Proposed Dunkard Creek Fish Restoration Plan

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RestorationPlan 8-22-11 - Microsoft Word

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WEST VIRGINIA DIVISION OF NATURAL RESOURCES
WILDLIFE RESOURCES SECTION

Proposed Dunkard Creek Fish and Mussel Restoration Plan

8/25/2011

Abstract - Aquatic life in Dunkard Creek, Monongalia County, West Virginia was decimated in September 2009 by golden algae toxins. Water quality conditions at the time of the kill were characterized by high conductivities and chlorides from mine discharges. This document outlines the WV Division of Natural Resources' plan to restore the stream's aquatic diversity and the values it supported prior to the kill.

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Golden Algae

Golden algea threat to reservoirs.pdf - Adobe Reader

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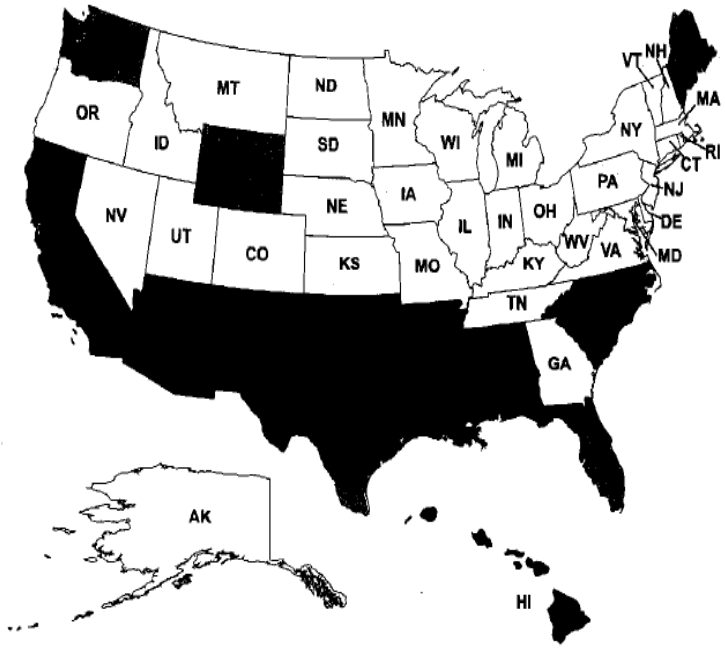

Figure 2. The states of the United States with golden alga presence reported (in dark shading).

a treatment and management plan for lagoons and small lakes by AGFD (Swanson 2006).

This paper compiles information on diag-

mouth, and eyes. Affected fish also may generate a heavy mucus layer. Fish behavior can vary widely (Linam et al. 1991), and though

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Sager et al. 2008

Texas and Golden Algae

- Golden algae has killed millions of fish in several reservoirs resulting in millions of dollars in economic losses.

- Forage fish naturally recover quickly during times when golden algae are not producing toxins.

- Larger sport fish required considerable stocking efforts and often years to recover.

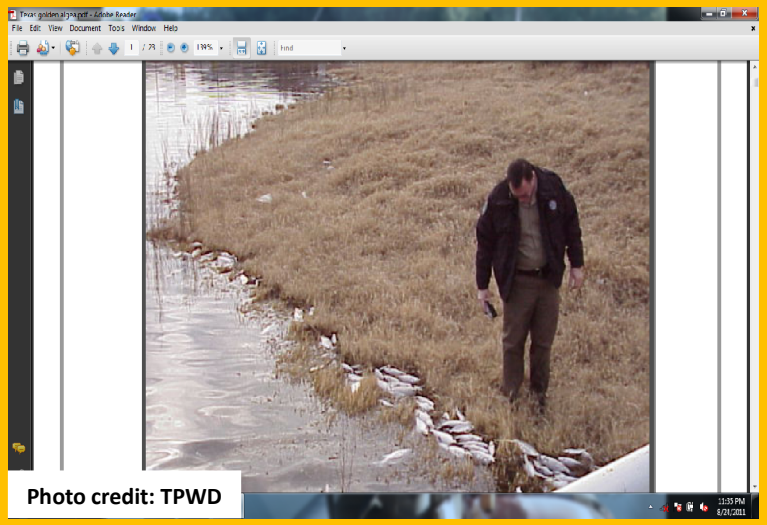


Photo credit: TPWD

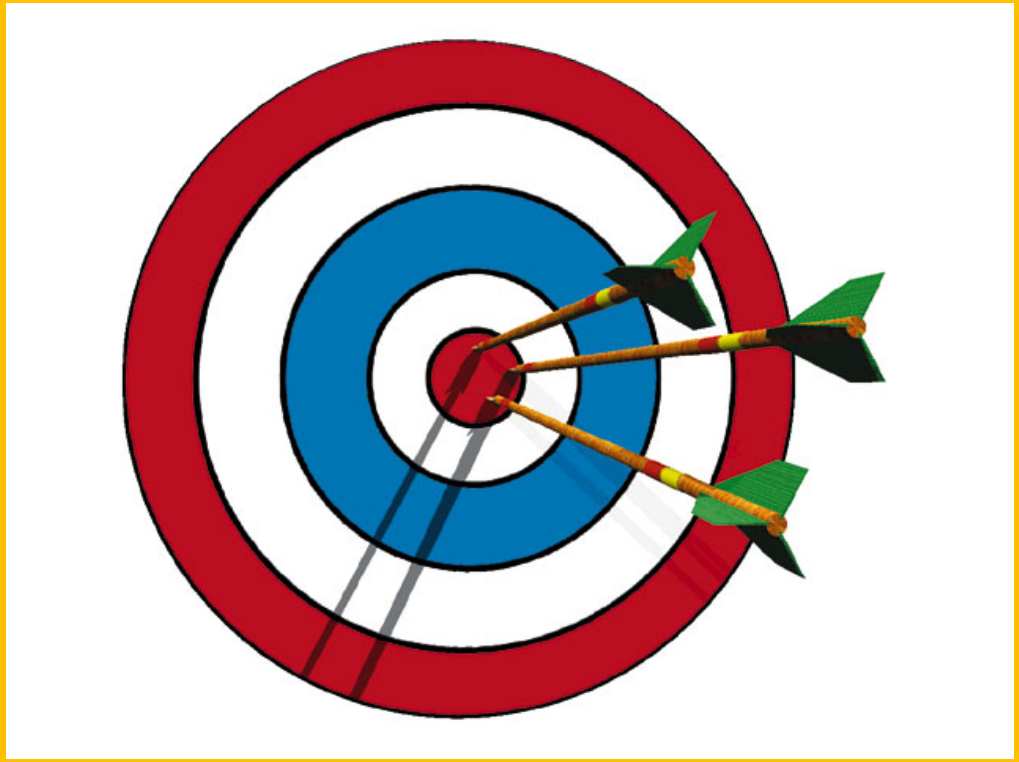
Sager et al. 2008

WVDNR Restoration Goals

To monitor and restore the aquatic community richness by re-establishing the diversity of fish, mussels, and other aquatic organisms to the levels existing prior to the 2009 event *and* to restore the recreational angling opportunities previously available.

Fish Restoration Objectives

1. Monitor fish community richness
2. Restore the smallmouth bass fishery
3. Restore the musky fishery



Objective 1
Fish Community Richness

Purpose:

- Determine the adequacy of the forage fish base to support recreational fisheries
- Determine the presence/absence of fish hosts for mussel restoration

Methods:

- Standard parallel wire electrofishing
- Compare to historical surveys (1959 – to present)
- Several stations along Dunkard Creek

Timeline:

- 2009 – 2010 completed surveys
- 2011 – 2016 planned surveys

Objective 2
Smallmouth Bass Restoration

Purpose:

- Restore the smallmouth bass fishery and recreational opportunities for anglers.

Smallmouth Bass Restoration

Methods:

- Population assessments to determine forage base

- Fish health assessments for brood stock collected from Monongahela and Tygart rivers

- During fall, collect 40 to 50 smallmouth bass from Monongahela River or Tygart River, transport to Palestine Fish Hatchery, overwinter, spawn following spring, and stock fingerlings early summer

Smallmouth Bass Restoration

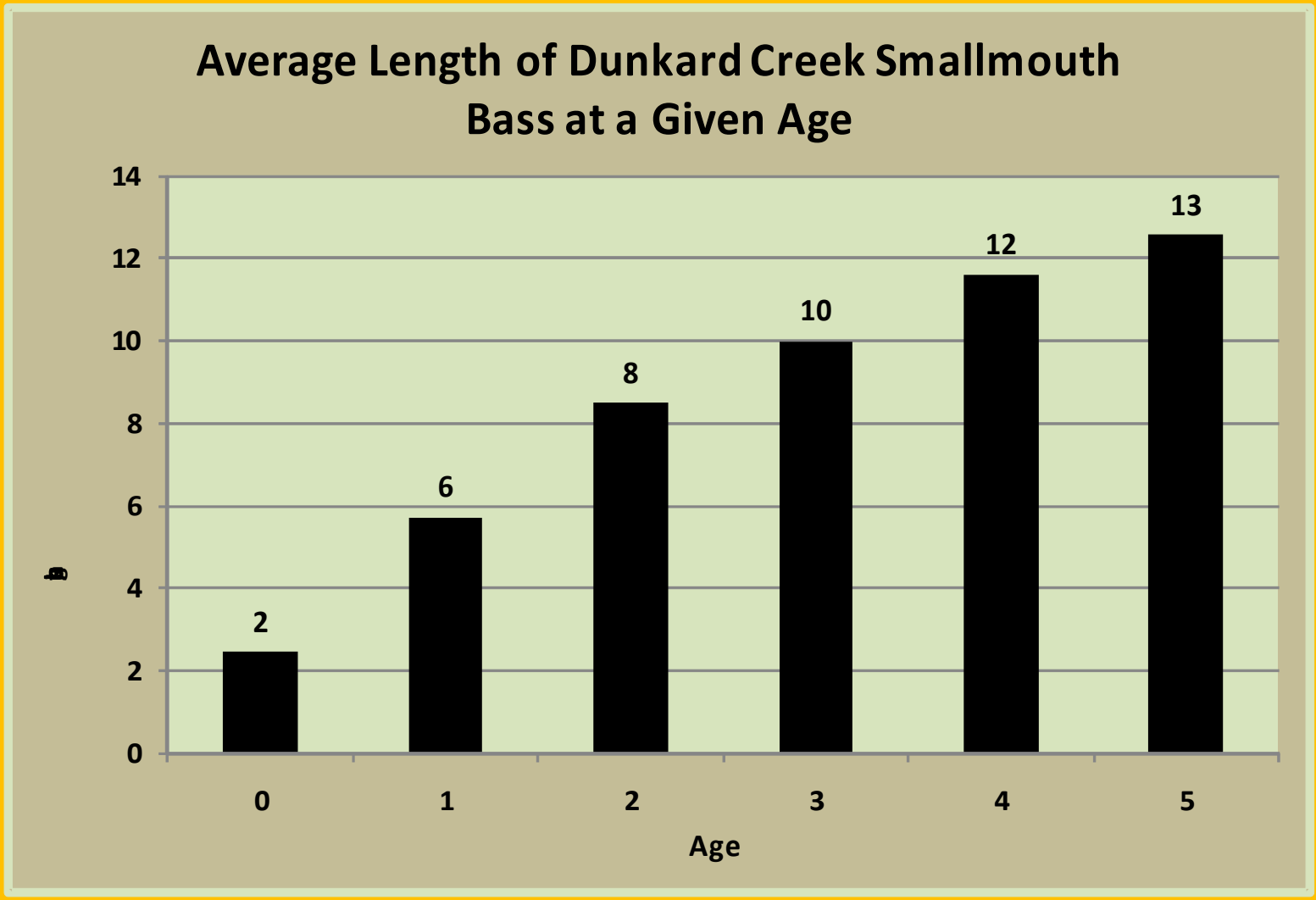
Methods:

- Stock a maximum of 5,000 fingerlings for 3 consecutive years

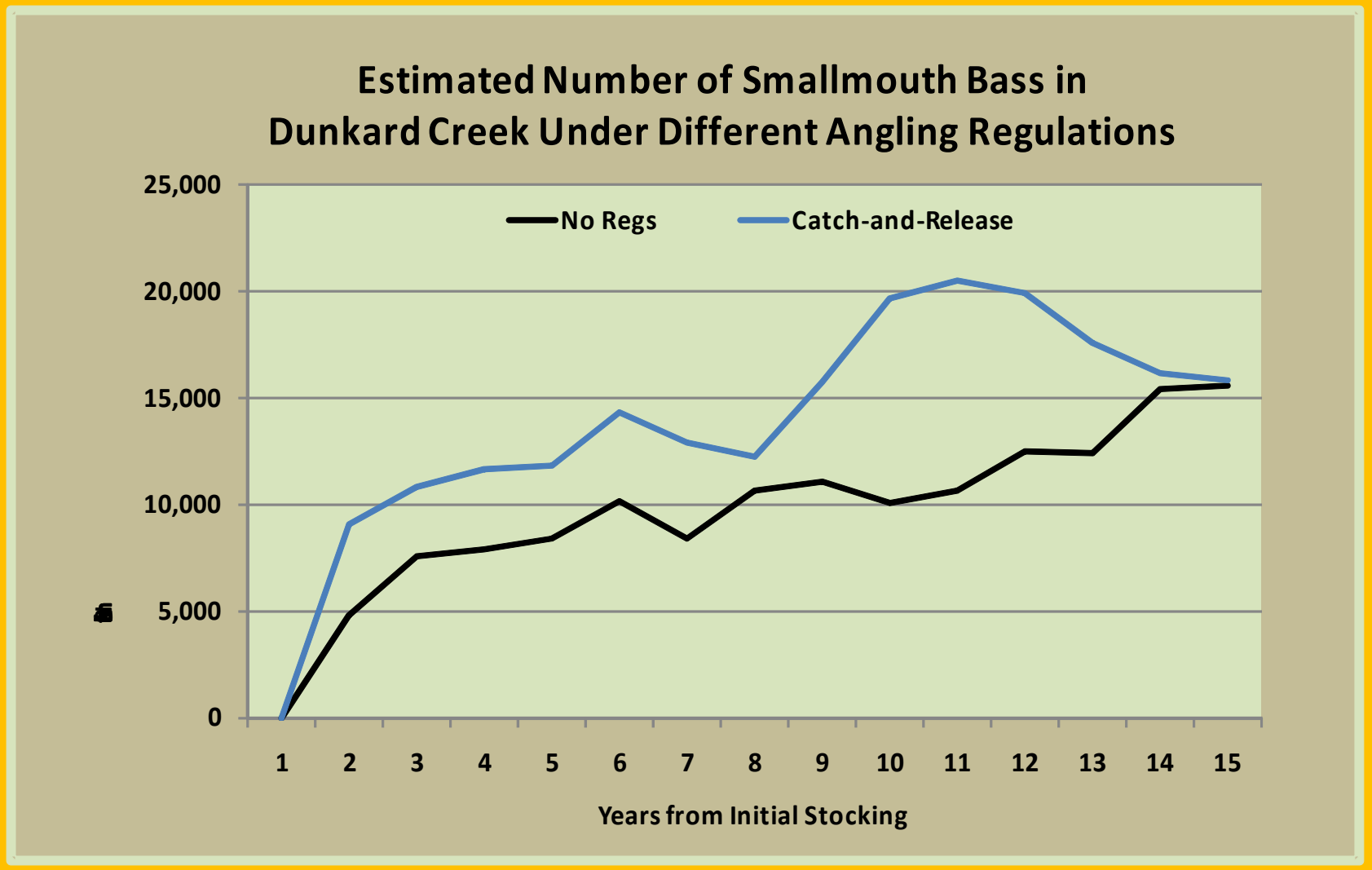
- Evaluate smallmouth bass population for 2 years following last year of stocking

- Propose a catch-and-release regulation be implemented in 2013 and continue for 5 years.

Smallmouth Bass Restoration



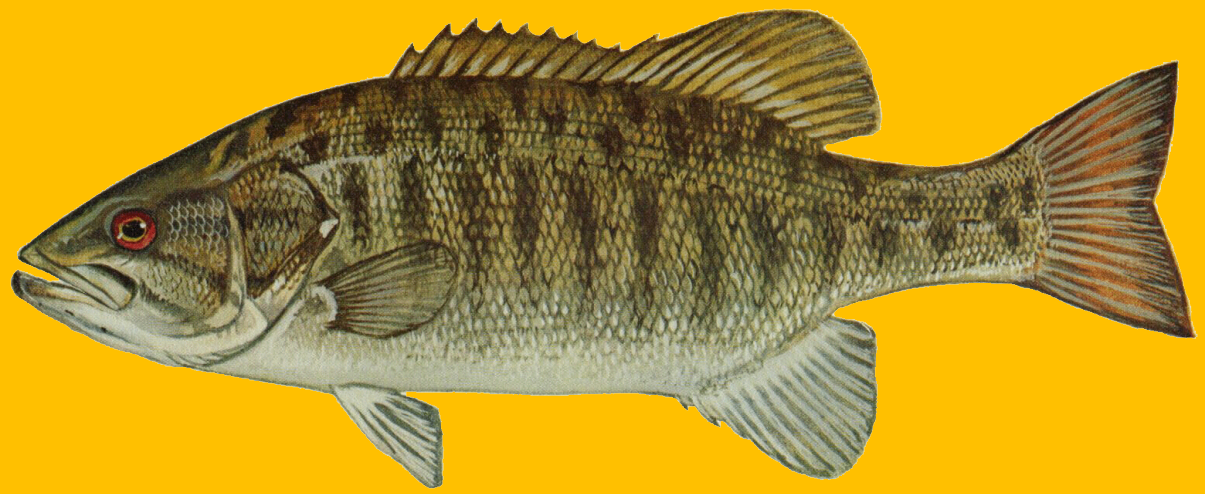
Smallmouth Bass Restoration



Smallmouth Bass Restoration

Timeline:

- 2011: forage fish assessment
- 2011: fish health assessment of brood stock
- 2011 – 2013: brood stock collection
- 2012 – 2014: fingerling stockings
- 2015 – 2016: stocking assessments



Objective 3
Musky Restoration

Purpose:

- Restore the musky fishery and provide anglers with quality size (≥ 30 inches) muskies.

Musky Restoration

Methods:

· Population assessments to determine an adequate forage base for smallmouth bass and muskies

· In spring, collect 10 muskies (34 – 36 inches) from Buckhannon or Tygart rivers for brood stock, transport to Palestine Fish Hatchery, spawn, and stock fingerlings in fall

Musky Restoration

Methods:

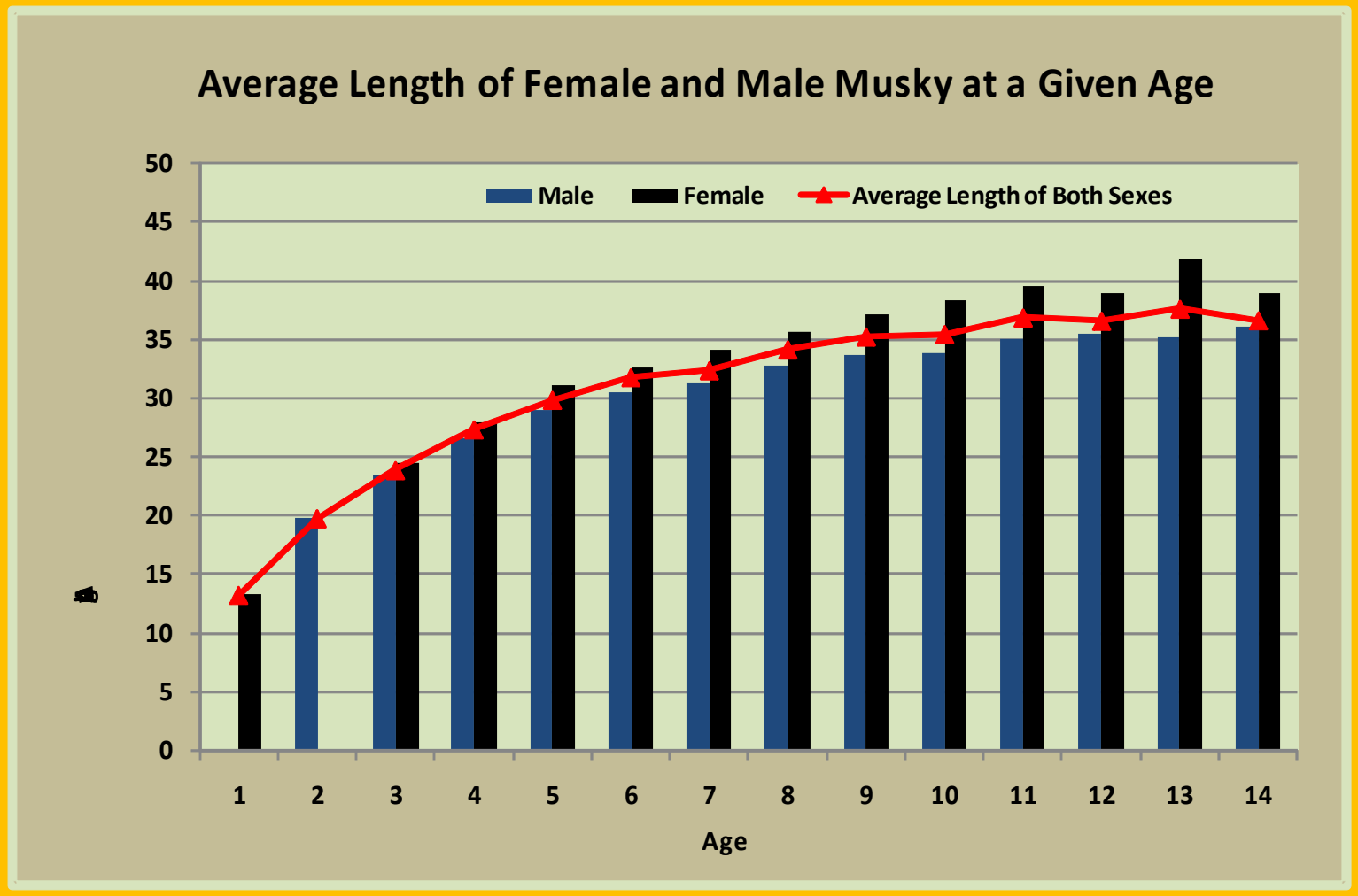
· Stock a *maximum* of 400 fingerlings for 3 consecutive years

· Evaluate musky population using electrofishing gear for 2 years following last year of stocking to determine success and musky density.

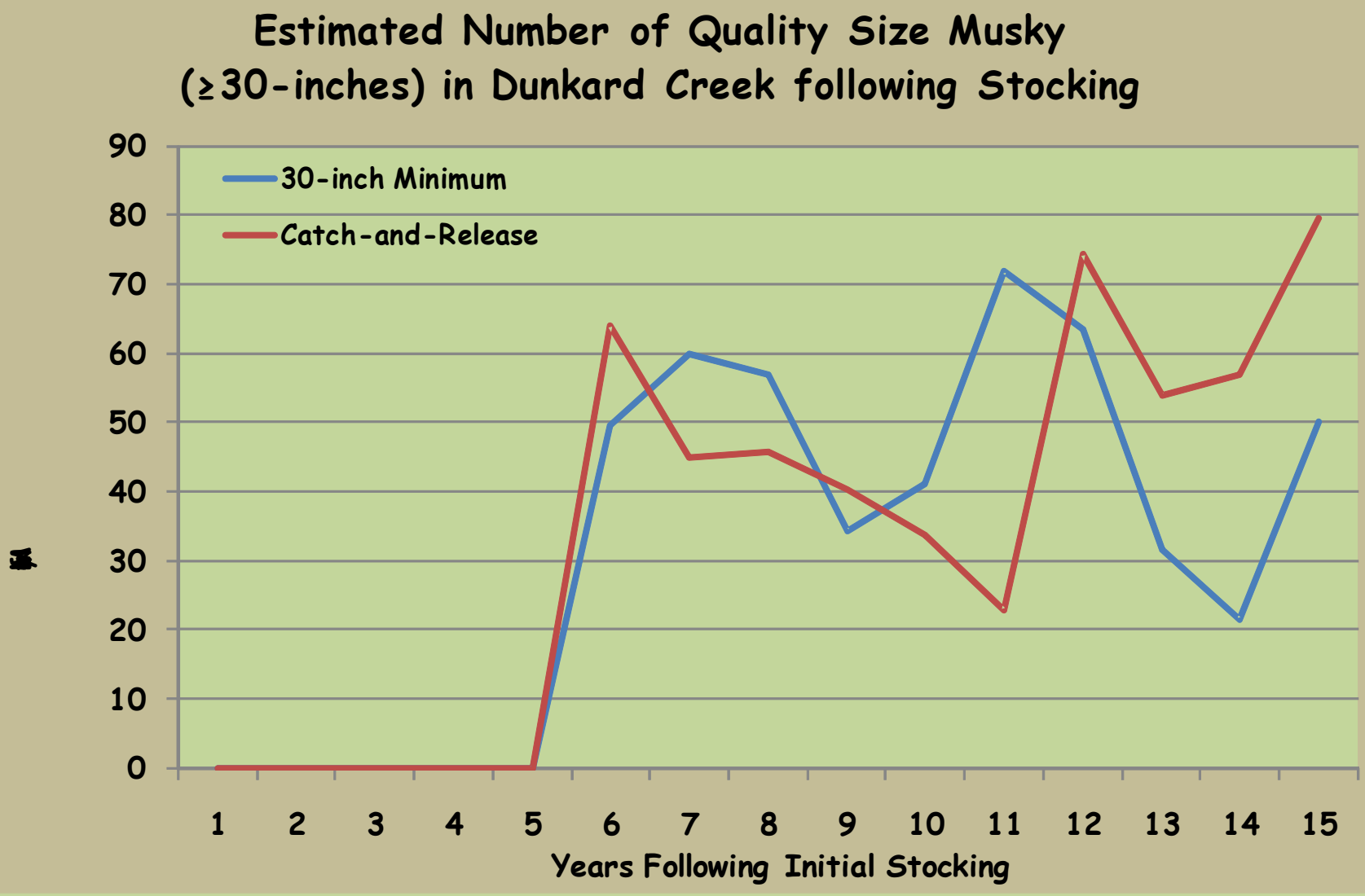
· Monitor musky angler reports (i.e. WV Husky Musky Club, Muskies Inc., local anglers)

· Maintain statewide minimum length limit of 30-inches

Musky Restoration



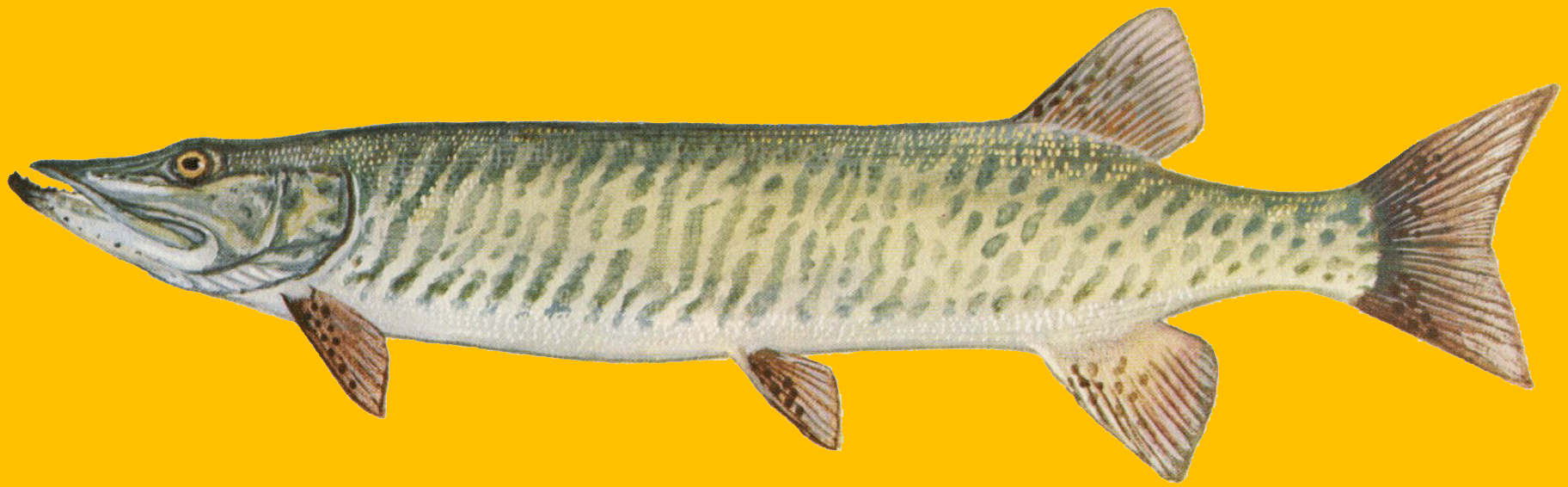
Musky Restoration



Musky Restoration

Timeline:

- 2011 - 2012: forage fish assessment
- 2013 – 2015: brood stock collection
- 2013 – 2015: fingerling stockings
- 2016 – 2017: stocking assessments



"Do what you can, with what you have, where you are."
-Theodore Roosevelt