Turkey Management:
2 Bird Spring Limit

Adam Bump

DNR Wildlife Division

Overview

- Brief history of turkeys/harvest
- 2 bird limit discussions
- Michigan turkey populations
- Moving forward
- What's next

Wild Turkey Timeline

TURKEY POPULATION

1800 Wild turkeys common

1837 Michigan became a state

1897 Last Turkey Recorded

1900 Turkeys extirpated from Michigan

1921 DNR established

1927 Game Division established, first wildlife biologist hired

1938 Pittman-Robertson Act established

1954 1st successful Wild Turkey restoration attempt

1965 1st hunting season in modern times

1983 Expanded wild turkey restoration efforts

TURKEY POPULATION

2010 Wild turkeys common

Michigan Spring Turkey Season

- First modern season 1968
- Gradual expansion of areas open and license quotas
- Harvest peaked in 2008
- Hunter satisfaction and success rates have been high for many years
- Hunt quality has been a priority

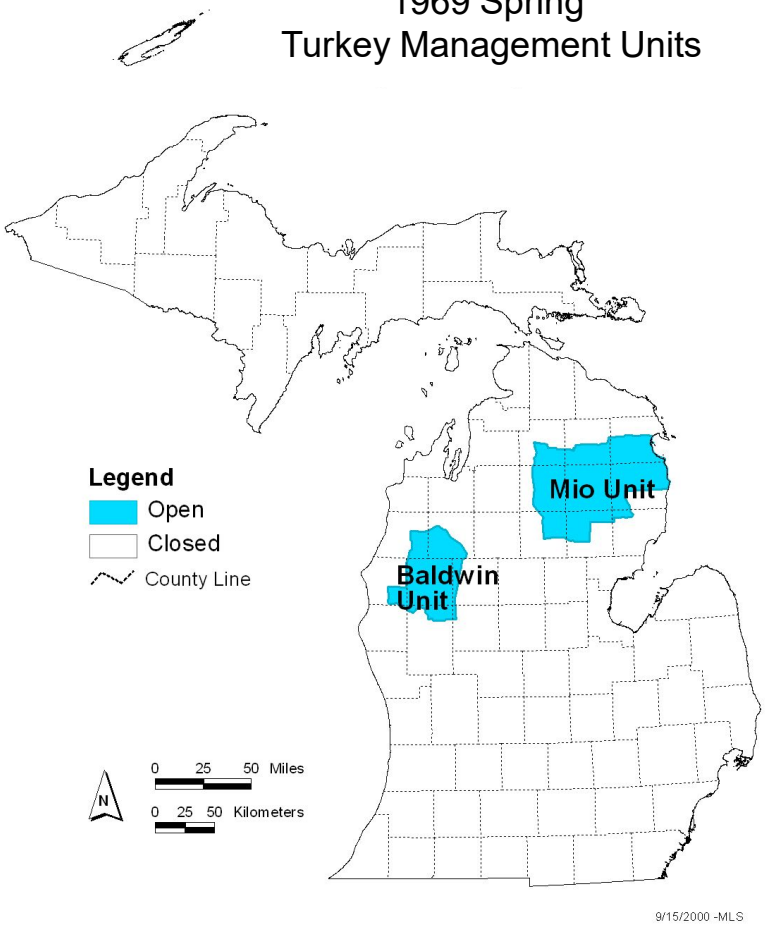
1969

2nd Spring Season
In Modern Times

Spring Season:
May 9 to May 19

SUMMARY:

* **3,200 Hunters**
* **11,895 Applicants**
* **50 Turkeys Harvested**
* **2% Success Rate**

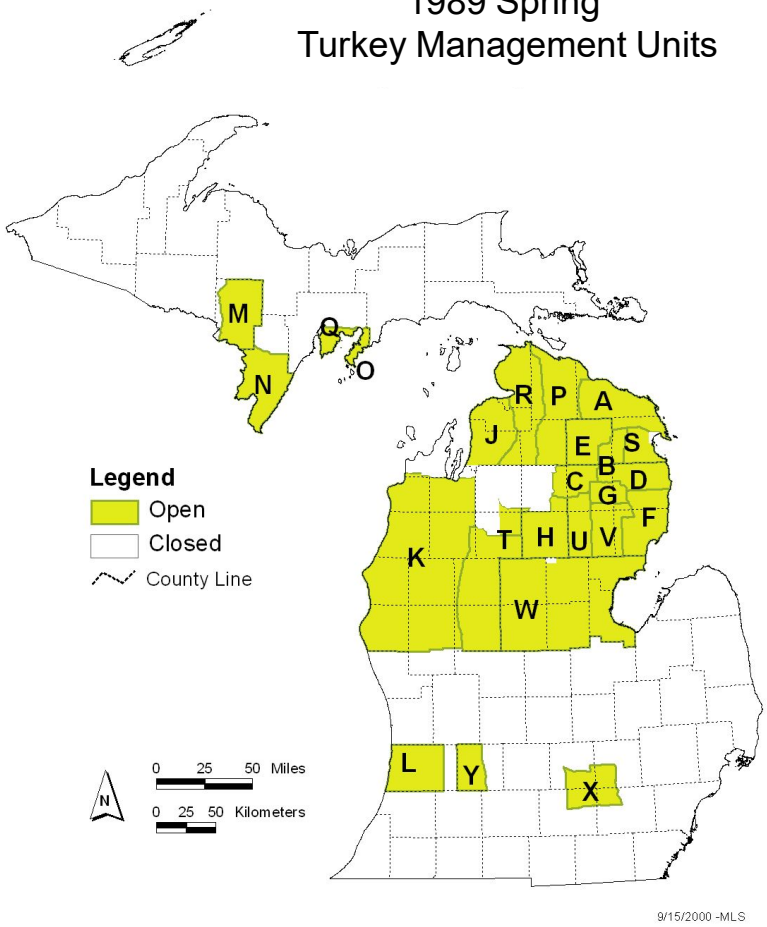


1989

Spring Season:
April 17 to May 19

SUMMARY:

* **22,199 Hunters**
* **38,782 Applicants**
* **6,195 Turkeys Harvested**
* **28% Success Rate**
* **18,682 Sq. Miles Open**



2013

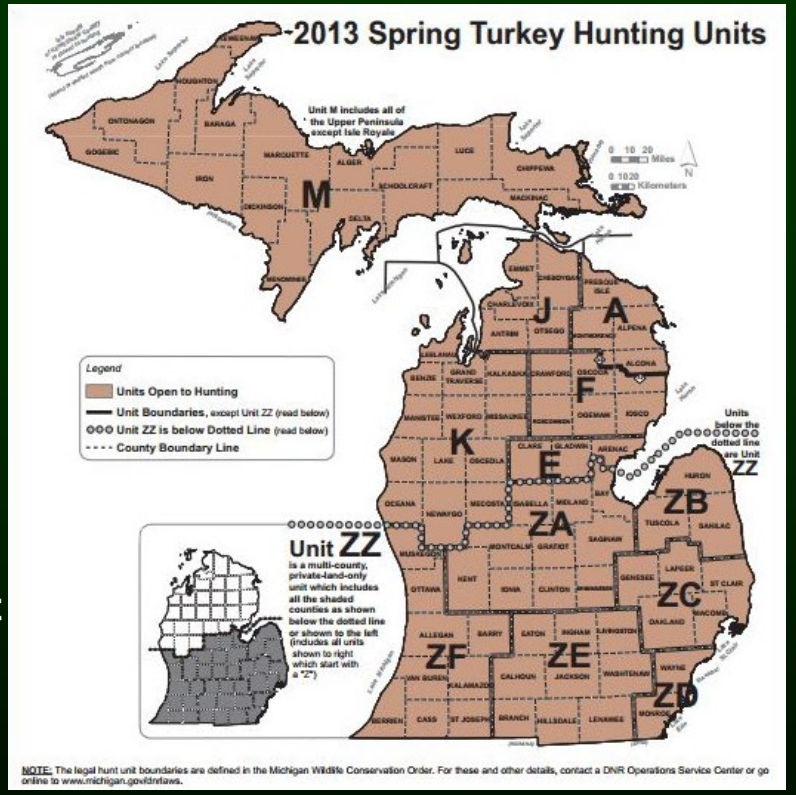
Spring Season:
April 23 to May 31

SPRING SEASON DATES

General Limited Quota Hunts
Open April 23
Close May 31

Private Land Limited Quota Hunt
Open April 23
Close May 2

Guaranteed Hunt Period
Open May 7
Close May 31



Recent Expansions of Opportunity

- Hunt 1- First week then 1 week in June
- Longer seasons
  - ZZ hunt full 6 weeks (42 days)
  - Fewer 1-week seasons
- Hunt from elevated platform
- Saturday opener

Michigan's Turkey Hunters

- Satisfaction high
  - Over 70% since 2017
  - Over 50% every year (except 1994) since data was collected
- Success high
  - Nearly 50% in 2020
- Interference low (part of quality)
- 6th in nation in overall #s of hunters

Michigan Turkey Data/Research

- Most information comes from our harvest surveys
- In mid 2000s, a large turkey project was conducted by MSU

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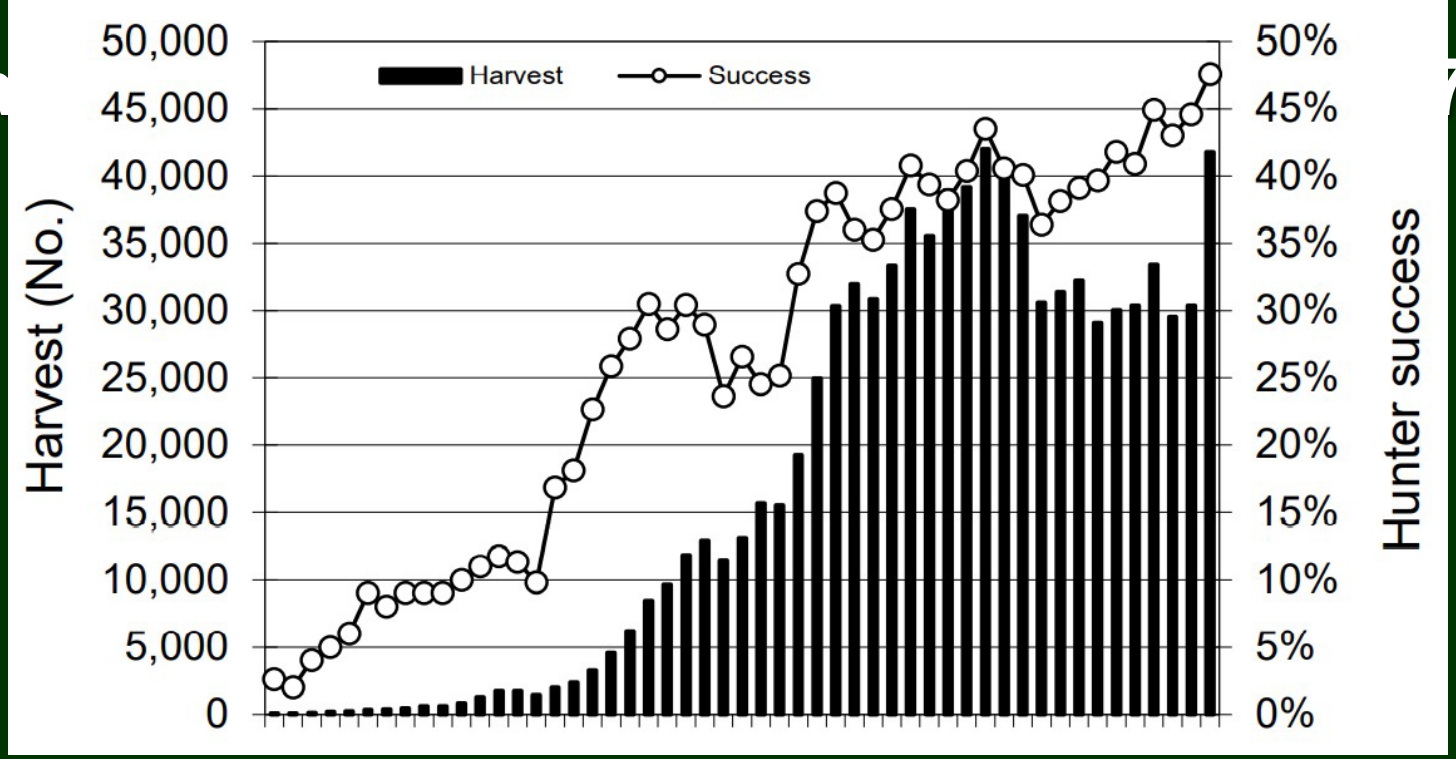
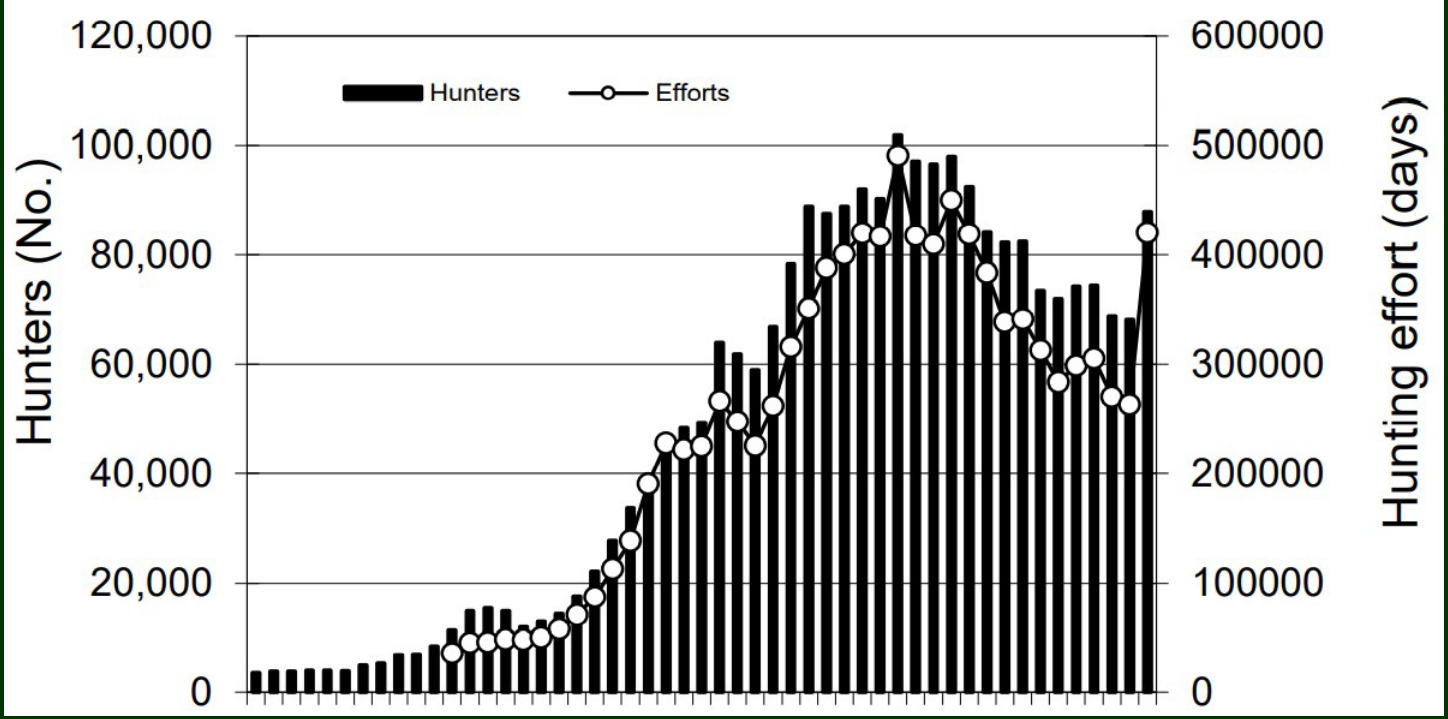


Figure 6. Estimated number of hunters, harvest, hunting efforts, hunter success, and area open to hunting during the Michigan spring turkey hunting season, 1970-2020. Estimates of hunting effort generally were not available before 1981.



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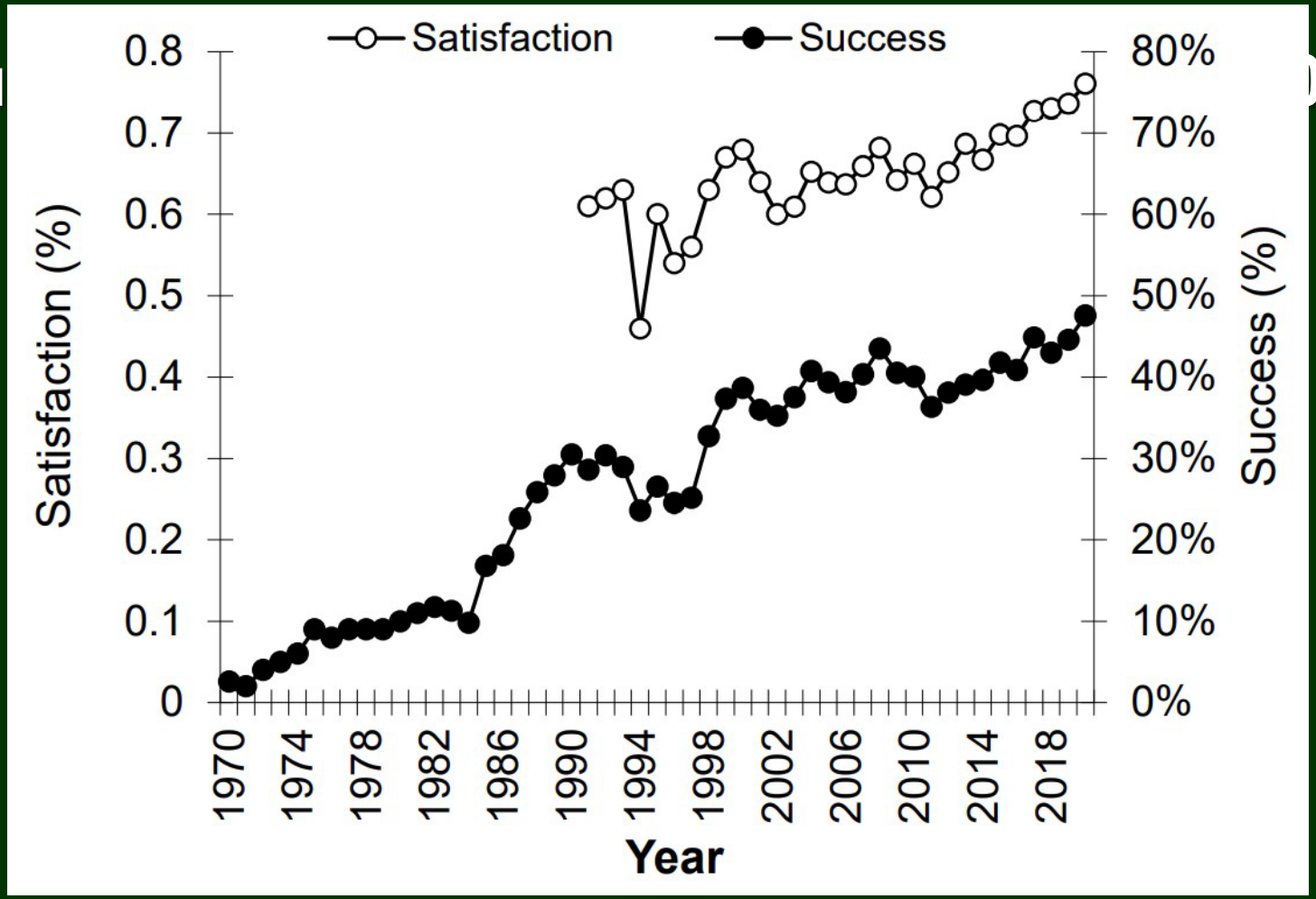

Satisfaction
Success
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Satisfaction (%)
80%
70%
60%
50%
40%
30%
20%
10%
0%
Success (%)
1970
1974
1978
1982
1986
1990
1994
1998
2002
2006
2010
2014
2018
Year

Michigan Turkey Research: Bryan Stevens Project 2016

- Modelling of abundance
  - Stable male population
    - Less recruitment of males
  - Overall population stable over study period
  - Hunter effort information important
  - Some suggestions on other data needs
- Evaluated Season Structure
  - 1 Bird spring harvest structures were optimal

Michigan Turkey Research: Engagement

- Structured decision making
  - Informs modelling and management
  - Integrates engagement/stakeholder input into overall management strategies
- Stakeholders wanted to maintain:
  - Socially desirable populations, current or increased social carrying capacity
  - High hunter satisfaction
  - Hunting traditions and ethics
  - Turkey hunters
  - Funding that is currently earmarked for turkey management

Ok…What About 2 Birds in Spring?

- One topic of many on ways to expand opportunity
- Population increases the norm since re-establishment
- Follows long thought ideas on harvest of males in spring
- Desired partially due to high success rates
  - Season over too soon
  - Why not?

Recent Changes = Uncertainty

- Michigan population likely stable
  - Some early indicators of potential issues
  - Many states seeing apparent declines
- NWTF to present on research challenging assumptions about harvest of males
  - May impact populations
  - New management strategies needed
- Sufficient concern to warrant careful consideration

Putting it All Together

- Michigan's turkey population likely stable
- Many states appear to be having declines
- Michigan hunters currently have:
  - High satisfaction and success rates
  - Abundant opportunities
- Recent research and information suggests caution with spring male turkey harvest
- Collect more/better information
- Stakeholder engagement

What Next?

- Collect more/better information
  - Harvest effort information
  - Enhance data collection processes
  - Project to develop updatable model from Stevens' work, refine future research needs
  - NWTF: Brood survey
- Stakeholder engagement
  - Wants/needs, collaboration
- Provide desired opportunities responsibly

Thank You


National
Wild Turkey
Federation

Our mission

Dedicated to the conservation of the wild turkey and the preservation of our hunting heritage.

Status and Trends of the Wild Turkey

Ryan Boyer, Certified Wildlife Biologist ®
District Biologist (MI, IN, OH)
National Wild Turkey Federation
Natural Resources Commission Meeting
August 11, 2022

Range -wide Declines in Abundance

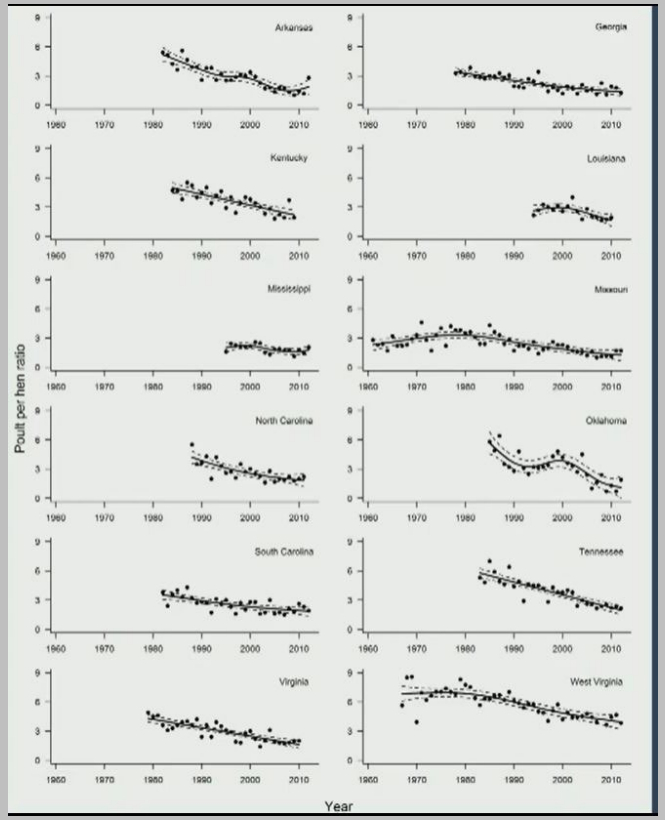
- Mid -Atlantic Region (Casalena et al. 2015)
- Midwest Region (Parent et al. 2015)
- Southeast Region (Byrne et al. 2014)

Status and Distribution of Wild Turkeys in the United States in 2019 (Chamberlain et al. 2022)

- (2004 -2019) 16% Decline in Turkey Abundance
- Declines in multiple sub -species (e.g., not just Eastern spp.)
- (2004 -2019) 19% Decline in Spring Harvest,

Long term declining trends in brood production

- States estimating production through brood surveys are noting declines in production
- Concerns when poult/per hen average drops below 2.0
- Latest SE research suggests (Mike Chamberlain ; personal communication) :
- 80 % of nests fail
- 2/3 of those broods lost before 1 month
- 7% of nests will produce a poult that lives to make it beyond 1 month



Declines are leading to regulatory changes

- Harvest is the primary tool available to state agencies for managing populations at a state level
- Changes are often contentious and politically and socially charged
- States with recent (e.g., 2020 - 2022) reductions in bag limits and/ or reduction or delay in season openers : SC, TN, OK, OH, KS, AR, AL, GA, MS

Southeast Turkey Hunting Regulations Changing in Response to Declining Populations

OUTDOORS

'Numbers have gone down dramatically': Turkey season opens later with reduced bag limit as population dwindles

Ed Godfrey
Oklahoman

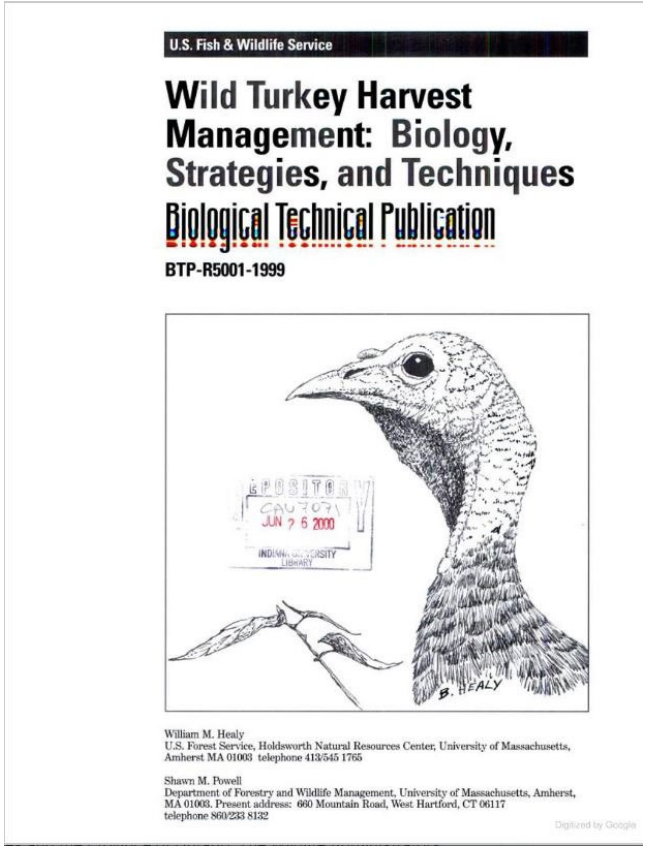
New (Effective 2020)

- **Bag limits in Units 3, 5, and 6 (Northeast, Southcentral, and Southeast) have been reduced from two turkeys to one turkey. This change is effective beginning with the spring 2020 season.**

How this all relates to bag limits, harvest and season structure

- Harvest Strategies based on a few key assumptions :
- Spring harvest designed to take place after most breeding has occurred
- Spring Harvest limited to males
- Spring Harvest does not impact long -term population levels
- - This assumption is sustainable if male harvest rates are less than or equal to 30 %

Harvest Rates= $\frac{\text{The percent of individuals removed}}{\text{Total number of individuals}}$



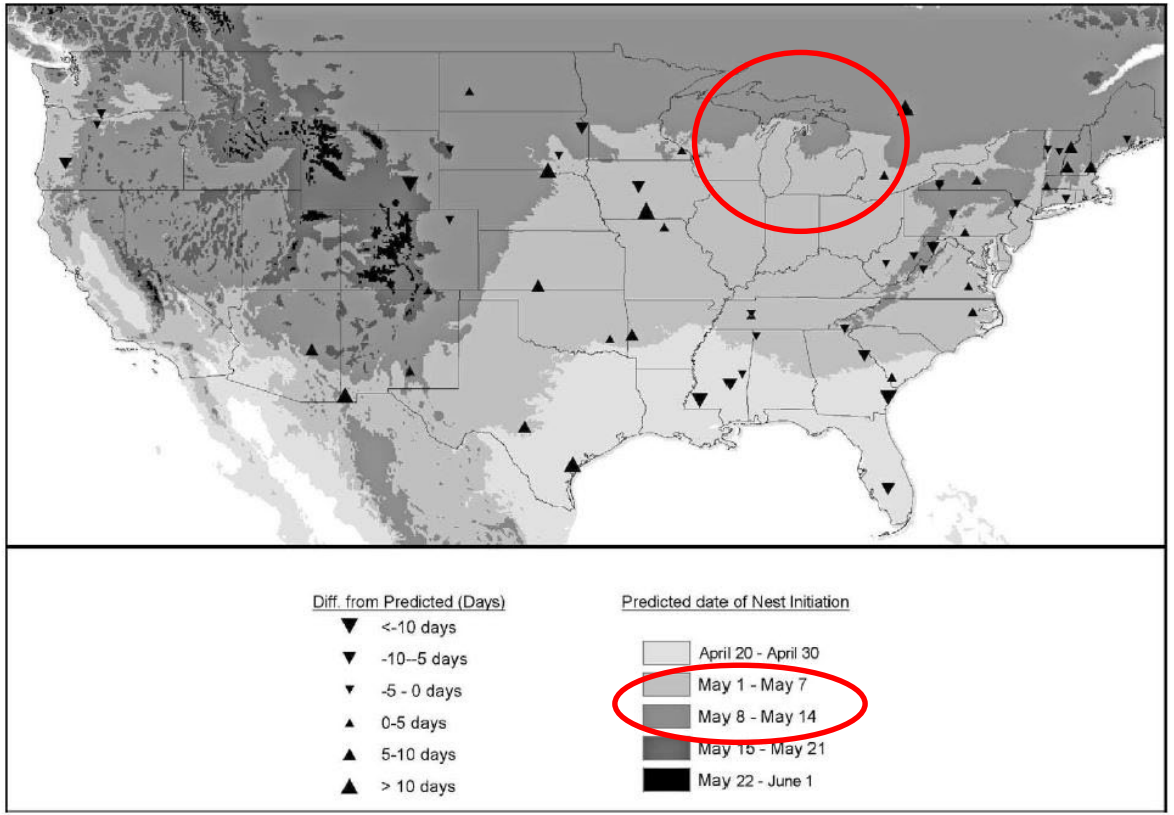


Fig. 1. Predicted Initiation of Nest Incubation (INI) dates for established wild turkey populations, developed by applying the model 16 (Table 3) to a Digital Elevation Model (DEM) of North America. Triangles represent the locations of studies used in our meta-analysis; negative Differences from Predicted (i.e., residual errors) indicate that the actual INI date at that location was earlier than predicted.

Whitaker et al. 2007

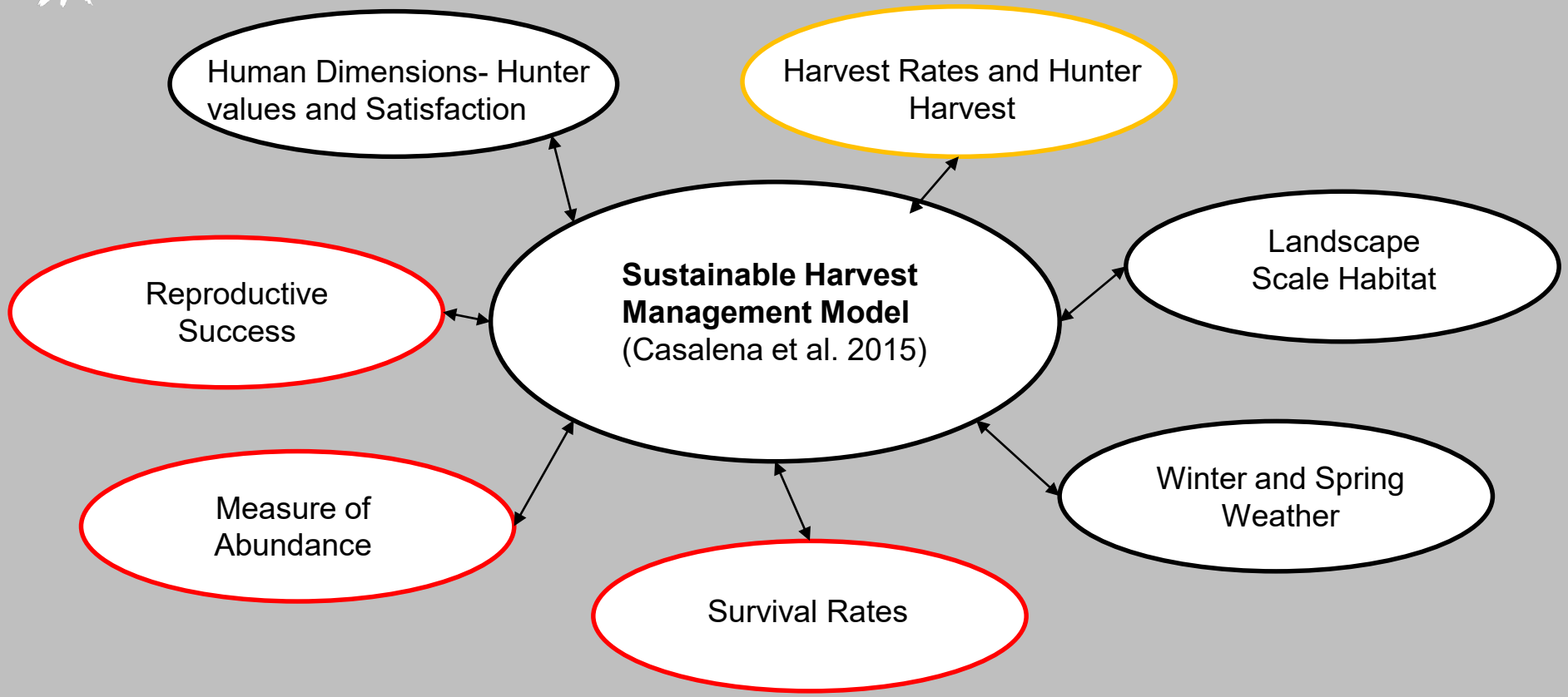
2020 Michigan Spring Turkey Harvest Report (Frawley 2021)

Hunting effort and the number of turkeys harvested were generally highest during the earliest hunting periods (Figures 8-11). For turkeys that the harvest date was known, 43% of these birds were taken during the first seven days (April 18-24). Daily hunter success generally was more than 10% from April 18 through May 6, and daily hunter success was generally below 10% during May 7-29. Hunting effort and harvest generally were greater on the weekends than on the weekdays.

> ***"When the dominant bird in an area gets killed before the breeding occurs, it can cause problems with the entire breeding cycle." — Dr. Mike Chamberlain***

State game departments are charged with balancing the health of the flock with the desire of their state's turkey hunters to start the season as early as possible. Early turkey seasons are a big draw, and state game agencies depend on license sales for operating capital. In the past decade, many of those agencies have gone with earlier and earlier start dates, sticking with the old theory that, as long as the total harvest of spring male birds stayed close to 30%, turkey populations will remain strong. It is worth noting, says Chamberlain, that many wildlife agencies have only recently started tracking total harvest rates. While it has been assumed that harvest rates of 30% were OK, many states didn't have accurate harvest data to see if their total harvest actually fell in that range.

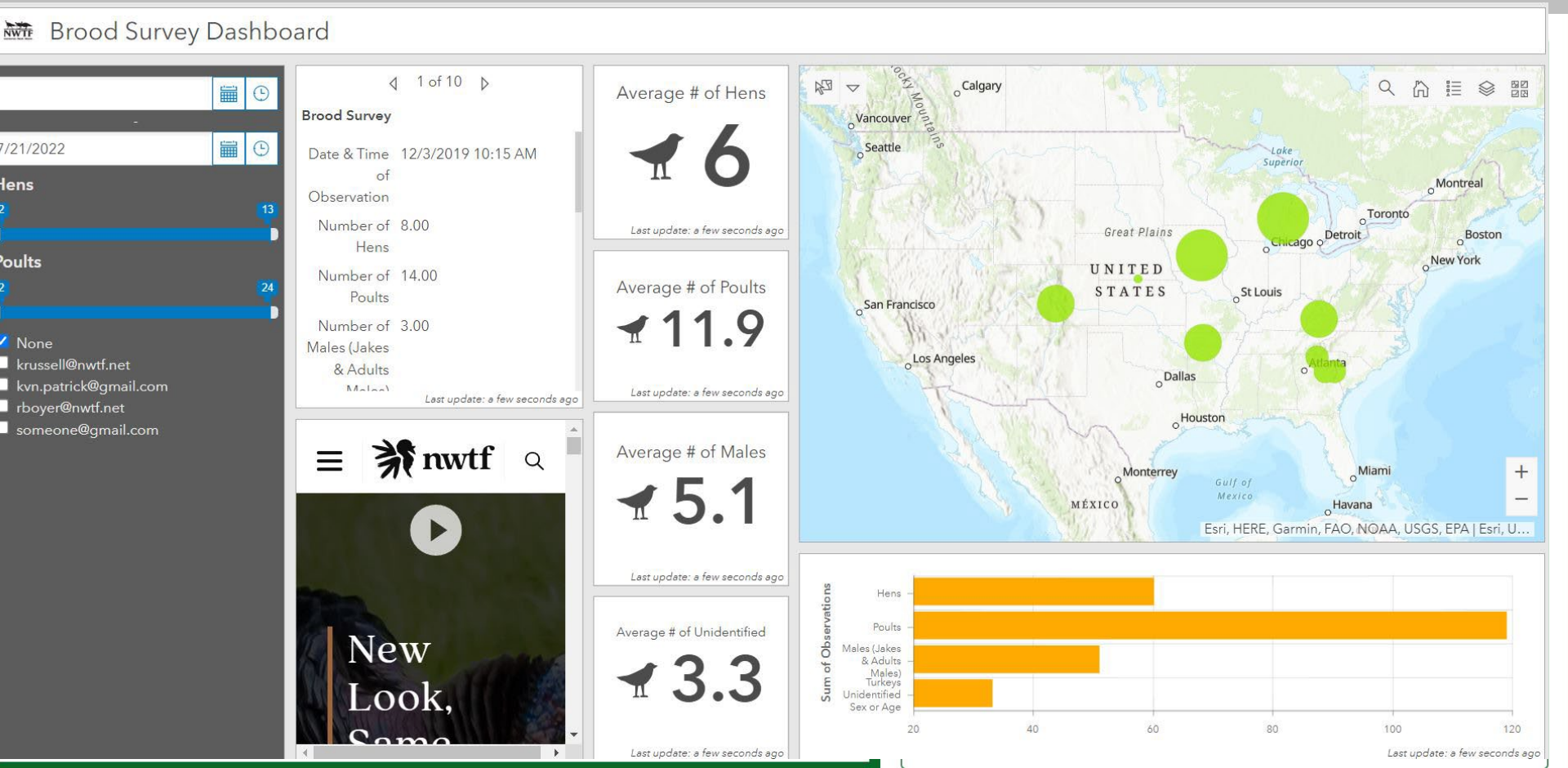
How soon should turkey seasons open? It's a balance. For the best overall production numbers, Chamberlain says the most conservative starting dates would wait until peak incubation starts for the area. That means not hunting until the vast majority of hens in an area are sitting on nests.


Human Dimensions- Hunter values and Satisfaction
Harvest Rates and Hunter Harvest
Reproductive Success
Sustainable Harvest Management Model
(Casalena et al. 2015)
Landscape Scale Habitat
Measure of Abundance
Survival Rates
Winter and Spring Weather

What does all of that mean…

- Turkeys are declining across much of their range following the restoration period .
- Removal of males and timing of removal may be more impactful to populations than we realized
- We lack information on reproduction, harvest rates, and estimates of abundance making it challenging at best to asses what is happening to the population .
- Conservative bag limits likely allowed for fluctuations in reproduction while maintaining high hunter satisfaction

Brood Survey



Estimates of Abundance and Harvest Rates

- Harvest Rates can be addressed using banding data
- Cost effective and simplest way to address estimates of abundance
- Need 3-4 years to start retrieving data (e.g., band returns)

$$\frac{\text{Harvest Estimate}}{\text{Rate of Removal}} = \text{Abundance}$$

Concerns of Michigan NWTF State Chapter Regarding Proposed Increase in Spring Bag Limit

1. We lack the biological data and harvest rate estimates needed to determine the sustainability of the harvest strategy .
2. We support the approach of the DNR to assess the current data limitations and identify and support research moving forward .
3. We are not advocating to restrict current opportunity, however we recognize the need to address information gaps, have more conversations in order to do what is best for the resource .
4. Timing of the incubation initiation and harvest rates in relation to the initiation of hunting season should be assessed .
5. Many other states are currently reducing bag limits, reducing season length, and delaying season start dates . We are recommending maintaining a conservative spring bag limit (1 bearded bird) while prioritizing and addressing the greatest research needs to determine a harvest strategy that would optimize hunter opportunity without negatively impacting the resource .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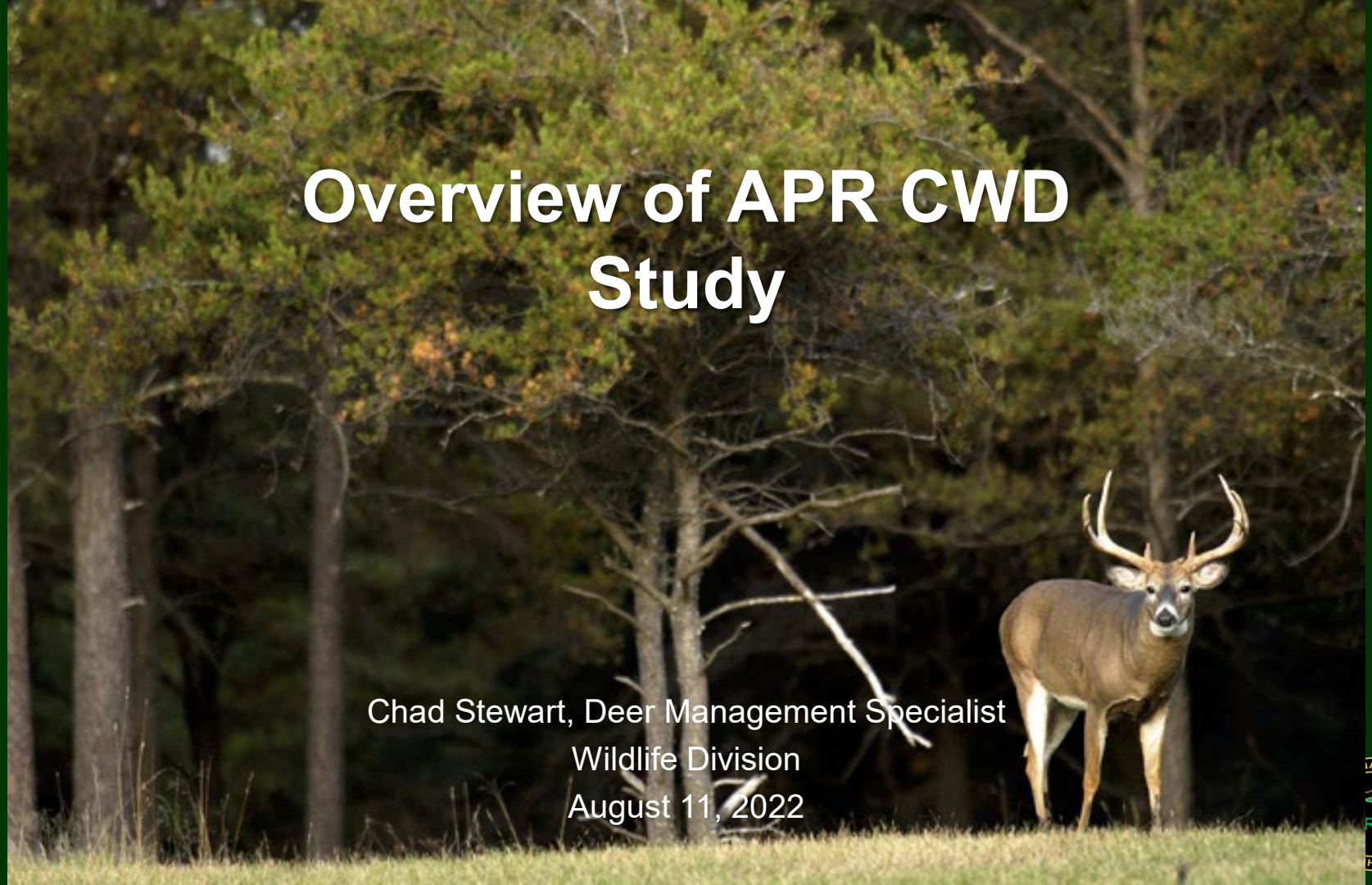
Harvests.™

Overview of APR CWD Study



Chad Stewart, Deer Management Specialist
Wildlife Division
August 11, 2022

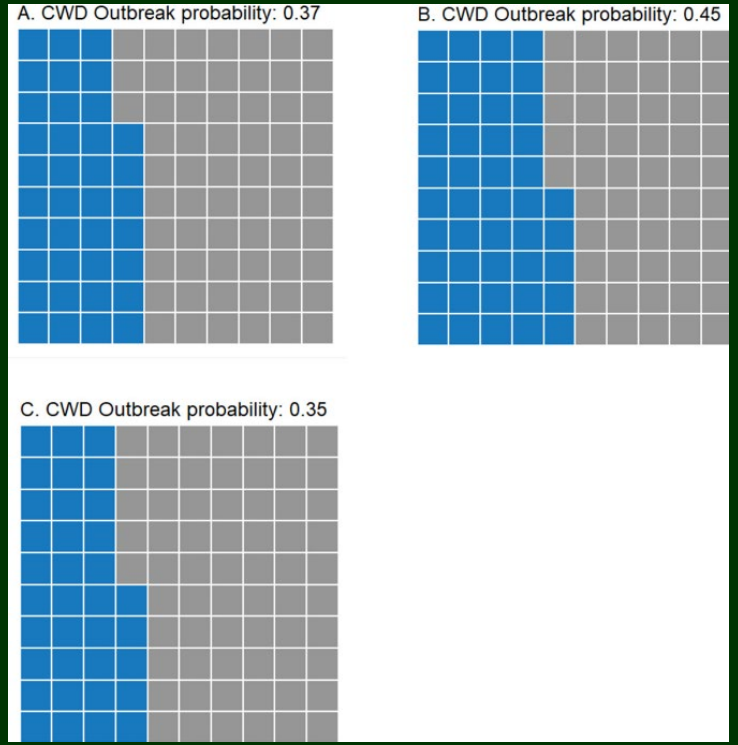
Overview

- APR CWD Project Update
- Harvest Data
- Surveillance Data
- APR CWD Project Timeline

APR CWD Project Summary

- Study Objective: Evaluate if an antler point regulation (APR) change within the 5-county CWD Core Area impacts the abundance and sex/age composition of deer populations over 4-years (2019-2022).

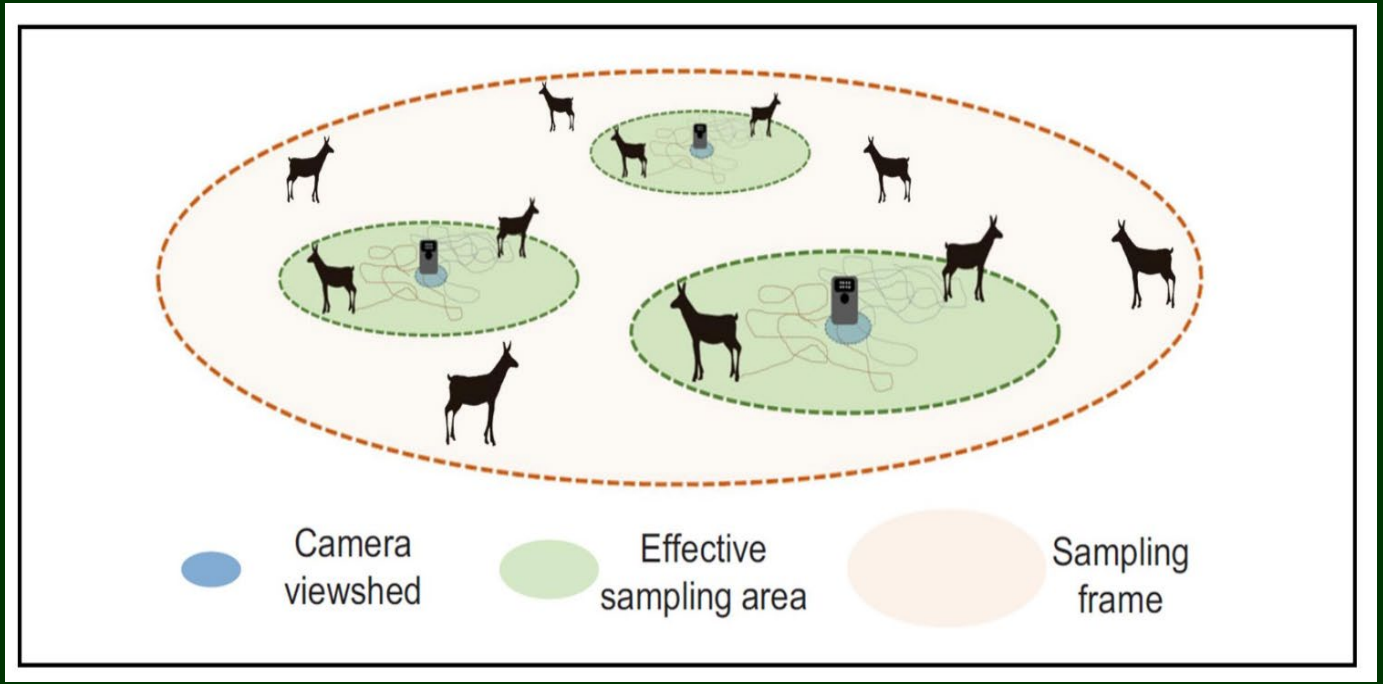
APR CWD Project Deliverables



- Estimates of Relative Abundance
- Sex/Age Ratio Changes

- DOES NOT Provide
  - CWD Prevalence
  - CWD Spread

What is Relative Abundance?



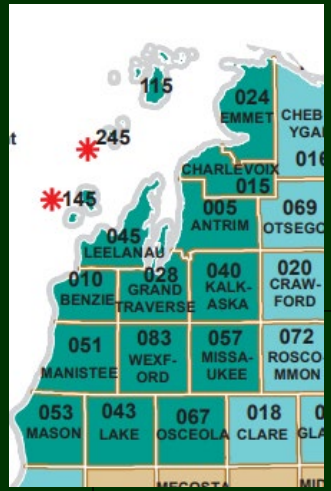
APR Project-To Date

Field Season	Total photos
2019-pre-APR	~800,000
2020-Year 1 APR	~450,000
2021-Year 2 APR	~660,000
2022-Year 3 APR	Currently being collected

- Expect 2.5 million photos by end of study
- Artificial Intelligence software removes images without animals (~40%) and takes ~100 weeks of runtime
- About 4,400 hours of time per season to prepare data for analyses

The 1.1 antlerless : 1.0 antlered Harvest Ratio

- Incorporated as a trigger for discontinuing the study
- Meant to be evaluated year to year
- Harvest ratios are easily evaluated relative to population numbers
- Meant to reflect hunter harvest behavior changes
- IS NOT reflective of population decline or CWD management benefit



Northwest 12 Data

	←Pre-APR		APR →					
	2012		2013		2014		2015	
	Antlerless	Antlered	Antlerless	Antlered	Antlerless	Antlered	Antlerless	Antlered
NW12	21,208	29,795	24,325	20,685	20,548	20,688	19,063	22,238
Ratio APR		0.71		1.176		0.99		0.86
Quotas		34,000		39,600		39,200		39,200

Harvest Data (2018-2021)

	2018		2019		2020		2021	
	Antlerless	Antlered	Antlerless	Antlered	Antlerless	Antlered	Antlerless	Antlered
34-Ionia	2,413	3,969	2,701	2,893	3,992	4,001	4,166	3,520
54-Mecosta	3,297	4,143	4,185	2,721	4,765	3,570	4,320	4,078
59-Montcalm	4,398	4,711	4,423	3,984	5,094	4,027	3,834	4,400
41-Kent	2,766	3,928	2,713	4,423	2,986	4,925	3,589	4,930
62-Newaygo	5,026	5,413	5,340	5,598	7,188	6,749	5,216	5,702
Ratio APR		0.79		1.18		1.19		1.03
Ratio nonAPR		0.83		0.82		0.87		0.83

Additional Interpretations

- Increase in harvest rates (2018 to 2021):
  - Antlerless
    - APR- 21.9%
    - Non-APR- 13.0%
  - Antlered
    - APR- -6.4%
    - Non-APR- 13.8%
- Change in harvest/mi2 (2018 to 2021):
  - Antlerless
    - APR- 1.20
    - Non-APR- 0.6
  - Antlered
    - APR- -0.44
    - Non-APR- 0.6

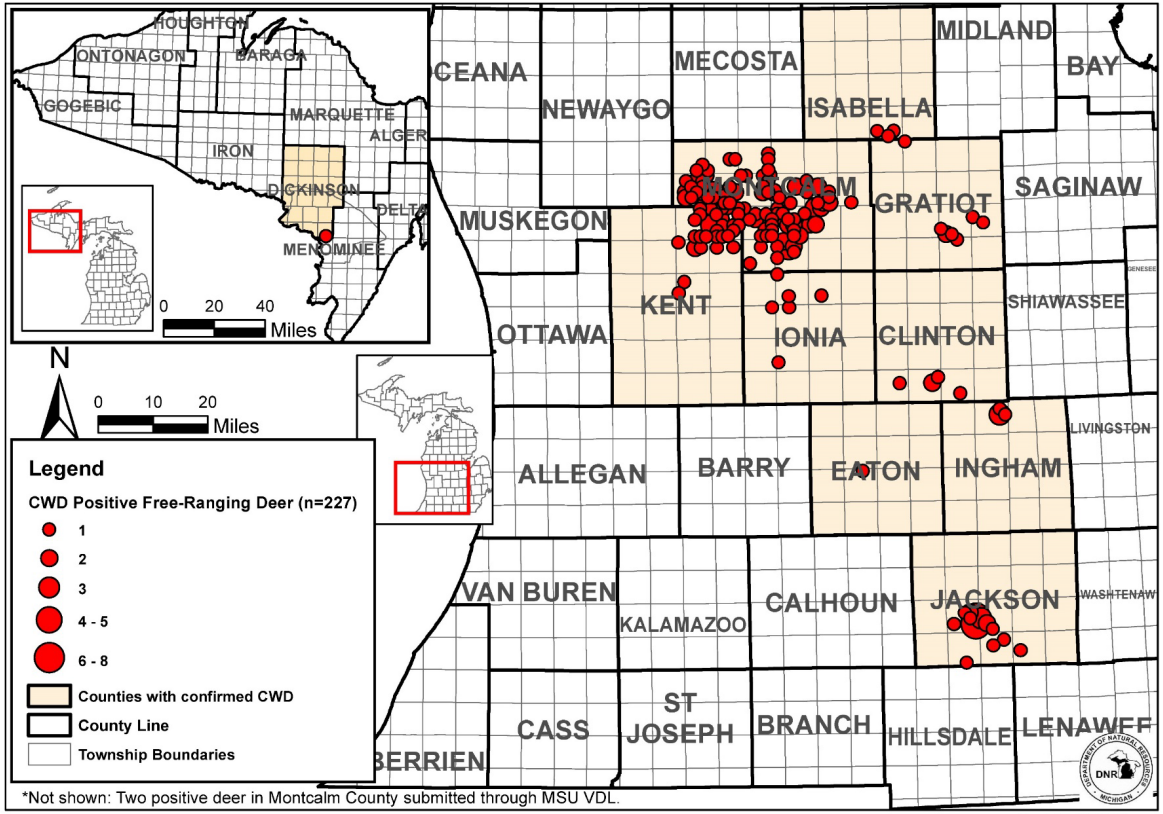
CWD Surveillance

Positives/Total Samples

County	2018	2019	2020	2021	Total
Ionia	2/1,930	2/958	1/100	1/34	6/3,023
Mecosta	0/1,982	0/877	0/16	0/7	0/2,882
Montcalm	45/4,009	36/1,962	7/160	5/51	93/6,187
Kent	9/1,526	17/871	1/80	1/53	28/2,530
Newaygo	0/3,527	0/1,972	0/4	0/1	0/5,504

Free-ranging White-tailed Deer Positive for Chronic Wasting Disease (CWD)
Michigan

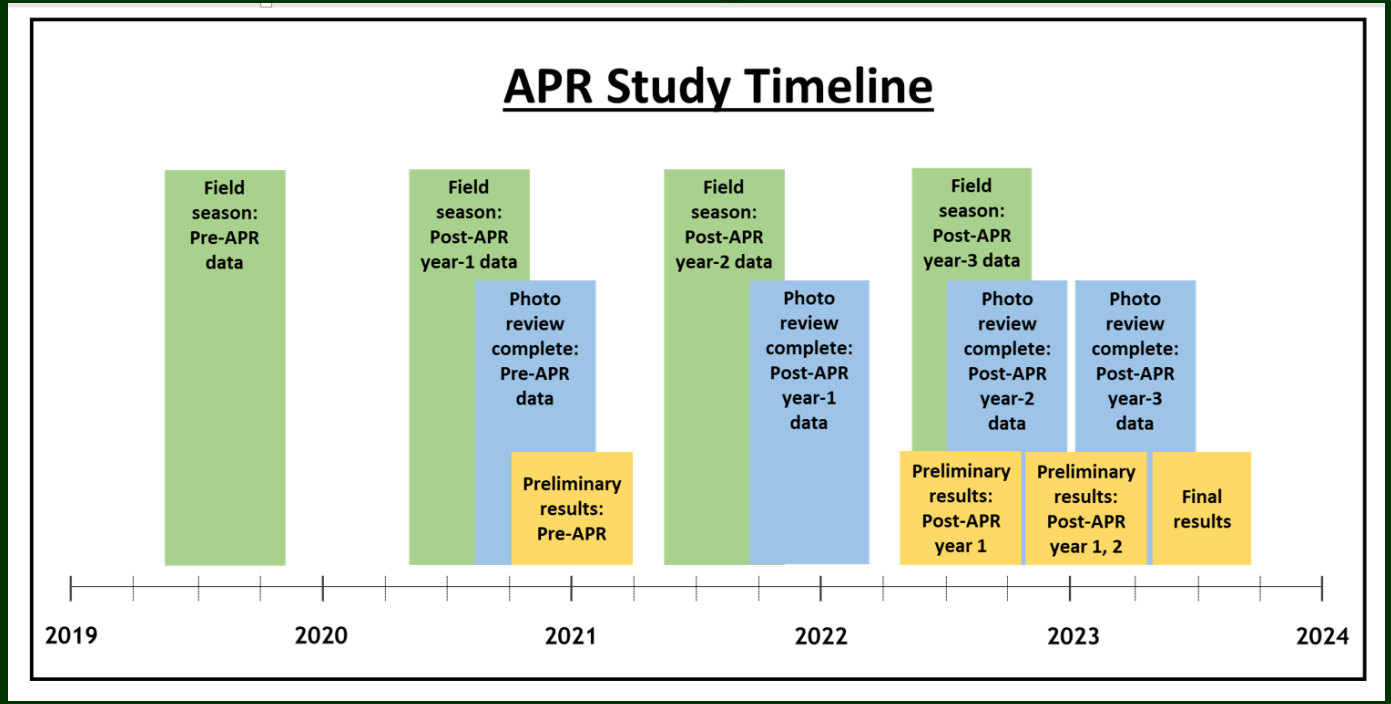
as of March 15, 2022



*Not shown: Two positive deer in Montcalm County submitted through MSU VDL.

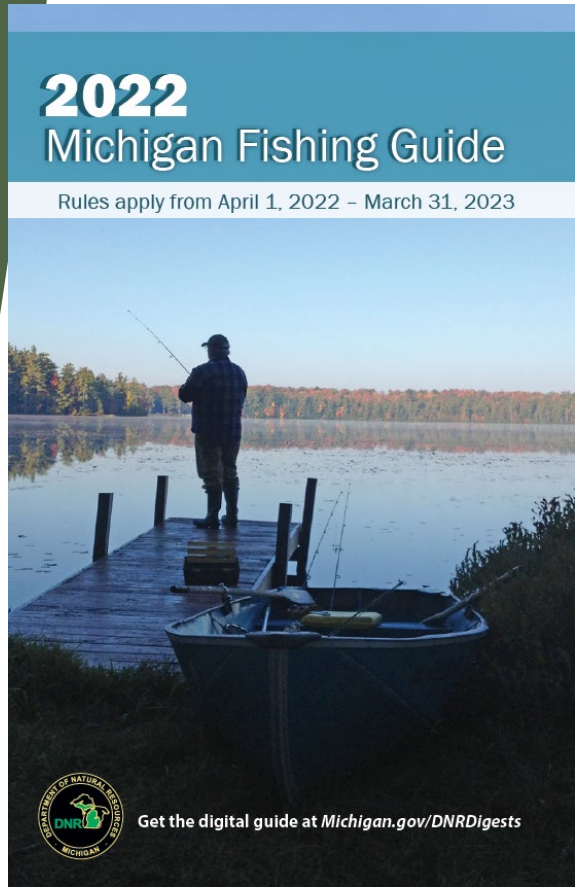
March 15, 2022 (MC)

APR CWD Project Timeline



Thank You

www.michigan.gov/deer



Recommendations for Fisheries Orders

Fisheries Division

Seth Herbst, Ph.D.

Regulatory Affairs Unit Manager

August 11, 2022

Fisheries Orders
for information

- FO-204: Spawning Closures
- FO-206: Special Regulations for Warmwater species on Select Waters
- FO-215: Statewide Regulations for Warmwater Species
- FO-226: Hook and Line Restrictions During Walleye Spawning Runs

Fisheries Order 204.23

For Information

- Adjust spawning closures to maintain desired population protections but allow fishing opportunities that pose negligible risk

- Recommendations:
  - Add closure to **Denton Creek** (Roscommon) from March 23 - April 23
    - Will provide protection to spawning Walleye
  - Remove closure from **Backus Creek** (Roscommon)

  - Modify the closure area in the **Au Sable River** at Foote Dam (Iosco) to only include Foote Dam and the apron below Foote Dam
    - Will allow fishing from docks built downstream of the dam

Fisheries Order 206.23

For Information

- Improve the quality of Northern Pike recreational fishing opportunities by protecting and enhancing populations

- Northern Pike regulatory recommendations
  - Align with objectives related to achieving desired abundance, size structure, and sustainable harvest
  - Supported with data obtained from fisheries surveys or through partnerships with anglers

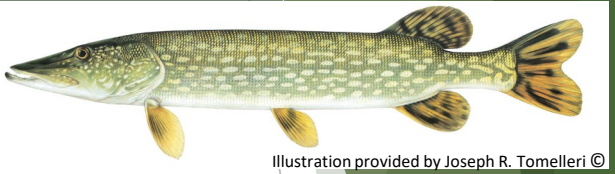
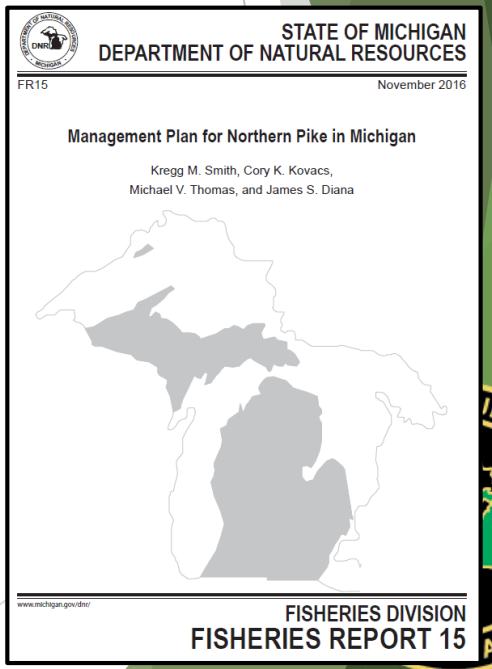


Illustration provided by Joseph R. Tomelleri ©



Fisheries Order 206.23

For Information

Illustration provided by Joseph R. Tomelleri ©

Recommendations:

- Add **following lakes to** waters where up to 5 may be kept daily with only 1 greater than 24-in.
  - **McCoy L.** (Osceola), **Black L.** (Cheboygan/Presque Isle), **Pickerel L.** (Emmet), **McCollum L.** (Oscoda/Alcona), **Gulliver L.** (Schoolcraft), **Worchester (Wolf) L.** (Schoolcraft), **Little Long L.** (Clare), **Bills L.** (Newaygo), **Long L.** (Ionia), and **Kaks L.** (Luce)

- Add protected slot limit to **Wabasis L.** (Kent) and **Grand Sable L.** (Alger)
  - Restricts harvest between 24 and 34 inches and daily possession limit of 2

Fisheries Order 206.23

For Information

- Provide consistent regulations on MI/WI boundary waters to improve clarity among anglers and reduce regulatory complexity

- **Recommendation:**
  - Add **Cisco Chain Lakes** (Gogebic) to list of waters with a 50-inch min. size limit for Muskellunge

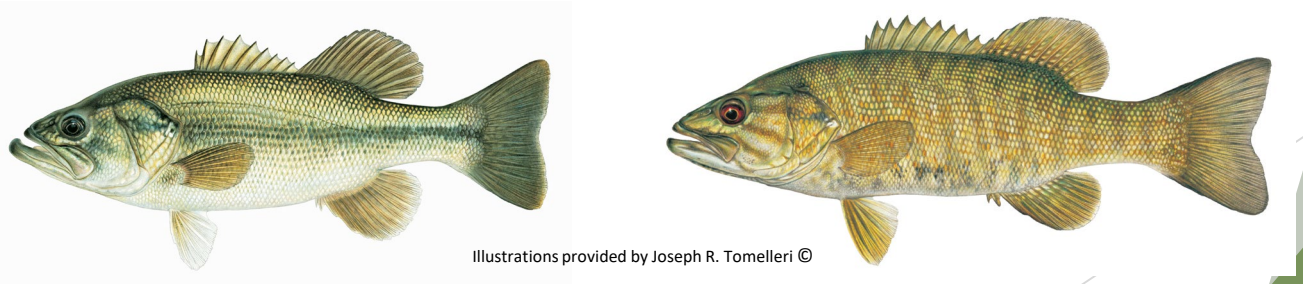
Illustration provided by Joseph R. Tomelleri ©

Fisheries Order 206.23

For Information

- Provide additional harvest opportunities for anglers and address concerns of a stunted bass population

- **Recommendation:** Add Pratt Lake (Kent) to waters with a 10-inch minimum size limit for largemouth and smallmouth bass.



Illustrations provided by Joseph R. Tomelleri ©

Fisheries Order 206.23

For Information

- Clarify waterbody name to reduce angler confusion
  - Maps have different nomenclature for the same waterbody

- **Recommendation:**
  - Insert “/Carp Creek” after “Carp River” for Deer Lake Basin – Carp River (Marquette)

Saginaw River Walleye Regulations

- Maintain Walleye regulations for Saginaw Bay and Saginaw River
  - Consolidate regulatory provisions into most appropriate Fisheries Orders.
- FO-206.22
  - Expanded Walleye harvest opportunity in the Saginaw River
  - All year possession season - six additional weeks
  - 8 fish daily possession limit and 13” min size limit
- **Recommendation:**
  - Move provisions from 206.22 into FO-215.23

Saginaw River Walleye Regulations

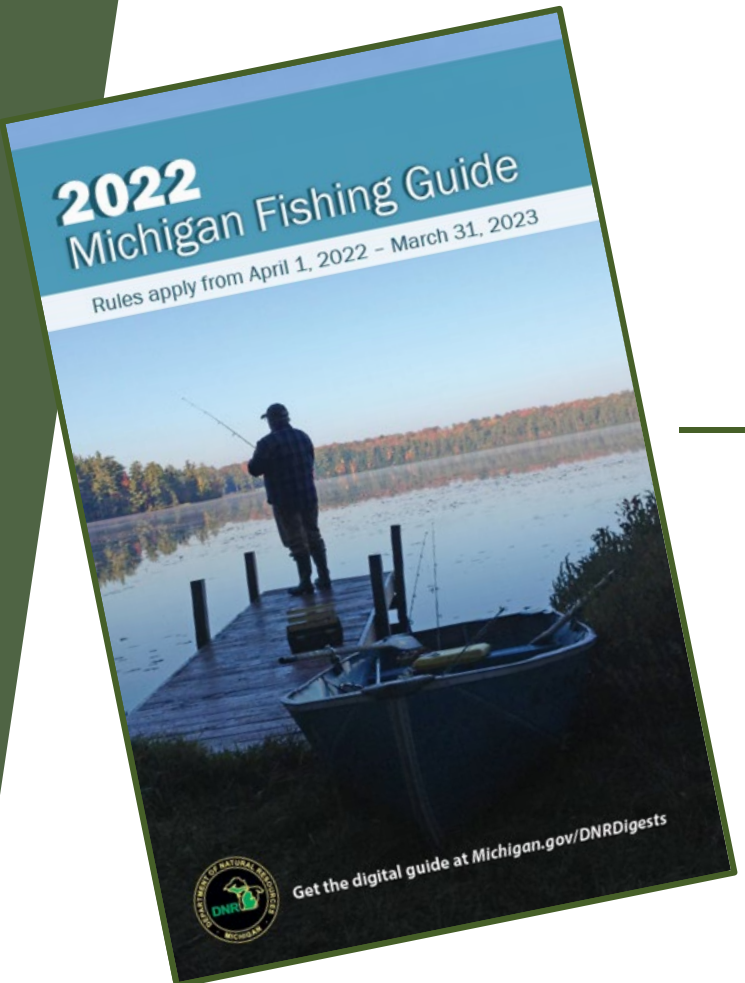
- Fisheries Order 206.22
  - Included “no special seasonal gear restrictions apply”, which supersedes restriction describes within FO-226

- **Recommendation:**
  - Remove gear restriction provision from 206.22 and update FO-226 to maintain unrestricted use of gear in lower Saginaw River

Upcoming Fisheries Orders

For information in September

- FO-200: Inland River and Stream – Trout and Salmon Regulations
  - 3 recommendations: Changing types and address boundary issue
- FO-210: Designated Trout Streams for Michigan
  - 4 recommendations: Remove from designation and addressing naming issue
- FO-254: Inland Lake – Trout and Salmon Regulations
  - 3 recommendations: Changing types



Thank You!

Questions?

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