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Maryland's Trout and Salmon

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A SWIRL of water, a mighty leap, a flash of red, blue, brown or white is all that a young lad or a granddad needs to set his mind racing and his heart pounding with joy. You might ask, "what is so beautiful that it can lure men away from the bustle of everyday life and cause feelings ranging from admiration to awe?" The answer can only be the sight of a trout or salmon.

Marylanders will brave all sorts of hardships to glimpse this wily group of fishes and pit their skill and patience against them. To many, nothing is more impressive than the majestic, sleek trout lurking near a rock or riffle in a clear stream; nothing is more crafty in taking a fisherman's bait; nothing struggles so violently for life once hooked; and nothing intertwines that freshness of land, water and mind to make life so interesting.

Maryland waters are blessed with one native trout, several introduced species and one salmon. The sole native trout is the brook trout (*Salvelinus fontinalis*), while the introduced forms are the brown (*Salmo trutta*) and rainbow trout (*Salmo gairdneri*). The only naturally occur-

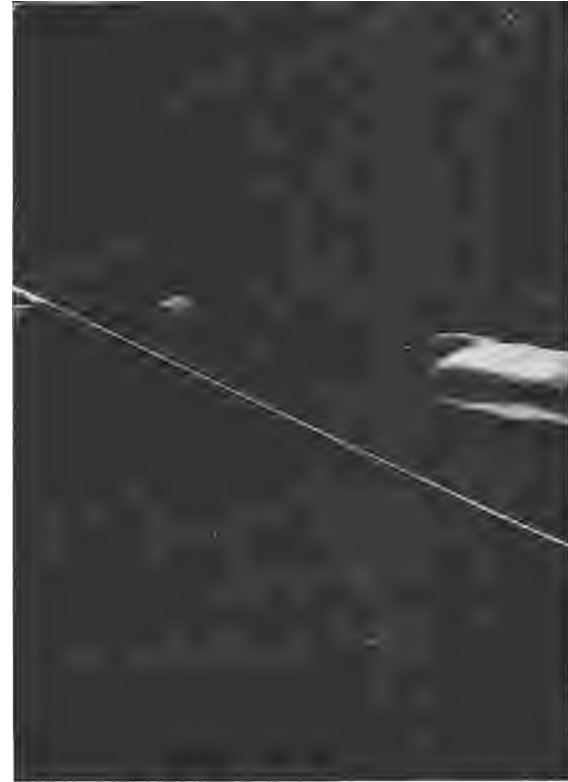
ring salmon is the Atlantic salmon (*Salmo salar*).

Trout once haunted most of Maryland's upland streams. But man and his lumbering, strip mining, agriculture and pollution practices either killed the trout or forced them to retreat to those streams in the western counties where primitive and forest conditions remained. Meshack Browning, in his *Forty-Four Years of the Life of a Hunter*, mentioned harvesting many five pound brook trout from these tributaries, especially near Sang Run in Garrett County. Frederick Skinner, commenting in *Turf, Field and Farm*, on the western tributaries, particularly the Youghiogheny River, noted that it was swarming with five pound, 22 inch brook trout in 1834. But even here, the trout were unsafe. As the human population grew, pressure on wildlife populations soon caused depletions of natural stocks so that as early as the late 19th Century, it was necessary to stock fish for public fishing.

Successful stocking of brook trout in the State's waters began about 1875. Extensive stocking in Deep Creek Lake started in 1919. Rainbow trout were introduced by shipments of eggs

from California about 1883. Brown trout stocking began at the same time. Several lots of searun Atlantic salmon were introduced into the Gunpowder, Susquehanna and Patuxent Rivers between 1873 and 1877, and into the Youghiogheny River in April of 1880. None were successful. About 1873, chinook or king salmon (*Oncorhynchus tshawytscha*) from the West Coast were unsuccessfully introduced into the Youghiogheny and Potomac Rivers. In the 1890's, lake trout (*Salvelinus namaycush*), were introduced in the Youghiogheny River and other Garrett County streams, but none succeeded.

Today, populations of brook, brown, and rainbow trout exist due to a "put and take" stocking practice. More than 45 streams are stocked annually so that present generations can still see, catch and enjoy these fishes. This policy must prevail since much of the trout's original spawning and stream habitat is altered or despoiled. The gravel so necessary for spawning beds (redds) is silted over. Industrial activities have often warmed the water above tolerance levels (55 degrees for brook trout, 65 degrees for brown or rainbow) . Many streams'



distinguishes the Atlantic salmon, brown trout and rainbow trout, while the brook trout has light spots on a darker background.

In New England and Canada, the Atlantic salmon may weigh up to 40 pounds. Locally, this dull silvery or steel blue fish, with scattered round or X-shaped black spots and large scales on its body, seldom exceeds 12 inches and a few ounces in weight. The ventral and anal fins are white. Elsewhere, males on spawning runs lose their silvery sheen, turn a dull brownish and reddish hue, and may exhibit orange, black or red body spots. Their jaws elongate and become hooked, so only the tips touch. They may ascend streams for many miles and spawn in a shallow redd. After spawning, although spent and often dying, they feed voraciously and will actively strike a fly.

Young, known as parr, possess 10 to 11 marks along their bodies; these alternate with bright red spots, and are set off by an orange adipose fin. Young salmon remain in fresh water for two years before migrating to the sea during the third summer where they feed on fish and crustaceans. They grow rapidly and may weigh seven pounds after only one year at sea.

The brown trout, primarily a stocked fish in Maryland, reaches a maximum of about 27 inches and 8½ pounds. It is golden brown with dark brown or black spots on the body, dorsal, adipose and caudal fins. The body and adipose fin spots are sometimes orange or red, or edged with orange dorsally while those ventrally may be ringed with pink or red. The large adipose fin of young fish is orange. Young brown trout, like the Atlantic salmon, are parr-marked.

Brown trout are often inactive during midday and spend much time in deep pools or near protective cover. They feed actively in the early morning and evening, consuming large numbers of insects, worms, small crayfishes and fishes. In nature, brown trout reproduce from October through December by depositing their eggs in shallow saucer-like nests that are scoured out in sand or gravel beds in

water with temperatures near 51 degrees. Hatching occurs between 48 and 52 days. Hatchery fish probably grow faster than wild individuals, often attaining a length of 17 inches in 16 months.

Both natural and artificial baits are used for fishing brown trout. Dry flies are good, especially in the early morning, late afternoon and evening. Spinners ahead of a fly or spoon are good for early spring or turbid water fishing, while small flies are preferred bait in midsummer. Night crawlers, salmon eggs, or cheese balls fished close to the bottom produce results anytime of day.

In Maryland, the rainbow trout may reach a maximum of 27 inches and 8½ pounds. They are distinctively marked with a lateral longitudinal band of pinkish blue or red. The dorsal, anal and caudal fins and back have black spots. No pink or red occurs on the throat area. Young possess parr-marks.

The rainbow trout is an active mollusc, insect and fish feeder. It spawns from late February to early April. About 50 days are necessary for hatching. Hatchery fish reach a length of six inches in 16 months while three inch lengths normally prevail more than a year under natural conditions.

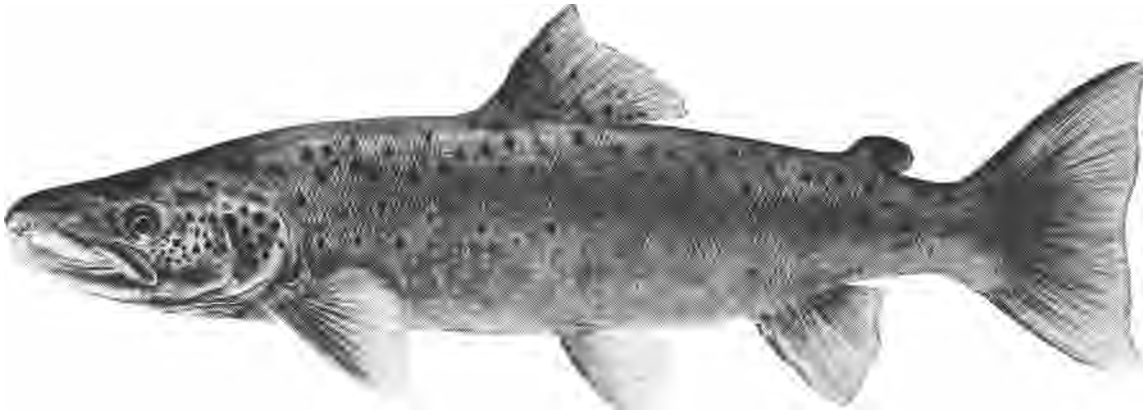
Worms are the best bait, for rainbows, although salmon eggs, minnows, grasshoppers and other insects will produce action. Pools and riffles are favorite hiding spots for these fishes. Wet fly fishermen usually fish down and across a stream while dry fly fishermen generally fish for this species by casting upstream with a downstream float of the bait and slack retrieval.

The brook trout is olive green with wormlike markings on its dorsal fin and back. Its sides are spotted with many greenish spots, some with red and blue borders. Ventrally, an orange or orange-black prevails from the gills to the caudal fin. The pectoral, pelvic and anal fins have a leading edge of white followed by black, while the remainder of the fin is orange. The ventral leading edge of the caudal fin is white.

water chemistry is changed drastically; they frequently lack oxygen or are highly contaminated with pollutants. Plant cover needed to shade and cool the streams disappeared. In many areas, rivers are dammed, depriving the trout of the swift clear water they must have to grow and reproduce.

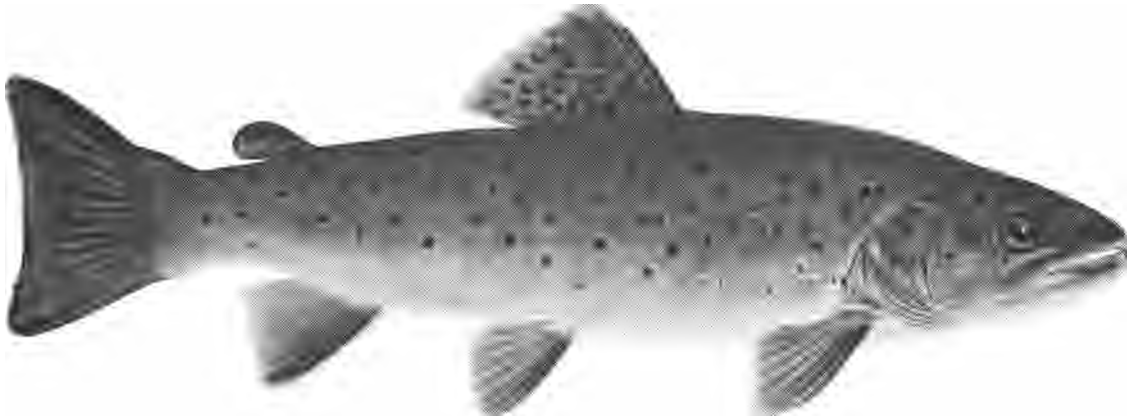
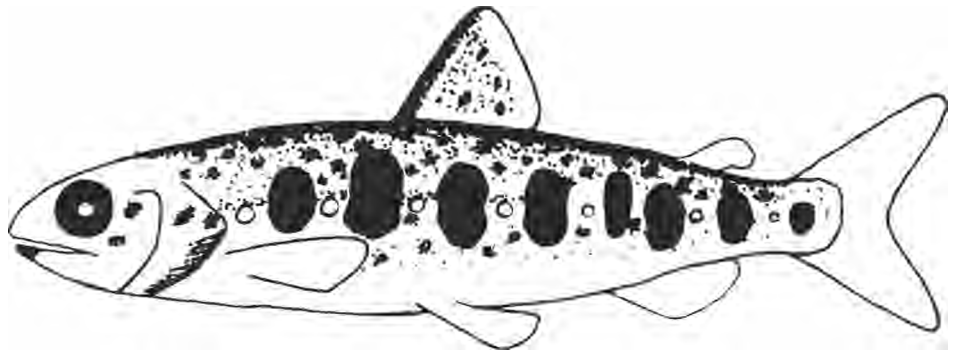
Changes in the Chesapeake Bay reduced the population of searun Atlantic salmon that once ascended its tributaries to spawn. Populations that yielded many pounds of catchable fish at the turn of the century, today comprise only an occasional straggler.

Although trout and salmon may look alike, each species has distinctive characteristics. All belong to the bony fish family Salmonidae. This family of fishes is characterized by an elongated body, cycloid (round and smooth) scales, naked head, large mouth and a fleshy dorsal flap or adipose fin located behind the dorsal fin. The caudal or tail fin may be strongly or slightly forked. The ventral fins are positioned near the soft-rayed anal fin. Internally, many finger-like sacs (pyloric caeca) open off and occur near the stomach. These aid in digestion. A basic color pattern of dark spots on a lighter background



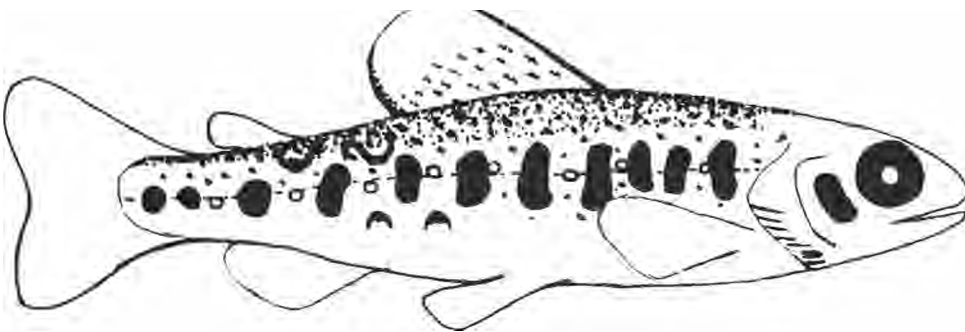
ATLANTIC SALMON

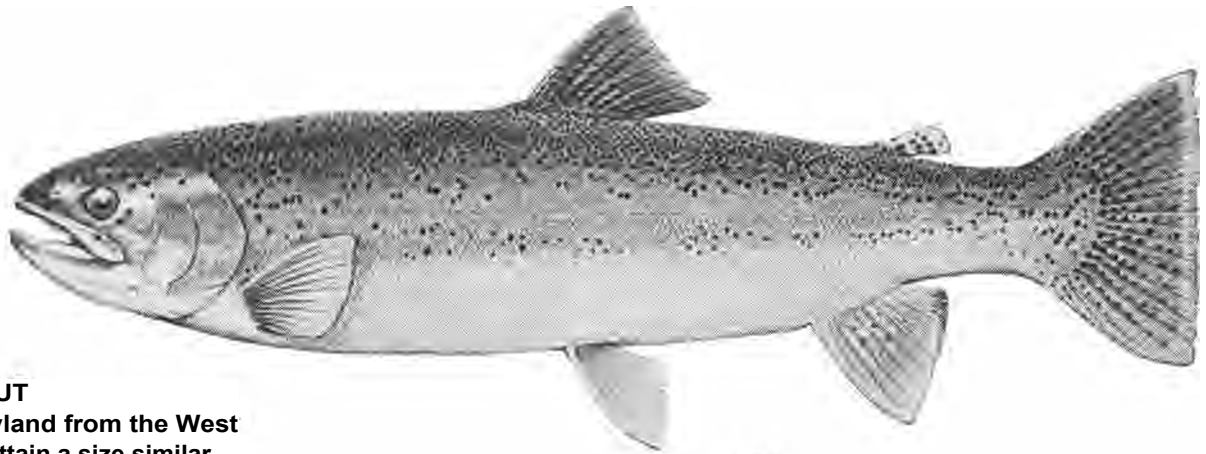
Although this fish apparently has never been plentiful in this area, they are still found infrequently. Breeding male and parr-marked young are shown for each species.



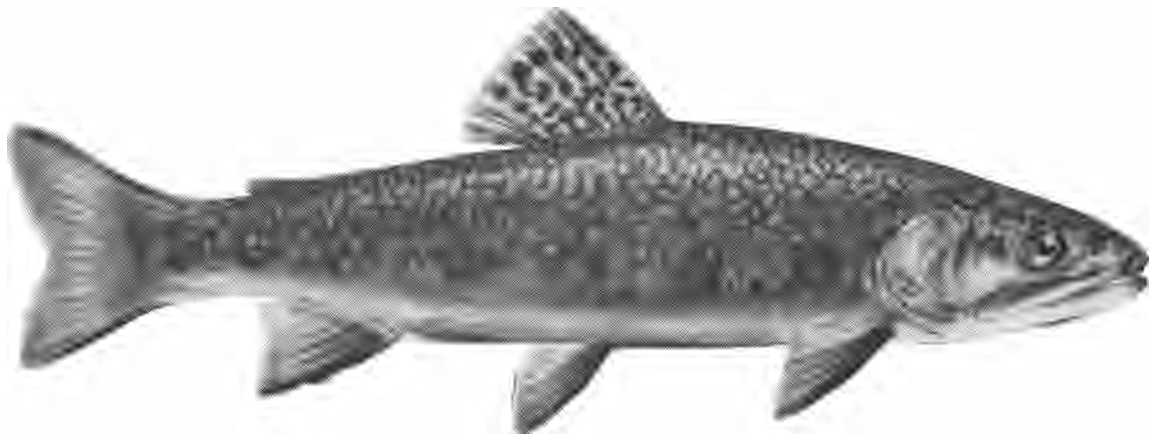
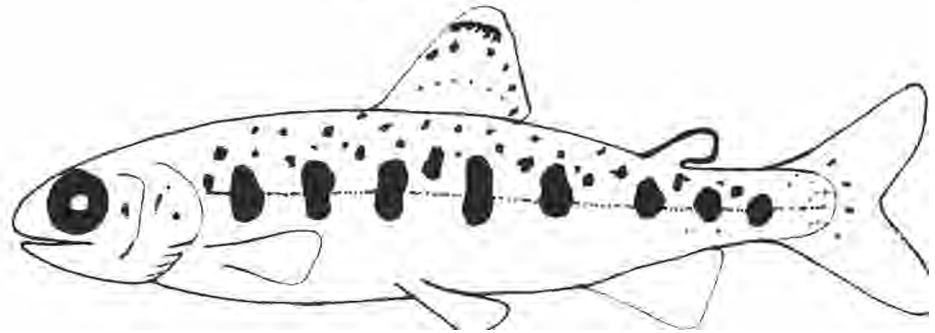
BROWN TROUT

This native European has been stocked here for about 80 years. Reaching a length of 27 inches and weighing up to eight and one half pounds, brown trout can provide you with true adventure preferably during early morning or early evening hours.

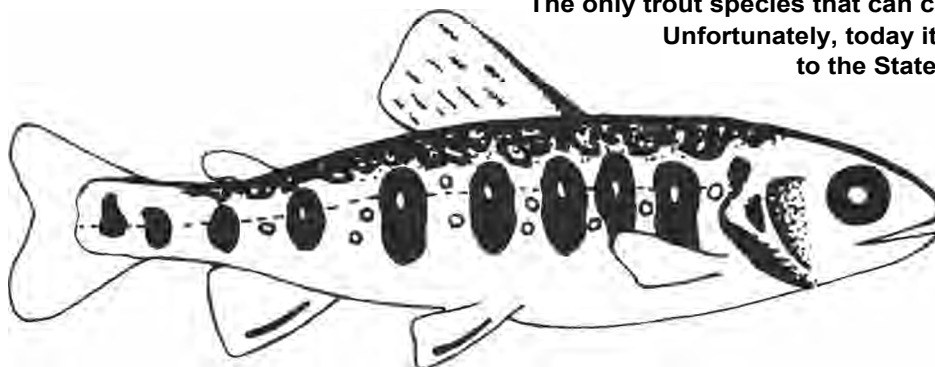




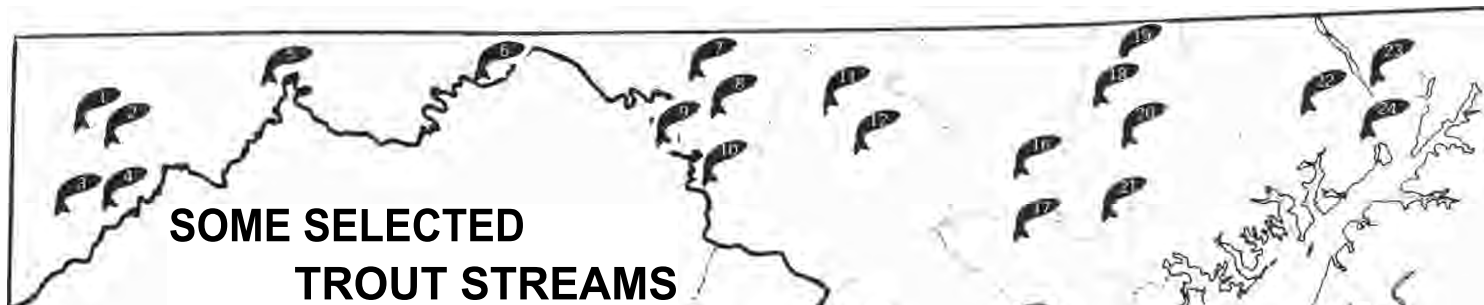
RAINBOW TROUT
Brought to Maryland from the West Coast, rainbow attain a size similar to that of brown trout, although there is little other resemblance.



BROOK TROUT
The only trout species that can call Maryland home. Unfortunately, today it owes its existence to the State hatchery program.



Adult stage drawings, courtesy of New York State Conservation Department Biology Survey.



SOME SELECTED TROUT STREAMS

NAME	LOCATION	NAME	LOCATION
1 BEAR CREEK	GARRETT COUNTY; NEAR ACCIDENT, MD.; U. S. 219 AND STATE 42.	22 DEER CREEK	HARFORD COUNTY; IN SUSQUEHANNA STATE PARK, CROSSES STATE 161.
2 NEW GERMANY	GARRETT COUNTY; SOUTH GRANTS-VILLE; U. S. 19 AND STATE 495.	23 BASIN RUN	CECIL COUNTY; CROSSES STATE 269.
3 DEEP CREEK LAKE	GARRETT COUNTY; NORTH OF OAKLAND; U.S. 219.	24 PRINCIPIO CREEK	CECIL COUNTY; NEAR LIBERTY GROVE; SOUTHEAST OF CONOWINGO; CROSSES U. S. 40 NEAR PRINCIPIO FURNACE.
4 SAVAGE RIVER	GARRETT COUNTY; NEAR BLOOMINGTON OFF STATE 135.	25 SEVERN RUN	ANNE ARUNDEL COUNTY; CROSSES STATE 3 NEAR BENFIELD.
5 EBITTS CREEK	ALLEGANY COUNTY; WEST AND NORTHWEST OF CUMBERLAND; U. S. 40.		
6 LITTLE TONOLOWAY CREEK	WASHINGTON COUNTY; CROSSES U. S. 40 WEST OF HANCOCK.		
7 MARSH RUN	WASHINGTON COUNTY; NORTHEAST OF HAGERSTOWN NEAR FIDDLESBURG.		
8 BEAVER CREEK	WASHINGTON COUNTY; CROSSES U. S. 40 NEAR DOUGS MILL; SOUTHEAST OF HAGERSTOWN AND FUNKSTOWN.		
9 ST. JAMES RUN	WASHINGTON COUNTY; CROSSES STATE 68 AT ST. JAMES SOUTH OF HAGERSTOWN.		
10 LITTLE ANTIETAM CREEK	WASHINGTON COUNTY; EAST OF SHARPSBURG NEAR EAKLES MILLS.		
11 BIG HUNTING CREEK	FREDERICK COUNTY; CUNNINGHAM FALLS STATE PARK, ALONG STATE 77.		
12 FISHING CREEK	FREDERICK COUNTY; CROSSES U. S. 15 NEAR LEWISTOWN.		
13 LITTLE SENECA CREEK	MONTGOMERY COUNTY; CROSSES STATE 117 NEAR BOYDS AND IN SENECA CREEK STATE PARK.		
14 ROCK CREEK	MONTGOMERY COUNTY; CROSSES STATE 586 NEAR ROCKVILLE.		
15 PATUXENT RIVER	FORMS THE LINE BETWEEN HOWARD AND MONTGOMERY COUNTIES BETWEEN TRIALDELPHIA AND ROCKY GORGE RESERVOIRS.		
16 BEAVER RUN	CARROLL COUNTY; CROSSES STATE 91 NEAR FINKSBURG.		
17 PINEY RUN	CARROLL COUNTY; CROSSES STATE 32 NEAR SYKESVILLE.		
18 BEE TREE RUN	BALTIMORE COUNTY; STATE 409 NEAR FREELAND.		
19 LITTLE FALLS	BALTIMORE COUNTY; WEST OF INTERSTATE 83; NORTHEAST OF PRETTYBOY RESERVOIR.		
20 GUNPOWDER FALLS	BALTIMORE COUNTY; INTERSTATE 83 NEAR WEISBURG.		
21 JONES FALLS	NORTH BALTIMORE. NEAR BROOKLANDVILLE STATE 130.		

Brook trout will feed on molluscs and fish, but prefer insects. They spawn from September through November in redds near the headwaters of small streams. Fifty days are required for hatching in 51 degree water. Normally, under natural conditions, three to five inch lengths are attained in a year while similarly aged hatchery fish are seven to ten inches long. The world's record for this species is 32 inches, while the Maryland record is 23 inches. Angling methods are similar to those used to catch other trout. Live baits are good, but this trout will also rise to a fly. It prefers to lurk near shelters or

simply remain stationary in the open. Whatever that mystical something about a trout is that can touch the very heart of man will remain a mystery. Let us hope that man will realize that if he wishes to continue to catch big trout in Beaver Creek, Deer Creek, Fishing Creek, Gunpowder River, Jones Falls, Little Antietam Creek, Little Falls, Little Seneca Creek, Muddy Creek, Patuxent River, Savage River and the Youghiogheny River, he must act now to preserve this privilege. Realistically, man must do more than hope. His Maryland heritage is too great to see these fishes disappear. Pollution abatement must commence

immediately. Better agricultural and forestry practices must be put into use. Man may have to change his practices and introduce searun brown trout to the Bay and its tributaries to supplement his coastal fishing; or stock the cold water loving, landlocked Kokanee salmon (*Oncorhynchus nerka kennerlyi*) in Deep Creek Lake. Or perhaps he should hybridize trout to yield larger fishes adaptable to changing environments. Only then can he continue to thrill to the sight of a swirl of water, a mighty leap, a flash of color, and hope to see during future generations—a trout.