#### Muskies—The Over 50 Crowd

That day in 1985 when Muskies, Inc. members released the first muskellunge into Greenwood Lake, visions were surely drifting in their minds of a special day to come. . . Well 17 years later, that day, the day the sacred 50-inch mark fell to an angler, came to fruition. At the end of April, long time Muskies Inc. member Chuck Graff trolled up a spectacular 50-inch Greenwood Lake muskellunge. For avid muskie anglers, a 50+ inch muskellunge is the benchmark for a true trophy size muskie, and to land one is their aspiration.

With the exception of the Delaware River which has had a well established muskie fishery for over 30 years, only the last five years has seen New Jersey's lakes giving up muskies in the 47 to 49-inch range. That long-awaited 50-incher had eluded even the most avid muskie anglers. Everyone knew large muskies were there and that it was only a matter of time and luck before the 50-inch mark would be broken. Only two weeks prior to Chuck's memorable catch, the Division of Fish and Wildlife captured its first 50+ inch muskellunge in Greenwood Lake. The 51-inch female, weighing approximately 36 pounds, was captured in a trap net during the spring broodstock collection. A Division biologist analyzed scales from this fish and estimated its age at 10 years. The growth rate is considered fast compared to the average of muskies in neighboring states—like Pennsylvania, and is reflective of the high productivity of Greenwood Lake.

In the Garden State, interest in muskie fishing has been steadily increasing as more opportunities become available. The Division began its true-strain muskellunge hatchery and stocking program in 1993. Currently, the Hackettstown Hatchery annually raises approximately 4,000 muskellunge fingerlings (10 inch average length) both in ponds and indoor tanks. These fish are obtained by collecting broodfish from within the hatchery and in the wild. These fish are spawned at the hatchery and the young





raised to stockable size. Out-of-state sources of fingerlings are utilized as needed.

The following waters are stocked on an annual basis: Greenwood Lake, Mercer Lake, Echo Lake Reservoir, Lake Hopatcong and Mountain Lake. The Delaware River is stocked with any surplus fingerlings and Monksville's fishery is fueled by muskies moving downstream from Greenwood Lake. All of these waters are capable of producing muskellunge larger than 50 inches. However, the older populations in Greenwood, Monksville, Echo Lake Reservoir and the Delaware River provide the best chance of topping the renowned 50-inch mark.

When and where will the next 50+ inch muskellunge be caught? Through

the Division's aggressive hatchery program and the efforts of the New Jersey Chapter of Muskies Inc., muskie fishing and the possibility of catching these true trophies in New Jersey will be on the rise.

...Or was it a gigantic 55+ inch muskellunge the members of Muskies, Inc. really were fantasizing about on that day?

By Bob Papson, Principal Fisheries Biologist

### Lake inventories available for sale

A booklet entitled *Inventory of New Jersey Lakes and Ponds* (Vol. 1, No. 1) is available by mail from the Division of Fish and Wildlife. The 12 inventories in this booklet provide information on lakes recently monitored by the Bureau of Freshwater Fisheries. The work was done under a Federal Aid In Sportfish Restoration Project. These investigations include fish populations and physical characteristics of a representative sample of lakes open to public angling.

Included is information on the location of the water, the fish species present, recent stocking information, water depths, weed distribution and water quality including dissolved oxygen distribution. The following lakes are included:

Amwell Lake, Hunterdon County Assunpink Lake, Monmouth County Budd Lake, Morris County Colliers Mill Pond, Ocean County Furnace Lake, Warren County Green Turtle Pond, Passaic County Manasquan Reservoir, Monmouth County Merrill Creek Reservoir, Warren County Scarlet Oak Pond, Bergen County Tummill Pond, Ocean County Union Lake, Cumberland County Wilson Lake, Gloucester County

The cost of a bound copy of these 12 Lake Inventories is \$3.00 including postage and handling. Please make checks payable to "NJ Division of Fish and Wildlife." Send your request to: Lake Inventories, NJ Division of Fish and Wildlife, Bureau of Freshwater Fisheries, PO Box 394, Lebanon, NJ 08833.

# River Herring and American Shad Return to Tributaries near Camden and Philadelphia

During colonial days, American shad and river herring were abundant in the lower Delaware River and tributaries in the vicinity of Philadelphia and Camden. In the spring, spawning fish ascending freshwater rivers became a staple for colonists when winter food reserves were low. At this period of time, the Delaware River and its lower tributaries were more or less in a pristine state.

An undocumented report indicates that a fortuitous arrival of an early (and large) run of American shad in the Schuylkill River ended the famine for revolutionary soldiers stationed at Valley Forge with George Washington.

During the next two centuries, human population growth and resultant environmental impacts negatively affected these anadromous (migrating from the ocean up river to spawn) clupeids. Dams were constructed for various mills, ponds and lakes, which increased water pollution levels. Dams constructed across rivers and streams blocked spawning migrations. American shad and river herring could not pass these obstructions to return to their natal streams. Like salmon, river herring home with a high degree of fidelity to the location where they were conceived to spawn.

Less stringent water quality standards during the Industrial Era created a "pollution block" in the section of the Delaware River near Philadelphia and Camden. This block consisted of an area of low D.O. (dissolved oxygen) during the months of June, July and August. Young river herring and American shad utilizing this section of the Delaware River as a nursery in the summer perished and spawning migrations which occurred in tributaries such as Pennsauken Creek and Cooper River eventually became extinct. An anadromous fisheries inventory conducted between 1972 and 1974 verified these extinctions.

The "Clean Waters Act" of 1972 was the catalyst that changed everything. Stringent regulations pertaining to sewage treatment plant discharges improved water quality and D. O. levels began to remain constant during the summer months. The Delaware River began to regain its former glory.

Regulations regarding constructing barriers across fish migratory pathways were also an invaluable management tool. The incorporation of fish ladders into many impounded rivers throughout New Jersey allowed river herring and American shad to return to areas where they historically spawned.

Recently, the Division of Fish and Wildlife confirmed juvenile river herring were again utilizing both Pennsauken Creek and the Cooper River as a nursery area (1995). American shad juveniles were also confirmed utilizing Big Timber Creek as a nursery area (1993). As stated previously, these areas were formerly known to have extinct runs due to the pollution block. The documentation of these fishes prompted the Division of Fish and Wildlife to set "restore"

objectives for these rivers. As a result, three new fish ladders have been installed along the Cooper River (Kaighn Ave. Tide Gate, Wallworth Pond and Evans Pond). These fish ladders have opened six miles of historic spawning habitat for river herring along the Cooper River.

The Division of Fish and Wildlife began a new anadromous fisheries inventory in 2002 to reassess the status of the clupeid spawning migrations. This inventory was prompted by the recent developments in the Delaware River in the vicinity of Philadelphia and Camden. As new confirmations come in, the Division of Fish and Wildlife will enact regulations that fully protect this valuable fisheries resource.

By Hugh M. Carberry, Supervising Biologist



# Continue the Tradition

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#### **New State Record Lake Trout**



Gregory Young lands a new state record lake trout on May 4, 2002 out of Round Valley Reservoir. The fish weighed 32.5 pounds and was 41.5 inches long, with a 25.5 inch girth.

Photo: Shawn Crouse, NJ Division of Fish and Wildlife