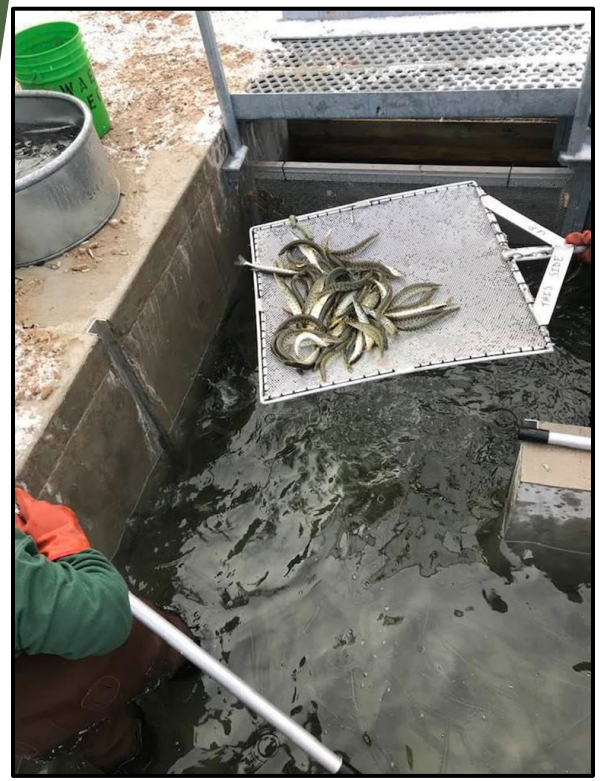
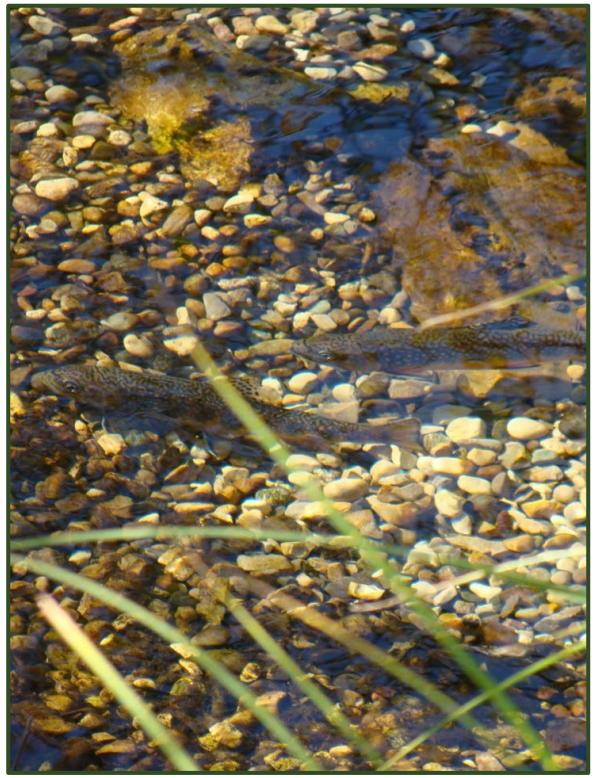




Stocked vs. Wild Fisheries

Jay Wesley

Michigan Department of Natural Resources

Fisheries Division

Why do we stock fish?

- Restoration of fish populations
- Provide diverse sportfishing opportunities
- Improving ecosystem balance

Where do we stock fish?

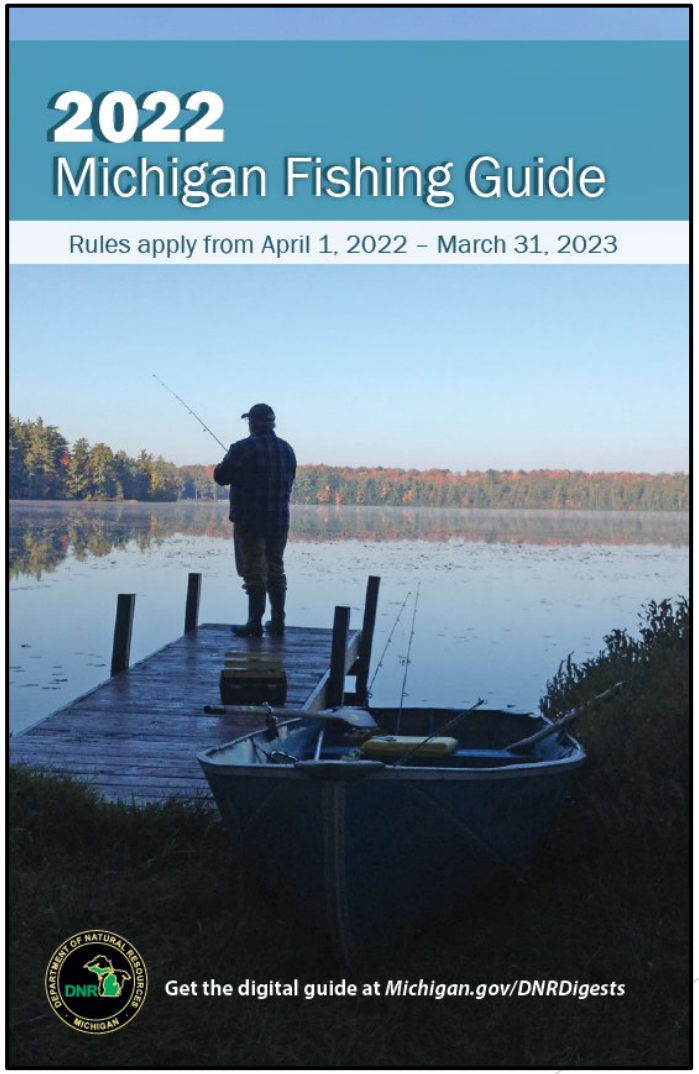
- Streams with adequate temperature and cover
  - Reproduction limited/non-existent
- Lakes
  - 2 story-trout
  - Prey control
  - Diverse fisheries and restoration

What species do we stock?

- Chinook, Coho, Atlantic Salmon
- Brook, Brown, Rainbow, Lake Trout
- Splake, Cisco
- Walleye, Musky, Sturgeon

Fishery Management Considerations

- Availability
- Stocking densities
- Costs
- Regulations



How many waterbodies are stocked annually?

- Lakes: 3.8%
- Streams: 2.7%
- Fish Production accounts for 1/3rd of our annual budget
- Success is uncertain, multiple risks include:
  - Infrastructure failure
  - Pathogen control
  - Weather and predators
  - Water quality
  - Available food resources

2022 rearing costs per fish for select species

Species	Cost
Brown trout yearling	$1.34
Brook trout yearling	$4.83
Rainbow trout yearling	$1.75
Coho yearling	$0.78
Chinook spring fingerling	$0.43
Musky fall fingerling	$9.17
Walleye fall fingerling	$4.74
Walleye spring fingerling	$0.07

Viability of stocking

- Yes and No!
- High profile fisheries with high use and benefits
- Small lakes and streams
  - Drive anglers to these waters
  - Trout Trails
  - Popular news articles
  - Social media

Stocking isn’t always necessary!

- Most waterbodies support natural populations
- Vast majority of Michigan species don’t require stocking
- Natural reproduction is substantial
- Warm water species fare better than cold water species

Trout facts

- Streams produce much more than hatcheries
- 17,000+ miles of trout streams produce:
  - 15 million brook and brown trout
  - 5.5 million age 1
  - 4+ times hatchery production

More trout and salmon facts

- Our 6 hatcheries produce:

Species	Amount
Brook trout	70,000
Brown trout	1.1 Million
Chinook	1.4 Million
Coho	1.8 Million
Steelhead	1.2 Million

- All stocking activities need evaluations
- 10-year or less evaluation cycle preferred

Performance of hatchery trout

- Multiple studies show that hatchery trout grow and survive less than wild trout
- Wild strains (Sturgeon River and Gilchrist) survive better than domesticated strains
- Favorable characteristics of wild strains tend to diminish over time in the hatchery
- Managers must scrutinize which waters to stock

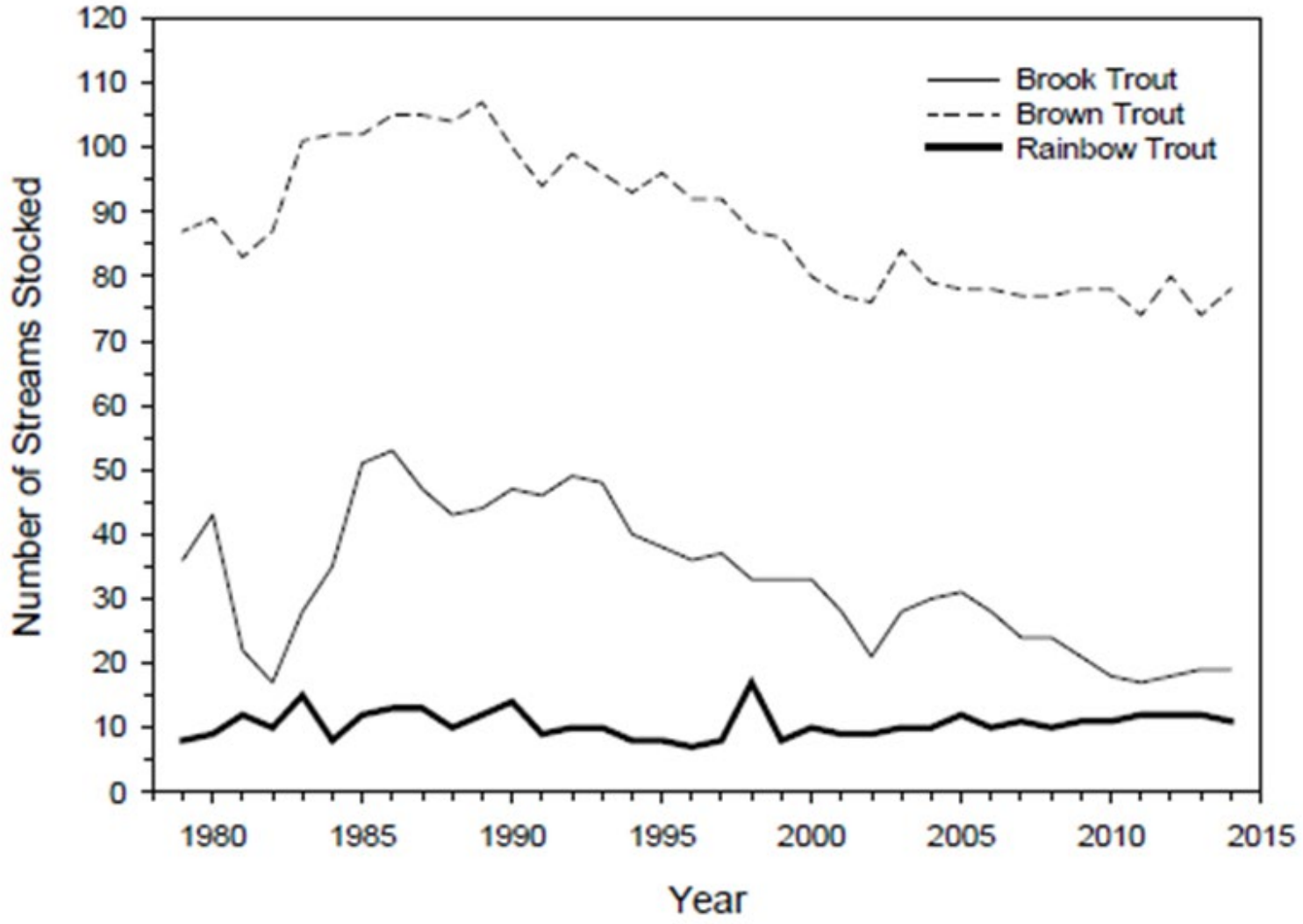
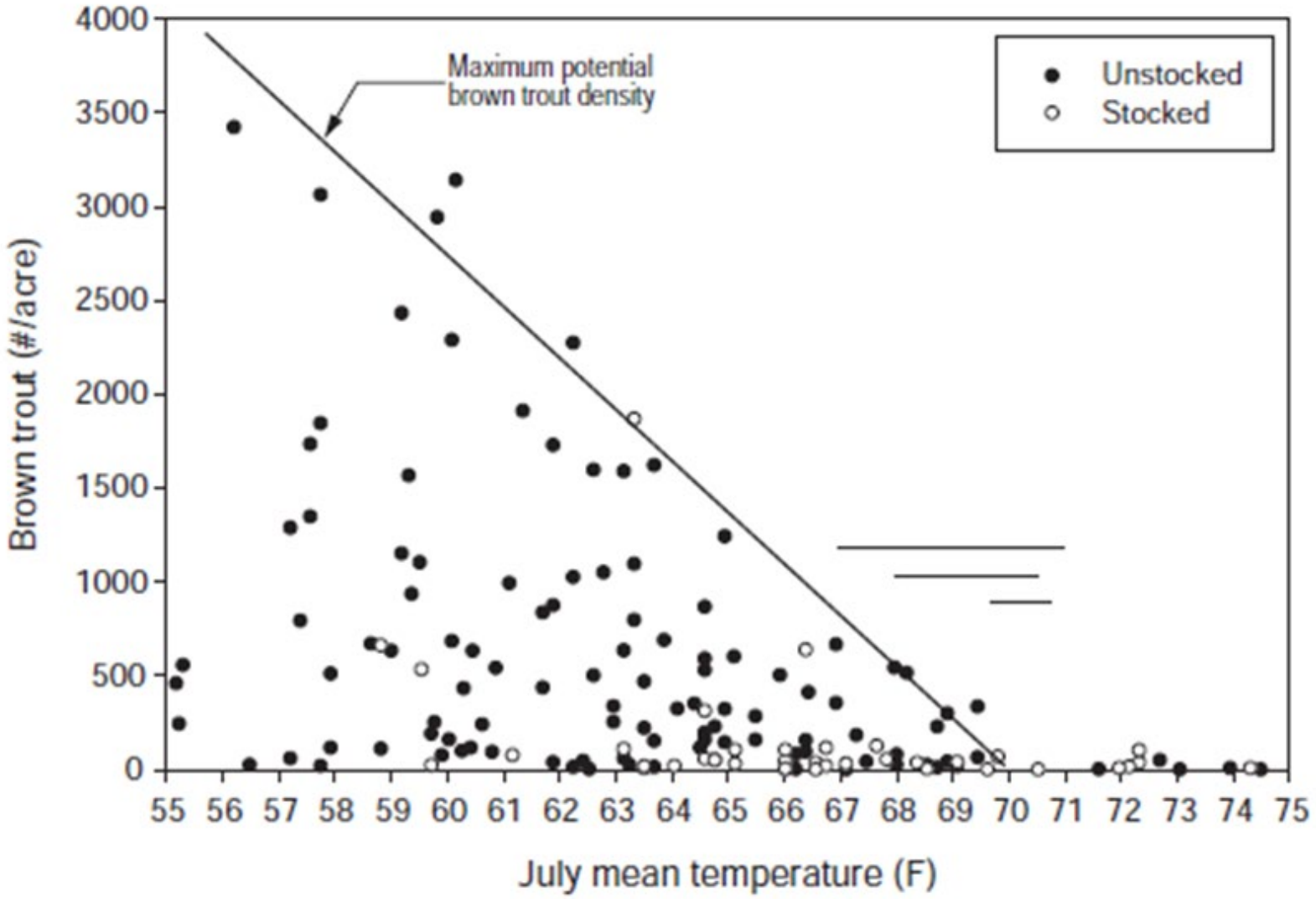


Figure 19.–Numbers of streams stocked with Brook, Brown, and Rainbow trouts for inland fisheries management purposes during 1979–2014. Data from MDNR Fisheries Division's, Fish Stocking Information System.


Maximum potential
brown trout density
Unstocked
Stocked
Brown trout (#/acre)
4000
3500
3000
2500
2000
1500
1000
500
0
55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75
July mean temperature (F)

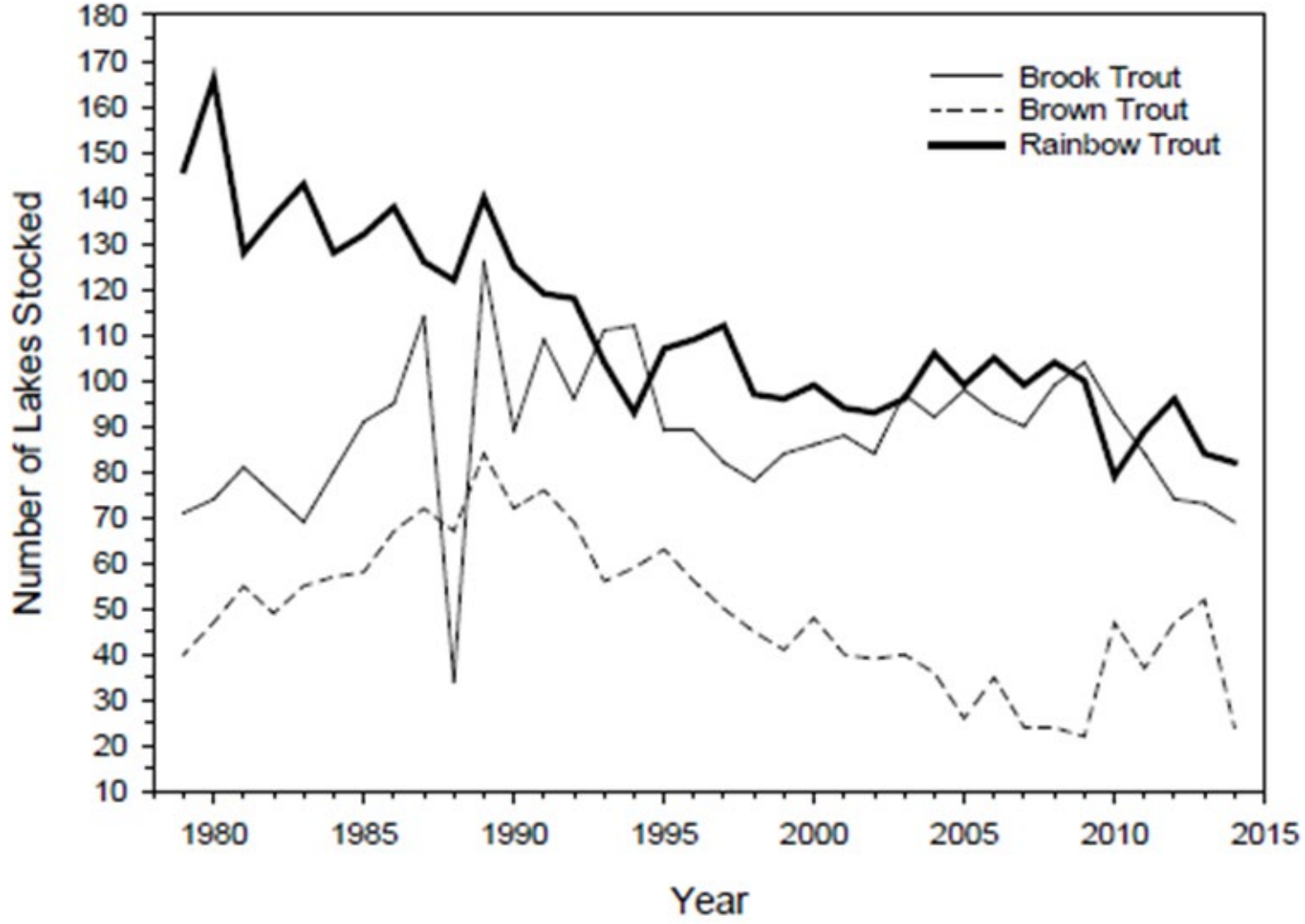


Figure 20.–Numbers of inland lakes stocked with Brook, Brown, and Rainbow trouts during 1979–2014. Data from MDNR Fisheries Division's, Fish Stocking Information System.

Fisheries Division prefers wild fisheries

- Lower costs
- Less risk
  - Balance
  - Disease
  - Genetics
  - Adaptability
- Wild fish know their local environments

Anglers prefer wild fisheries

- Angler survey 2014: wild rated higher than stocked
- Higher perceived value than stocked fisheries
  - Wild fisheries heighten public interest
  - Wild fisheries promote stewardship

Take home messages

- Hatcheries allow managers to achieve management objectives
- Stocked fisheries are expensive to maintain
- Stocked and wild fisheries are expensive to evaluate
- Wild fisheries typically require less attention
- Manage to capacity of the system is paramount