



# Gunnison River Fishery Update 2010



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# Discussion Topics

- Fish sampling results 2009
  - Fish Population Estimates
  - Fry Sampling
  - WD Resistant rainbow stocking
- Discussion and Comments

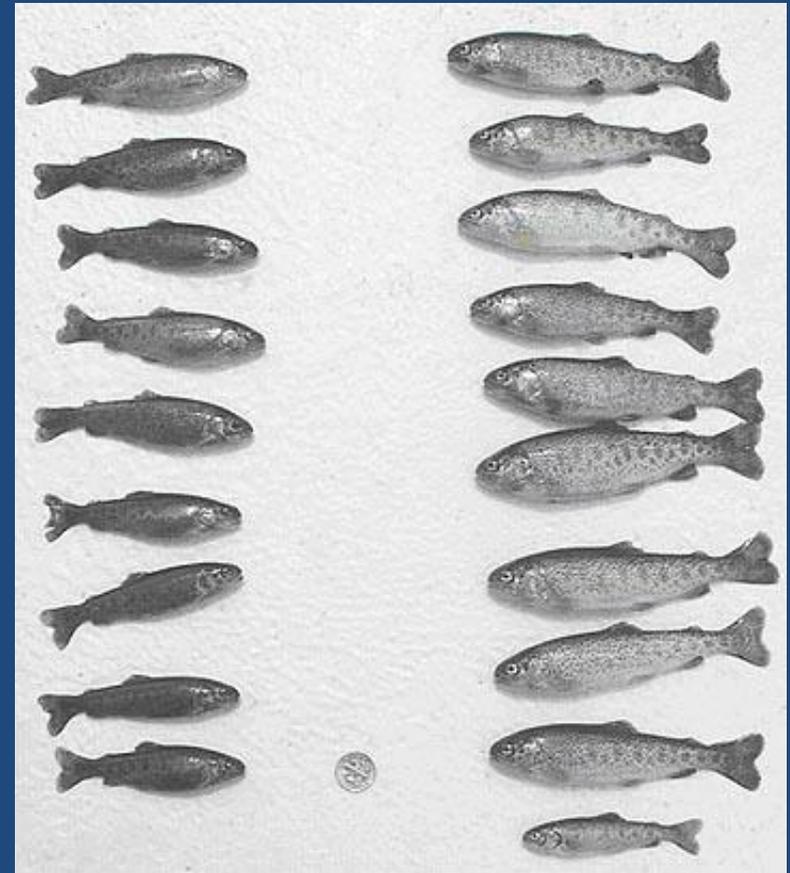


# Trout Populations in the Gunnison Gorge

- Wild rainbow and brown trout fishery from the 1960's to present
  - Wild rainbow trout densities over 5,000 fish per mile with biomass >200 lbs/acre
- Whirling Disease parasite introduced in 1993
  - Severe infection virtually eliminated rainbow recruitment to age-1 from 1994 to 2007
  - Rainbow biomass now ~10% of pre-WD levels
- Resistant rainbow trout introductions 2004-2008
- Drought years (2002-2005) and low rainbow numbers led to historic numbers of brown trout
- Recent operational changes due to endangered fish flows and Black Canyon Water Right

# Resistant Rainbow Research

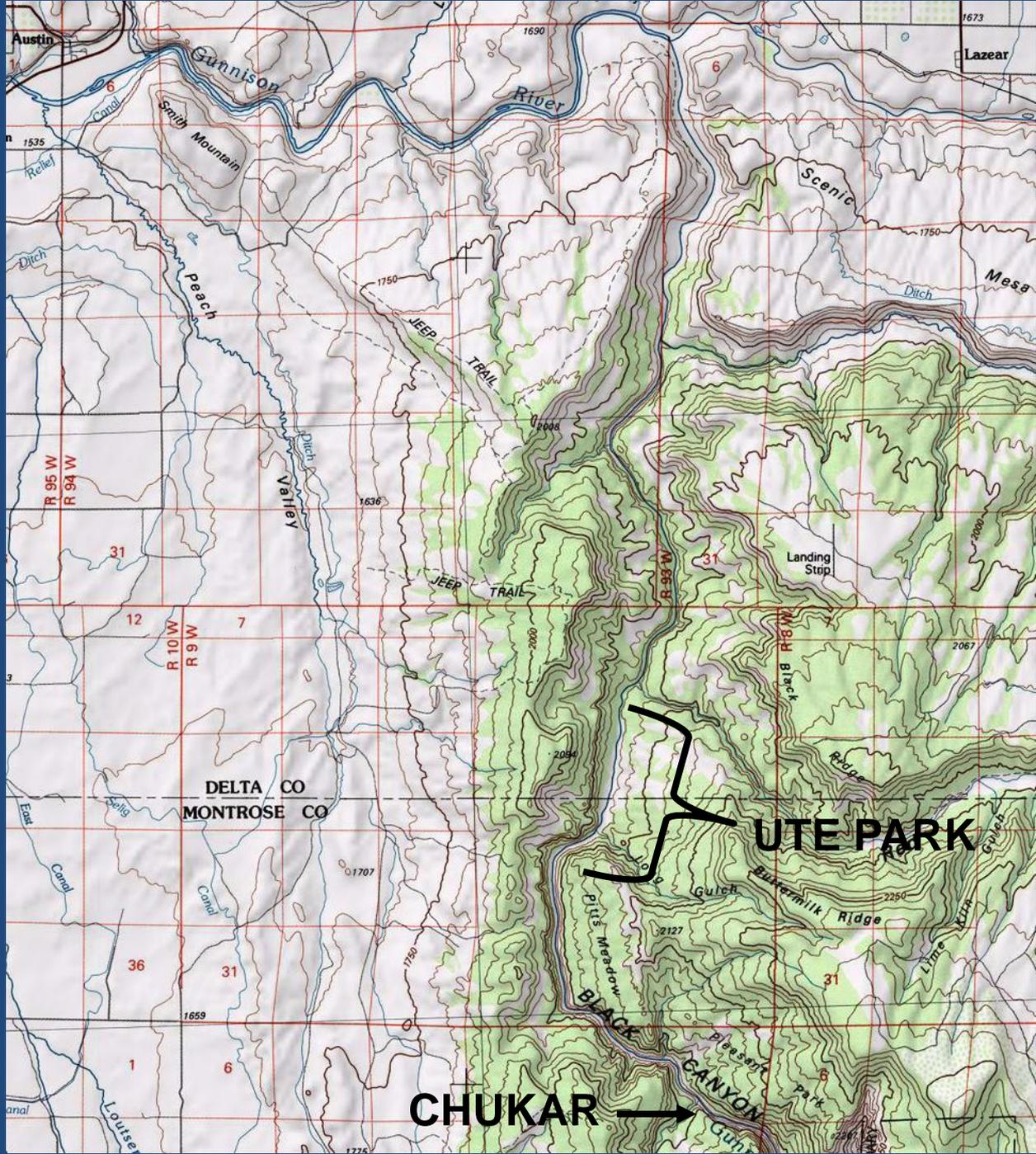
- Laboratory, hatchery, and field evaluations of several strains
  - Hofer strain
  - Harrison Lake
- Wild Trout Introductions
  - Crossing Hofer strain with wild type Colorado River Rainbows (CRR)
  - Strategy is to introduce resistant genetics into population to allow for natural selection of resistant wild fish





## Adult Fish Population Sampling

- Study Site
  - 2 mile reach in Ute Park downstream from Duncan Trail
- Two Pass Mark Recapture Electrofishing
  - Mark fish with caudal punch
  - Recapture 48 hours later
  - Handle 20% - 30% of population



Austin

Lazear

Gunnison River

Scenic

Mesa

JEOP TRAIL

JEOP TRAIL

Landing Strip

DELTA CO  
MONTROSE CO

UTE PARK

CHUKAR →



R 95 W  
R 94 W

31

12

R 10 W  
R 9 W

7

36

31

1659

1

6

1690

1673

1535

1636

1750

1740

1707

6

6

31

31

6

1750

2000

2067

Ridge

Guich

Butter-milk Ridge

2250

2127

2250

2250

2250

Ridge

Guich

Line

Line

Line

Line

Relief

Ditch

Canal

Canal

Canal

Canal

Canal

Canal

Canal

Smith Mountain

Peach

Ditch Valley

Delta

Louise

Louise

Ditch

Ditch

Ditch

Ditch

Ditch

Ditch

JEOP TRAIL

JEOP TRAIL

Landing Strip

Ridge

Guich

Line

Line

Line

Scenic

Mesa

Landing Strip

Ridge

Guich

Line

Line

Line

Ridge

Guich

Line

Line

Line

Line

Ridge

Guich

# 2010 Results

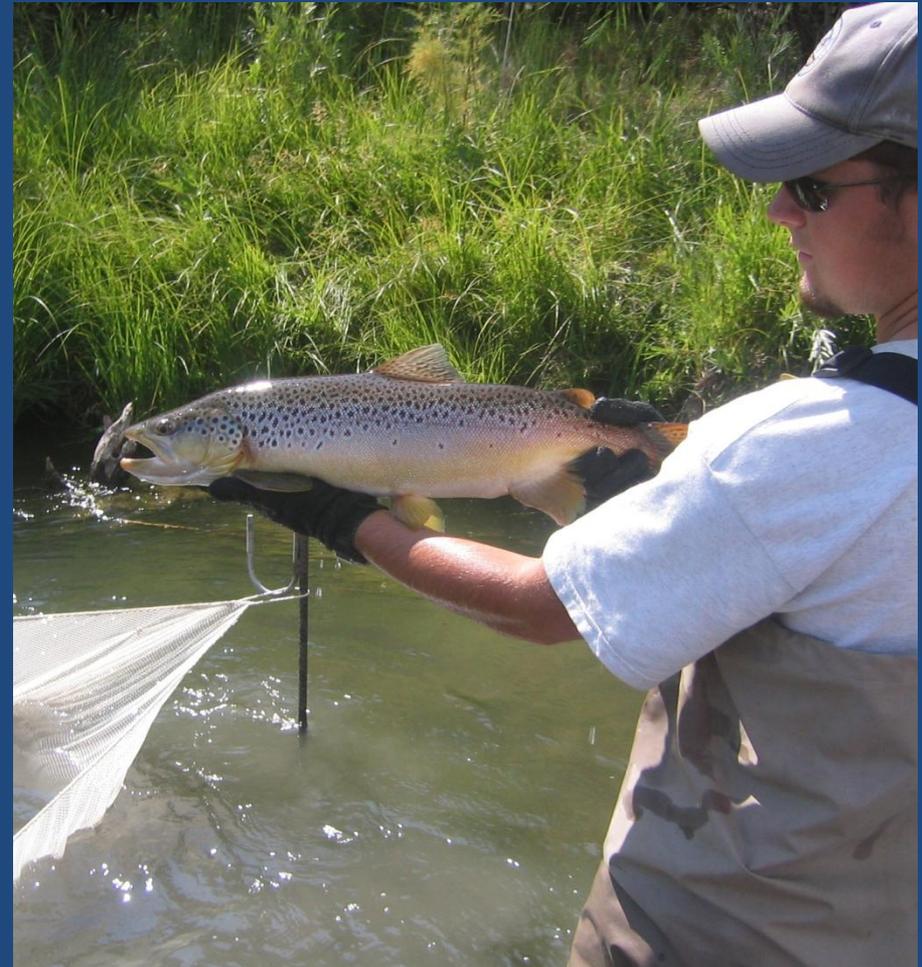


# Ute Park Population Estimates 2009

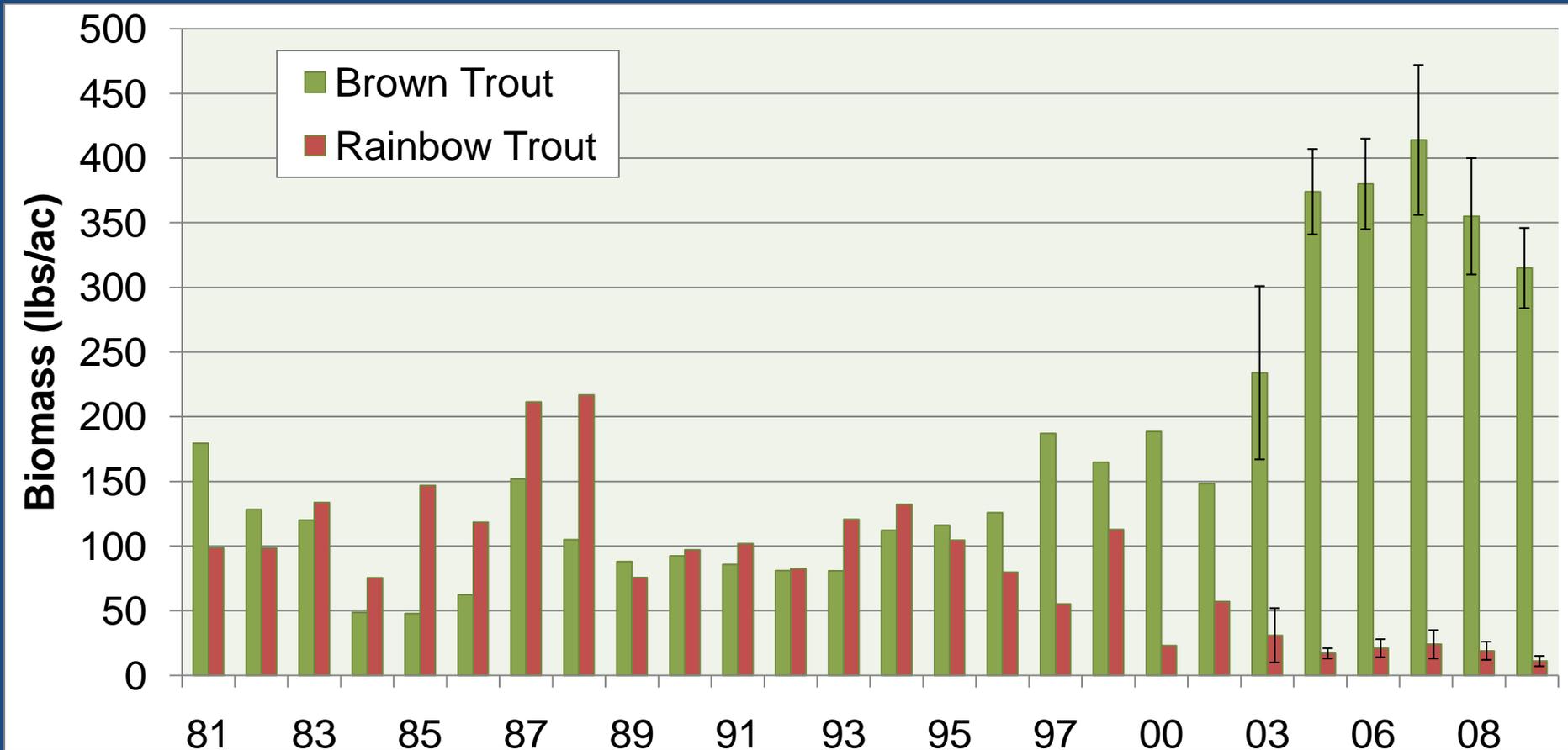
Species	Biomass Lbs/Acre		Fish/Mile	
Brown	315	31	7,210	705
Rainbow	11	4	105	34

**Gold Medal Status:** 60 lbs / Acre, 12  
Quality Trout (14") per Acre

**Wild Trout Status:** 40 lbs / Acre  
Naturally Reproducing

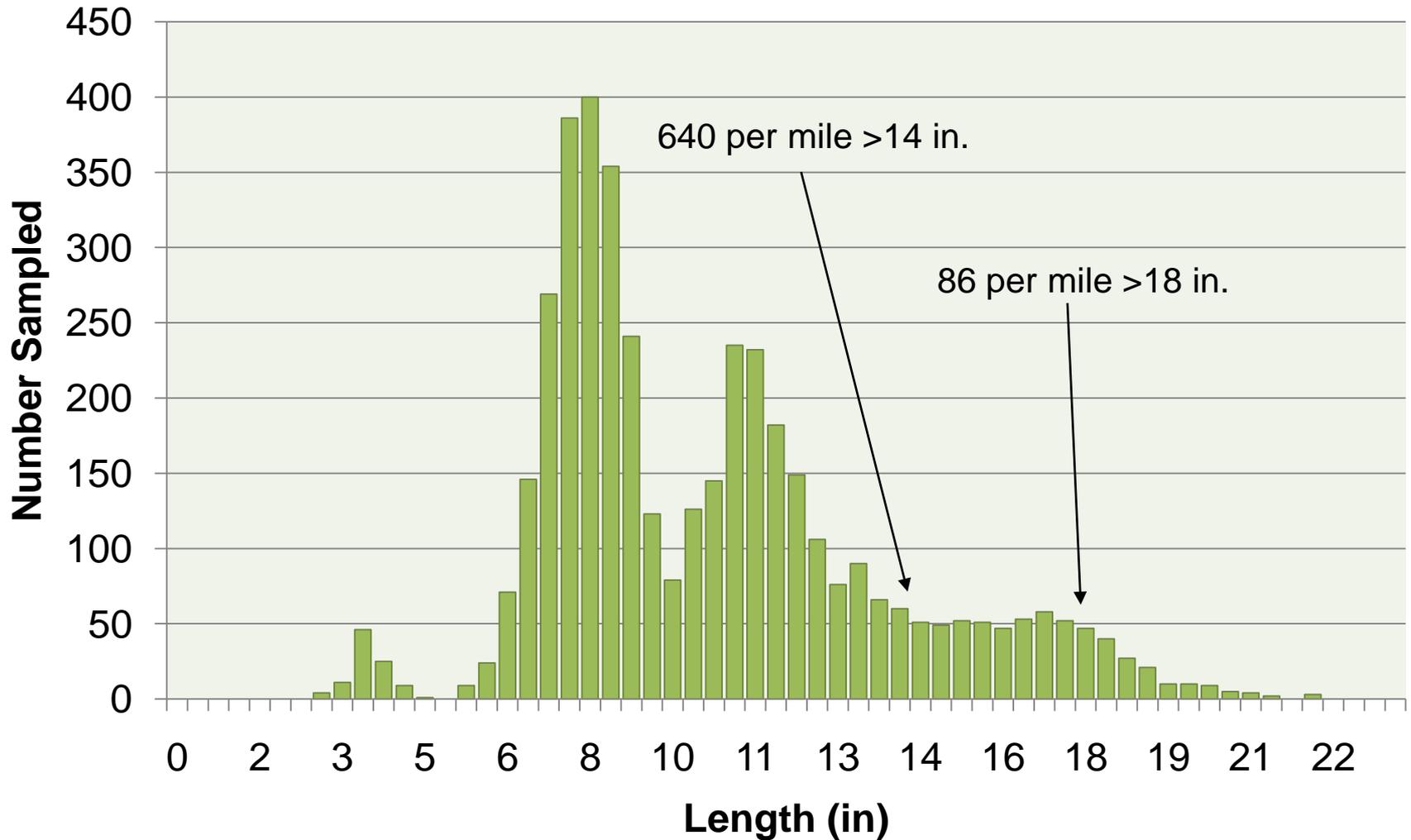


# Gunnison Gorge Trout Biomass in Ute Park 1981-2009

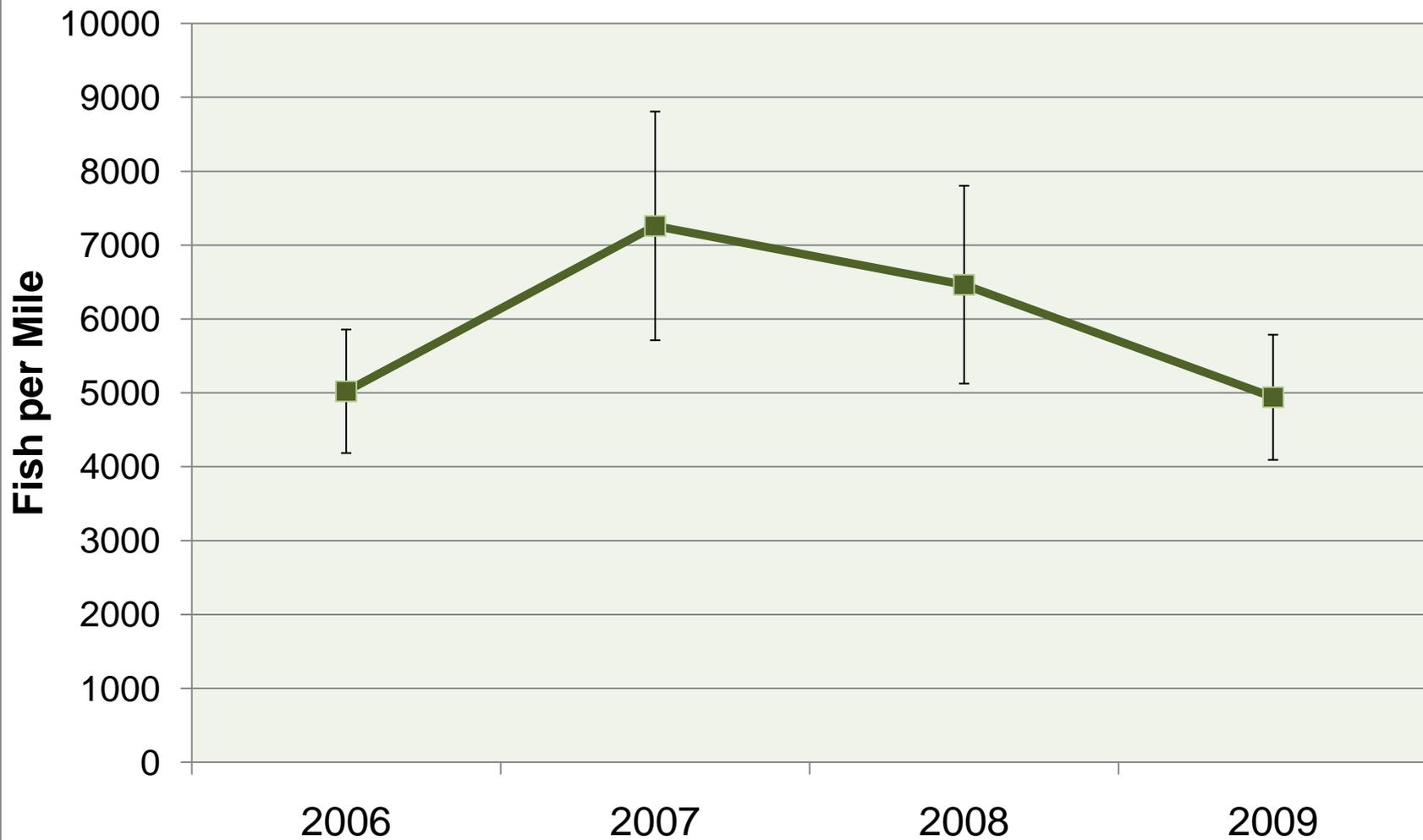


2009 Biomass was down 11.3% from 2008 and 31.4% from 2007  
2009 Density was down 16.5% from 2008 and 31.1% from 2007

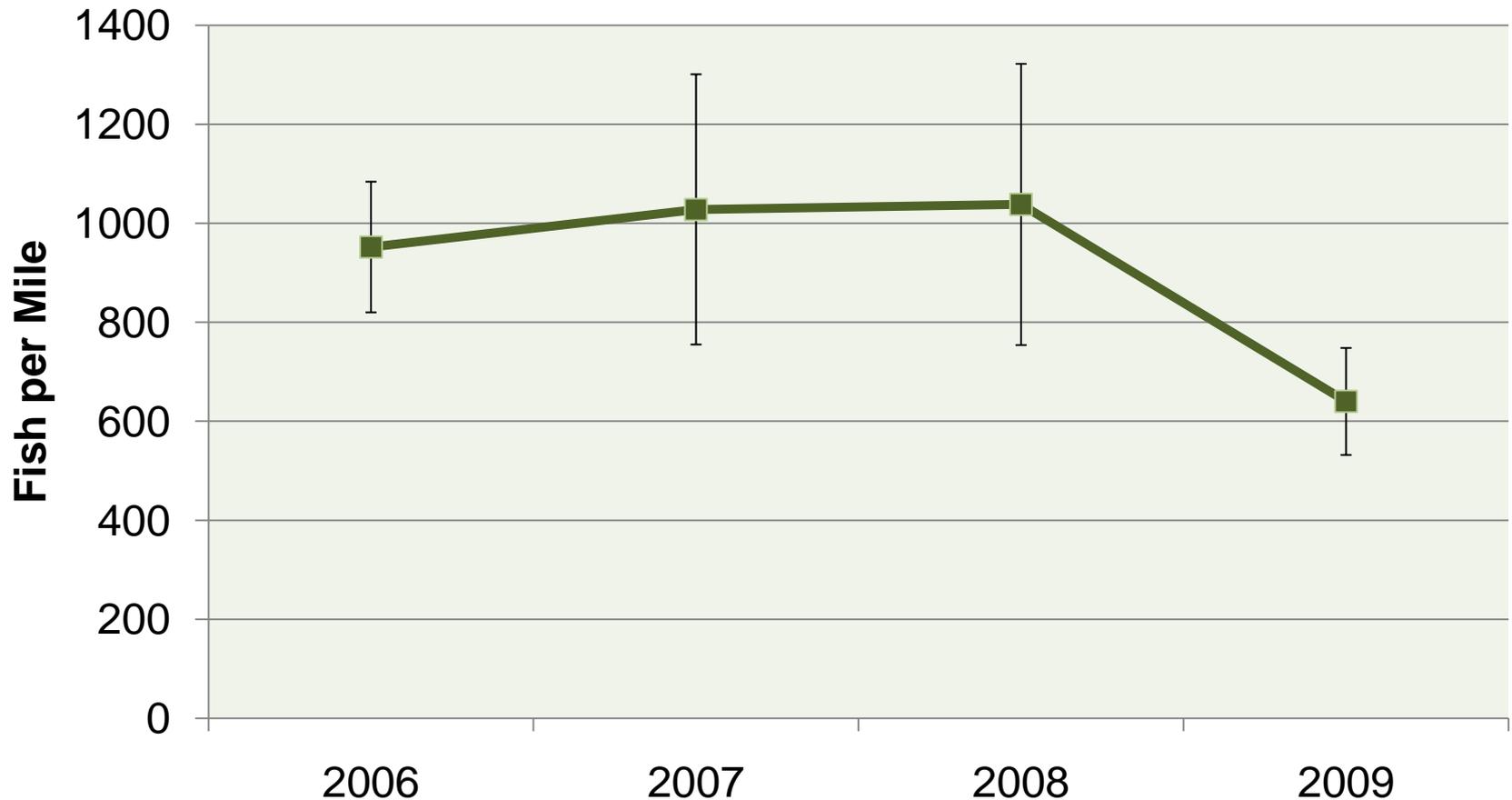
# Ute Park Brown Trout Population



# Age 1 Brown Trout

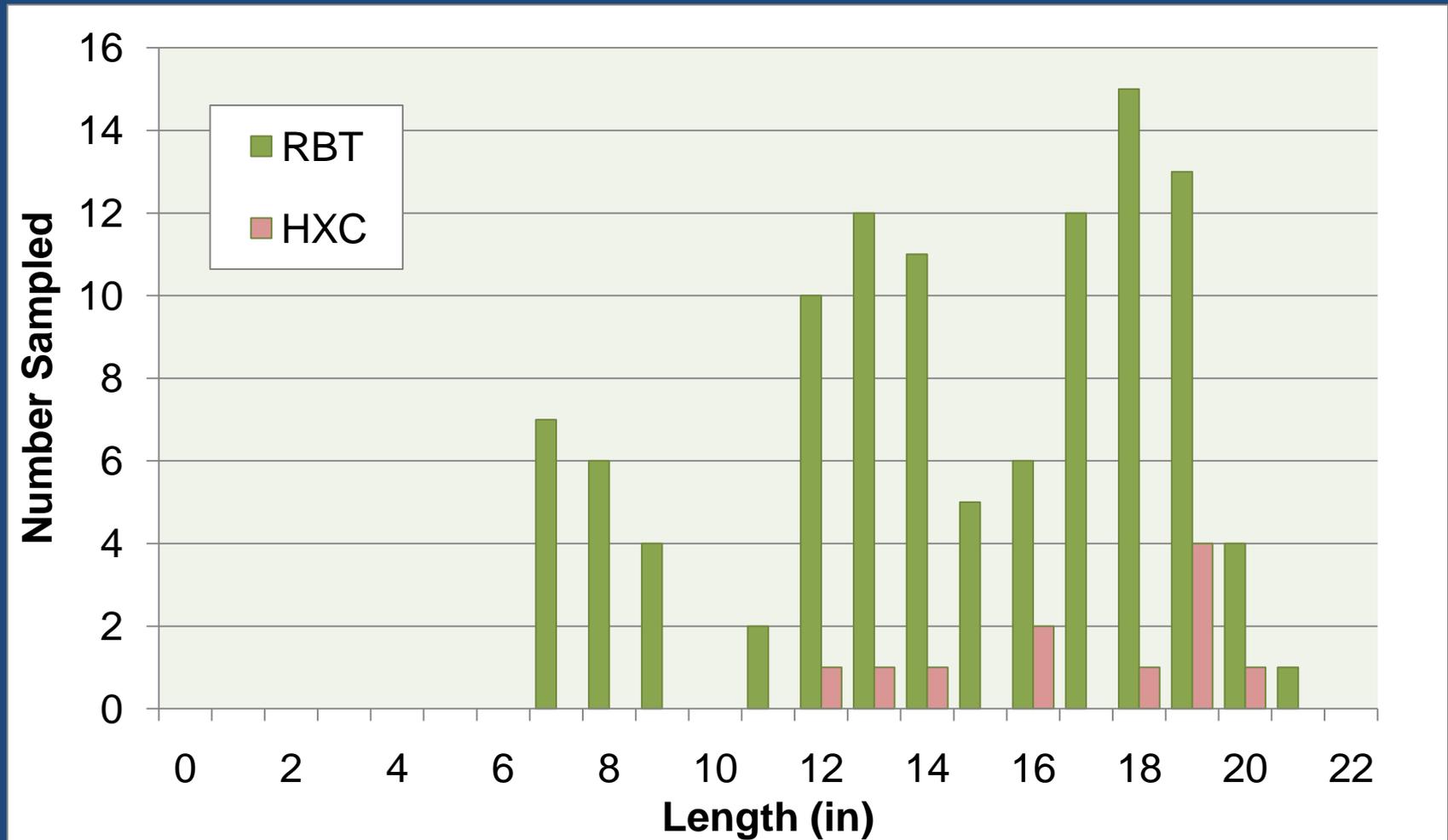


# Brown Trout Over 14 Inches



- 2009 had 38% decline in number of quality browns.
- Due to lower survival of 2007 year class and lower recruitment into quality size class because of lower growth

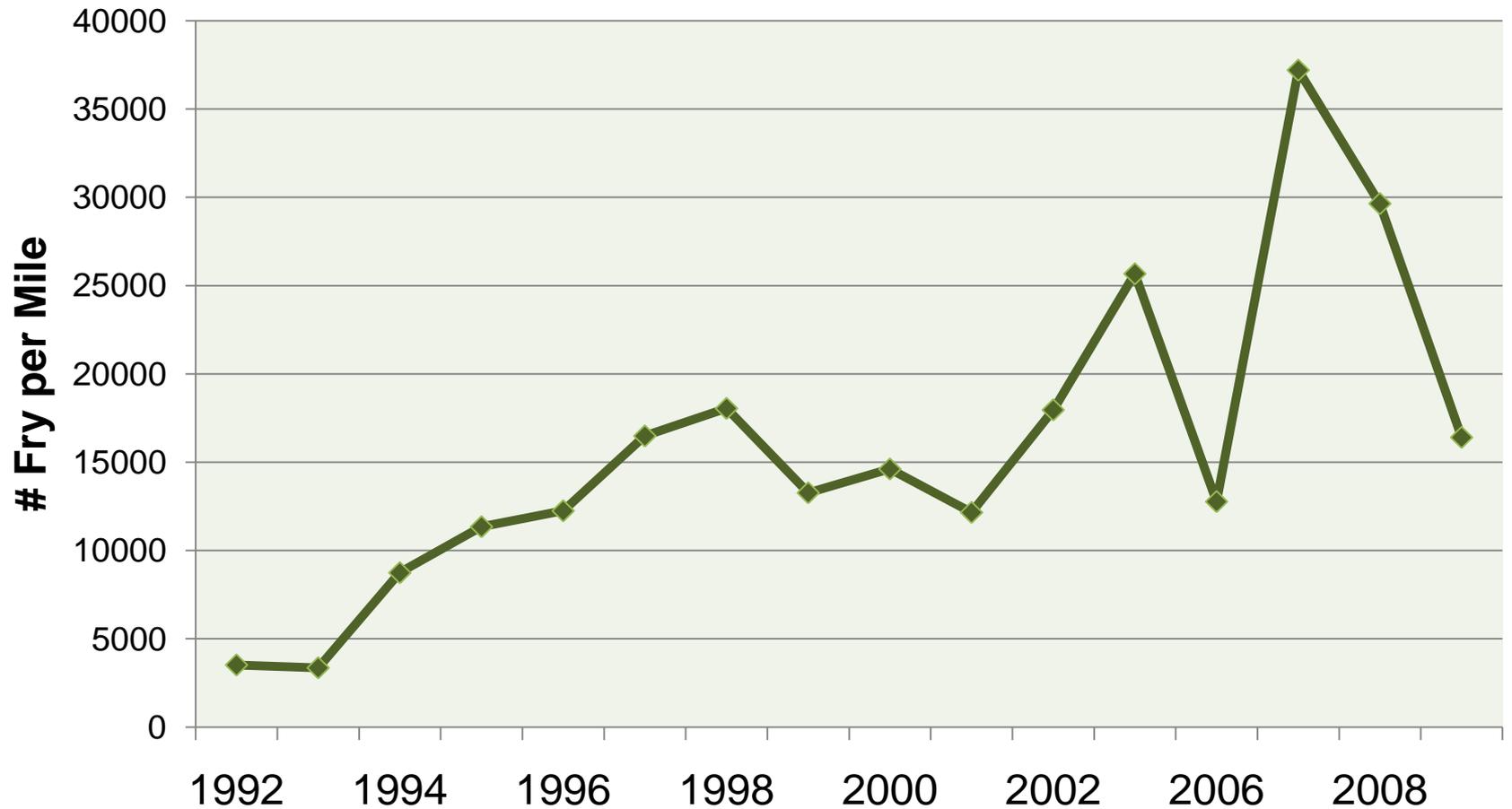
# Rainbow Trout Sampled in Ute Park 2009



Good News: 4 wild year classes of rainbows in the river.

Bad News: Overall biomass has not increased in Gorge. Survival of stocked whirling disease resistant fish was lower the last two years.

# Brown Trout Fry Estimates



Bad News: 2008, 2009 spring flows impacted trout fry survival  
Good News: Impacts not as bad as expected



**Fry and Juvenile  
Trout 2008**



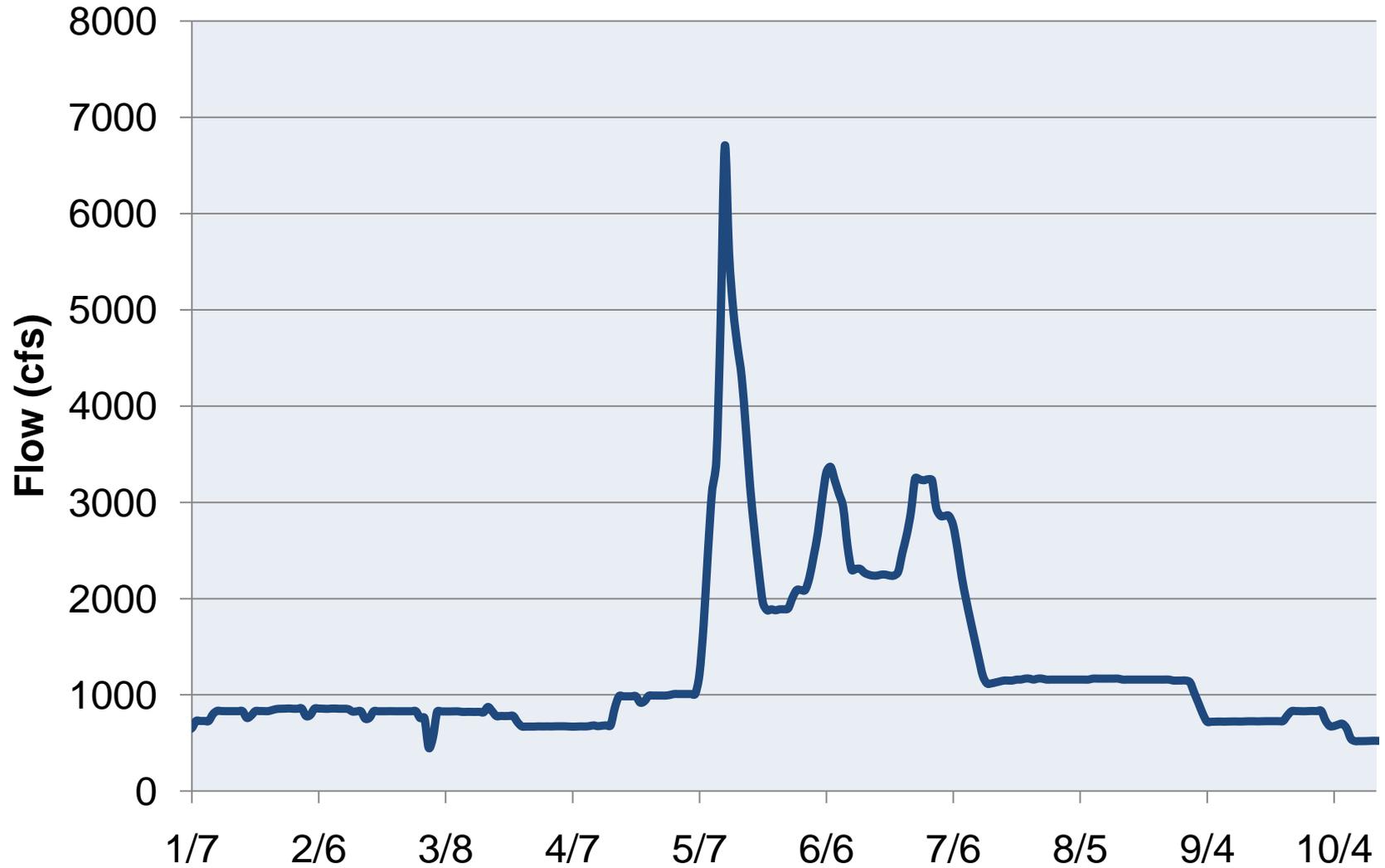
# Rainbow and Brown Trout Fry August 2007



# 2008 Water Year



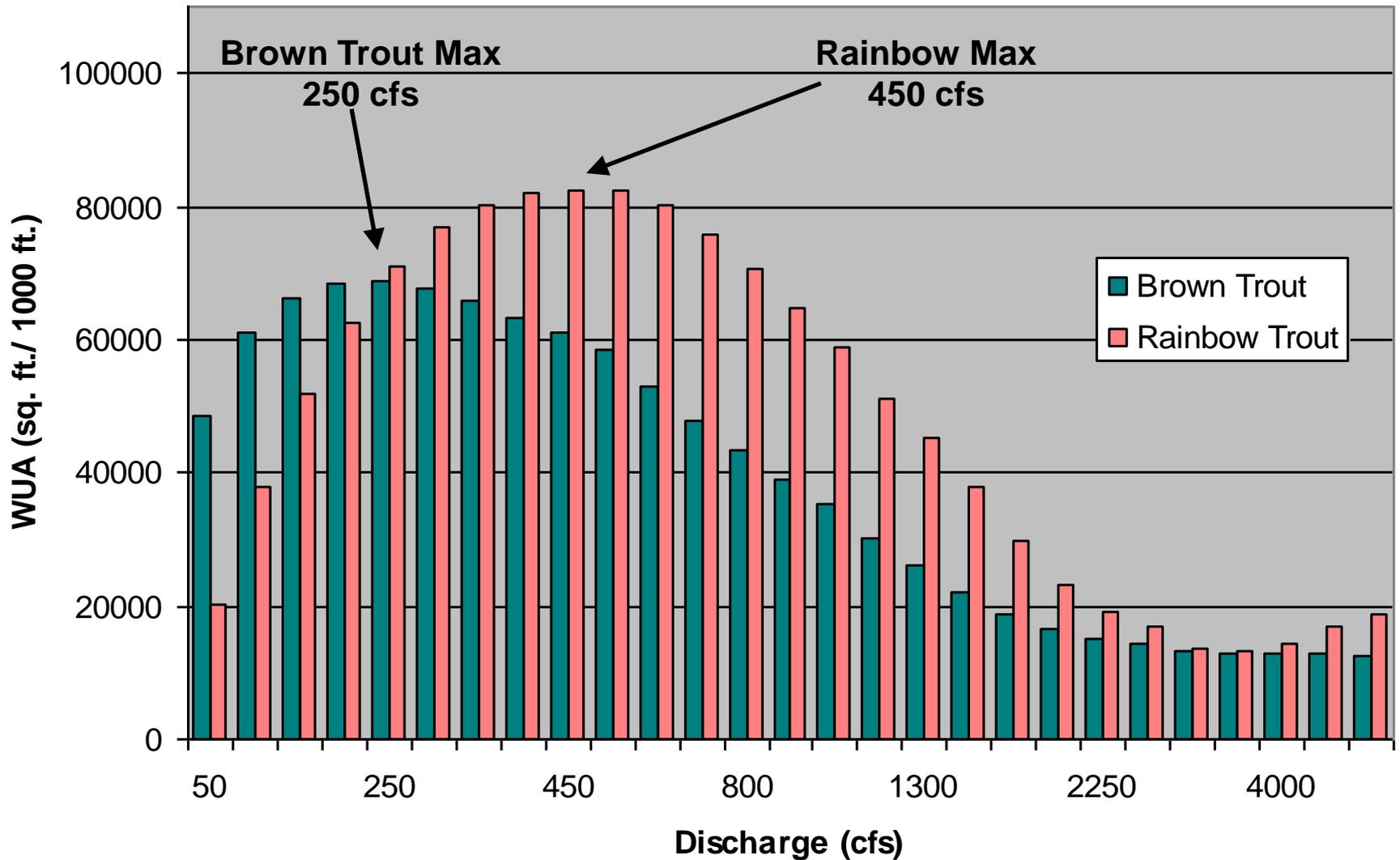
# 2009 Water Year



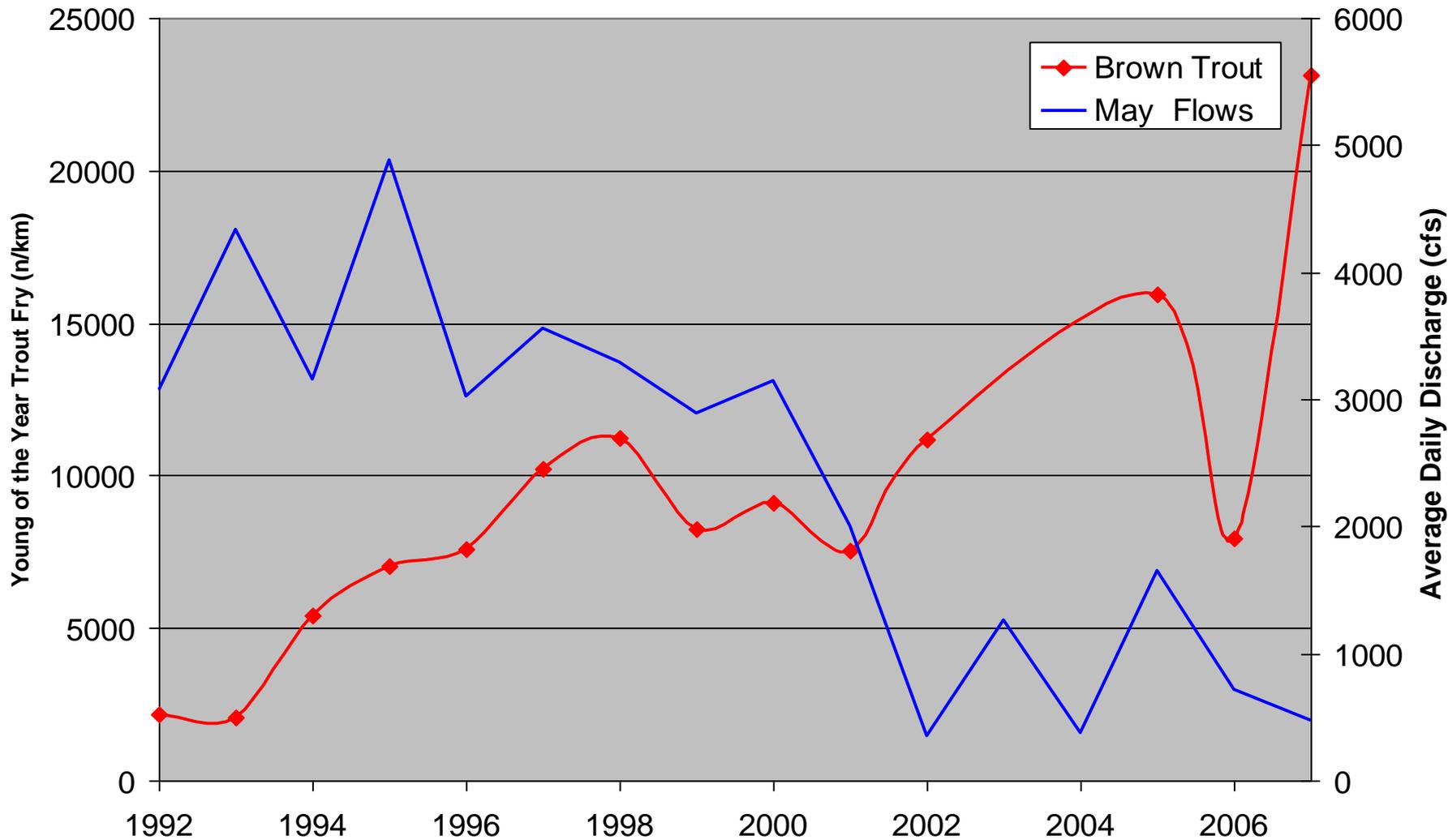
# Summary of Flow Effects on Trout Population

- See January 2008 Aspinall presentation for complete discussion
- Trout benefit from the regulated hydrograph below Crystal Reservoir, native fish do not
- Minimum flows of 350-500 cfs are ideal
- Moderate peak flows (2,000 cfs to 6,000 cfs) if ramped correctly do not impact the sport fishery
- Large peaks (>6,000 cfs) impact adult and juvenile trout survival, reduce available habitat, and limit reproduction depending on timing
  - May peak favors rainbows and downstream native fish (usually), June peak (or none) favors browns
  - 2,000 to 5,000 cfs is high enough flow to mobilize fine, gravel, and cobble sized sediment
  - Moderate sized peak in May, matching hydrograph of North Fork, would be optimal for both sport and native fish
  - What we've learned the last two years:
    - 7,000 cfs flows are high enough to impact trout population regardless of ramping rates
    - Trout fry recruitment is better than expected (not complete loss) due to more variable emergence

# Estimated Adult Fish Habitat



# The Relationship Between May Discharge and Brown Trout Fry



# Summary

- 2009 flow pattern reduced density and biomass of trout and impacted brown trout year class
  - Second year in a row that high flows have impacted fry, juvenile, and adult fish
- Stocking of WD resistant rainbows has returned wild reproduction and recruitment of rainbows to the Gunnison
  - Has not increased biomass of fish in Ute Park
  - Biomass has increased around Smith Fork, North Fork, and East Portal
- WD resistant fish are growing well and are reproducing
  - Initial survival of stocked fish is low especially during high water years and in areas of high brown trout density
  - Multiple year classes of wild rainbows present in Ute Park for first time in 15 years
    - Age 0, 1, 2, 3
    - 3 - 21 inches

# Future Plans

- Continue to monitor trout populations
  - 2010 longitudinal survey instead of population estimate in Ute Park
  - Budgetary and management decision
  - New boat will allow for more effective and safer sampling, no motor yet
- Begin to take wild rainbow spawn again
- Test EIS ramping rates on moderate peak year
- Scale back on rainbow stocking program and return to wild trout management
  - Due to successful wild recruitment and cost of program
- Fish management web pages
  - <http://wildlife.state.co.us/Fishing/Reports/FisherySurveySummaries>

- [Pueblo Reservoir](#) **UPDATED!**
- [Rampart Reservoir](#)
- [Trinidad Reservoir](#) **UPDATED!**

- [Douglas Reservoir](#)
- [Elevenmile Reservoir](#)
- [Estes Lake](#) **UPDATED!**
- [Gross Reservoir](#) **UPDATED!**
- [Horsetooth Reservoir](#) (1.2MB)
- [Jackson Reservoir](#)
- [Jumbo Reservoir](#)
- [Jumbo Annex Reservoir](#)
- [Lake John](#)
- [Lake Loveland](#) **NEW!**
- [Lonetree Reservoir](#)
- [Lon Haqler Reservoir](#) **UPDATED!**
- [McIntosh Lake](#)
- [North Sterling Reservoir](#)
- [Poudre River](#)
- [Prewitt Reservoir](#)
- [Sprat-Platte Reservoir](#)
- [Spinney Reservoir](#)
- [Stalker Lake](#)
- [Standley Lake](#)
- [Union Reservoir](#)

### Southwest

All documents are in Adobe PDF format

- [Animas River, Durango](#) (2 MB) **NEW!**
- [Blue Mesa Reservoir](#) **NEW!**
- [Crawford Reservoir](#) **NEW!**
- [Eggleston Lake](#) **NEW!**
- [Groundhog Reservoir](#) **NEW!**
- [Gunnison Gorge](#) **NEW!**
- [Gunnison River](#) **NEW!**
- [Island Lake](#) (1.2 MB) **NEW!**
- [Lake Fork of the Gunnison](#) **NEW!**
- [McPhee Reservoir](#) (1.3 MB) **NEW!**
- [Miramonte Reservoir](#) (1 MB) **NEW!**
- [Ridgway Reservoir](#) **NEW!**
- [San Juan River, Pagosa Springs](#) (1 MB) **NEW!**
- [Taylor Park Reservoir](#) **NEW!**
- [Taylor River Below Taylor Park Reservoir](#) **NEW!**
- [Vallecito Reservoir](#) **NEW!**

Last Updated: 1/14/2010

### Northwest

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- [Colorado River near Parshall](#)
- [Highline Lake](#)
- [Ruedi Reservoir](#)
- [Wolford Mountain Reservoir](#)

Thanks to BOR,  
BLM, NPS, Trout  
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UWUUA for their  
dedication to the  
Gunnison River  
Fishery

