. Rom-key, Necum Teuch, Halifax County,

09 09 46 Fish with Rice and Vegetables 4 tablespoons oil or fat.

1 cup chopped onions, 2 cups grated carrots, ½ cup rice. 2 cups tomatoes cups potatoes diced or grated. 232 cups diced raw fish.

1 cup chopped celery. 2 cups boiling water. Salt and pepper, buttered bread

Method: Fry onion in fat, and put in baking dish; add one layer of carrots, then fish, then rice, celery and potatoes, all uncooked. Season well.
Add boiling water, tomatoes and
sprinkle with buttered bread crumbs, cook in moderate oven 1½ hours.— Mrs. Russell Wright, P.O. Box 72. Port Medway, Nova Scotia.

---Fish and Vegetable Casserole

2 cups flaked cooked fish

¼ teaspoon pepper 1½ cups milk % cup cooked lima beans 2 eggs (beaten).

Method—Blend all ingredients, place in buttered dish, set in pan of hot water, bake in slow oven, one hour or more, until firm. Serve with any cream sauce. The family will like this dish on a meatless day I serve it quite often in my home.

—Mrs. Irene Melanson, 30 Cork Street, Halifax, Nova Scotia. * * * *

Casserole Of Fish and Peas

hard cooked egg sliced thinly.

Salt and pepper to taste.

Salt and pepper to taste.

Method—Place in layers in greased casserole a layer of fish, then sauce, lemon juice, peas, and hard cooked egg, topping with fine bread crumbs. Chopped pickles or olives may be added if desired. Bake in a hot oven 20 to 30 minutes. - Agnes Clannon, L. L'Ardoise, Cape Breton.

* * * * Haddock "Lobster Claw"

3 slices fat salt pork slices onion lb. haddock fillets

34 teaspoon salt, dash of pepper 1/2 can (10 oz. can) tomato soup

Method: Put half of pork and on-ion in shallow baking dish. Top with ion in stallow baking dish. Top with fillets. Mix flour and seasonings and sprinkle over fish. Add rest of pork and onion. Add water to cover bottom of dish. Bake in 400° oven for 20 minutes. Add soup and con-tinue baking 15 minutes. Serves \$4.5 minutes. Top to the con-tinue baking 15 minutes. St., Sydney, N. S.

* * * * Fish Loaf

Melt 1 tablespoon butter, add 1 Met I tablespoon butter, add I tablespoon flour, mix and cook one minute, then add one cup of hot milk, gradually stirring constantly; season. Add to that sauce 2 cups of cooked or canned fish, 2 beaten eggs, I cup soft bread crumbs, I change it is the same and in the cooked or canned fish, 2 beaten eggs, I cup soft bread crumbs, I change it is the cooked or canned fish, 2 beaten eggs, I cup soft bread crumbs. I chopped hard boiled egg, 2 chopped pickles, 3 tablespons of parsley. Pour mixture in greased baking dish or mould. Place in a pan of boiling water, and cook for one hour in a moderate oven. Unmould. Serve hot occupant

Fish Hot-Pot

1 lb. white fish (filleted). 1½ lb. sliced potatoes. ¼ lb. grated cheese. Chopped parsley. Milk.

Salt and pepper. Cut fish into pieces, roll in flour and put half in bottom of greased casserole, sprinkle with salt and pepper, then grated chese, cover with a this way until all is used, finishing with potato, pour in the milk to fill quarter of the dish, cover, removing the cover for the last fifteen minutes, when done sprinkle with plenty of chopped parsley.— Mrs. Harold B. Pearse, Waterville, Kings County, Nova Scotia.

1 lb. fresh fillet of haddock. 1 cup diced potatoes. 4 soda biscuits.

Salt - pepper.

Boil slowly for half hour 1 lb. fresh fillet of haddock. Use only enough water to cover the fish and add half small onion. Feel and cut in small dice 1 cupful of potatoes

While these are cooking soak 4 soda biscuits broken in halves in a

soda biscuits broken in halves in a good cupful of milk. Combine fish and potatoes with water in which they have cooked, add about 1 pint fresh milk and heat

Lastly add the soaked biscuit, milk and all. Pepper and salt to taste. Boil up once and serve piping hot.—Ver-ginia Murphy, 28 Harvey St., Hali-* * * *

Fish Loaf

2 eggs, slightly beaten 2 cups flaked fish. (Tuna, salmon

1/2 teaspoon salt

teaspoon paprika teaspoon Worcestershire sauce 1 tablespoon minced parsley

.cups milk 11/2 cups rolled oats, uncooked.

Combine all ingredients. Place in greased baking pan and bake in a moderate oven (350°F.) for 1% hours or until loaf is set. Serve with mushroom sauce, tomato juice, or a cream sauce with one chopped hard boiled egg added-Mrs. Elmer C. Hatfield, Tusket. Yarmouth County, Nova Scotia.

. . . . Fish Scallop Supreme

3 cups of cooked vegetables (carrots, potatoes, onions, etc.) 3 tablespoons fat or butter

3 tablespoons flour 1 cup milk cup vegetable water

cup of cooked, flaked fish Sifted bread crumbs

Make white sauce from the fat, flour, milk and vegetable water. Place the cooked diced vegetables in a greased casserole, add fish, cover with white sauce, sprinkle with bread crumbs and bake in a moderbread crumbs and bake in a moderate oven until brown. Fish and veg-etables that are left over may be used. —Mrs. C. R. Brown, R. R. 2, Shubenacadle, Nova Scotia.

0 0 0 0 Fish Pie With Macaroni

2/3 cupful of macaroni. 1/3 cupfuls of cook fish flaked. tablespoonful of lemon juice.

tablespoonful of salt. Few grains of Cayenne. 1 cupful of medium white sauce.

Break the marcaroni into one-half inch pieces. And cook until tender Grease a baking dish and arrange the marcaroni and flaked fish in althe marcarom and Hared Hard Hard Hard the layers. Add the lemon juice and seasoning. Then pour the white sauce over all. Cover with buttered bread crumbs and place in a moderate oven, 350 deg. fahr. until thoroughly heated and browned on top. -Maura D. Gerrard, Gerrard Island, Halifax Co., Nova Scotia....... 14 00 00 00

juice on one slice of enriched white JANAWICH.

Creamed Fish

2 cups cold fish. cup hot milk.

bay leaf. 1/2 teaspoon onion juice. 2 tablespoons of butter or

tablespoons flour. 1/2 teaspoon salt.

1/4 teaspoon white pepper. cup fine crumbs.

Preparations: Make a sauce by

creaming the flour and butter, and adding them to the hot milk. Put in a double boiler and add the salt, pepper, onion juice and bay leaf. Stir until as thick as cream. Cover the bottom of a baking dish with some of the cold fish flaked and pour over it half of the sauce, put in another layer of fish and on that pour the remainder of the sauce. Sprinkle with bread crumbs, dot with butter and brown in a mod-eratel hot oven. Any kind of cold fish may me used. - Mrs. R. E. Bennett, Glenmont, Kings County, Nova Soctia.

* * * * Dressed Smoked Fillets

2 tablespoons mild flavored

1/2 cup flour tablespoon mustard.

cup milk or water. Pepper, salt, 1/4 cup grated Canadian cheese,

Make a sauce with the shortening, flour, mustard and liquid. Add grated cheese and seasoning. Wipe the fillets with a damp cloth, cut into 8 servings, coat each piece with the sauce and sprinkle with chopped parsley. Bake in a well-greased baking dish in a moderate oven (375 degrees F.) for 20 minutes. Serves 8.—Miss Vivian Morris, "Ferncrest," Armdale P. O., Halifax, Nova Scotia.

* * * * Salt Herring Casserole

3 salt herring, (soak over night, clean and take large bone out

2 or 3 cups potatoes. 11/2 cups carrots.

1/2 cup onions (if you like). 1/4 teaspoon pepper. 2 teaspoons butter. 3 cups milk.

Arrange potatoes, carrots, onions Arrange postoces, carrots, ontons and herring in a gressed casserole, sprinkling each layer with some flour, pepper and bits of butter, add milk to come just to the top layer. Cover and bake in a moderate

oven about I hour, till potatoes are tender. This will serve 6.—Mrs. H. R. Atkins, 200 Almon Street, Halifax,

Finnan Haddie Supper Dish

2 cups, cooked Finnan Haddie, which has been shredded, 2 beaten eggs.

2 cups milk. Dots of butter over batter, after it has been poured into baking dish.

Mix in above order, pour into a buttered dish and bake in slow oven the taste.

If desired, some chopped parsley

may be added to the ingredients be-fore baking.—M. S. MacArthur, 2 fore baking.-M. S. MacArthur, Bliss Street, Halifax, Nova Scotia. * * * *

Potted Gaspereaux

Cider Vinegar. Whole Pickling Spice. Salt. Sugar.

Bay leaves.

Clean and scale the number of gaspereaux you intend cooking "say a couple of dozen". Put them in a pot large enough to contain them easily. Pour vinegar over them easily. Pour vinegar over them to arrive at the quantity required for the process. Pour it off into another pot and add the whole pickling spice and if you like bay leaf flavour, add a few extra leaves, then add to it a teaspoonful of salt to a pint of the liquid and some sugar to get the same taste as you would require if making sweet pickles, it does not require much. Boil this liquid or rather put it on the stove and bring it to a boil, then pour all over the Gaspereaux and put them in the oven and cook very slowly until you can pull out a back fin of one of the fish, no longer. Remove from the oven and put

the pot away in a cool place, it will take about two days to properly cool. The fish are then ready to eat and are one of the most delicious the vinegar concoction until all used, and will keep for weeks. Serve with bread and butter. Gas-pereaux are very cheap and this is one way of using up a cheap food, which many people refuse to eat because bony. This method practically dissolves all Georoge Kewley, Ballafreer, Parrsboro, Nova Scotia.

* * * * Fish Stuffing

4 tablespoons shortening. 2 onions (minced).

1/2 teaspoon each salt and sage. prinkle of pepper.
2 stalks of celery cut fine.
1 ripe tomato or ½ cup of canned

tomato.

2 cups coarse bread crumbs.

Melt shortening, add onion and seasoning; cook five minutes, add celery and tomato mix in crumbs and cheese, stuff cod or haddock and bake 1 hour in moderate oven-Mrs. A. Irvin, 56 Victoria Read, Dartmouth.

Beverages

Apple Beverage

A beverage for warm or cold A Deverage for warm or com-weather. A good way to use up a large quantity of apples. I gather the ripe drop apples, (I perfer Graven-steins) wash them clean, cut in quarters, fill a large kettle with the apand let drain usually over night, put years old. It's made the same as jelly, only no sugar. —Mrs. H. W. Coleman, Burlington, Kings County, 0 0 0 0

Home Made Hot Beverage

2 quarts bran tablespoon sugar

1/2 cup molasses or syrup.

Put altogether in large cake pan. Mix and brown in oven, stir while browning. When well browned cool and pack in container, use the same as tea or coffee.—Naomi L. Anthony, East Walton, Hants County, Nova Scotia.

Apricot Punch

2 cups canned apricots or

Rub the apricots along with the juice through a coarse sleve. Add strained fruit juices and cider and chill well. Dilute with iced water to make three pints—Mrs. W. L. MacKinnon, Lawrencetown, Annapolis County, Nova Scotia.

* * * * Fruit Beverage

1 cup plum juice (from home canned).

cup strawberry juice (from home canned).

2 bottles ginger ale.
Mix well together. Serves 6.
The fruit left may be used in short cakes or salads.—Mrs. Russell Henshaw, Deep Brook, Annapolis County, Nova Scotia.

Honey Punch

2½ cups water. 1/2 cup honey.

2 cups orange juice. 1 cup grapefruit juice.

Bring half of the water to boil dissolve honey in it add rest of the water and chill. Add fruit juices Mrs. Wm. E. Saulnier, St. Alphonse deClare, Nova Scotia.

* * * * *

Grape Juice Lemonade Juice of three lemens, 1-3 cup

Mines, Nova Scotia.

Dandelion Greens To wash a very large quantity of dandelions for preserving, if you posses a washing machine, put your greens into it and add enough warm water to cover. Let machine run for a short while and all grit will drop to the bottom of machine. Remove greens and cut off roots. Have a large clean crock and a bag of household salt ready for salting down your greens. Proceed as fol-

Put a layer of greens in crock then sprinkle a handful of salt over them. Repeat this method until crock is full nearly to the top. The wet greens will make their own brine. Now put the cover on your crock and weight it down with crock and weight it down with a stone to hold the greens down in the brine. If crock has no cover, use a plate with stone on top.—(Mrs.) Susie P. Wasson, Parrsboro.

W NF NF N Oatmeal Cookies

1/2 cup brown sugar. % cup shortening. 34 teaspoon salt. 3 cups oatmeal. 1 cup flour.

Mix as for biscuits then add enough water to make a dough for rolling. Bake in quick oven; makes four dozen.—Mrs. Walter Smith, Forge Street, Trenton, Nova Scotia.

Rabbit Pie

Slowly cook 1 rabbit, until the meat separates from the bones. Slice and cook 6 medium size potatoes. Make a rich pie crust, and line a deep dish of casserole, place the meat and potatoes alternately in the i cup of broth. Moisten the edge of the pie crust before placing a layer of crust on top, sealing the edge carefully. Bake in hot oven until and serve hot with thickened meat broth. — Mrs. Arthur A. Banks, Bridgetown R.R. No 1, Annapolis County, Nova Scotia.

Preserved Eggs

Everybody knows that eggs may be preserved by submerging them following method which is much better is not so well known. Buy some vaseline size of jar according to number of eggs and smear each egg thoroughly with it cold, store immediately in ordinary cardboard egg boxes. Keep in a cool place. Wipe off vaseline before using eggs. Mrs. Frank Lawlor, Box 445, Dartmouth, Nova Scotia.

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Scotia.

* * * * Apple Cake

2 cups flour. 4 teaspoons Baking Powder.

1/4 teaspoon salt. tablespoons sugar.

1 egg. Enough milk to mix well.

Mix dry ingredients, add shorten-ing, egg and milk. Use pan large enough so that dough will be 1 inch place slantingly thin side down in dough. Sprinkle with sugar, cinnamon and nutmeg. Dot with butter and bake.—Miss Martha Feltmate, White Head, Guysboro Co., Nova

Red Apple Salad

Scoop centres out of bright Nova Scotia apples, so as to make cups. Put in water containing a little lemon juice, until required for use. Dice apple and combine with diced Mix with celery and grape fruit. Mix with salad dressing. Refill apple cups, cerery and grape fruit. Mix with salad dressing. Refill apple cuts, and garnish with red apple jelly.... Mrs. R. S. Mader, Box 122, Mahone Bay, Nova Scotia.

de de Open Face Apple Pie

1 cup flour.

1/3 cup shortening.

1/2 cup ice water or just enough to moisten.

Mix flour salt and shortening with a knife. When nice and crumbly, add water. Roll out, fold over, roll again. Place pastry on nie plate as for

squash pie. Filling: Peel, quarter and core 5 or 6 apples depending on size. Place apple sections on pie shell in circles touching till shell is filled. Mix together ½ cup sugar, 3 tablespoons flour, pinch of salt, dash of nutmeg or cinnamon. Spread over apples. Dot ou 1 tablespoon butter. Pour in 1/3 cup milk and bake. Is better served warm.—Miss Lida Pipes, 72 South Albion Street, Amherst, Nova Scotia.

Hot Apple Sandwich

top of the apple sauce. Bake in hot oven until bacon is crisp—serve at once—Mrs. Susie P. Wasson, Parrsboro, Nova Scotia.

Butter-Scotch Apples

5 medium Nova Scotia apples.

Melt butter in pan, add cornstarch melt butter in pan, add cornstarch and sugar mixed, cook to develop flavor and brown color. Add boiling water gradually, and lemon juice, stirring constantly. Bring to boiling point, add apples, cook gently until tender. Serve cold.—Mrs. James Young, 28 Agricola Street, Halifax.

Saving Apples

Cook cored apples; with very little water. Fill sterilized jars

Do this when apples are be-ginning to spoil in the Spring, barb, and make jam, or use plain, or dry your apples on strings over the kitchen stove

Wartime in this original way doing apples, tried and tested saving sugar.—Mrs. P. L. Christensen, Maitland Bridge, Annapolis County.

Cinnamon Apples

8 apples.

This is left over juice from canned fruit opened for meals. Most of the juice. This makes a nice dessert Margaret A. Johnson, Middleton, Nova Scotia.

. . . . Cheese Apples

6 large apples 6 small slices of cheese

6 teaspoons of sugar 1 teaspoon of nutmeg.

Wash and core 6 apples. Place in core hole one slice of cheese. 1 teameg. Place in oven and bake. Eat while hot.—Miss M. Findley, 41 John Street, Halifax, Nova Scotia.

0 # # # Apple Sauce "Without Sugar"

16 lb. dried apples.

Water. 116 saccharin tablets (1/2 grain).

Cook apples in water they have been soaked in all night. Dissolve tablets in ¼ cup warm water and add to apples when cool. Add flavor-ing.—Mrs. T. J. Kline, 153 Windsor Street, Halifax.

To Save Non-Keeping Apples

I find that a jar of apple sauce is handy to have the whole year round. Its nourishing, economical,

and good for many uses.

For example: Gravenstein apples are very delicious in every way, but

I like quart jars. If I should need it as a relish with roast-pork, what's the next morning, if any one should refuse it, an Apple Sauce Cake will be sure to please during the day.

Apple Sauce Core and pare 5 lbs of apples.

Quarter. Add 5 cups of water. Add three cups of sugar. Stir until sugar is dissolved.

-Mrs. Walter Paon, Martinique, Richmond County, Nova Scotia. * * * *

Apple and Prune Delight

1/2 lb. prunes. ¼ cup corn syrup. 1 tablespoon grated orange rind.

Soak the prunes overnight and then stone them. Arrange them in a baking dish and add the corn syrup and orange rind. Barely cover with water, then strew with the grated apple. Bake in a moderate oven, 350 degrees for half an hour. Then cover with a meringue ly with 2 tablespoons sugar. Return to a very moderate oven for 10 minutes -Mrs. W. L. MacKinnon, Lawrencetown, Anna. Co., N. S. # 0 0 0

Peach or Plum Apple Sauce

8 medium apples (about). Left-over syrup from bottled peaches or plums.

baking dish. Arrange apples in Cover with left-over syrup. (This is possible with the fruit). Bake until

muffins with sauce for dessert.
Wartime economy. This makes a
double use of your canning sugar as well as making use of our own fruits—Mrs. Shirley Gates, New Ross, Lunenburg County, Nova Scotia. 22 25 25 25

To Dry Apples For Winter

The home dried apples always apple which keeps a very short time once in a while so that the air can get to all parts. They will turn dark, but that does not matter, when exposed to flies, keep cover-ed with a cheese cloth, when well dried, take off the string and put away in cotton bags, will keep for years and nothing is half so nice as dried apple pie. Soak the apples well before cooking.—L. L. Langille, Box 182, River John, Nova Scotia,

* * * * APPLE CHUTNEY

Peel and chop sour apples to make quarts measured after chopping. chili sauce, pour hot in small jars and seal-Lillian P. Romkey, Necum Teuch, Halifax, Nova Scotia. * * * *

Stuffed Apple Dessert

Several large apples Rice, oatmeal, or any left over cooked cereal.

Method: Take as many large apples little brown sugar, a beaten egg, (if with a little brown sugar. Place in pan with small amount of water, and bake in oven till tender. Serve with top milk or cream — Mrs. George A. MacKenzie, Grand Anse, Nova Scotia.

Alpine Pudding

Grease a pie dish and put a layer of thinly sliced apples in the bot-tom, (if cooking apples and very sour, sprinkle with sugar). Then add a layer of bread crumbs and a layer of sugar, fill up the dish with layers, and put a few dots of butter on top. Bake in moderate oven. (If of sugar should not be added unless strictly necessary, the one on the first layer of apples).—Mrs. F. Verge, 12 Maitland Street, Halifax, Nova

. Victory Apple Pudding 2 tablespoons lard.

1 egg. 2 tablespoons of sugar.

Sift flour and baking powder together. Rub in the lard and mix with 6 apples and arrange the slices on top of dough, sprinkle with sugar with two tablespoons of sugar and

Apple Muffins

Temperature 400 degrees F.

1/2 teaspoon salt.

1/4 cup brown sugar.

3 tablespoons melted shortening. Sift together the flour, baking powder, salt, cinnamon and nutmeg. Add the apples. Beat the egg, add brown sugar, milk, melted shortening. Add to the flour mix-ture all at once; mix lightly. Fill oiled muffin tins 2-3 full.—Mrs. Albert Cyr, Victoria Street, Westville, Nova Scotia.

* * * * Apple and Raisin Muffins

1-3 cup butter and lard. 1/4 cup sugar.

1/4 teaspoon salt. 4 teaspoons baking powder. 1 egg.

cup milk 2 cups sifted flour.

1/2 cup raisins.

burne County, Nove Scotia.

. . . .

Apples Baked With Bread

Remove the cores from good-sized apples; fill with jam, place round slices of stale bread in a baking-dish and put an apple on each slice. Pour scalded milk over the bread. Bake until the apples are bread. Bake until the apples are soft. Delicious for desert / when apples will be plentiful.—Mrs. J. Fred Mullally, Souris, P. E. Island. the four tablespoons of milk. Pour this mixture over the apples and bake in a moderate oven about 24

Nova Scotia Apple Syrup

Take Nova Scotia apples, wash clean, peel and core. Cook skins and cores till cooked thoroughly. Drain through colandar. Then drain juice through salt bag to clear; put back on stove, put half as much sugar as for jelly. Cook till it thickens when cold like molasses. Good over desserts with a spoonful of cream added or for cereals and toast for children or sick folks. Has a richer flavor than jelly.-Miss Emma Collicutt, Cambridge, Nova Sco-

Apple Butter

Use firm, ripe, freshly gathered apples. Core apples, pare and slice. Measure apples, add equal amount of cider. Simmer apples until soft press through signer. Press through Press through sieve; measure sieved fruit. Add half as much sugar filling to top; fasten cover at once. If desired, add stick cinnamon and whole cloves tied in cheesecloth to butter while cooking. Remove be-lore pouring into jars.—Mrs. F. J. Parsons, 192 South Street, Halifax,

Preserves

Rose Hip Jam

1 pound rose hips.

1½ pint water.

Gather rose hips before they become soft and wrinkled and choose a dry day. Cut off stellman and a dry day. Cut off stellman and control of the stellman and cook until they pass gain through a sieve. To each pound and cook until they pass on the stellman sets with a stellman sets with the stellman sets with a stellman set wi

0 0 0 # Carrot Marmalade

1 1/2 pounds carrots

3 lemons. 1½ pounds sugar.

Method: Weah and scrap carrots, put them through meat grinder and cook in just enough water to cover. Wash lemons and cut off rinds. Put rinds all the seeds and membranes. Combine the mixtures and add sugar. Boll until t jells. Turn into hot growth of the seeds and membranes. Combine the mixtures and add sugar. Boll until t jells. Turn into hot growth of the seeds and seeds

a a a # Foxberry Preserves

1 quart foxberries

Clean the berries, saving the juice, add sugar and cook slowly in covered kette and they are really delightful. Can be used as tart filling. relish for ham or veal or poultry—Mrs. A. Irwin, 56 Victoria Road, Dartmouth.

Blueberry "Jam"

Blueberry "Jan 3 cups of berries.

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Rose Petal Pudding Queens Co
(from Marie Bell)

1 cup flout
1 leaspoon baking powds

4 cap rolasses
4 cap sugat

4 teacpoon salt
1 handful wild rose petals

Mix and steam about 1 hour

Sterve hot with cream

Lunenburg bounty (from Marie Bell) bucumber Halad Ped cucumbers, slice them, not too that, put a plate on top & a flatyron on top of all. They heare for 3 hours. This presess out the water, which is said to be the indigentile part. Pour off the expressed june Al Put recumbers in large rigitable dish, with a medium sized onion eat up in very small pieces, 2 teappoons sugar, pepper, vinegar, Stir who cacambers gently whomeh the reverse with a spoon. Part on as much sweet or sour oream as you like. Formerly in have bounty is hot potatoes would the placed in the dish amongst the cukes and the whole thing would comprise the main dish of the need

Queens County (marie Bell) When I was a child in the 18800 & 90's my father used to get a half barrel of saves kreak every fall from the "Dutch" farmers out Beach Theadows way. It would arrive in late October or early November & was published the cellar. at internals (Autil folk say it follows the phases of the moon) the brine or "pickle" of the same broust rises to the top, forthing up over & through the shredded callage. Whenever this happened we used to poke small apples into the topmost part of the Krank, thrusty them well under the pickle. We left them there 2 or 3 weeks. Then we ate them, and loved them. They had a flavor impossible to describe, with the apple flavor of the cabbage flavor & the tang of the salt, all modified by the fermentation of the pickle, I most delicious TURNIP SAUER KRAUT (Natch in Queens,) Made exactly the same as cabbage same krout, though not so popular. Looks very much like it when properly fermented.

SAVER KRAUT (Rolling & Lien.) Take saver Kraut from barrel, scald with boiling water to remove excess pickle. Boil saves kraut with spare ribs of pork for 3 hours & serve hot. Some like a dash of vinegar applied just before caling BLACK BREAD (Lun bo) When I taught school of New Germany in 1899 I lived with a family named Chesley. Thesley wat a farmer who owled a small grish mill operated by a stream which flowed through the farm. Chesley used to grand his own wheat & Fige & also ground a lot for his neighbors. The hiskor chaff left from threshing I winnowing blesly used to grand into a course flour, Y Mrs Chesley made black bread in the old German way. It had a nutly taste & I thought it very good. LIVER SAUSAGE (Still made in Lun. Co. in 1945). Consists of pork, beefliver & heart ground up with mind spice, Spepper, soll, & packed into the big gut of a prog - the gut previously turned inside out and cleaned of rourse. These sansages were turned out in length of about 2 feet, the ends of the gest teed. In Ineer to we called them, by Puddengs. The meat was stuffed who the gut with a "felle", a sort of long take with a plunger inside

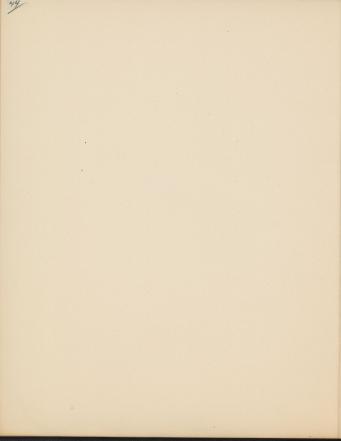




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Tour letter of May 20th was duly received. We have no special knowledge of swordflat as we have never conducted any investigations beyond making a start on a condition known as "jellied ampl I think that a 1924 publication of the 9 . Eureau of Fisherles, namely Bigelow and Welgh's and of the "Fishes of the Gulf of Maine" mould give you good a supmary as I am able to put my hands on rec 1 I have had the pertinent portion which refers to a of Natural History in New York sent a small party t Louisburg Hove Scotie, to study swordfish and so e stary papers have appeared on their findings. I wil these up and see if they contain anything on the A further attempt to ascertain something movements of this fish was inaugurated three or f u ago by a Mr.J.C. Webster of the U.S. Bureau of Fi in est. He was supplying marked darts to the mord-fig and as the dart remains in fish which escape they a a sense tagged. When I last heard from him he had f any returns. It might however be worth your while

unleating with him at Room 210-4, Harvard Riolog 18



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PLEASE REFER TO FILE No. 21

Thomas H. Raddall, Esq., Liverpool, Nova Scotia.

Dear Mr. Raddall:

Your letter of May 20th was duly received.

We have no special knowledge of swordfish as we have never conducted any investigations beyond making a start on a condition known as "jellied swordfish".

I think that a 1924 publication of the U.S. Bureau of Fisheries, namely Bigelow and Welsh's account of the "Fishes of the Gulf of Maine" would give you as good a summary as I am able to put my hands on readily. I have had the pertinent portion which refers to swordfish copied out for you.

Some years ago a party from the American Museum of Natural History in New York sent a small party to Louisburg, Nova Scotia, to study swordfish and some fragmentary papers have appeared on their findings. I will look these up and see if they contain anything on the movements of the fish. My impression is that they do not.

A further attempt to ascertain something of the movements of this fish was inaugurated three or four years ago by a Mr.J.C. Webster of the U.S. Bureau of Fisheries. I think that he was doing it largely from personal interest. He was supplying marked darts to the sword-fishermen and as the dart remains in fish which escape they are in a sense tagged. When I last heard from him he had few if any returns. It might however be worth your while communicating with him at Room 210-A, Harvard Biological Laboratories. Cambridge. Mass.

I have often heard of you from your sister, Mrs. Cassidy, who is a close friend of my wife and whom I too had the pleasure of knowing before she left Halifax.

Yours very truly,

albuen

A. H. Leim.

L:Securrence in the Gulf of Maine .- The swordfish seems to

though it has long supported a lucrative fishery off New Anglan we know little more of its life to-day than when Goode (1863) gathered his "Materials for the History of the Sworifish."

The outer part of the continental shelf from Block Island east to La Have Bank is the chief center of abuddance, with Mantucket Sheals and Georges Bank perhaps the favorite grounds. A few swordfish are seen off Massachusetts Bay and along the Mains count every cummer. Puring some suggests of which 1884 we one, large numbers appear there, and on those occasions they are

Jeffreys ledge and a zone about 10 to 12 miles off the coast from Island to Cape Elizabeth perhaps their favorite resort.

During most years, however, the great majority keep to the offshow

of Maine, and they are rarely seen in the Boy of Tundy. Thus we find only 2,511 pounds (say 10 or 12 fish) brought in by the short

fishermen of Cumberland County, 3 or 4 (800 pounds) lended in Yor

(From Bigelow and Welsh - "The Fishes of the Gulf of Maine.")

SWORDFISH

General range. - Both sides of the Atlantic Ocean, north to northern Norway, the Newfoundland Banks, and Cape Breton; south to latitude about 35° south. Also in the Mediterranean and Red Seas, about the Cape of Good Hope, and in the Indian and Pacific Oceans.

Occurrence in the Gulf of Maine. The swordfish seems to have attracted little attention in the Gulf in colonial days, and though it has long supported a lucrative fishery off New England we know little more of its life to-day than when Goode (1883) gathered his "Materials for the History of the Swordfish."

east to La Have Bank is the chief center of abundance, with Nantucket Shoals and Georges Bank perhaps the favorite grounds. A few swordfish are seen off Massachusetts Bay and along the Maine coast every summer. During some summers, of which 1884 was one, large numbers appear there, and on these occasions they are killed all around the Gulf from Cape Cod to Browns Bank, with Jeffreys Ledge and a zone about 10 to 12 miles off the coast from Boon Island to Cape Elizabeth perhaps their favorite resort. During most years, however, the great majority keep to the offshore banks, and only odd fish are seen in the inner parts of the Gulf of Maine, and they are rarely seen in the Bay of Fundy. Thus we find only 2,511 pounds (say 10 or 12 fish) brought in by the shore fishermen of Cumberland County, 3 or 4 (800 pounds) landed in York

County in 1919. A few are caught off the west coast of Nova Scotia every summer (in 1920,a good swordfish year, 4,700 pounds, or about twenty-odd fish, were landed along the Yarmouth County shore), and over the basin of the Gulf. They are never plentiful in the inner parts of the Gulf and rarely enter the Bay of Fundy. On the offshore banks, on the contrary, 25 or more are often seen in a day. Sometimes that many are in sight at one time, especially over the southwest slope of Georges Bank, and several thousand are killed every summer. In the year 1919, for example, vessels from Maine ports, hunting mostly east of Nantucket, brought in about 425,000 pounds. Massachusetts vessels brought in 712,000 pounds, equivalent, say, to 4,000 fish. In 1920, a big swordfish year, 2,258,051 pounds (something like 7,000 fish) were landed in the ports of Boston, Gloucester, and Portland, not to mention such as were carried to New Bedford, Newport, and New York.

Swordfish, like all fish, fluctuate in abundance from year to year. Thus they were more abundant in the summer and fall of 1904 than was ever known before; plentiful, too, during the next two years; less so until 1913; and very numerous again in 1920. But on the whole the catch runs much more even, year by year, than for most oceanic fish, seldom rising above 2,000,000 or falling below 1,000,000 pounds for the landings in Boston and Gloucester.

The swordfish, like mackerel, tuna, and bonito, is purely a summer fish on the North American coast, appearing simultaneously off New York and Block Island, on Nantucket Shoals, and on Georges Bank sometime between the 25th of May and the 20th of June, but they are seldom on the Scotian Banks until somewhat later or in

the inner parts of the Gulf of Maine before July. They are most numerous in July and August, and vanish at the approach of cold weather. This seasonal ebb and flow is clearly reflected in the catch, month by month (fig.103). So far as we can learn, not one has ever been reported east of Cape Cod after the first days of November, and most of them are gone from the Gulf by the last week in October; but an odd fish has been taken off New York and New Jersey in December and even in January, the most recent report of such occurrence being of 13 entangled in line trawls set for tilefish in 95 to 125 fathoms off Long Island between December 20, 1921, and January 1, 1922.

It is generally believed that swordfish come in from the open seas when they appear on the offshore banks in spring, some few to enter the Gulf of Maine, but the majority to remain about the banks at its mouth or to work slowly eastward along the outer part of the continental shelf, which is the only regular longshore migration they carry out. When they depart in autumn it is to return to the open Atlantic, but how far they go when they leave us, or how deep, is unknown. We are equally ignorant of where our local swordfish breed - certainly not in American coastwise waters, as no ripe fish have ever been seen there. In fact, most of the fishermen of whom we have inquired assure us they have never seen a trace of "spawn" in a swordfish, although they have dressed hundreds, and a "green" fish with ovaries weighing 15 pounds, brought into New Bedford on June 25, 1922, was considered so unusual that it caused much comment. Furthermore, it seems that very young fish never visit us, one of 7 3/8 pounds, caught on Georges Bank by the schooner Anna,

August 9, 1922, being the smallest so far recorded from off New England. Goode, et al. (1884), it is true, describe a sword only one-half inch long found in the nostril of a mackerel shark caught at Gloucester, but there is no knowing how long the shark may have carried it, nor whence. One slightly more than 2 feet long with the sword and weighing about 24 pounds alive was also recorded by them, but fish smaller than 50 to 60 pounds are decidedly unusual. In the Mediterranean young fry as small as half a pound are often brought to market.

Food .- The swordfish is a fish eater. During its stay in American waters it feeds on mackerel, menhaden, bluefish, silver hake. butterfish.herring, and indeed on any of the smaller schooling fishes, buckets of which have been taken from swordfish stomachs. Squid, too, are often found in them and may be their chief diet at times. One that we killed on Georges Bank on July 24, 1916, was full of silver hake, and another harpooned off Halifax contained a squid (Ommostrephes) and fragments of silver hake. They have often been described as rising through schools of mackerel, menhaden, etc., striking right and left with their swords, and then turning to gobble the dead or mangled fish. Judging from the commotion, we have seen them so employed on more than one occasion. though never close enough to actually follow the event. According to swordfishermen, it is not unusual for swordfish to contain black deep-sea fishes, and Kingsley records two stomiatids (Echiostoma barbatum Lowe) taken from the stomach of one harpooned over the offshore slope of Georges Bank, so fresh that the phosphorescent organs were still in good condition, and since these black fish probably

always keep below 150 fathoms this is sufficient evidence that swordfish sometimes forage at considerable depths. It seems that they sometimes endeavor to strip line trawls set for halibut and tilefish of the smaller fish already caught, for they are occasionally brought up entangled in the line, but never actually hooked.

Habits.- Swordfish are supposed to spawn in spring and early summer, but judging from the state of the ovaries and spermaries this can not apply to the American fish, which must spawn during the part of the year when absent from our coasts, and probably in the warmer parts of the Atlantic basin, for Lutken 89 found swordfish fry as small as 10 mm.- evidently hatched but a short time previous - between the latitude of 20° and 39° N. The fact that they are thin when they return to us in spring, but fatter during the summer stay, is further evidence that they are spent before they appear off the coast.

Nothing is definitely known of the rate of growth of the swordfish. It has been supposed that the young fish of half a pound to 12 pounds taken in winter in the Mediterranean are the product of the past spring's spawning, but this would call for unusually rapid growth. The very large size attained may equally be the result of long life.

Although swordfish congregate temporarily in certain localities they do not school, but are always seen scattered about either singly or at most two fish swimming together. On this point the earlier published accounts, statements by fishermen, and our own rather limited experience are in accord. On calm days

swordfish often lie quiet on the surface or loaf along with both the high dorsal and the tip of the caudal fin above water, and it is while so employed that they are harpooned. When at the surface swordfish do a good deal of jumping, perhaps in a vain attempt to shake off the remoras that so often cling to them. On July 28, 1914, off Shelburne, one leaped clear of the water four or five times in rapid succession close to the Grampus.

Tales innumerable are current of swordfish attacking vessels, but most such happenings are really the work of some one of the round-sworded spearfishes, which seem either to be subject to fits of "temporary insanity", as Goode, et al. (1884, p.345), called it, or, more likely, may strike a ship and pierce its planking while pursuing bonito or other fish in its shadow. Though many pleasure and fishing craft, large and small, cruise off our coasts every summer, we have never known of one being struck by a swordfish unprovoked, but fish that have been harpooned often turn on their pursuers and for one to so pierce the thin bottom of a dory is a common event. We have, indeed, known several fishermen to be wounded in the leg in this way, but always after the fish had been struck with the harpoon. Under these circumstances swordfish have been known to drive their swords right through the planking of a fishing vessel.

Stories of swordfish attacking whales are time-honored traditions of the sea, with no more stable foundation than the myth that they ally themselves with the harmless thresher shark for the purpose. As a matter of fact swordfish are easily frightened, but for some occult reason they will allow themselves to be almost run down by a large vessel without paying the least attention to its approach until aroused by its shadow or by the swirl of water under its forefoot, though I have never heard of a swordfish actually being struck by a vessel. They always sound or dart aside in time. When harpooned swordfish fight gamely on the surface or below. Storer long ago wrote that they sometimes sound with such speed and force as to drive the sword into the bottom, which fishermen say is by no means uncommon, and we curselves saw an instance of this off Halifax in August, 1914, when a fish over 10 feet long, which we had harpooned from the Grampus, plunged with such force that it buried itself in the mud beyond the eyes in 56 fathoms of water. When finally hauled alongside it brought up enough mud plastered to its head to yield a good sample of the bottom.

How far temperature governs the distribution of swordfish is yet to be learned. It is safe to say that it is a warm and not a cold-water fish, most plentiful in waters warmer then 50°; but occasional captures on halibut line trawls set near bottom as deep as 200 fathoms, together with the fact that swordfish are by no means rare on the Newfoundland Banks, whence several fish were brought back by the American cod fleet in 1920, proves that temperatures lower than 50° are not a bar to it.

Full-grown swordfish are so active, powerful, and well armed that they can have few enemies. Sperm and killer whales and the larger sharks alone menace them, and while we can find no evidence that swordfish ever fell prey to the first two, Captain Atwood found a good-sized swordfish in the stomach of a tiger shark as recorded above (p.28), and one swordfisherman of our acquaintance

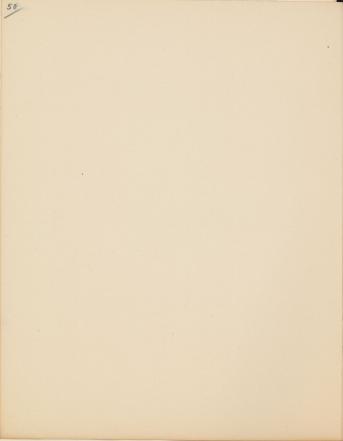
described seeing two large sharks bite or tear off the tail of a swordfish of 350 pounds, which he afterwards harpooned. Young swordfish would, of course, be preyed upon by any of the larger predaceous fishes.

Swordfish are infested with many parasites besides the remoras, several of which are often clinging to one fish. No less than 12 species of worms and 6 of copepods have been identified from fish taken off Woods Hole alone.

Swordfish are harpooned. We have never heard of one caught in net or seine, nor is it likely that any net of the sorts now in use would hold a large one. On rare occasions swordfish have been taken on hand lines baited for cod with mackerel or other fish. Goode (1885), for example, relates an instance where seven were so caught in one day in the South Channel in 15 to 25 fathoms, and fishermen have told us of other such happenings.

Commercial importance. - Appreciation of the swordfish in the market is of recent growth. Down to the middle of the past century it was unsalable in Boston and brought a very low price in New York, but of late years the demand would take care of a much greater supply than is available. In 1919 the price to the fishermen averaged between 23 and 24 cents per pound.



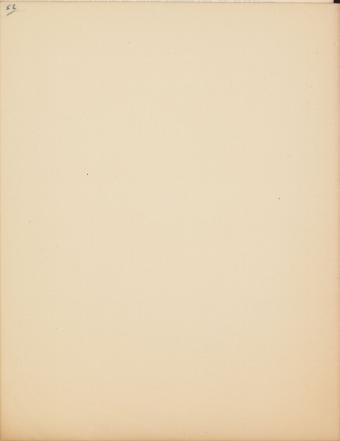












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ADDITION TABLE 5 - 15 5 - 15 6 - 16 7 - 17 4-6 4-7 5-7 5-8 6-8 6-9 4 - 8 6 - 17 MULTIPLICATION TABLE 5 - 55 6 - 66 ARITHMETICAL TABLES Measure. 7.92 Inches...... 1 Link 100 Links...... 1 Chain Long Measure. Time Measure. Apothecaries' | Dong areasure | Time | Accessive | Spill | Spring | Spr English Money A Florin is 2s. 45c. A Half-Crown is 2s. 6d. 60c. Arithmetical Signs. 144 Sq. Inches, 1 Sq. Foot. 2s. 6d. 60e. + Plus, sign of Addition. 301 Yards, 1 Square Rod Alignet Parts of a Dry Measure. Days in the Month. 2 Gallons 1 Peek V Sim of the So, Root. 2 Gallons 1 Peek V Sim of the So, Root. 30 Bondeks 1 Challton Security Simulation of the Son Root. 4 Voirdupois Weight. 10 Drams 1 Ouncig 26 Grains 1 Pennyweight of Mark 1 Pervary have 31 2 Grains 1 Pennyweight of Labor 1 1 2 Pervary have 31 2 Grains 1 Pennyweight of Labor 2 Comming 1 2 Pounds 1 1 Stone 20 Pervary eights 1 Common ones in four . Cloth Measure. Inches. . . . 1 Nail Measure of Capacity. 4 Nails . . . 1 Quarter 4 Gills . . . 1 Pick 3 Measure.