

# **Management Brief**

## **West Virginia Division of Natural Resources Wildlife Resources Section**

### **OHIO AND NEW RIVER WALLEYE ASSESSMENT**

#### **BACKGROUND**

The rivers of West Virginia have historically contained walleye populations, but had declined in numbers because of poor habitat quality. To supplement these declining populations, the West Virginia Division of Natural Resources (DNR) initially stocked these waters with walleye primarily derived from Lake Erie broodstock. Recently, genetic analyses have identified significant, genetic-based differences between the native walleye and the walleye from Lake Erie. This native strain of walleye likely originated in the New River, but also has been found in the upper reaches of both the Ohio and Kanawha rivers, where the habitat is more similar to that of the New River. The DNR recently started a restoration program for native walleye in an attempt to re-establish these populations in the New, Ohio, and Kanawha rivers. An additional motivation to this project was the improving water quality and habitat conditions in these water bodies. In 2008, the DNR expanded their efforts to study the success of this restoration program.

During the late-winter and early-spring, walleye were collected using boat-mounted electrofishing units at three Ohio River tailwaters (Belleville, Hannibal, and Pike Island), two locations in the Kanawha River (London tailwaters and just downstream of Kanawha Falls), and in the Sandstone Pool of the New River. Fish were measured for total length and a tissue sample (fin clip) was taken for genetic analyses. Walleye from the New River were also tagged with T-bar anchor tags. Walleye were categorized as either “native” or “introduced” (Lake Erie-derived) based on the genetic analyses. Population characteristics, such as size structure, condition, and the frequency of native walleye, were then examined based on these cohorts.

#### **RESULTS**

##### **Ohio and Kanawha Rivers:**

One hundred and sixteen walleye were collected from the Ohio River and 64 from the Kanawha River. Of these, 34% were categorized as “native” from the Ohio River and 50% from the Kanawha River. The percentage of native walleye was highest at the Kanawha Falls reach (71%) and lowest at the Belleville tailwaters (14%). The frequency of native walleye was highest in the upper reaches of both rivers. There was a high frequency of native walleye between 8 and 10 inches in the Ohio River, but there were no significant differences in length overall between native and introduced walleye.

### New River:

One hundred and fifty-five walleye were collected from the Sandstone Pool of the New River. Forty-one percent of the sample was categorized as “native”. Introduced walleye ranged in size from 12 to 23 inches, while native walleye ranged from 14 to 26 inches. No walleye less than 12 inches were collected. Ninety-six percent of the native walleye collected were between 15 and 18 inches, representing a very strong year-class from stockings two years ago. Condition factors also suggest walleye are healthy.

One hundred and sixty-five walleye were tagged in 2008, of which only 10 (6%) were reported caught by anglers. Since 2006, 421 walleye have been tagged, of which only 41 (10%) have been reported caught by anglers. Anglers harvested 39% of caught walleye.

## **CONCLUSIONS**

Results indicate that both stocking success and natural reproduction of the native strain of walleye is occurring. The frequency of native walleye in the Ohio River (34%) increased from 18% in 2007. The increased presence of native walleye 8-10 inches suggest natural reproduction is occurring, since no native walleye have been stocked for the last 2 years.

Walleye in the New River appear to be good condition and angler harvest seems to be minimal. The lack of small-sized walleye sampled in the New River may suggest high mortality of the younger year-classes, but most likely indicates the absence of these fish during our sampling efforts. Only the Sandstone Pool was sampled in 2008, and Sandstone Falls is known to be a spawning location to which walleye migrate during the spring. It is possible that the smaller (likely immature) walleye are not moving into this reach and may be found in other pools.

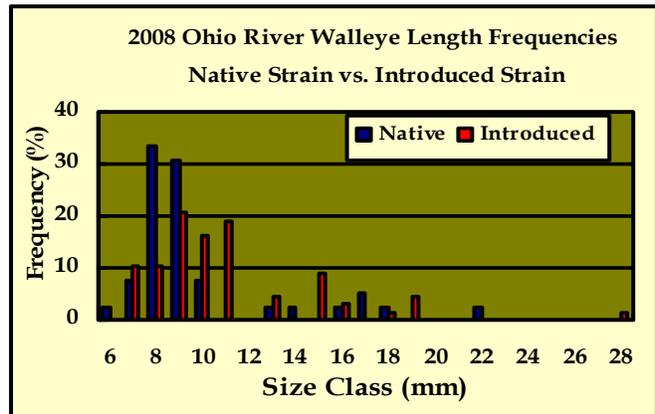
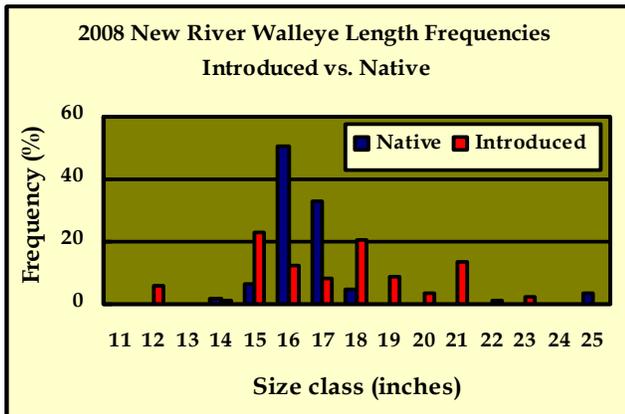
## **FUTURE ACTIVITIES**

Walleye populations in the Ohio, Kanawha, and New rivers will continue to be studied in the future. The same reaches within the Kanawha River will be surveyed in 2009. Effort will be put into surveying more tailwaters (i.e. Willow Island and New Cumberland) of the Ohio River in order to attain a more complete picture.

In 2009 more effort will be expended into sampling more than the Sandstone Pool of the New River. All pools will not only be sampled in late-winter, but also in spring after the spawn to assess post-spawning movement of both genetic strains of walleye. Many walleye in the New River have been tagged, and anglers are encouraged to report any tagged fish. The Cheat River will also be included in 2009.

2008 New River Walleye - Summary Characteristics			
Group	Number Collected	Mean Length (inches)	Average Catch Rate (No./hr)
All Walleye	149	17.2	28.7
Native Walleye	61	17.5	9.7
Introduced Walleye	88	16.8	15.2

2008 Ohio and Kanawha River Walleye			
Location	No. Walleye Collected	Percent	
		Native	Introduced
<b>Ohio River</b>			
Belleville Tailwater	49	14	86
Hannibal Tailwater	34	45	55
Pike Island Tailwater	33	57	43
<b>Kanawha River</b>			
London Tailwater	29	22	78
Kanawha Falls	35	71	29



*For More Information or Questions*

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