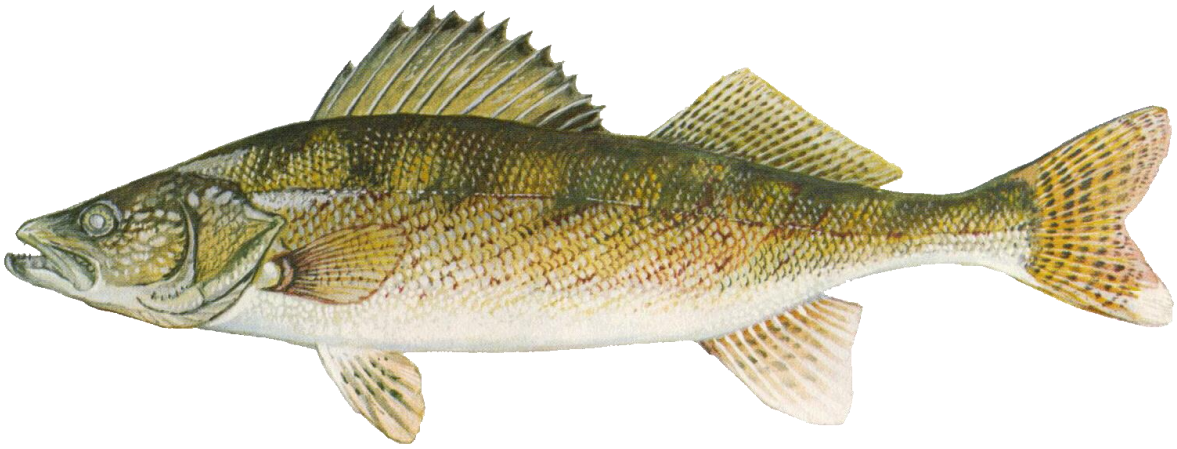
WEST VIRGINIA DIVISION OF NATURAL RESOURCES
WILDLIFE RESOURCES SECTION

West Virginia Walleye Management Plan



Warmwater Fish Management

Original Plan 2/20/2015

Updated Plan 7/1/2020

WVDNR
West Virginia Division of Natural Resources

Introduction

The West Virginia Division of Natural Resources Wildlife Resources Section (DNR-WRS) manages Walleye (*Sander vitreus*) in several rivers, small impoundments, and reservoirs. The Walleye fisheries in West Virginia are maintained by stocking efforts and/or natural reproduction. Historically, DNR-WRS focused on stocking as the primary management strategy and liberal angling regulations were in place. Genetic analyses identified a unique strain of Walleye, the Eastern Highlands Walleye (EH), likely native to the Ohio River basin that is potentially adapted to riverine conditions (Billington et al. 1992; Stepien and Faber 1998; Palmer 1999; Zipfel 2006; White et al. 2012). Interest by the angling public concerning Walleye populations and by DNR-WRS concerning the management of this species (with emphasis on the unique Eastern Highland strain) began in the early 2000's. In addition, anglers expressed concerns over perceived smaller sizes of Walleye in some West Virginia reservoirs (Wichterman 2011). As a result of increased interest and concerns, DNR-WRS staff began a series of investigations focusing on providing information to aid in managing Walleye populations in West Virginia.

***Results of these initial investigations include*:**

- Genetic make-up of West Virginia Walleye is diverse consisting of Eastern Highlands strain Walleye native to the Ohio River basin, an introduced Great Lakes strain Walleye (GL), and hybrids of these two strains (Zipfel 2013; Wellman 2013).
- Evaluations of the Great Lakes strain Walleye stockings in several reservoirs suggested that they were often unsuccessful with some notable exceptions such as in Cheat Lake and Stonecoal Lake (Wellman 2012; Smith 2018). Walleye stockings in large rivers appear to have been successful and populations have steadily improved. This may be partially due to stocking of the Eastern Highlands strain Walleye and implementation of more protective regulations. However, improved water quality, productive conditions and adequate forage have likely been important factors as well. Historically, Great Lakes strain Walleye have been stocked throughout West Virginia and will continue to be stocked into some reservoirs; the locations of which will have minimal impact on the re-establishment of the Eastern Highlands strain. However, an emphasis will be placed on stocking the progeny of broodstock procured from WV waters (with varying genetic lineage) rather than utilizing fish from outside of WV.
- Walleye growth in some reservoirs, especially for Summersville Reservoir Walleye, was shown to be slow resulting in primarily smaller and older fish (Wellman 2013). However, in other reservoirs (i.e., Cheat Lake) Walleye exhibited fast growth with the presence of large fish (Smith 2018). Growth in large rivers, such as New and Ohio rivers, is also fast, resulting in the need to protect faster growing Walleye (Zipfel 2013). Growth of Walleye varies by waterbody, but productivity and forage are likely important factors.

- Walleye in river systems (i.e. New River) moved great distances throughout the year but appeared to return to spawning grounds in late-winter and early-spring (Phillips 2014). Walleye in reservoirs (i.e., Cheat Lake, Summersville Lake, Tygart Lake) primarily utilize incoming riverine habitat for spawning (WVDNR unpublished data; Smith 2018), but some fish will migrate several miles up these incoming rivers to spawn (WVDNR unpublished data; Smith 2018).
- Data on state-wide Walleye harvest levels are limited, but anecdotal reports suggest that at minimum harvest may be elevated seasonally when spawning fish congregate in areas such as dam tailwaters and/or below falls (WVDNR unpublished data 2014).

As a result of these investigations and the expressed interest by anglers, DNR-WRS staff initiated the development of a statewide Walleye management plan. It is intended that this be a *living document.* Therefore, strategies and actions will adapt as more information is obtained from research conducted on Walleye populations throughout the state. In addition, DNR-WRS staff will continually solicit input from anglers as one method to evaluate the plan's effectiveness. Thus, this iteration of the plan should not be considered the final approach to Walleye management in West Virginia, but a work-in-progress.

As part of the initial plan development, DNR-WRS staff facilitated an on-line survey of interested anglers and the general public in the spring of 2014. The survey goal was to initiate information exchange and allow anglers to provide some guidance to DNR-WRS staff in the development of certain facets of the plan. The on-line survey was completed by 234 individuals residing in 45 of the 55 West Virginia counties. Respondents ranged in age from 15 to over 65 years with the majority in the 31-50yrs age group. The majority selected Walleye as their first or second choice on their fishing preference.

Some interesting findings of the angler survey include:

- Most respondents were somewhat familiar or familiar (61%) with the current DNR-WRS Walleye management program.
- Seventy one percent (71%) of the respondents were somewhat satisfied, satisfied, or neutral when considering their view of their current West Virginia Walleye fishing experience. Twenty nine percent (29%) were not satisfied with their Walleye fishing experience.
- Sixty percent (60%) harvested the Walleye they caught and 50% of these individuals considered a 15-inch Walleye a harvestable-size fish.
- Diverse types of angling experiences were desired including catching a few large fish (44%), catching and harvesting smaller fish (33%), and catching a trophy fish (24%).
- Ninety-one percent (91%) of the respondents would support some type of change in the angling regulations, but again expressed diverse views on what type of regulation strategy would be appropriate. These included strategies that would increase size (24%), increase harvest (9%), or increase both harvest and size (58%).

- In the future, respondents would prefer to receive information on Walleye management from printed materials, the WVDNR website, and social media.

Findings from DNR-WRS investigations supported the view that Walleye populations are quite diverse in West Virginia with some water bodies able to support a trophy fishery, while other water bodies are better suited to support a harvest-oriented fishery with high numbers of quality (15" – 20") size fish. Large rivers that are inhabited by Eastern Highlands strain Walleye and/or Eastern Highlands x Great Lakes hybrids often provide good opportunities for a trophy fishery. Reservoirs inhabited by Great Lakes Walleye with high reproduction provide outstanding fishing opportunities for abundant, smaller size Walleye. In some reservoirs inhabited by Great Lakes Walleye, where abundant forage is present, there is good potential for trophy catches. The challenge for DNR-WRS staff is to design management strategies that allow for the continued conservation and re-establishment of the native Eastern Highlands strain Walleye in WV rivers. Additionally, it is also important to promote, enhance and manage these fisheries along with our other diverse Walleye fisheries for the benefit of our anglers.

Updated Management Plan

This management plan contains strategies to conserve and enhance Walleye fisheries in West Virginia. Strategies are not permanent and can/will change as information is obtained.

Plan goals are:

1. Increase awareness and utilization of West Virginia Walleye fisheries by presenting information to anglers,
2. Provide Walleye fisheries that will diversify angling opportunities,
3. Implement Walleye fishing regulations that are clear, concise, and consistent,
4. Enhance and protect Walleye fisheries, and
5. Utilize existing and new biological (genetics, age, growth, mortality, etc.) and sociological (angler harvest, opinions, etc.) information to most effectively manage Walleye fisheries.

The approach of the plan is to promote diverse angling opportunities in the appropriate water bodies by utilizing the tools of fishery management that are currently available to DNR-WRS. Through this approach, the most appropriate outcomes will be achieved in the most biologically sound and responsible manner.

The three fishery management tools that will be employed are:

Implementation of Angling Regulations:

Current angling regulations are displayed in Table 1 and are based on DNR-WRS Walleye population studies and angler surveys. Walleye characteristics, such as growth, abundance, reproduction, and genetics vary between the Ohio River, Kanawha River, and Monongahela River sub-basins; therefore, a state-wide regulation would not be effective. Regulations range from daily creels with minimum length limits to catch-and-release regulations. The goal of these regulations is to promote diverse Walleye angling opportunities while also safeguarding important Walleye fishery resources. Currently, more restrictive regulations are in place for water bodies that are being stocked with Eastern Highlands strain Walleye and/or in waters where the potential for a trophy or larger-sized Walleye fishery is evident (i.e. New River). Less restrictive regulations are in place for water bodies with substantial natural reproduction and/or those water bodies that are more suitable for anglers seeking higher numbers of harvestable size Walleye (i.e. Tygart Reservoir).

Introduction of Appropriate Hatchery-Reared Walleye:

The stocking of hatchery-reared Walleye has played an integral role in the West Virginia Walleye management program. With the identification of the Eastern Highlands Walleye genetic strain, DNR-WRS staff has put forth a major effort to re-establish this strain into certain WV waters. DNR-WRS hatchery staff also rears the Great Lakes strain Walleye and hybrid strain Walleye for stocking into select reservoirs (Table 3). Broodstock for EH Walleye are collected from select locations in West Virginia and each individual is genetically tested prior to use. In past years, GL Walleye have been acquired from the Kentucky Department of Fish and Wildlife Resources hatchery program and reared at DNR-WRS facilities. Additionally, broodstock are often collected that are Eastern Highlands x Great Lakes hybrids. These fish will be utilized for stocking in several water bodies.

The overall goal of the DNR-WRS Walleye rearing and stocking program is to enhance, protect, and sustain EH Walleye populations where appropriate and stock only these fish in select rivers and impoundments. During the next five years, the major emphasis of the Walleye rearing and stocking program will be focused on improving successful rearing and stocking of EH Walleye. Small fingerlings (minimum 30 days old, 1 – 2 inches) are the primary size Walleye stocked in most waters, but advanced fingerlings (about 6 months old, 7 – 9 inches) will also be stocked in selected waters where appropriate. Specifically, advanced fingerlings will be utilized in broodstock lakes due to high predator densities in a small area and to ensure adequate maintenance of broodstock. Additionally, when excess advanced fingerlings are produced, those fish can be used to supplement waters that typically receive small fingerlings.

Another goal of the DNR-WRS Walleye rearing and stocking program will be to utilize additional (GL and GL/EH hybrids) broodstock collected directly from WV waters to stock into non-EH waters. This will allow for the preservation of local adaptations acquired from these fish as an alternative to stocking fish acquired from hatcheries outside the state. It is also possible that some of these fish will possess some EH alleles, which may increase genetic diversity of these walleye populations. If these broodstock are unavailable, GL fry may be acquired from an outside bio-secure source and

stocked as fry into selected reservoirs. This will occur in reservoirs that have missed stockings due to factors such as low hatchery production. No GL Walleye will be stocked directly into rivers or lakes draining directly into EH rivers.

Investigations Using Sound Techniques to Satisfy Information Gaps:

It is critical that management decisions be based on sound science utilizing data collected on Walleye populations and Walleye anglers. Future management decisions will be based on scientific data and resulting evidence of management needs. Proposed investigations listed in Table 4 will be used to determine success and future needs of the plan. Specifically, strong interest exists in evaluating population genetics of WV Walleye, effectiveness of current Walleye regulations on abundance, growth and mortality of populations, and the effectiveness of stocking and/or natural reproduction in Walleye waters.

Management Strategies

Different strategies were put in place for the Ohio River, Kanawha River, and Monongahela River sub-basins due to unique characteristics (i.e. growth, abundance, genetic uniqueness) of their Walleye fisheries.

Ohio River Sub-basin

Objective 1: Maintain Walleye size structure and population abundance in Ohio River and its direct tributaries.
Objective 2: Increase abundance of unique Eastern Highlands strain Walleye and/or their alleles in the upper pools of the Ohio River.
Objective 3: Evaluate potential for enhancing genetic diversity in Ohio River.

For the purpose of the management plan, the Ohio River sub-basin is defined as the Ohio River (WV portion) and direct tributaries (except Kanawha River upstream of Winfield Lock and Dam) (Figure 1). The Walleye and Sauger fisheries on Ohio River are popular both with West Virginia and Ohio anglers (Pritt 2017). The EH Walleye has been identified throughout the Ohio River (White et al. 2012, Zipfel 2006) with higher frequencies of fish located in the upper pools (Willow Island, Hannibal, Pike Island). No locations were identified that exhibited a pure population of EH walleye. This is likely due to the influence of past stockings of Walleye into Ohio River from various origins, including GL strain. Stockings of EH walleye have resulted in an increase of EH walleye collections in the upper pools of Ohio River during surveys. However, while the abundance of Walleye in the lower pools of Ohio River has increased, these populations remain largely hybridized. DNR-WRS Walleye and Sauger surveys have documented that abundance and sizes of Walleye are excellent and have increased along the length of Ohio River (Zipfel 2012). Additionally, other DNR-WRS surveys at Ohio River dam tailwaters have shown large Walleye of hybrid and EH origin are common. At this time, DNR-WRS recommends that the special regulations (2 walleye per day, 18-inch minimum) remain in

place on Ohio River. This regulation allows for some protection of Walleye while we continue to stock this river and allows harvest of some larger individuals. Seasonal influences on Walleye behavior result in congregations occurring at tributary mouths and tailwater areas during spring and fall, making Walleye more susceptible to angler harvest. Therefore, Ohio River Walleye regulations were implemented for not only the mainstem, but also direct tributaries within the Ohio River reciprocal agreement boundaries (Table 2). Ohio Department of Natural Resources (ODNR) is currently utilizing a harvest regulation of six fish per day of all *Sander* species (Walleye, Sauger and Saugeye) for their jurisdiction of Ohio River. WVDNR has also implemented a six fish per day regulation for all *Sander* species in aggregate to complement the ODNR regulation. However, the WVDNR regulation allows only two of the six fish to be Walleye and those fish must be 18 inches or larger. EH Walleye (fingerlings and advanced fingerlings) and potentially hybrid individuals with EH alleles will continue to be stocked in Ohio River (Table 3). If numbers of EH walleye are not available to stock all Ohio River locations, priority for EH Walleye stockings will be given to the upper pools and the lower pools will be stocked with hybrid individuals that are at least 75% EH strain. However, additional genetic evaluations will be conducted to determine the genetic impact of these stockings and the best approach for future management.

Kanawha River Sub-basin

Objective 1: Restore, preserve, and/or enhance the unique Eastern Highlands strain Walleye genetic stock.

Objective 2: Provide trophy Walleye fisheries.

Objective 3: Maintain abundance of "quality size" Walleye in Summersville reservoir and conserve/promote Eastern Highlands strain Walleye abundance

Objective 4: Restore/establish a viable Walleye fishery within Sutton Reservoir

The Kanawha River sub-basin is defined as the Kanawha River and its major tributaries upstream of the Winfield Lock and Dam complex (Figure 1). Major rivers include the Kanawha, Coal, Elk, Gauley, Greenbrier, and New. Stephens Lake, as well as Bluestone, Summersville and Sutton reservoirs are incorporated as part of the Kanawha River sub-basin for the purpose of this plan. Genetic analyses identified that the EH Walleye is widely distributed in the Gauley (including Summersville Reservoir), Elk, New, and Kanawha rivers (WVDNR 2013; White 2013; Zipfel 2006; Palmer 1999) and frequently occurs in some locations. Virginia Department of Game and Inland Fisheries (VDGIF) and DNR-WRS have been stocking this strain into their respective reaches of New River to enhance Walleye populations since the early 2000's. DNR-WRS research has indicated that stockings of EH Walleye have been successful in the West Virginia portion of New River and growth is excellent (Zipfel 2012). Additionally, EH Walleye have been stocked into Kanawha River and are frequently collected in DNR-WRS surveys. Fingerlings and advanced fingerlings will continue to be stocked into the Kanawha River sub-basin (Table 3). Tributaries of the Kanawha River such as Coal River, lack major barriers for fish movement and we can expect EH Walleye to utilize these rivers. Lower Elk River, historically known for large Walleye, has approximately 100 miles from its mouth to Sutton Dam that is potential Walleye habitat. Due to the genetic uniqueness, riverine preference, and fast growth of

EH Walleye in riverine habitats, regulations to increase abundance and protect trophy Walleye are in place in the Kanawha River sub-basin (Table 1).

The Walleye fishery at Summersville Reservoir is unique in that it has the potential to provide both a harvest oriented and trophy Walleye fishery. DNR-WRS research has shown that Summersville Reservoir Walleye are abundant and slow growing, with few individuals obtaining lengths longer than 16-inches (Wellman 2013). A creel survey determined the average size Walleye harvested by anglers was approximately 15-inches (Wichterman 2011); however, a few larger Walleye (≥ 25-inches) have been caught by anglers and DNR-WRS staff. Genetic testing has indicated that a small percentage of Walleye (often larger individuals) are the EH strain, and preliminary findings suggest growth of EH Walleye in Summersville Lake is greater than the more abundant GL Walleye. A restrictive slot length regulation (20-30 inches) protecting larger and faster growing (including less abundant EH fish) Walleye and a liberal daily creel (8 per day) allowing for harvest of abundant, quality size, slower growing Walleye is currently in place (Table 1) at Summersville Reservoir. In addition to regulatory measures, efforts are underway to address habitat and forage limitations for Walleye in Summersville Reservoir. Summersville Reservoir exhibits low productivity, a short reservoir retention time, and extreme water level fluctuations. These characteristics limit available habitat and adequate forage, which in turn may limit Walleye growth. Large-scale fish habitat structures are being constructed within the reservoir in an effort to increase reservoir productivity, increase recruitment and abundance of prey species, and provide cover for young Walleye.

EH Walleye have been observed utilizing rivers upstream of Virginia reservoirs for spawning and then returning to the reservoir following spawning (Palmer 1999). Similar Walleye spawning behavior has been observed by DNR-WRS in Gauley River upstream of Summersville Reservoir during winter drawdown; therefore, fingerlings (or advanced fingerlings) will be stocked into Gauley River upstream of Summersville Reservoir to increase the abundance of EH Walleye in both Gauley River and Summersville Reservoir. The same approach will be applied to Sutton Reservoir and the Elk River above Sutton Dam until a EH Walleye fishery is established.

The Walleye fisheries in most of the Kanawha River sub-basin are regulated by a 2 fish/day, 20-30 inch protected slot limit at this time. Apart from Summersville Reservoir (8 fish/day, 20-30 inch protected slot limit), the only other exception is Stephens Lake. Stephens Lake is stocked with GL or hybrid strain Walleye to maintain a fishery. The Walleye fishery in this impoundment is regulated by an 8 fish/day, 15-inch minimum length limit to promote a more harvest-oriented fishery.

Monongahela River Sub-basin

Objective 1: Maintain population abundance, promote increased natural reproduction and maintain elevated numbers of "preferred size" Walleye (20 inches and greater) in Cheat Lake.

Objective 2: Maintain population abundance and natural reproduction in Tygart Reservoir and manage for optimal angler harvest.

Objective 3: Improve population abundance, promote increased natural reproduction, and manage for diverse size structure in Monongahela River.

Objective 4: Diversify angling opportunities by continuing to provide a Walleye fishery in Stonecoal Lake.

For the purpose of the management plan, the Monongahela River sub-basin is defined as the Monongahela River upstream of the West Virginia and Pennsylvania state border and its major tributaries, Tygart and West Fork rivers (Figure 1). Major impoundments managed for Walleye in this sub-basin are Cheat Lake, Tygart Lake, and Stonecoal Lake. Walleye in this sub-basin are primarily GL fish, with reproduction occurring in several of these populations. The Walleye fisheries in most of the Monongahela River sub-basin are currently regulated by an 8 fish/day, 15-inch minimum length limit.

Cheat Lake supports an improving Walleye fishery thanks largely to improved water quality and alternating year stockings. Natural reproduction is improving in Cheat Lake, but spring lake level fluctuations due to hydropower operations threaten consistent recruitment (Smith 2018). Growth and size structure in Cheat Lake is excellent, with preferred size and larger individuals collected frequently. (Smith 2018). Female Walleye in Cheat Lake exceed 20 inches by age-3, and by age-5 female Walleye typically exceed 25 inches in length (Smith 2018). Trophy Walleye (>30 inches) have been documented in Cheat Lake, with fish exceeding 30 inches by age-8 (Smith 2018). A population assessment is being conducted (2019 – 2020) to determine the impact of regulations implemented in 2015. The results of the population assessment will be used to determine if regulation changes or other management activities are necessary.

Tygart Lake supports a naturally reproducing Walleye population that also produces a popular tailwater fishery due to downstream dam passage (Wellman 2013). The Tygart Lake Walleye fishery is entirely supported by natural reproduction and thus recruitment is typically high. This produces high catch rates of Walleye, but individual growth rate is typically slow. Slow growth is likely attributed to low productivity and limited forage within Tygart Lake. Studies conducted by WVDNR in the 1980's and as recent as 2014 indicate that Walleye originating in Tygart Lake move through Tygart Dam during large water releases from December through April, essentially stocking Tygart River and potentially Monongahela River (Jernejcic 1986, Wellman 2014). In the past, Walleye were collected from the Tygart Lake tailwaters in some years and re-stocked back into Tygart Lake.

However, from 2020 – 2022, an effort will be made to tag and release Walleye in the tailwaters of Tygart Lake to aid in determining the contribution of these fish to the Monongahela River fishery. Additionally, a population assessment is being conducted in Tygart Lake (2019 – 2020) to determine the impact of the regulations implemented in 2015. Results from this assessment will be used to determine if regulation changes or other management activities are warranted.

The Monongahela River supports a Walleye fishery, but information on age, growth, reproduction, etc. is limited. To gather pertinent information critical to making informed management decisions, an evaluation of the population began in 2019 and will last through 2020. Results of this evaluation will help guide future management of the Monongahela River Walleye fishery in terms of regulations, stockings, etc. Specifically, the ongoing evaluation will determine if supplemental stocking and/or regulation changes are necessary to support this population.

Stocking of GL Walleye in Cheat Lake and Stonecoal Lake has been more successful than in other West Virginia reservoirs; therefore, GL fry stockings may be considered during years when WV procured fish (hybrid or GL strain) are inadequate (Table 3). However, an emphasis will be placed on stocking the progeny of hybrid strain and GL Walleye collected from WV waters during spring broodstock surveys. Stocking of Cheat Lake will be conducted on an alternating year basis allowing for monitoring of natural reproduction in Cheat Lake. On-site ponds at Stonecoal Lake are utilized as part of the stocking strategy for that waterbody. Hybrid strain fry from Apple Grove Hatchery are stocked into the ponds at Stonecoal, after which they are grown to small fingerling size and released into Stonecoal Lake.

In addition to stocking and regulatory actions, WRS staff will continue work to alleviate impacts from water quality impairment and hydrological manipulations to Walleye populations in this watershed. Specifically, concerns will persist into the foreseeable future regarding the impacts of acidification and hydropower manipulations within Cheat Lake/River, Monongahela River, and Tygart Lake/River. WRS staff will coordinate with key regulatory agencies (i.e., WVDEP, FERC) to ensure maximum possible protection of aquatic resources.

Potomac River Sub-basin

> **Objective 1**: Promote and manage recreational Walleye fisheries in areas where introduced populations are already established, while protecting native species from detrimental impacts.

Walleye are an introduced species to the Potomac River sub-basin, and have established populations in the Potomac River mainstem, as well as some tributaries and impoundments. The Maryland Department of Natural Resources (MDDNR) promotes and manages a reproducing

Walleye fishery in the Upper Potomac River. Additionally, MDDNR also actively stocks Walleye into the Upper Potomac River to supplement natural reproduction. MDDNR also actively manages and stocks Walleye into Jennings Randolph Lake, a reservoir located on the North Branch of the Potomac River.

Currently, the primary WVDNR managed Walleye fishery in the Potomac River sub-basin is located at Mount Storm Lake. Mount Storm Lake supports a reproducing population of Walleye that provides a fishery to anglers. WVDNR does not stock Walleye into Mount Storm Lake, due in part to successful natural reproduction, but does promote the fishery to interested anglers.

A reproducing, albeit introduced Walleye fishery historically existed in New Creek Lake. However, upon drainage of the lake for repairs, the Walleye population was extirpated. This reservoir is a deep, rocky reservoir with characteristics supportive of a Walleye fishery. Interest exists among district biologists and the angling public to restore this Walleye fishery, given the already existent populations of introduced Walleye in downstream North Branch of the Potomac River and Potomac River managed by MDDNR. Therefore, if hatchery production is adequate, stocking of GL or hybrid strain Walleye will occur to reestablish a Walleye fishery in this reservoir (Table 3).

Broodstock Lakes

Objective 1: Maintain pure and safe sources of Eastern Highlands strain Walleye for stocking purposes.
Objective 2: Provide anglers with opportunities to catch and release Walleye.

Two small impoundments, Charles Fork Lake (70 acres) in Roane County and Dog Run Lake (15 acres) in Harrison County, are used as sources of broodstock for EH Walleye (Figure 1). These waters have been stocked with EH Walleye for several years and adults are currently available for broodstock. DNR-WRS will continue stocking Charles Fork and Dog Run lakes with advanced fingerlings. Both lakes are easily accessible to WVDNR staff for collecting broodstock for hatchery production. Anglers will benefit from opportunities to catch Walleye in these small impoundments. There is potential for trophy-sized fish in Charles Fork Lake, whereas Dog Run Lake provides abundant Walleye but growth is slow and fish are smaller due to limited forage. In order to ensure maximum numbers of broodstock Walleye are available for the stocking program, a no harvest regulation is currently in place (Table 1).

Broodstock Collection, Propagation, and Distribution

WVDNR staff annually collect Walleye from WV waters for use as broodstock for the stocking program. Collection locations, hatchery procedures, and subsequent stocking strategies are largely driven by genetic results and management needs. A stocking schedule detailing stocking rates, receiving waterbodies and priority designations is located in Table 4. Most waters are scheduled to be stocked every other year. However, yearly stockings have been requested for some waterbodies.

For yearly stocked waters, consideration should be given to the success of precluding year stockings to allow for flexibility of the yearly schedule. For instance, if a waterbody receives a successful stocking in a certain year, then the following year priority should be given to waters that are not stocked on a yearly basis. The current broodstock collection and propagation protocol is located in Appendix 1. However, a statewide population genetics project is currently proposed, and the results could lead to changes in this protocol.

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Table 1. Current Walleye regulations**.**

Broodstock Lakes	
Water Body	**Current Regulation**
Charles Fork	Catch-and-Release
Dog Run	Catch-and-Release
Kanawha River Sub-Basin	
Water Body	**Current Regulation**
Coal River (mouth to confluence of Big Coal and Little Coal rivers)	2/day 20-30 inch slot 1 over 30
Elk River (mouth to Sutton Dam)	2/day 20-30 inch slot 1 over 30
Elk River (upstream of Sutton Reservoir)	2/day 20-30 inch slot 1 over 30
Gauley River (mouth to Summersville Dam)	2/day 20-30 inch slot 1 over 30
Gauley River (head of Summersville Reservoir upstream)	2/day 20-30 inch slot 1 over 30
Greenbrier River (entirety)	2/day 20-30 inch slot 1 over 30
Kanawha River (Winfield dam tailwater downstream to Ohio River)	2/day 18-inch minimum
Kanawha River (Winfield pool upstream to New River)	2/day 20-30 inch slot 1 over 30
New River (confluence of Gauley and New upstream to WV/VA state line)	2/day 20-30 inch slot 1 over 30
New River (Meadow Creek public access to Sandstone Falls)	Catch-and-Release
Stephens Lake	8/day 15-inch minimum
Summersville Reservoir	8/day 20-30 inch slot 1 over 30
Sutton Reservoir	2/day 20-30 inch slot 1 over 30

Table 1. Current Walleye regulations continued.

Monongahela River Sub-Basin	
Water Body	**Current Regulation**
Cheat Lake (including tailwaters to WV/PA state line)	8/day 15-inch minimum*
Cheat River from head of Cheat Lake to confluence of Black Fork River and Shavers Fork	8/day 15-inch minimum*
Monongahela River (WV/PA state line upstream to confluence of Tygart and West Fork rivers)	8/day 15-inch minimum*
Stonecoal Lake	8/day 15-inch minimum
Tygart Reservoir	8/day 15-inch minimum*
Tygart River (confluence with West Fork River upstream to Tygart Dam)	8/day 15-inch minimum*
West Fork River (confluence with Tygart River upstream to Hartland Dam)	8/day 15-inch minimum*
Ohio River Sub-Basin	
Water Body	**Current Regulation**
Ohio River	2/day 18-inch minimum
General Statewide Regulations	
Water Body	**Current Regulation**
Rivers	8/day no size limit
Impoundments	8/day no size limit
*** regulation currently being evaluated**	

Table 2. West Virginia tributaries of Ohio River with reciprocal boundaries. Regulations are the same as for Ohio River: 2/Walleye per day with an 18-inch minimum length limit.

Stream	River Mile	Landmark	Miles Above Mouth
Wheeling Creek	90.7	I-70 Bridge	1.7
Fish Creek	113.8	Graysville Bridge	2.1
Fishing Creek	128.4	State Route 7 Bridge	2.6
Middle Island Creek	154.1	Mouth of McKim Creek	4.6
French Creek	157.7	Rt. 18 Bridge	1.7
Little Kanawha River	184.5	Mouth of Slate Creek	15.3
Little Sand Creek	193.9	Rt. 892 Bridge	1.4
Lee Creek	201.8	Mouth of North Fork	2.2
Mill Creek	231.3	Cottageville Bridge	4.4
Kanawha River*	265.7	Winfield Lock and Dam	30.5
Guyandotte River	305.3	Interstate 64 Bridge	6.5
Twelvepole Creek	313.4	Rt. 60 Bridge	0.9

*** Kanawha River regulation boundary differs from Ohio River reciprocal agreement boundary**

Table 3. Proposed stocking of hatchery-reared Walleye, 2020-2025. Stocking numbers are tentative and are subject to change. Stocking rates are dependent on hatchery production. During low production years stocking rates will be adjusted accordingly.

Hybrid Strain or Great Lakes Walleye						
Fingerlings						
Water Body	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Cheat Lake*	50,000[1]	0	50,000[1]	0	50,000[1]	0
Monongahela River (Morgantown and Point Marion Pools)**	0	30,000[2]	0	30,000[2]	0	30,000[2]
New Creek Lake	2,500[2]	0	2,500[2]	0	2,500[2]	0
Stephens Lake	0	20,000[1]	0	20,000[1]	0	20,000[1]
Stonecoal Lake	30,000[2]	30,000[1]	30,000[2]	30,000[1]	30,000[2]	30,000[1]
Eastern Highlands or Hybrid Strain Walleye						
Fingerlings						
Water Body	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Ohio River Belleville Pool	0	15,000[1]	0	15,000[1]	0	15,000[1]
Ohio River Racine Pool	15,000[1]	0	15,000[1]	0	15,000[1]	0
Eastern Highlands Walleye						
Fingerlings						
Water Body	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Elk River (upstream of Sutton Dam)	20,000[2]	20,000[1]	20,000[2]	20,000[1]		
Gauley River (upstream of Summersville Dam)	50,000[1]	50,000[2]	50,000[1]	50,000[2]	50,000[1]	
Greenbrier River	10,000[1]	10,000[2]	10,000[1]	10,000[2]	10,000[1]	10,000[2]
Kanawha Falls	10,000[1]	0	10,000[1]	0	10,000[1]	0
Kanawha River Marmet Pool	0	10,000[1]	0	10,000[1]	0	10,000[1]
New River	0	25,000[1]	0	25,000[1]	0	25,000[1]
Ohio River Hannibal Pool	0	15,000[1]	0	15,000[1]	0	15,000[1]
Ohio River Pike Island Pool	15,000[1]	0	15,000[1]	0	15,000[1]	0
Ohio River Willow Island Pool	15,000[1]	0	15,000[1]	0	15,000[1]	0
Advanced Fingerlings						
Water Body	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Charles Fork Lake	500[1]	0	500[1]	0	500[1]	0
Dog Run Lake	0	250[1]	0	250[1]	0	250[1]
If excess advanced fingerlings are available, those fish will go to waters that were scheduled to receive small fingerlings for that year, with consideration of priority designation and small fingerling stocking success						

[1]priority waters for that year
[2]secondary waters for that year - stocked if priority waters receive adequate stocking numbers

* if fingerling production is low, additional GL fry from Kentucky may be considered
** Monongahela River stocking dependent on outcome of 2019-2020 population assessment
** Monongahela River should receive Hybrid Strain

Table 4. Suggested investigations focused on Walleye management, 2020-2025.

Water Body Type	Proposed Investigations
State-wide	Fish Health Investigations
	Broodstock genetics and broodstock management
	Population genetics study (graduate student; Amy Welsh)
	Stocking success or natural reproduction
Reservoir	Genetics of Walleye in Summersville and Sutton reservoirs
	Movement in Summersville Reservoir
	Movement in Tygart Lake
	Cheat Lake population dynamics
	Tygart Lake population dynamics
Large Rivers	Monitoring New and Greenbrier River population dynamics
	Additional spawning locations within New River
	Movement of Walleye in Tygart River downstream of Tygart Lake
	Movement of Walleye in Cheat River upstream of Cheat Lake
	Upper Gauley and Upper Elk River genetic structure
Navigable Rivers	Monitoring Ohio, Kanawha, and Monongahela River population dynamics
	Movement of Walleye in relation to dams
	Stocking success or natural reproduction

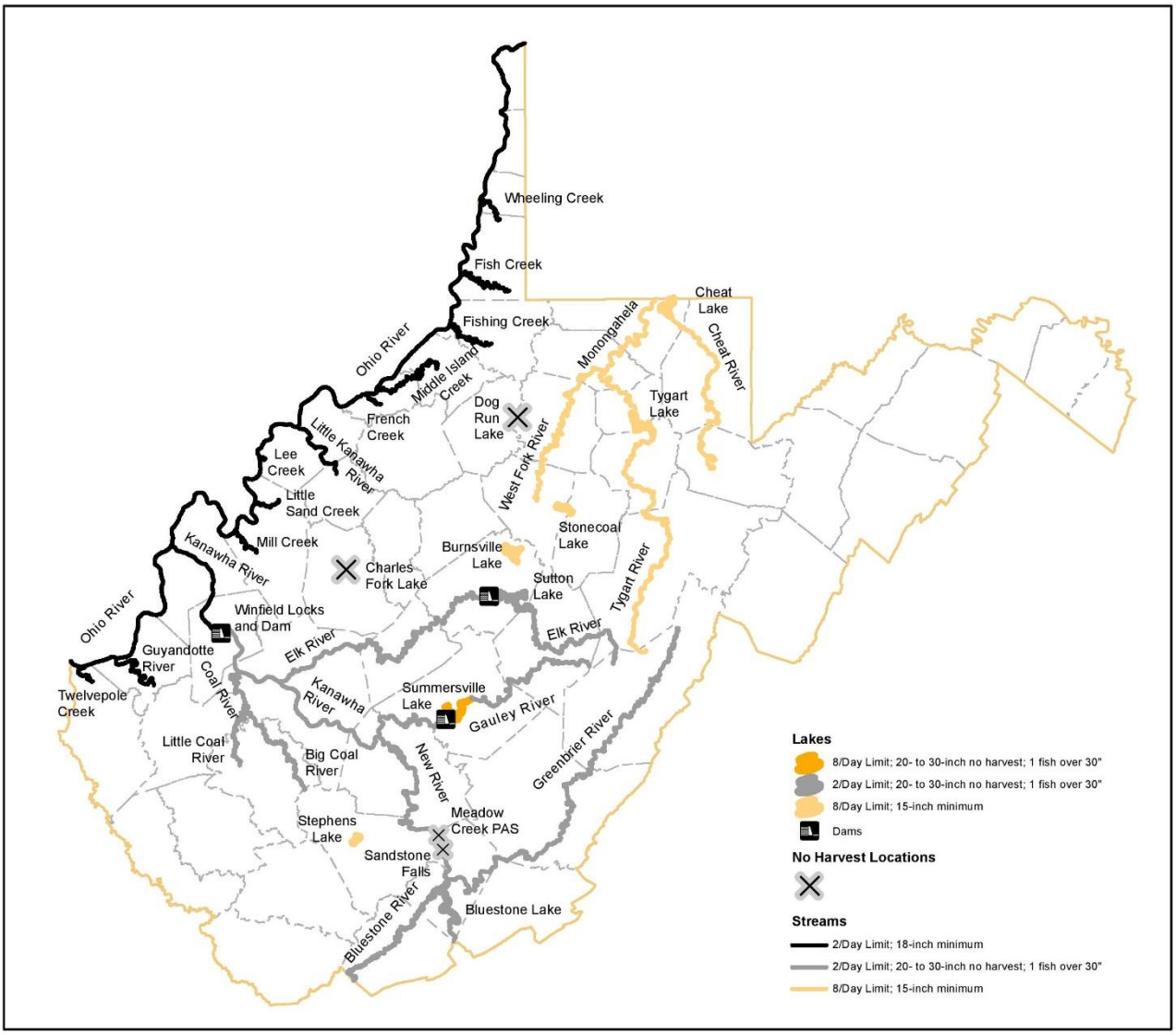

Figure 1. Walleye regulations for West Virginia rivers and reservoirs.