

2021 Rush River Creel Survey

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Rush River

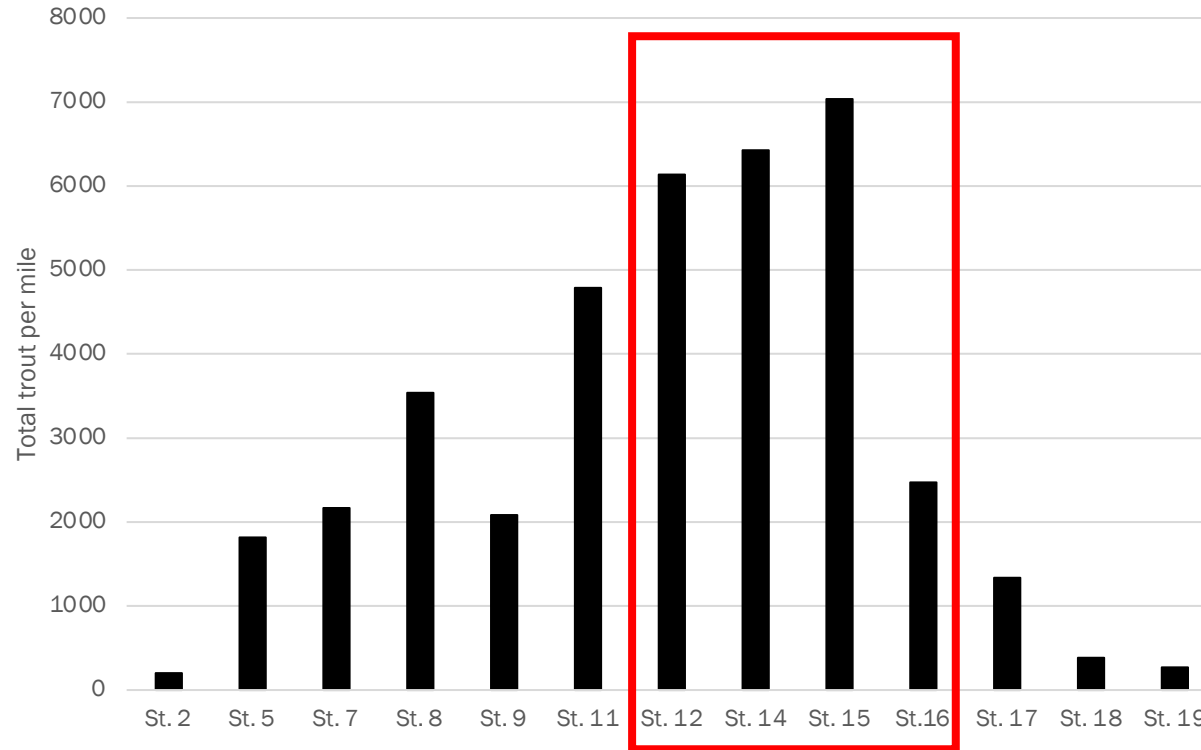
- 32 miles of Class I and 6 miles of Class II Brown Trout water
- High densities of Brown Trout with high natural reproduction
- Adult trout densities range from 3000-5000/mile annually
- Large water, fly fishing destination with trophy potential
- No stocking since 2006
- 2013-Pierce county section was upgraded to Class I status
- Current Fishing Regulation: 3 bag, browns >12 inches, brooks >8 inches



- Headwaters begin near Baldwin, WI
- Tributary to Mississippi River
- 6 miles of public fishing easements
- Located within 50 miles of Twin Cities metropolitan area



2021 Brown Trout CPE Rush River

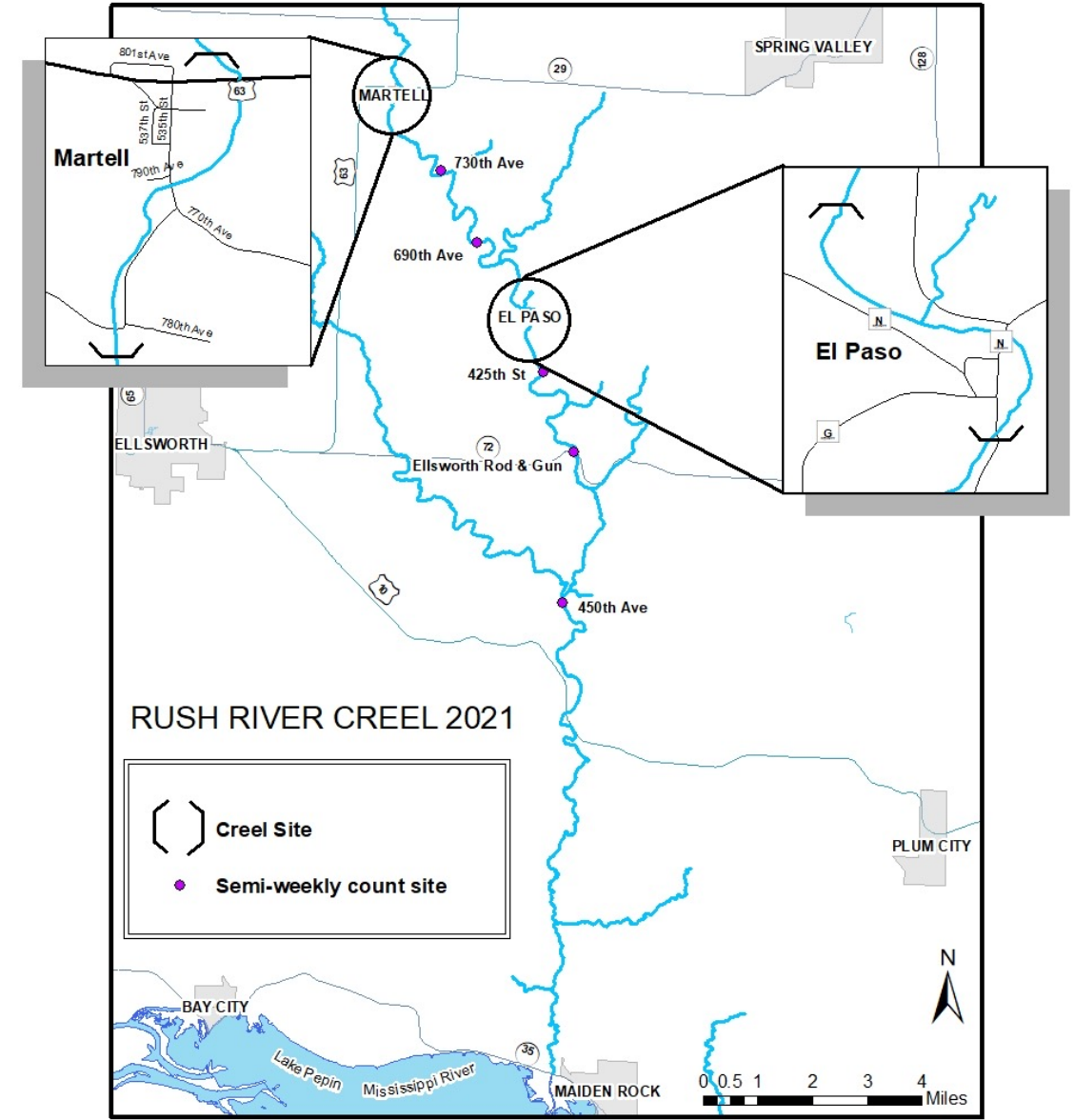


Historic Fishing Pressure

- Historically popular fishing destination
 - 20-40 anglers/mile recorded on opening weekend in the 50s and 60s
 - Anglers from across the country and abroad have traveled to fish the Rush
 - After opening weekend, pressure dropped to occasional use
- Creel surveys conducted in 1988-89 and 1992-93

Survey Design

- 2 1-mile sites were surveyed
 - Replicated from previous creel surveys
 - Martell-village park, 3 bridge crossings, fishing easements
 - El Paso-3 bridge crossings
- Survey ran from May 1st to Oct. 15
- 5 additional vehicle count sites were added
 - Completed on 1 weekday and 1 weekend day per week



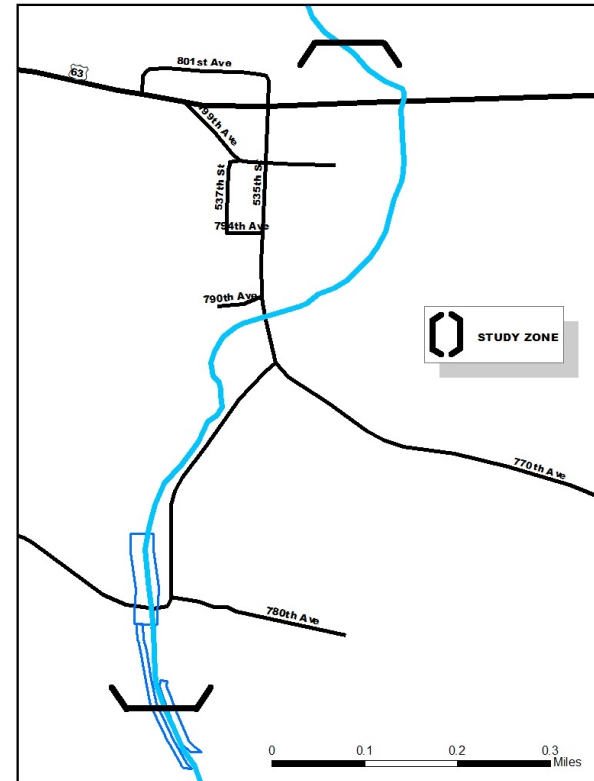
Creel Survey Design

- Anglers were “interviewed” and counted 5 days per week
 - All weekend days and holidays
 - 3 weekdays were randomly chosen
- Morning and afternoon shifts were randomly chosen
- Count times during the day were randomly chosen

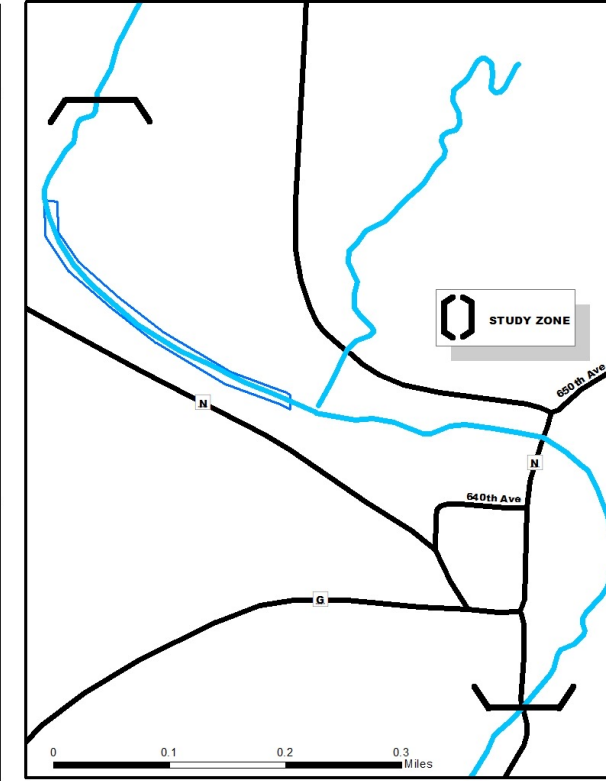
Survey Design

- Evaluation of Effort
 - Angler and vehicle counts were done 2x's per day at both stations
- Evaluation of Catch and Harvest
 - Mail-in post cards were placed on windshields in place of interviews
 - No in-person interviews were conducted due to Covid restrictions

Martell



El Paso



Mail-In Post Card



RUSH RIVER CREEL



This questionnaire is designed to gauge angler attitudes towards specific areas of fisheries management and habitat improvements in the area. Answers to these questions will be strictly confidential and will not be shown to the angling public. This will only be used to help inform management decisions about the local trout streams in Pierce and St. Croix and western Dunn counties. Please answer honestly so that we can get a more accurate view of your interests.

Please respond to the interview on page 1.

If you are willing to fill out a more comprehensive survey, continue to the questions on page 2.

RETURN QUESTIONNAIRE IN POSTAGE PAID ENVELOPE WHEN COMPLETE.

ANGLER INTERVIEW—Please fill out one interview per angler

Date: _____ Home Zip Code: _____ Site: _____

No. of Anglers in Vehicle: _____ Were you a Driver? _____ Or Passenger? _____

AGE: Under 16: ___ 16-30: ___ 31-50: ___ 51-64: ___ Over 64: ___ SEX: M: ___ F: ___

Time Started: ___:___ AM ___ PM ___

Time Ended: ___:___ AM ___ PM ___

Bait Used: Fly: ___ Spinner: ___ Minnow: ___ Worm: ___ Other: _____

Number of Fish CAUGHT: Brown Tr. _____ Brook Tr. _____ Other: _____

Number of Fish KEPT: Brown Tr. _____ Brook Tr. _____ Other: _____

RECORD OF EACH BROWN TROUT KEPT

Total Length (Inches)

RECORD OF EACH BROOK TROUT KEPT

Total Length (Inches)

OPTIONAL QUESTIONS



1. Are you satisfied with the management (habitat projects, fishing regulations, stocking etc.) of trout streams (Kinni, Rush, etc.) in the area? If not, what are your concerns? Please be specific and list streams.

2. Which streams do you fish most often?

3. Do you harvest fish? If so, how often?

Yes ___ No ___ Every time you fish ___ Occasionally ___

4. Would you rather catch a quality or trophy sized trout or catch many trout regardless of size?

Quality/Trophy opportunity ___ High numbers regardless of size ___

5. How do you view others that harvest trout?

People should not harvest trout ___ It doesn't bother me ___

6. How often do you fish the mowed fishing access paths?

I didn't know they existed ___ Never ___ Often ___ I only fish streams that have them ___

7. Where would you rather the DNR do trout habitat improvement projects?

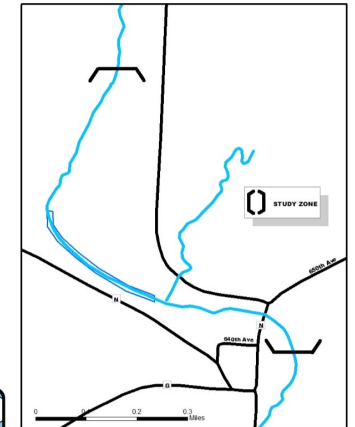
Only in brook trout streams

Rush River Creel Survey

The WDNR will be conducting a creel survey on this section of the Rush River from **May 1** through **October 15**.

- A survey postcard may be placed on angler's vehicles during this time.
- The purpose of this survey is to evaluate angler use.
- Please fill out the postcard and return it in the mail.

Make a difference in your fishery.



Results: Demographics

- 609 surveys were distributed
- 239 were returned
 - 39% overall return rate
- Majority of anglers were male and > 64 years old
- MN anglers made up majority of those interviewed
- Of non-resident anglers-73% traveled >50 miles

| | Total | Under 16 | 16-30 | 31-50 | 51-64 | Over 64 |
|---------|-------|----------|-------|-------|-------|---------|
| Male | 149 | 3 | 22 | 30 | 31 | 63 |
| Female | 14 | 2 | 2 | 3 | 2 | 5 |
| Unknown | 83 | 3 | 10 | 24 | 42 | 4 |

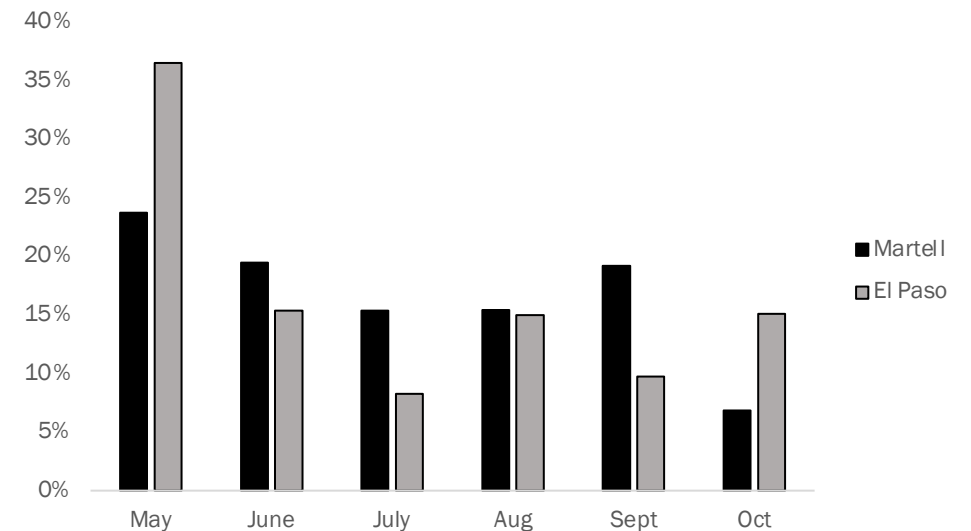
| | Martell | | El Paso | | Both Sites Distance Traveled (%) | | |
|-------|---------|---------|---------|---------|-------------------------------------|-----------|---------|
| | Number | Percent | Number | Percent | < 25 Mi | 25 -50 Mi | > 50 Mi |
| WI | 179 | 43.6% | 65 | 39.4% | 73% | 19% | 8% |
| MN | 208 | 50.6% | 145 | 65.6% | 1% | 26% | 73% |
| Other | 24 | 5.8% | 11 | 5.0% | - | - | - |
| Total | 411 | | 221 | | | | |

| | Residency | | Gender | | Age Range | |
|------|-----------|--------------|--------------|----------|-----------|--------------|
| | Resident | Non-Resident | Male Anglers | Under 16 | 16-64 | 65 and Older |
| 1988 | 76% | 33% | 95% | 11% | 73% | 8% |
| 2021 | 40% | 60% | 94% | 3% | 68% | 29% |

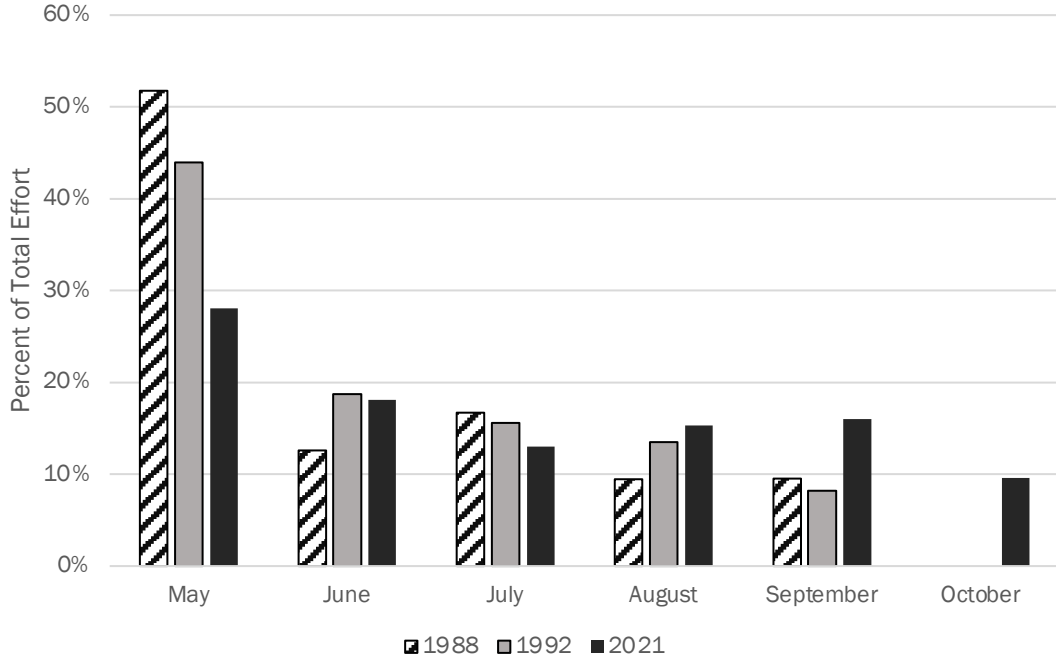
Results: Effort Martell and El Paso

- Total effort-6539 hours for the fishing season
 - Higher at Martell by almost 50%
- 1721 total trips-3.9 hours/trip
- 956 trips/mile
- 5.7 trips/mile/day
- 21.6 hours/mile/day

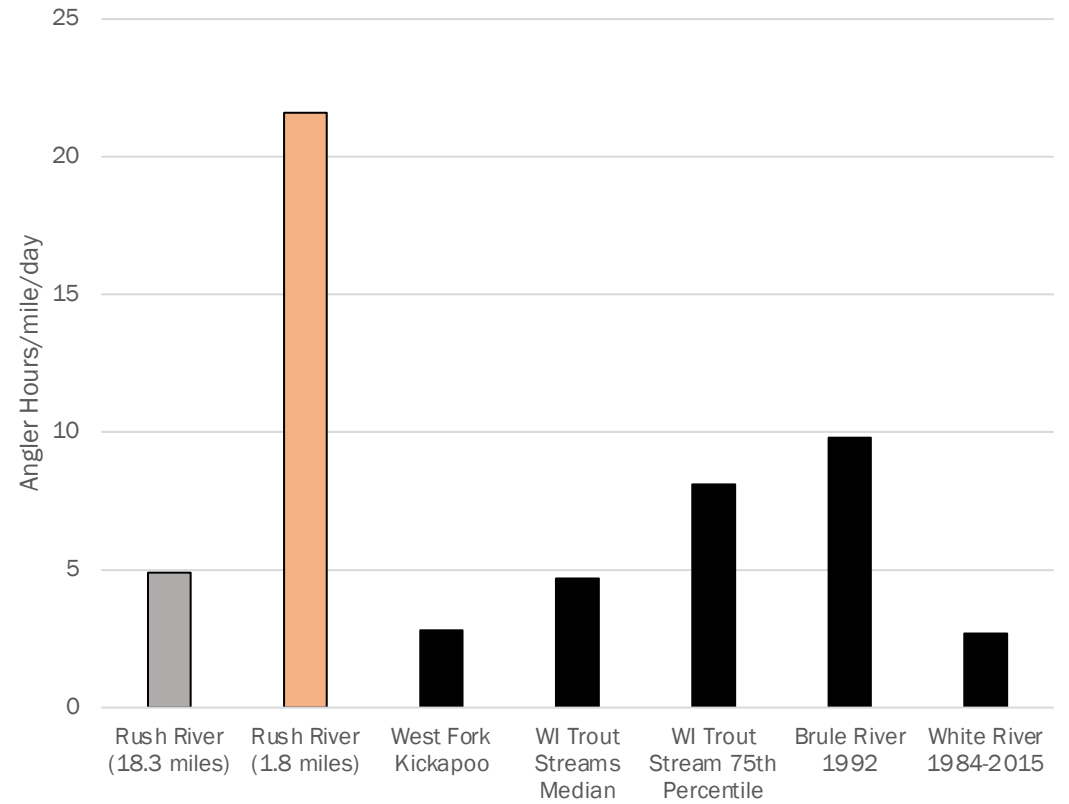
| | Martell | El Paso |
|----------------------|-----------------|----------------|
| Number of Interviews | 134 | 105 |
| Angler Hours | 626 | 598 |
| Total Effort | 4333 Hours | 2205 Hours |
| Trips/Day | 7.2 Trips/Day | 3.1 Trips/Day |
| Hours/Trip | 3.6 Hours/ Trip | 4.2 Hours/Trip |



Results: Effort

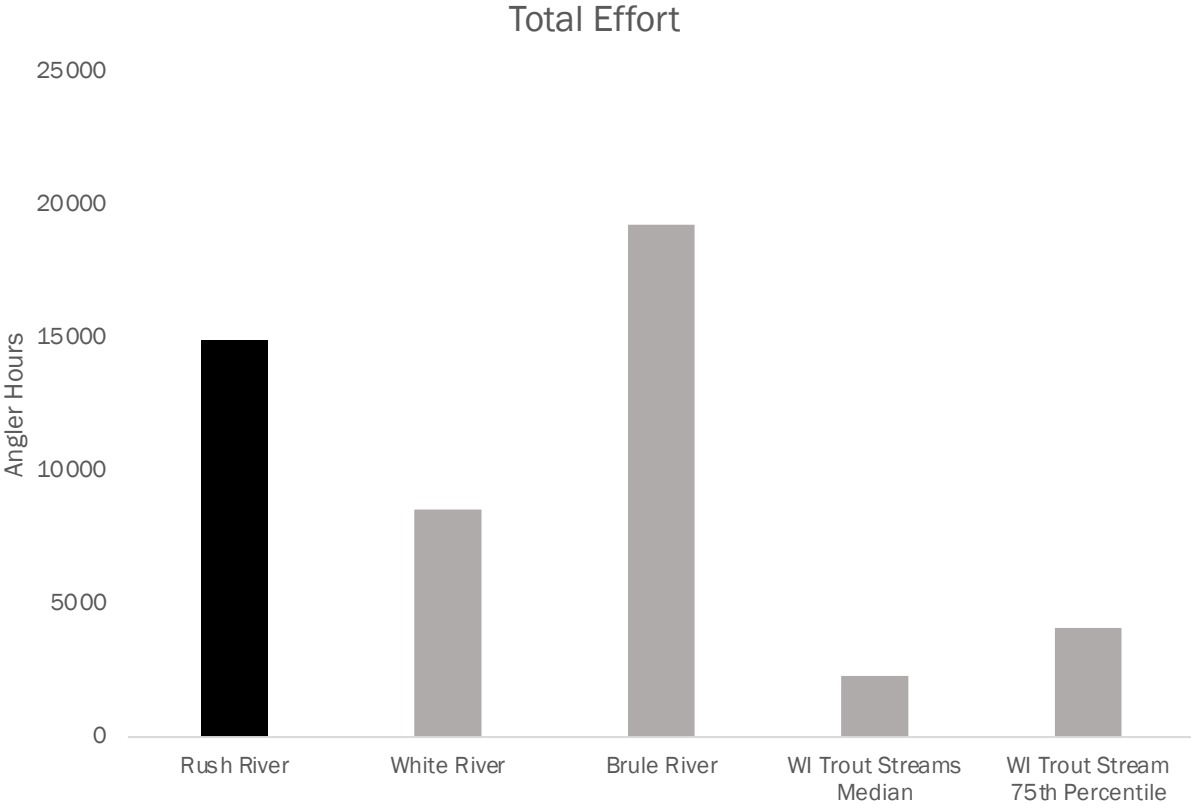


- Measure of angler density



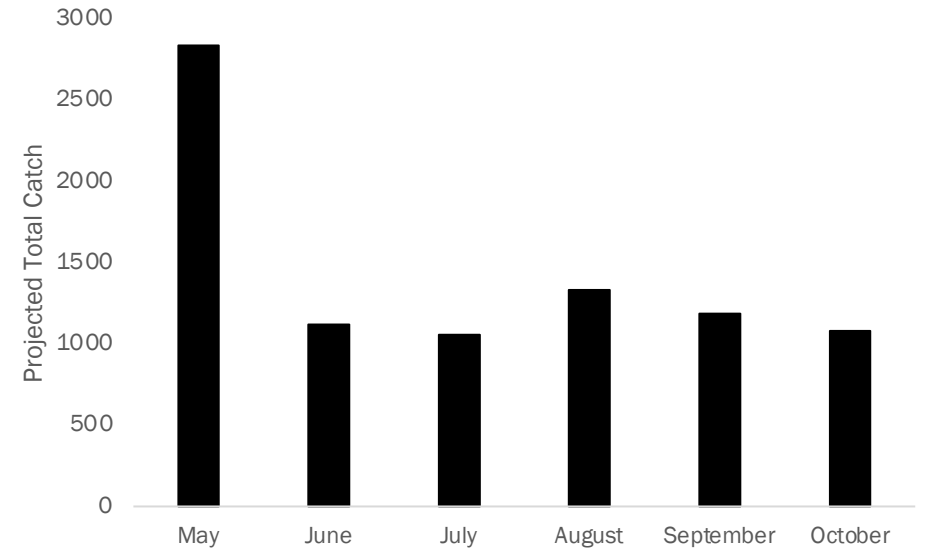
Total Angler Effort

- Overall Angler Use
- Same time periods
- Entire Streams were surveyed



Results: Angler Catch

- Total actual catch-1627 trout
 - Higher catch rates in El Paso-1.4/hour
 - Martell-1.03/hour
- Total projected catch: 7545 brown trout

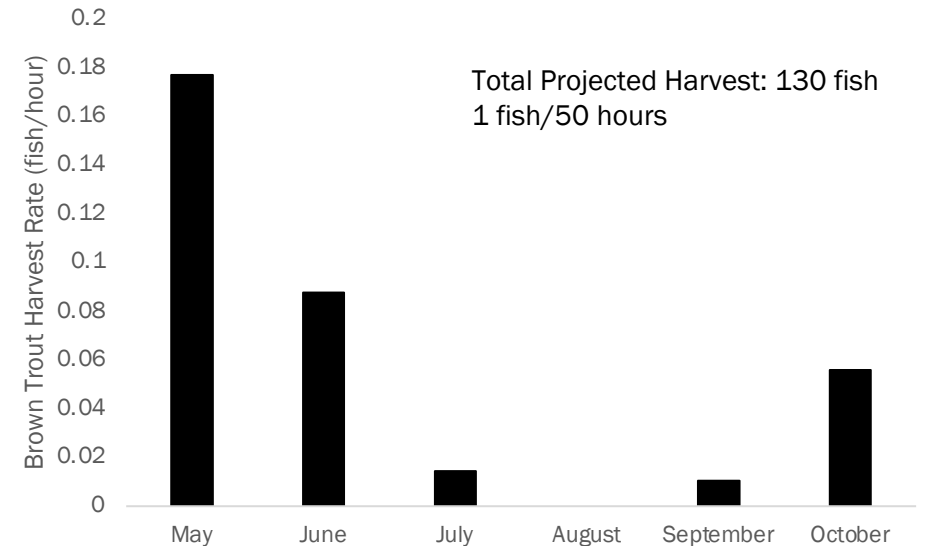


| | 1988 | | 1992 | | 2021 | |
|-----------------|----------|----------|----------|----------|----------|----------|
| | Martell | El Paso | Martell | El Paso | Martell | El Paso |
| Catch | 895 | 724 | | | 755 | 872 |
| Ave Daily Catch | 1.6/hour | 1.9/hour | 1.2/hour | 1.0/hour | 1.2/hour | 1.5/hour |
| Total Catch | 3794 | 2446 | 2817 | 1433 | 5223 | 3326 |

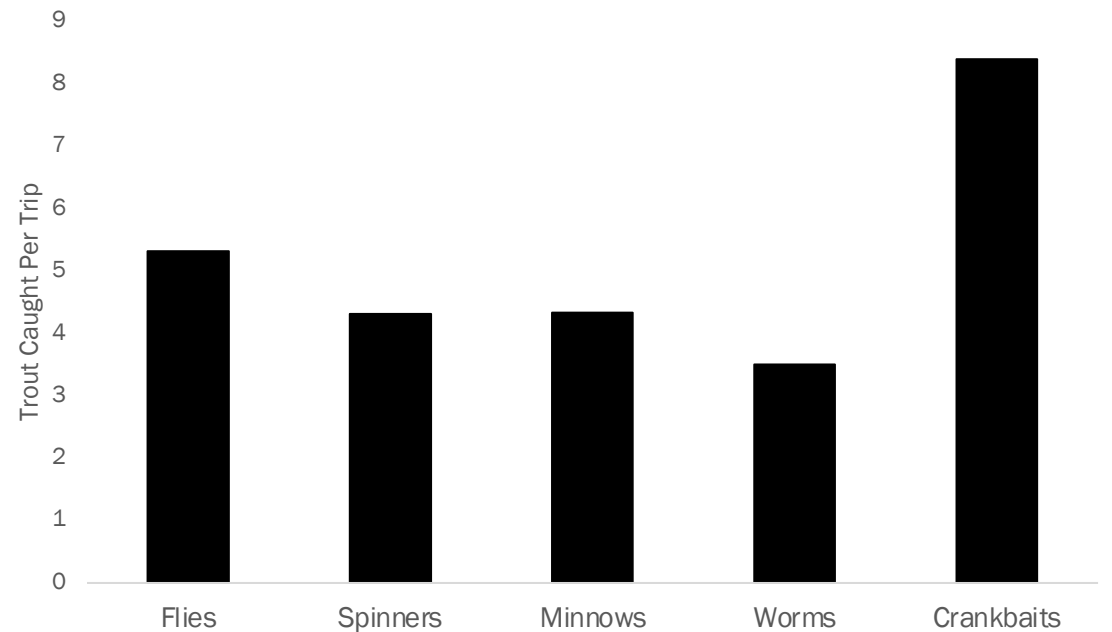
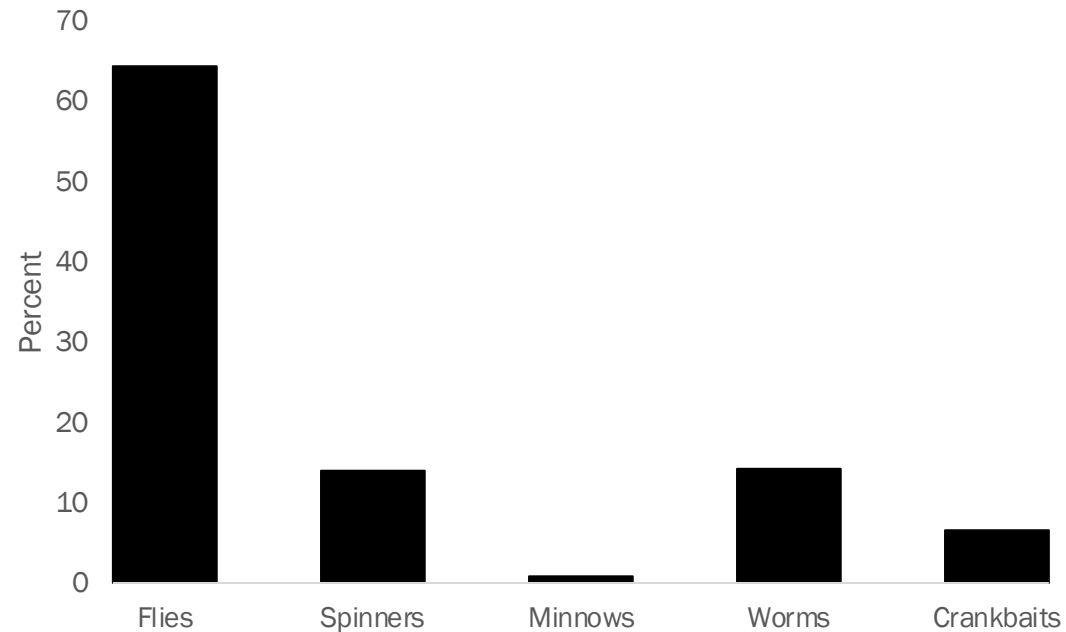
Results: Harvest

- Extremely low harvest-51 trout were harvested
 - 0.04 brown trout/hour
- Projected harvest-130 brown trout for the season
- No difference between NR and resident anglers
- Reported lengths of fish harvested-10-17 inches, mean length of 13.4 inches

| | 1988 | | 1992 | | 2021 | |
|-------------------|----------|----------|----------|-----------|-----------|-----------|
| | Martell | El Paso | Martell | El Paso | Martell | El Paso |
| Harvest | 152 | 97 | | | 21 | 30 |
| Ave Daily Harvest | 0.3/hour | 0.3/hour | 0.1/hour | 0.01/hour | 0.03/hour | 0.05/hour |
| Total Harvest | 644 | 328 | 242 | 94 | 145 | 114 |




Results: Gear Types



Results: Optional Management Survey

- 77% response rate-183 respondents

OPTIONAL QUESTIONS 

1. Are you satisfied with the management (habitat projects, fishing regulations, stocking etc.) of trout streams (Kinni, Rush, etc.) in the area? If not, what are your concerns?
Please be specific and list streams.
2. Which streams do you fish most often?
3. Do you harvest fish? If so, how often?
Yes ___ No ___ Every time you fish ___ Occasionally ___
4. Would you rather catch a quality or trophy sized trout or catch many trout regardless of size?
Quality/Trophy opportunity ___ High numbers regardless of size ___
5. How do you view others that harvest trout?
People should not harvest trout ___ It doesn't bother me ___
6. How often do you fish the mowed fishing access paths?
I didn't know they existed ___ Never ___ Often ___ I only fish streams that have them ___
7. Where would you rather the DNR do trout habitat improvement projects?
Only in brook trout streams

Angler Satisfaction with Area Management

- 1. Are you satisfied with the management (habitat projects, fishing regulations, stocking, etc.) of trout streams in the area? If not, what are your concerns?
 - Most anglers were satisfied with area management-77%
 - Dissatisfaction was mostly due to:
 - Early catch and release season
 - More habitat projects
 - More brook trout in the Rush River
 - Kinni dam removal and recovery
 - Small trout size
 - Fishing pressure
- Anglers fished the Kinni, Trimbelle and Eau Galle rivers most often

Popular Streams

- 2. What streams do you fish most often?
 - Kinni
 - Trimbelle
 - Eau Galle
 - Lost
 - Willow
 - Isabelle

Results: Optional Management Survey

3. Do you harvest fish? If so, how often?

Yes ____ No ____ Every time you fish ____ Occasionally ____

- 60% does not harvest
 - Of those that do-94% only harvest occasionally

5. How do you view others that harvest trout?

People should not harvest trout ____ It doesn't bother me ____ Occasionally ____

- 12% no harvest, 82% are fine with harvest

Quality vs. Quantity Opportunities

- Would you rather catch a quality or trophy sized fish or many fish regardless of size?
 - Split evenly-49% would rather have a quality/trophy opportunity
 - 43% would rather catch a lot of trout



Habitat Work Preferences

- Where would you rather the DNR conduct trout habitat improvement projects?
 - Brook Trout only streams or any stream regardless of species
 - 93%-any stream regardless of species
- Do you fish the mowed fishing access paths?-only 30% were aware of them
 - Cady, Pine and upper Trimbelle River

Discussion

- Similar demographics to previous creel survey
 - Anglers will travel long distances to fish the Rush
- Higher percentage of MN anglers
 - 40 minutes to St. Paul
 - TU chapter is largely made up of MN residents
- Several anglers stated that they travel to fish the Rush because of the wild and scenic feel of the river and the ability to distance themselves from other anglers
- Several Class I and II trout streams are in close proximity

Discussion

- Increase in angler effort by 80% and 65% from the 1988 and 1992 surveys-increase in trip length and number of trips
 - Higher focus on catch and release instead of getting their limits
- Pressure is more evenly spread out over course of fishing season
 - Early Catch and release season not present in 1988 and 1992 surveys
 - Change in fishery from stocked yearling rainbows in 1988 to naturally reproducing brown trout fishery

High Angler Effort!

- Effort expended on Rush River is above the 75th percentile for streams statewide
- Trip length-3.9 hours Rush; 2.7 statewide average
- Angler hours/mile/day (angler density)-very high
- Total Effort-over 3 times higher than WI trout streams upper 3rd quartile
 - 2nd to the Brule River

Discussion

- Higher catch rates in El Paso, more effort in Martell
 - Martell is by far the most popular fishing spot on the Rush
- Much higher angler catch rates compared to historic surveys
 - Increase of 37% from 1988 and 101% from 1992
 - Extreme change in fishery from 1988 to current conditions
- 1 fish/1.3 hours
- West Fork Kickapoo-1 fish/40 minutes

Discussion-Harvest Rates

- Extreme decline in harvest by 73% in 1988
- Similar low harvest in West Fork Kickapoo River-540 fish or 1 fish/167 hours
- Contributing to relatively poor size structure of brown trout

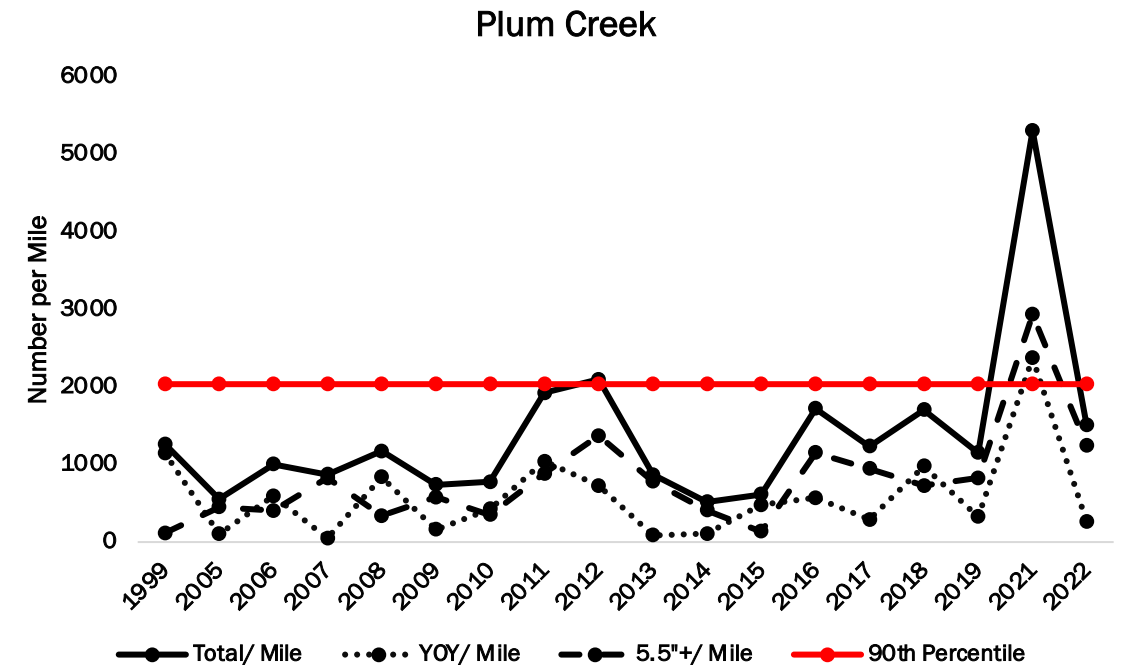
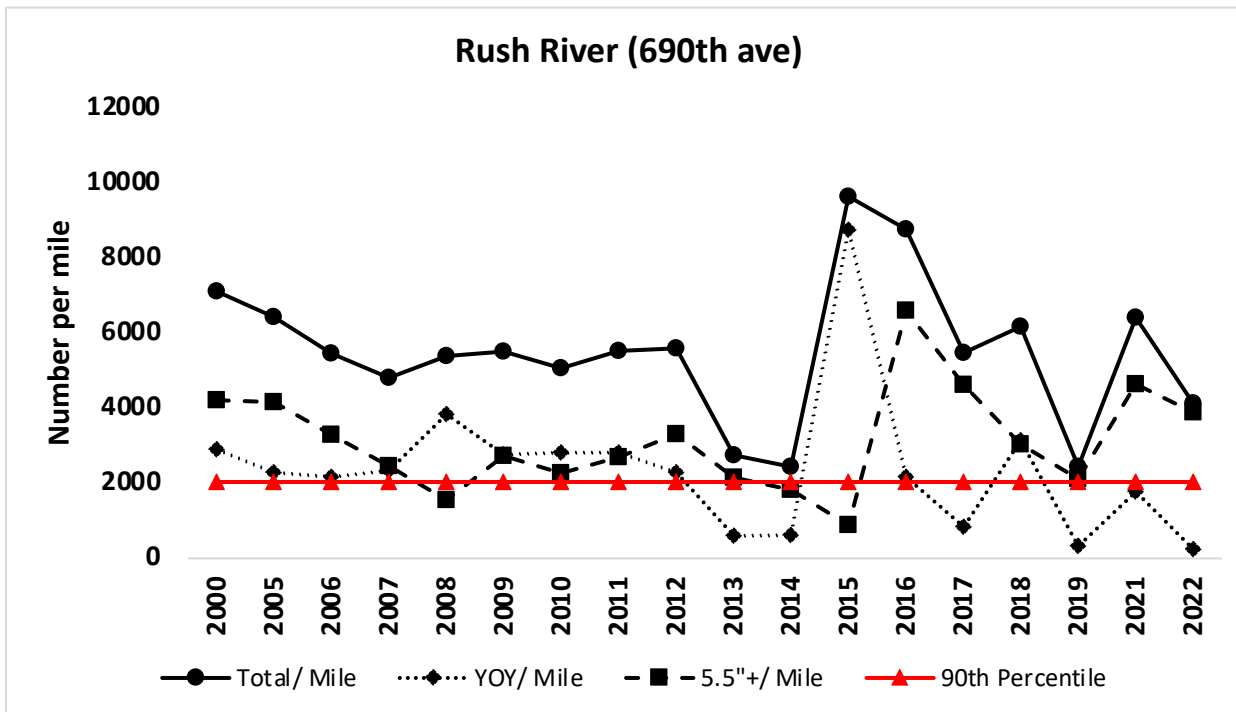


Management Implications

- Current fishing regulations are not appropriate for the Rush River and other Pierce county streams
 - Majority of fish are in the 6-10 inch range annually because of high and consistent NR and annual recruitment
 - 6-10 inch fish make up 85% of population in Rush River on average
- Change in fishing regulations likely won't impact size structure or densities without change in angler's attitudes
- Will allow increased harvest of abundant small fish
- Promoting the harvest of trout through events or educational opportunities may help

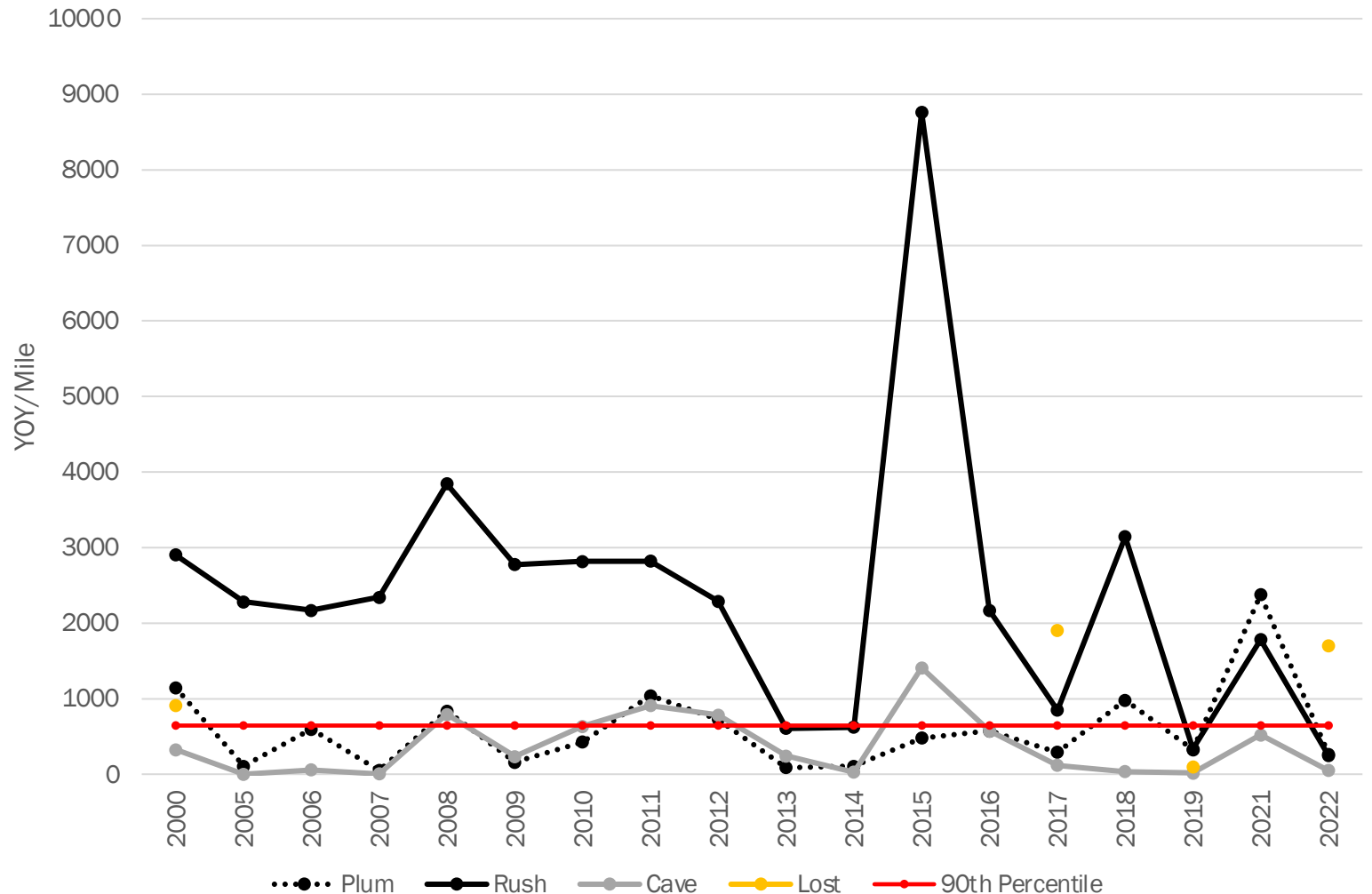
Status of Trout Populations

- Class I streams have very high-density brown trout populations
 - Abundance on average ranges from 3000-5000 fish per mile annually in the Rush, Cave, Lost, Plum
 - 95th percentile for Class I trout streams in the Driftless Area



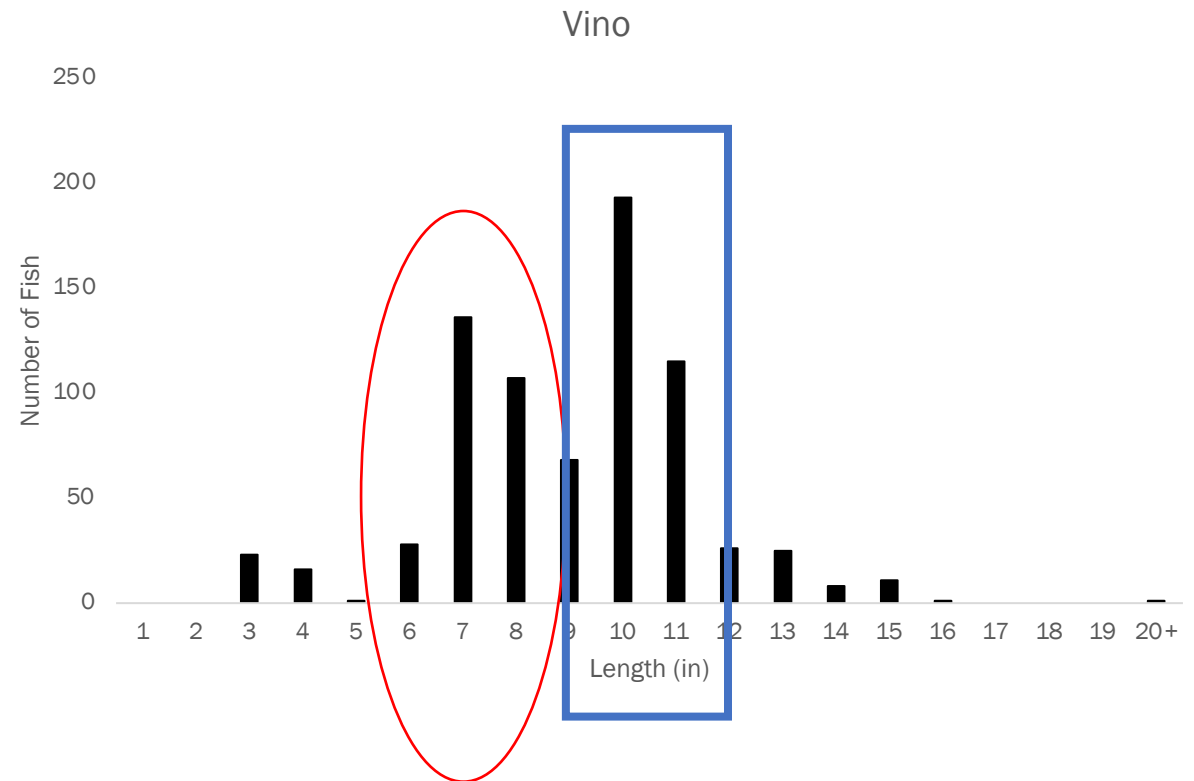
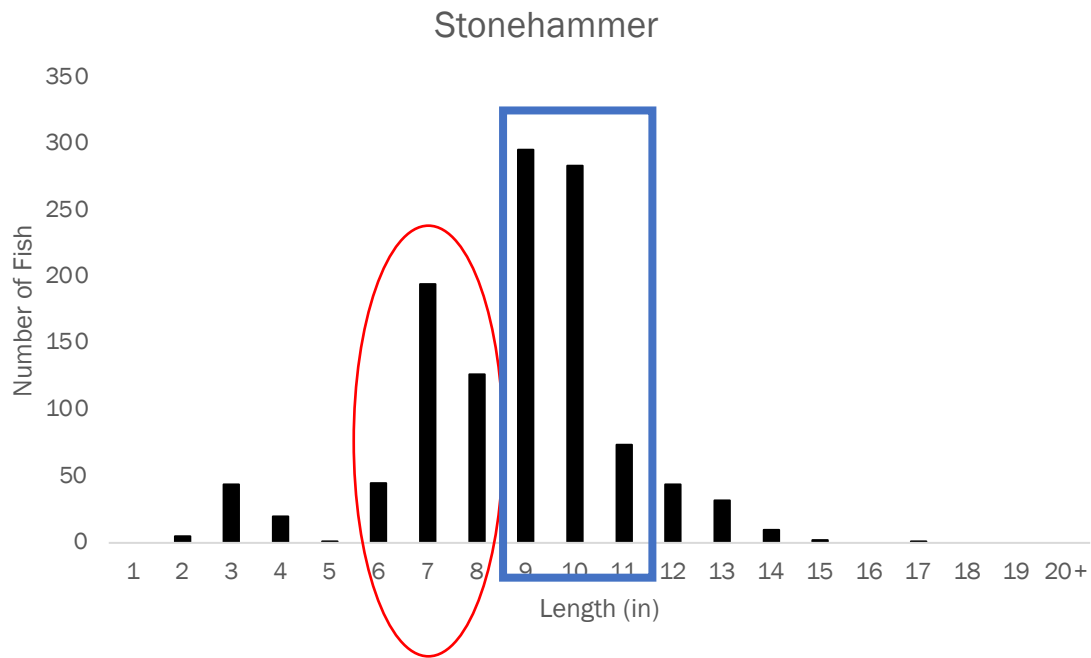
Natural Reproduction

- Natural reproduction is strong and consistent
- *Cave Creek averages 400 YOY/mile-80th percentile



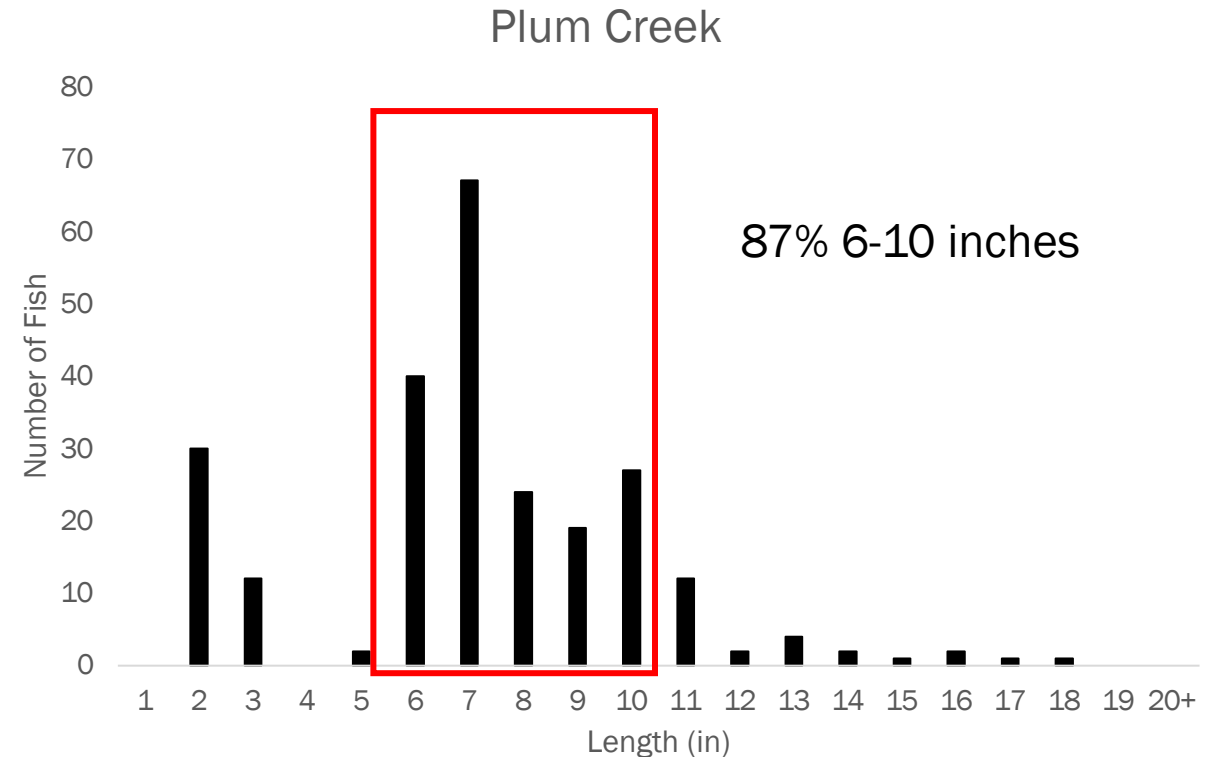
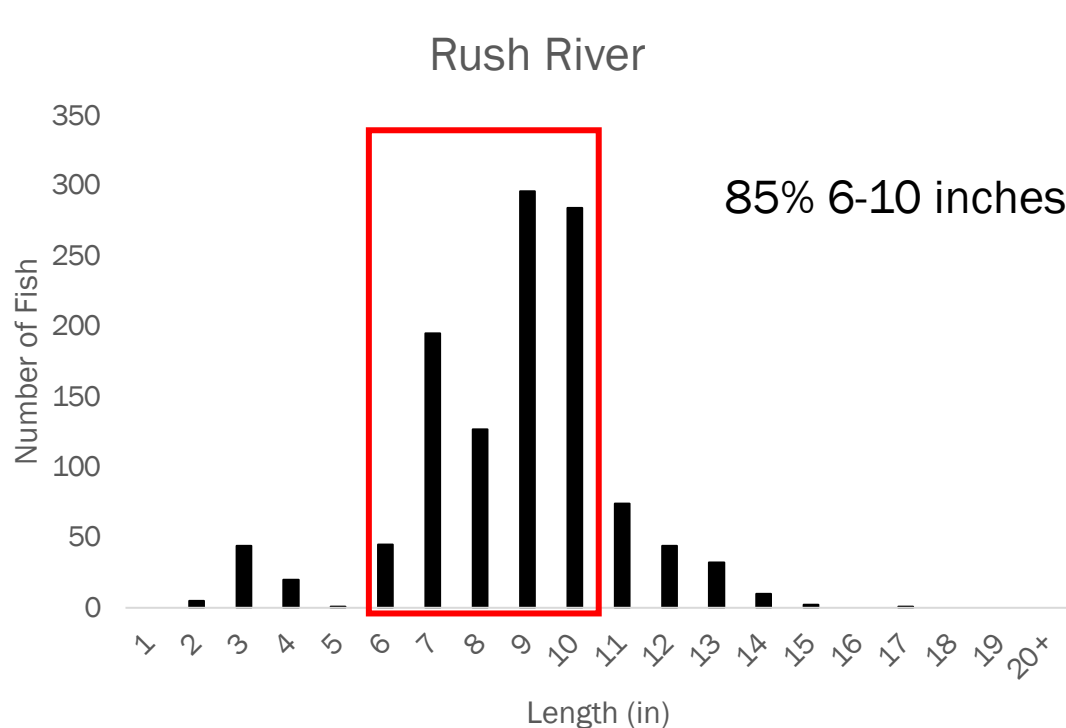
Survival and Recruitment

- Survival and recruitment is high



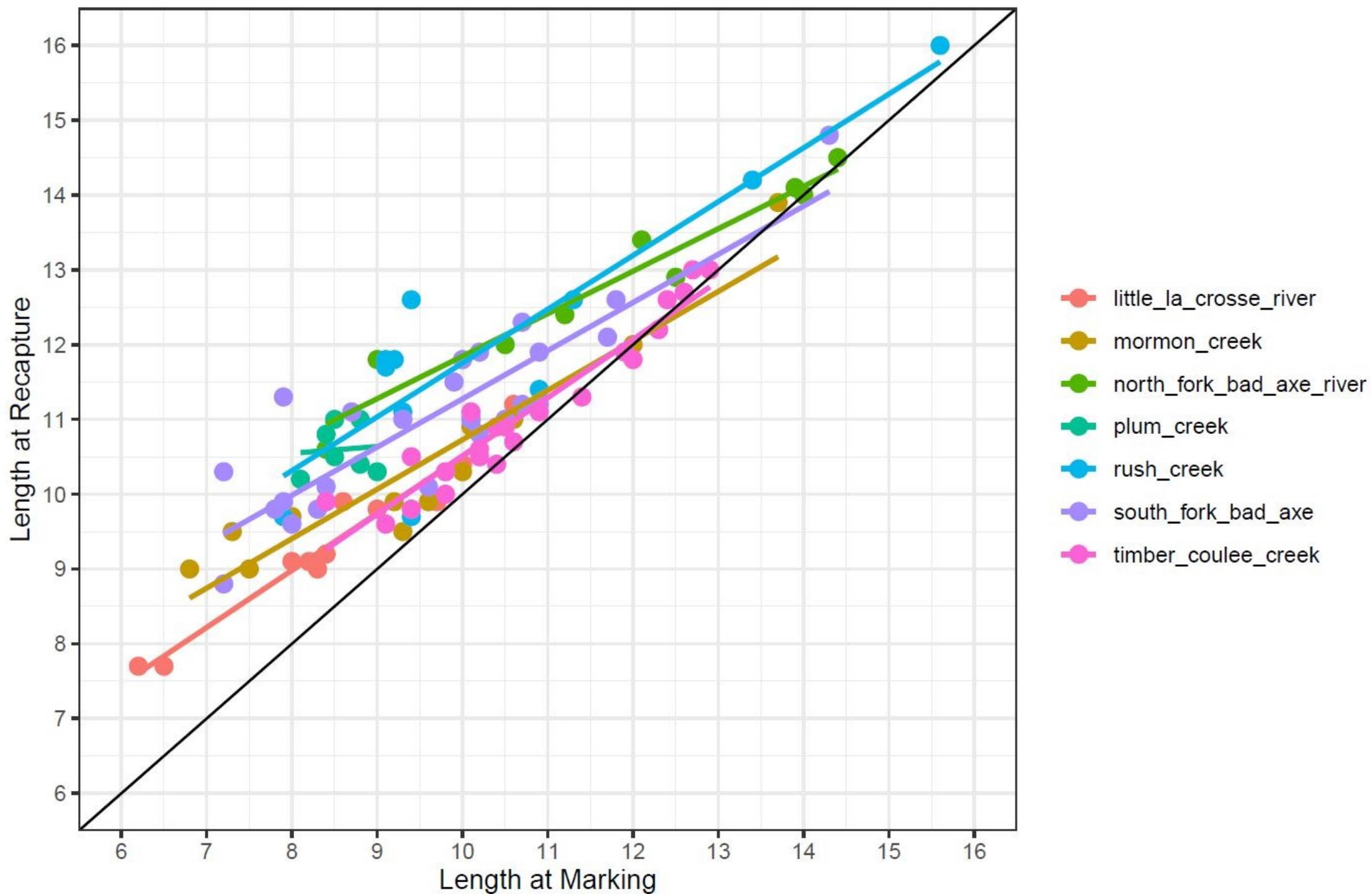
High Densities of Small Fish

- Majority of fish are in the 6-10 inch range
- Consistent patterns annually because of high and consistent rates of natural reproduction and recruitment



Density Dependence

- High densities can lead to slow growth rates and poor condition of fish
- Poor size structure
- Reduced maximum size



Regulations

- Current regulation of 12 inch minimum is no longer appropriate on these streams, Rush River, Plum Creek, Lost Creek, Cave Creek
 - Protects the majority of fish from harvest
 - Causes a “stacking up” of fish under the length limit
 - Increases the effects of density dependence
- Proposed 12 inch maximum 5/day bag limit
 - Allow harvest of abundant, small trout
 - Improve growth rates by reducing density of fish in the 6-11 inch range
 - Protect large fish and improve size structure-IF harvest is high enough

Public Meetings in 2023

- Dates to come!



CONNECT WITH US

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