



2011 Dolores River Update

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Dolores River Dialogue

April 26th, 2012

Topics

- 3 species introduction
- Fish pool objectives
- Review fish inventories sites
- Present fish inventory results
- Summarize results
- Present 2012 plans



Bluehead Sucker



Flannelmouth Sucker



Roundtail chub



Fish Pool Objectives. Are they different for natives vs trout?

Native

Trout



NO



2011 Fish Pool Objectives

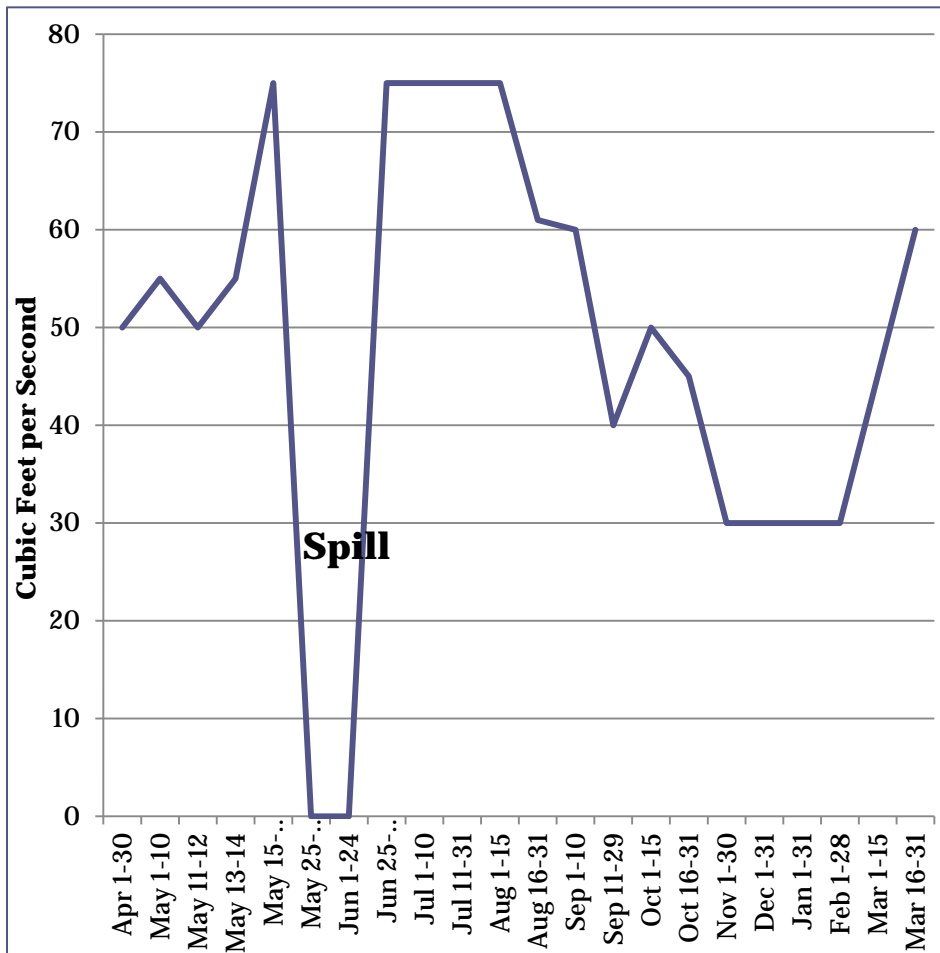
Native

- Extend spill as long as possible to conserve fish pool for baseflows
- Minimum 80 cfs baseflows (Anderson 2007) to provide medi-riffle habitat and connectivity
- Spring/Fall flows higher than winter to mitigate temp swings and provide connectivity (e.g. 50 cfs)
- Winter flows >30 cfs if possible

Trout

- Extend spill as long as possible to conserve fish pool for baseflows
- Minimum 70 cfs baseflows to provide temperature suppression in summer and connectivity
- Spring/Fall flows higher than winter to mitigate temp swings and provide connectivity (e.g. 50 cfs)
- Winter flows >30 cfs if possible

2011 Fish Pool



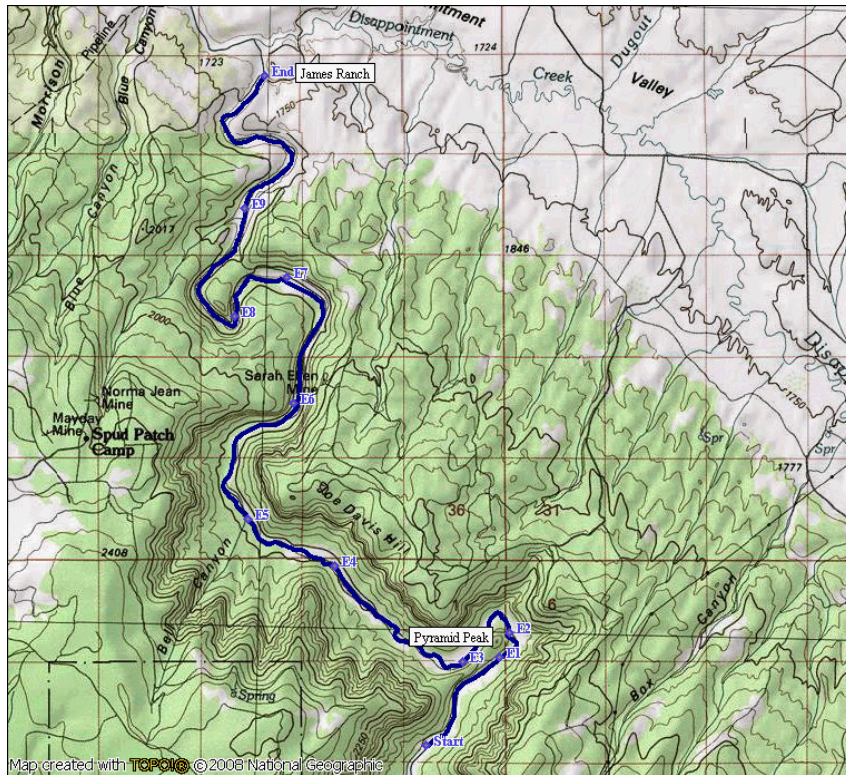
Date	Days	Flow (cfs)	Acre ft
Apr 1-30	30	50	2,975
May 1-10	10	55	1,091
May 11-12	2	50	198
May 13-14	2	55	218
May 15-24	10	75	1,488
May 25-31	7	0	0
Jun 1-24	24	0	0
Jun 25-30	6	75	893
Jul 1-10	10	75	1,488
Jul 11-31	21	75	3,124
Aug 1-15	15	75	2,231
Aug 16-31	16	61	1,936
Sep 1-10	10	60	1,190
Sep 11-29	19	40	1,507
Sep 30	1	175	347
Oct 1-15	16	50	1,587
Oct 16-31	15	45	1,339
Nov 1-30	30	30	1,785
Dec 1-31	31	30	1,845
Jan 1-31	31	30	1,845
Feb 1-28	28	30	1,666
Mar 1-15	15	45	1,339
Mar 16-31	16	60	1,904
	365		
<i>running total (AF)</i>			31,996
<i>difference (AF)</i>			-198
<i>Fish Pool total (AF)</i>			31,798

2011 Fish Inventory Surveys

- May 12 – Native (Pyramid ; 13 miles); 1 pass
- September 12 – Trout (Dolores 3b; 4 sites)
- September 14 – Native (Dolores 3a; 1 site)
- June – Native (Dolores 2; Big Gypsum 4 miles)
- No inventories done in Slickrock Canyon



Pyramid to Disappointment Ck.



Map created with TCPCIC © 2008 National Geographic



0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 miles
0 1 2 3 4 5 km

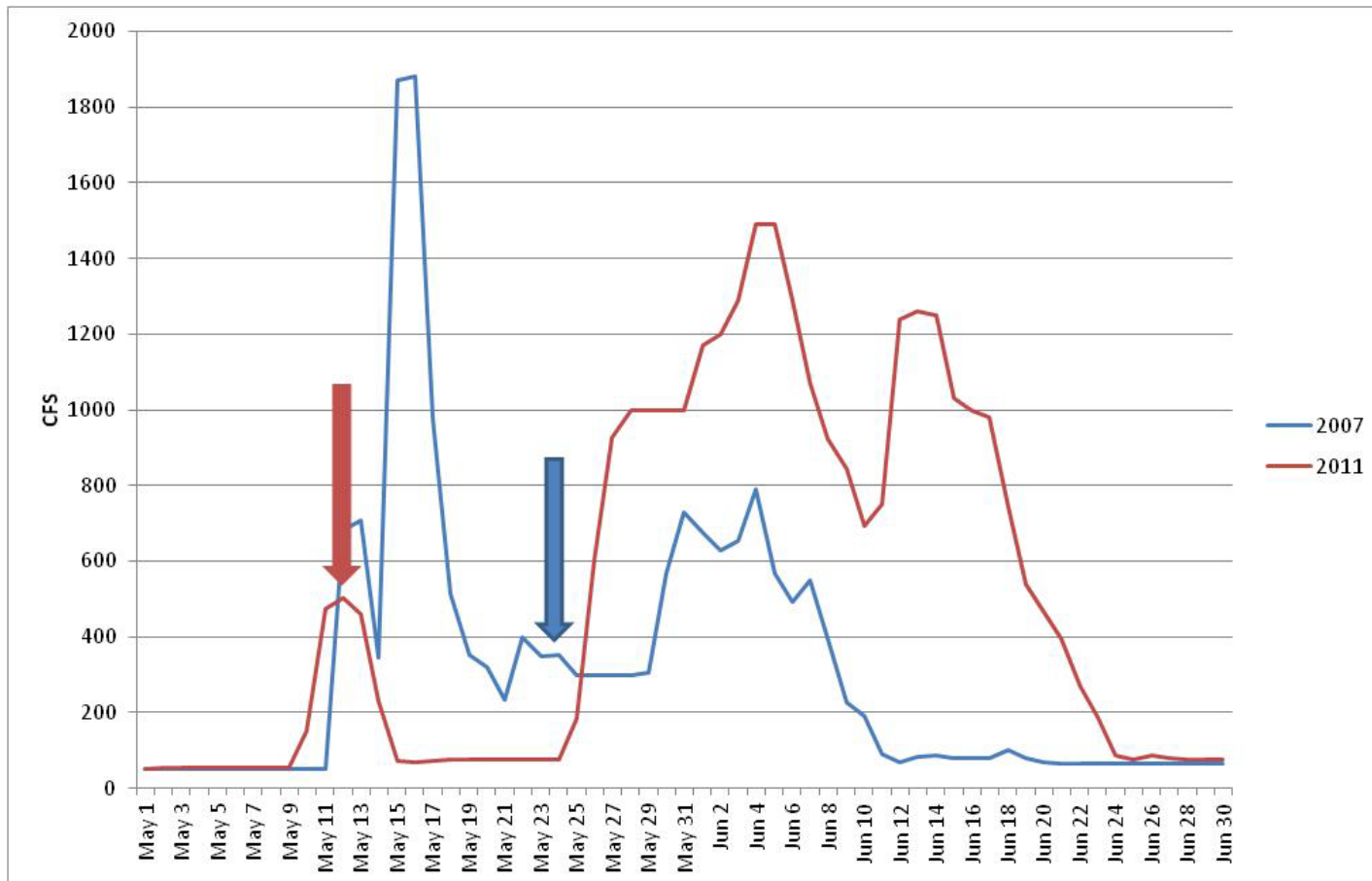
TN MN
10 1/2'
12/05/11



Pyramid - Methods (compare and contrast similar years)

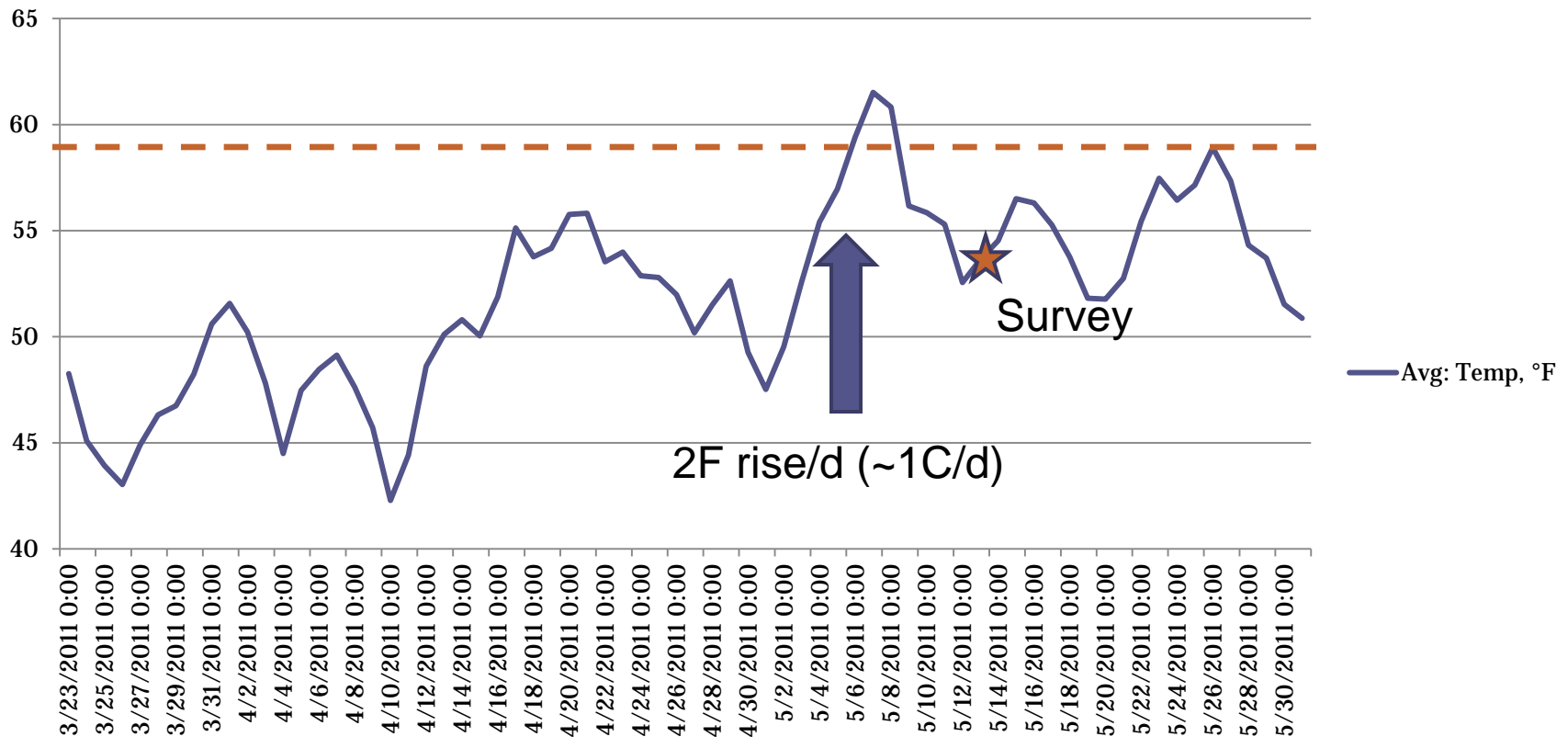


Dolores River Discharge Conditions During 2007 and 2011



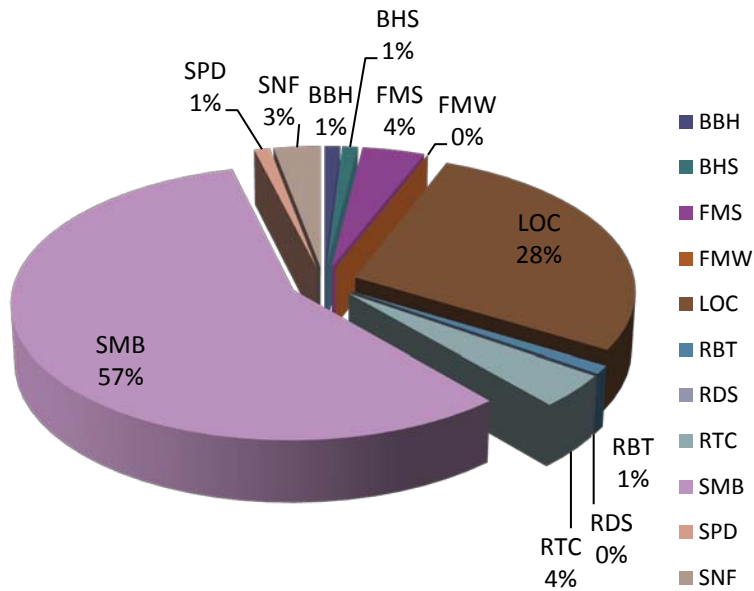
Temperature Conditions

2011 James, °F

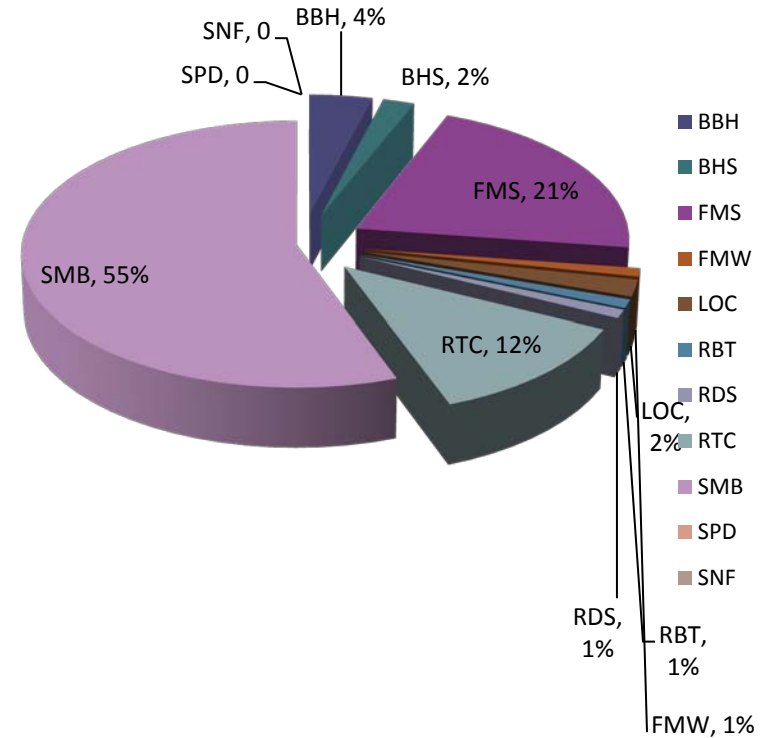


Species Composition

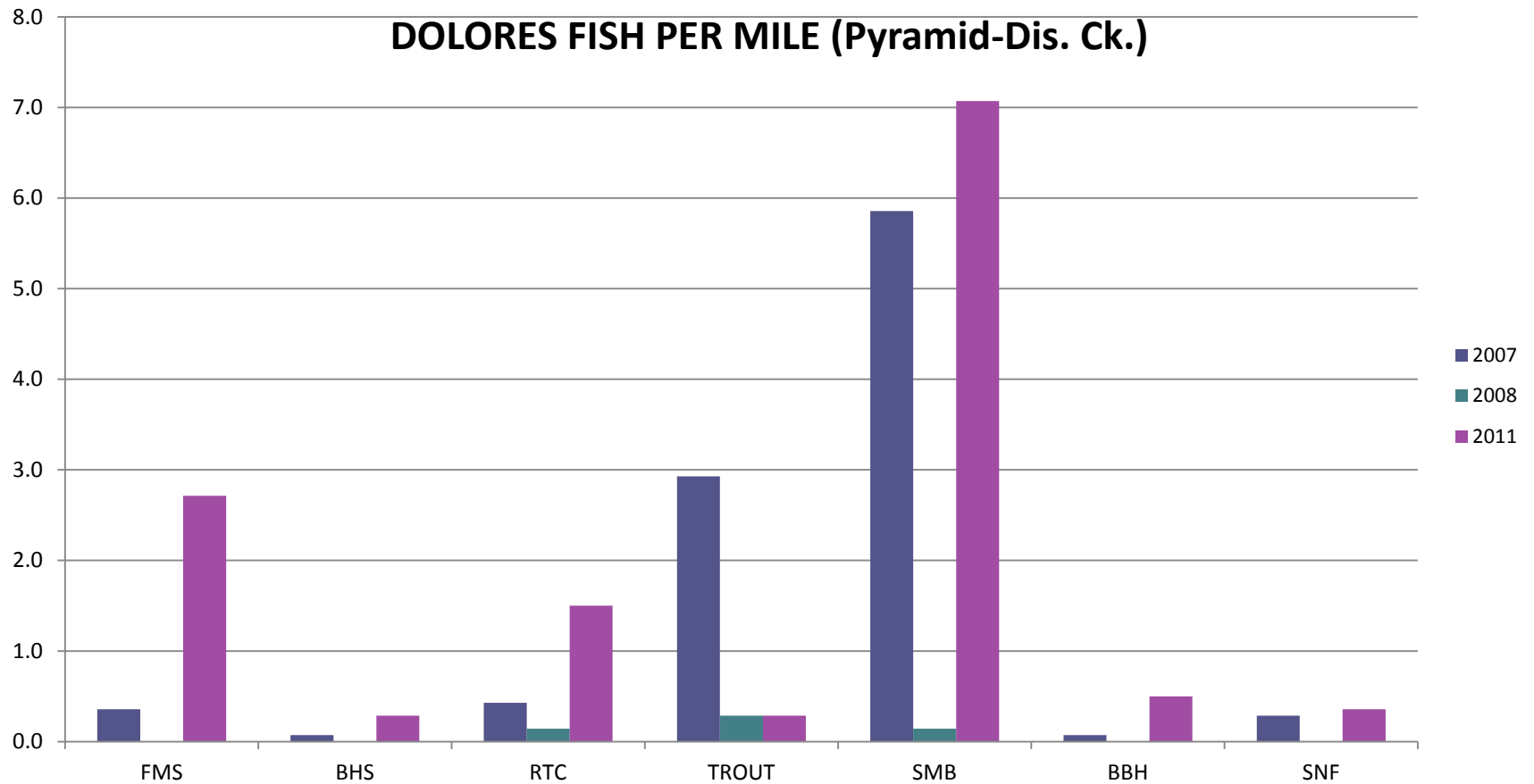
2007 (9% Native)



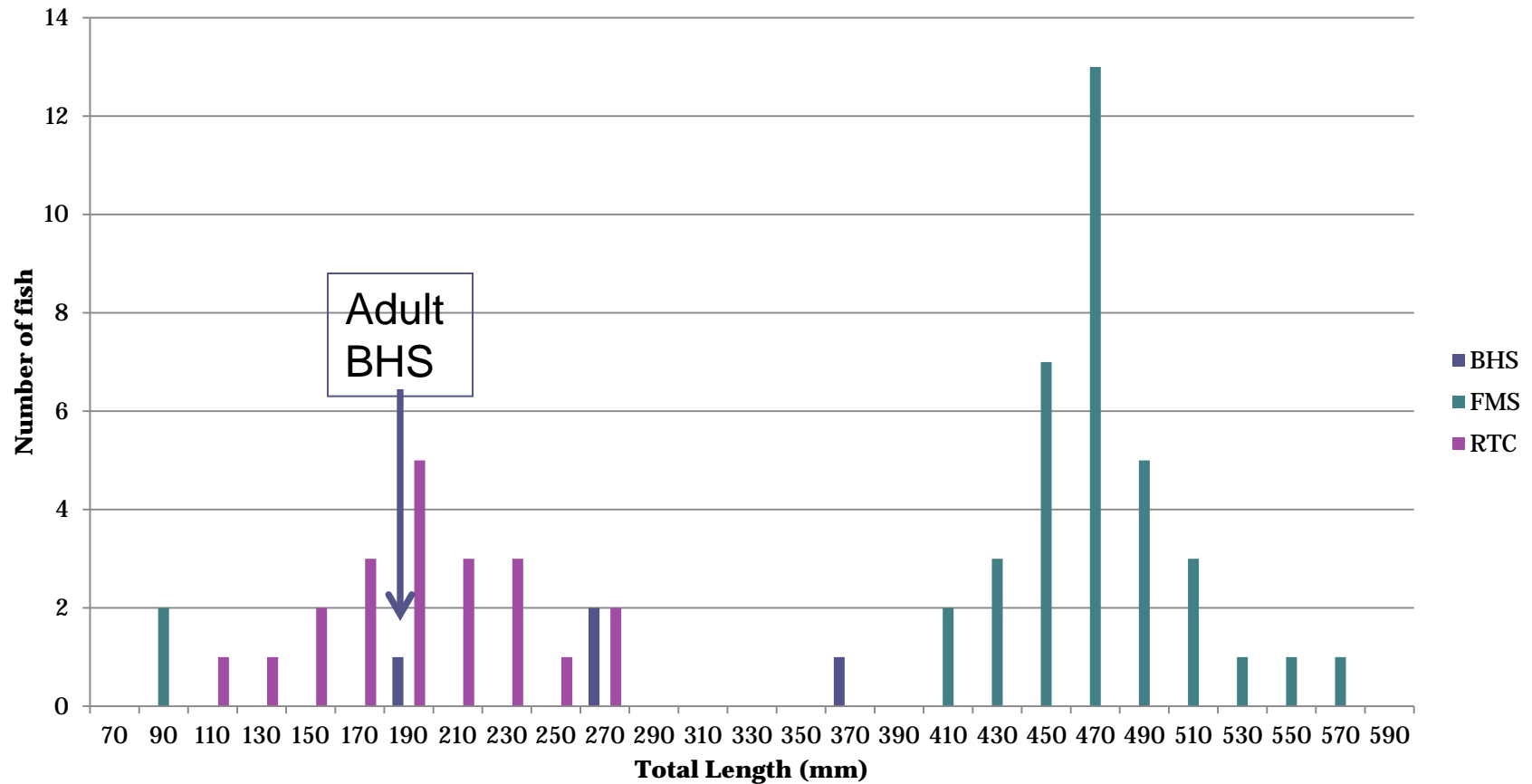
2011 (35% Native)



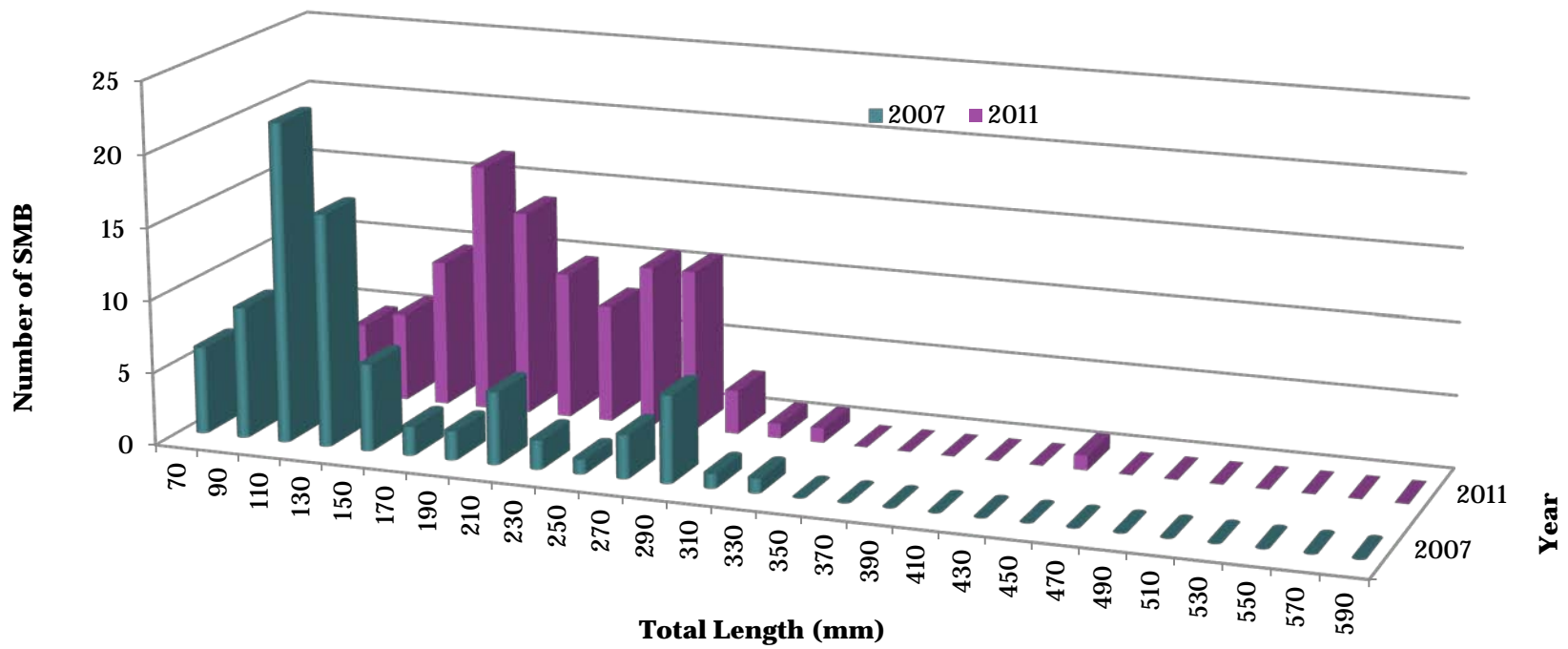
Density (fish per mile)



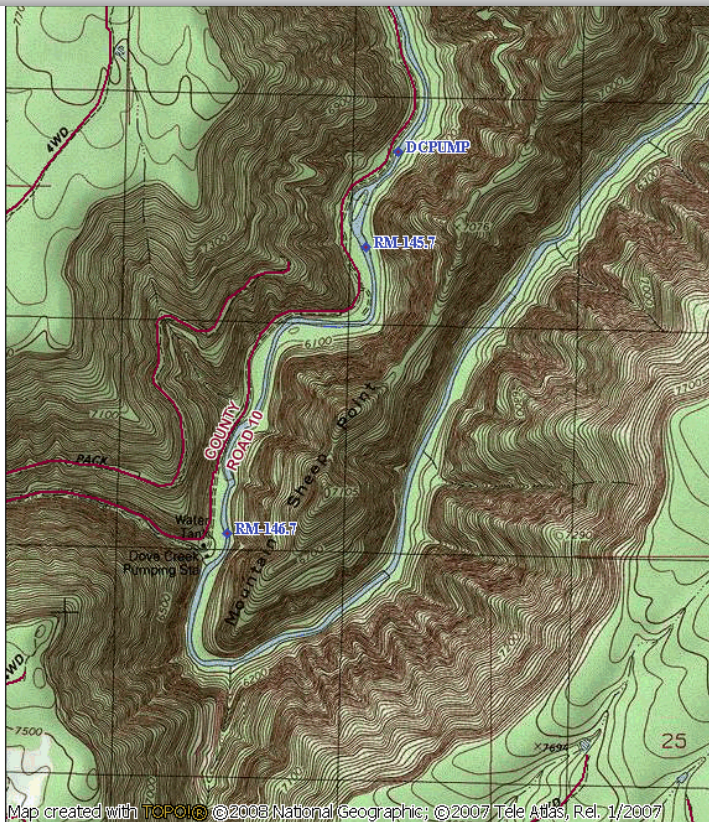
Native Population Structure



Smallmouth Bass Population Structure



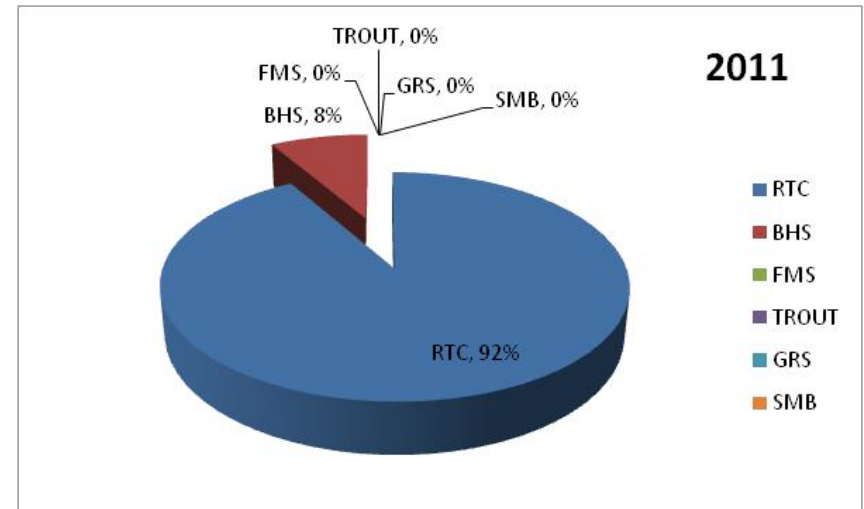
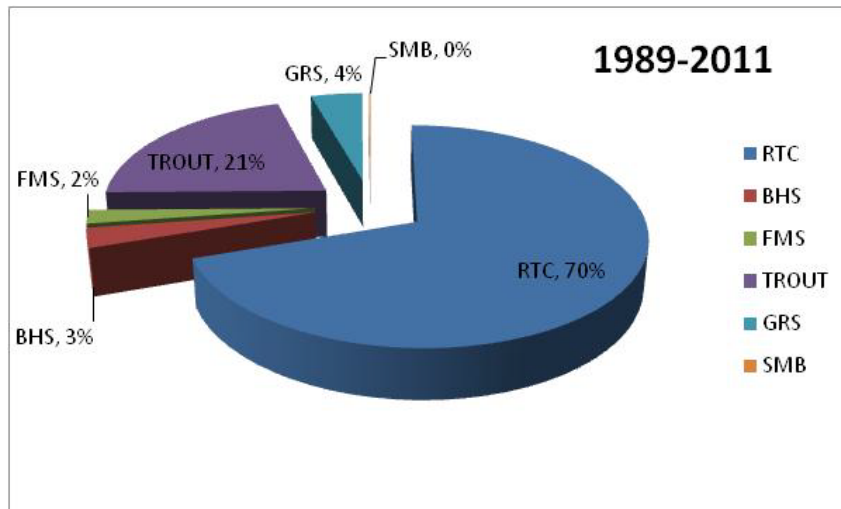
Dove Creek Pump Station



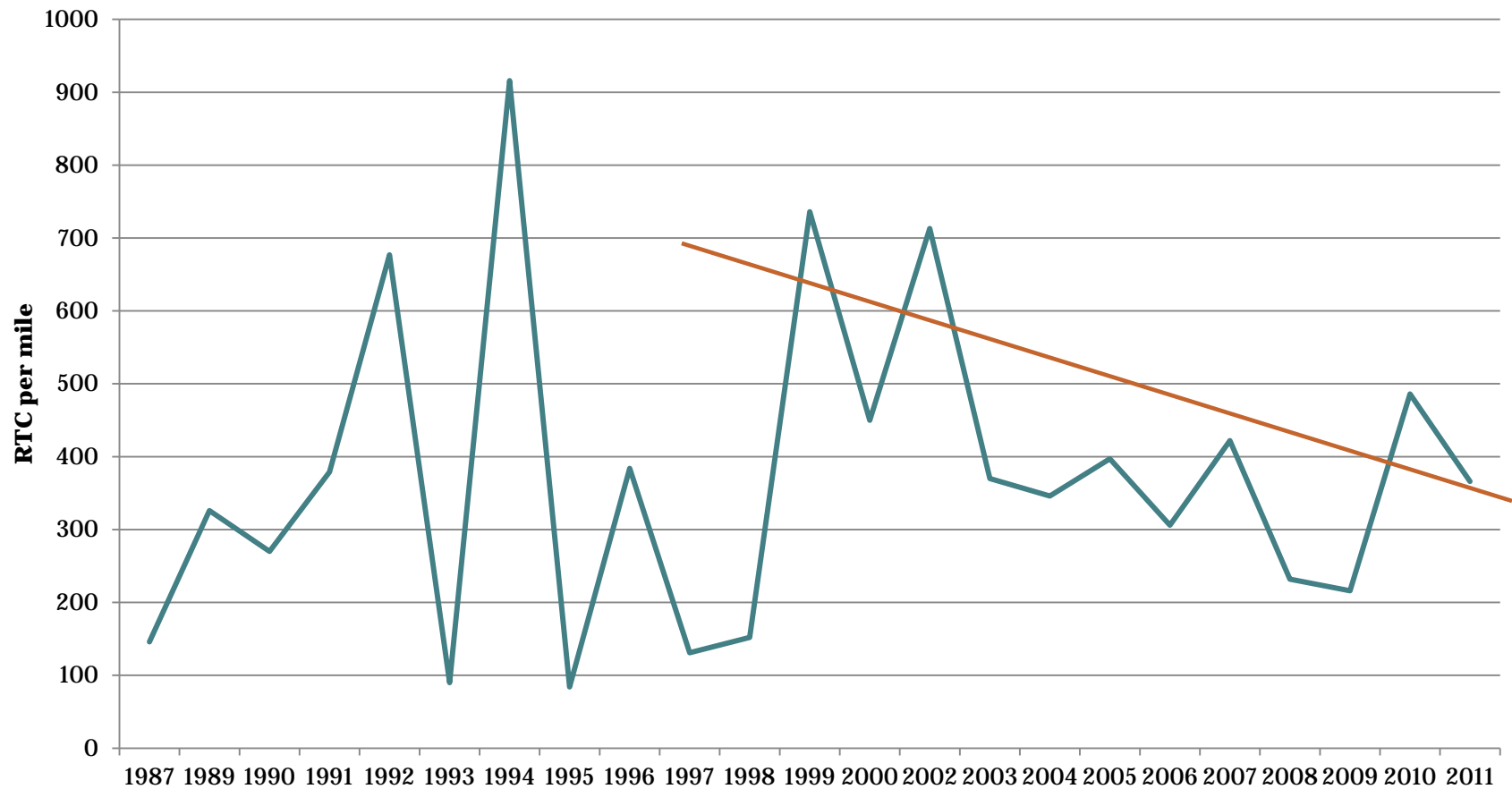
Map created with TOPO! © 2008 National Geographic; © 2007 Tele Atlas, Rel. 1/2007



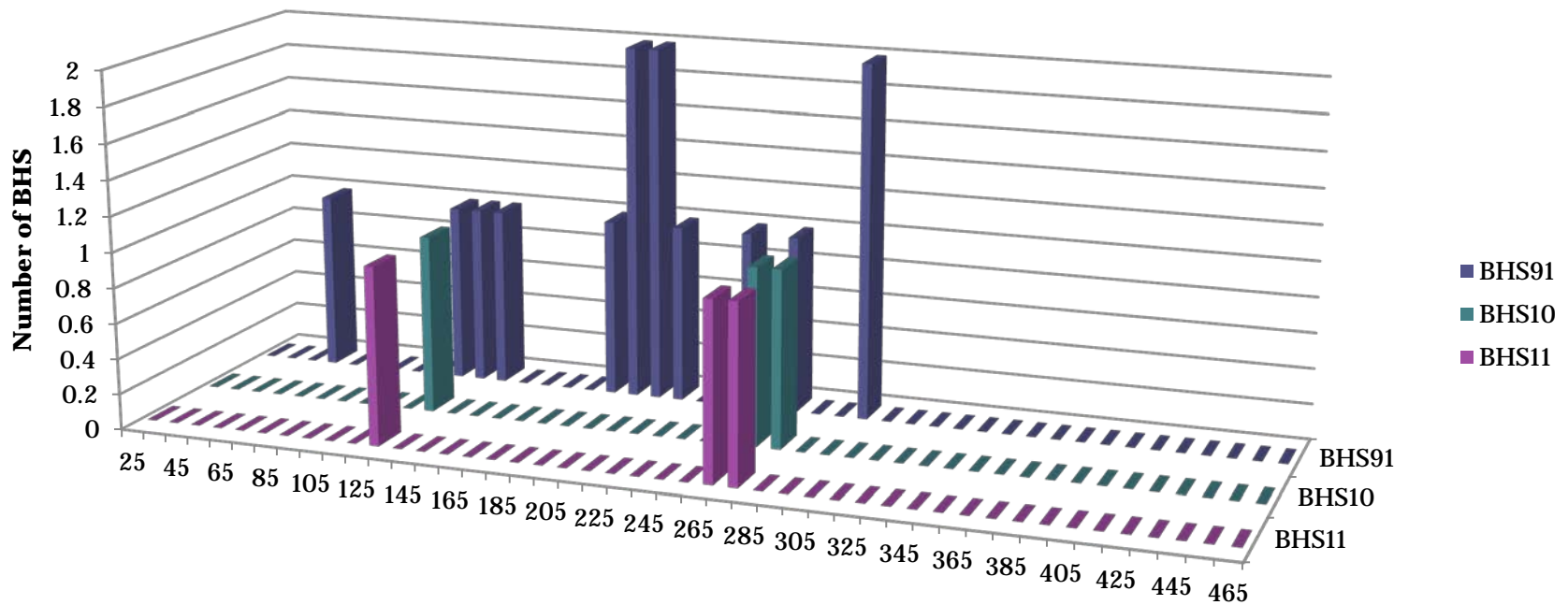
Dove Creek Pump Station



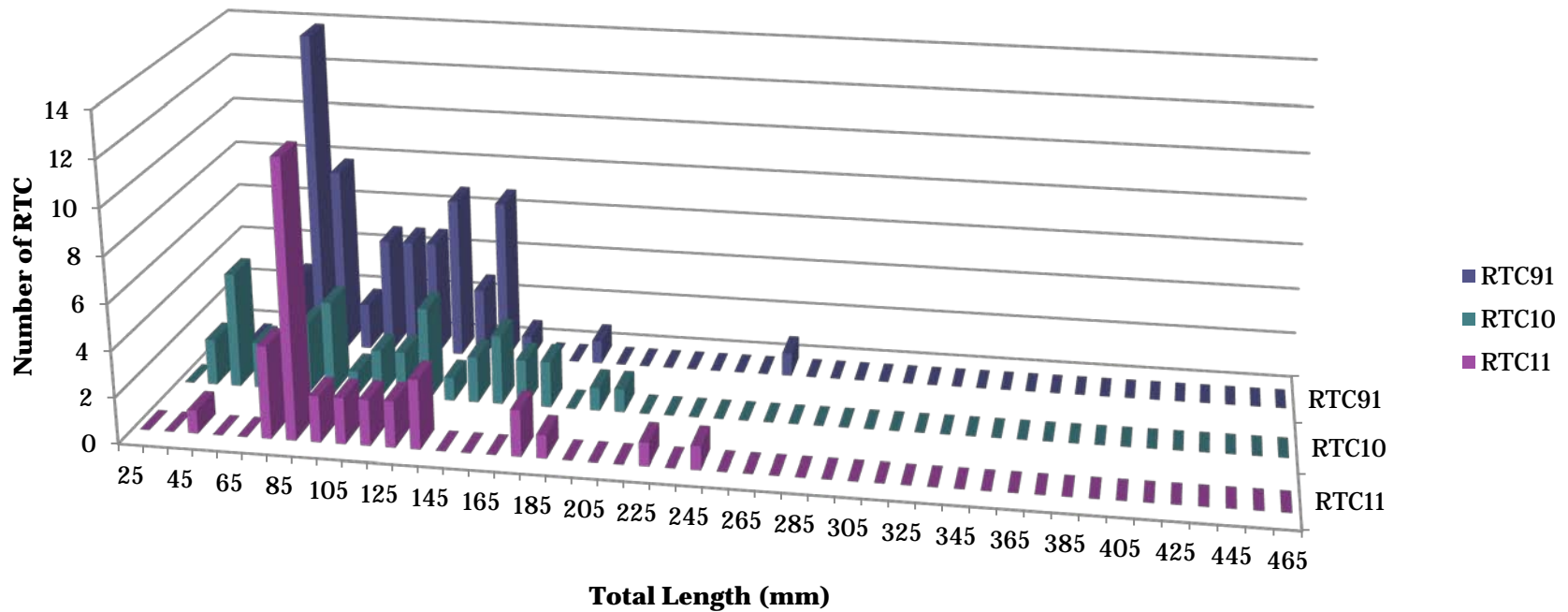
Roundtail chub density trends



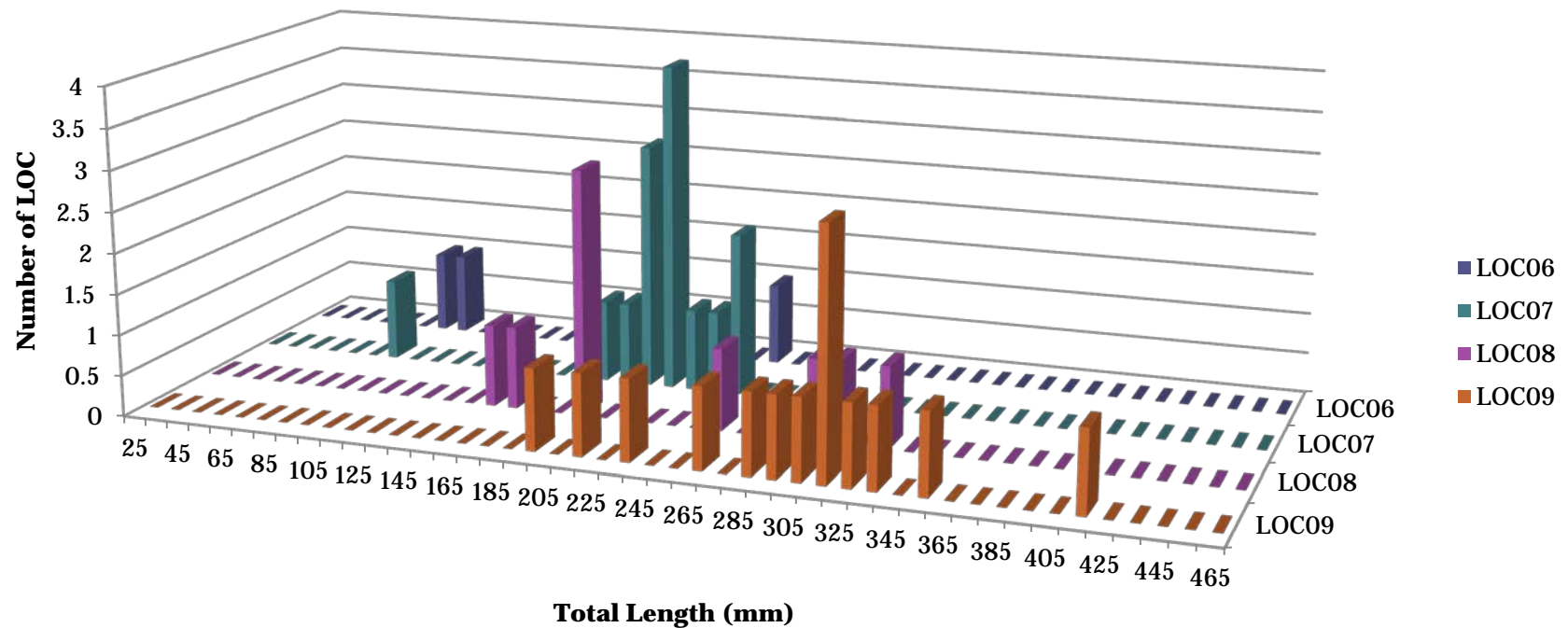
Bluehead sucker population structure



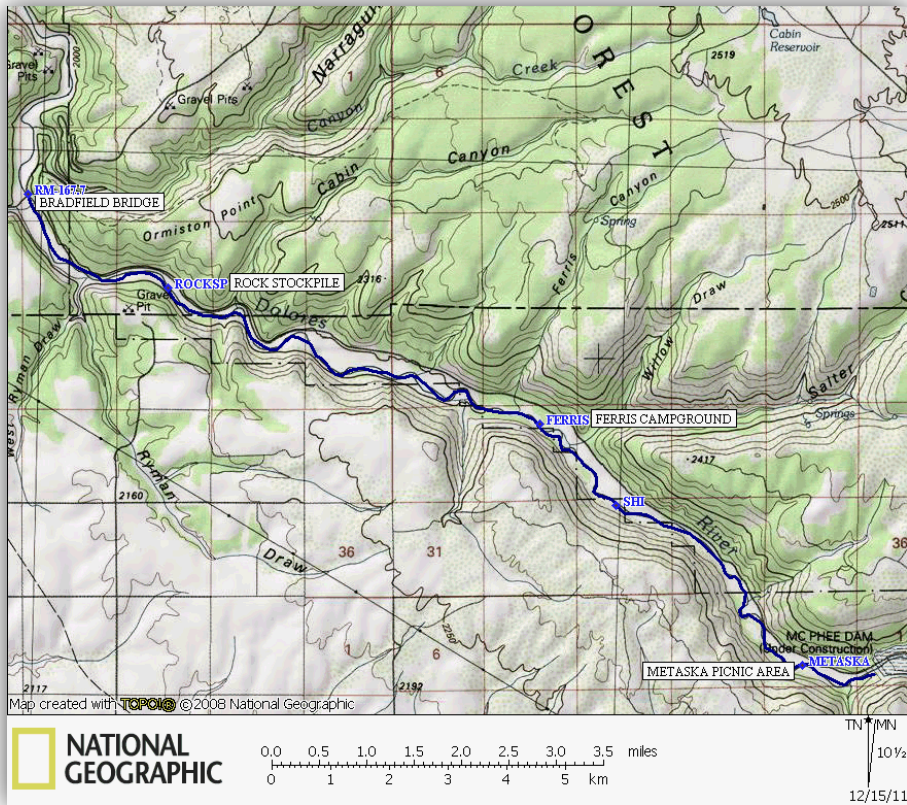
Roundtail chub population structure



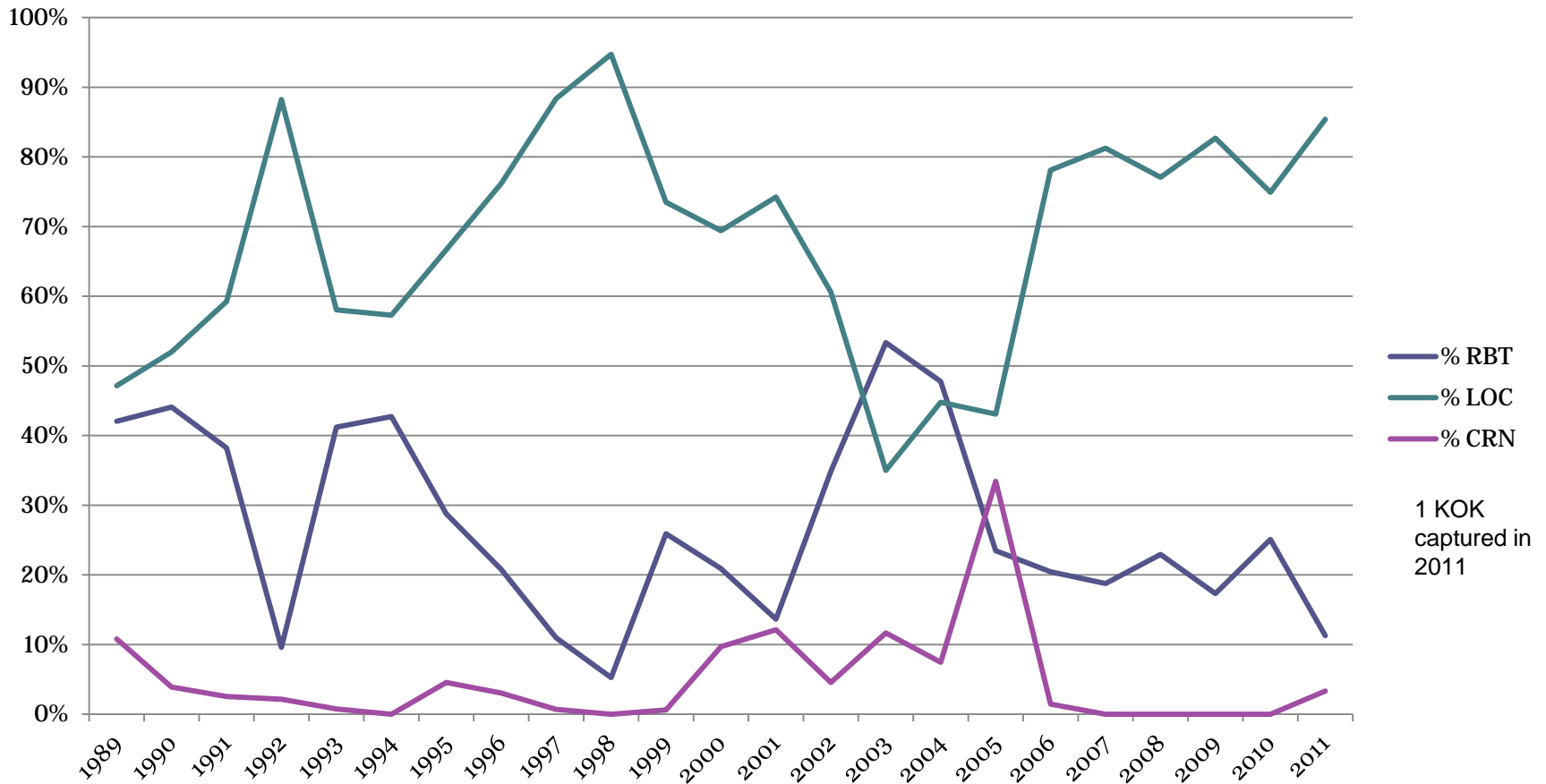
Brown trout population structure (before fire)



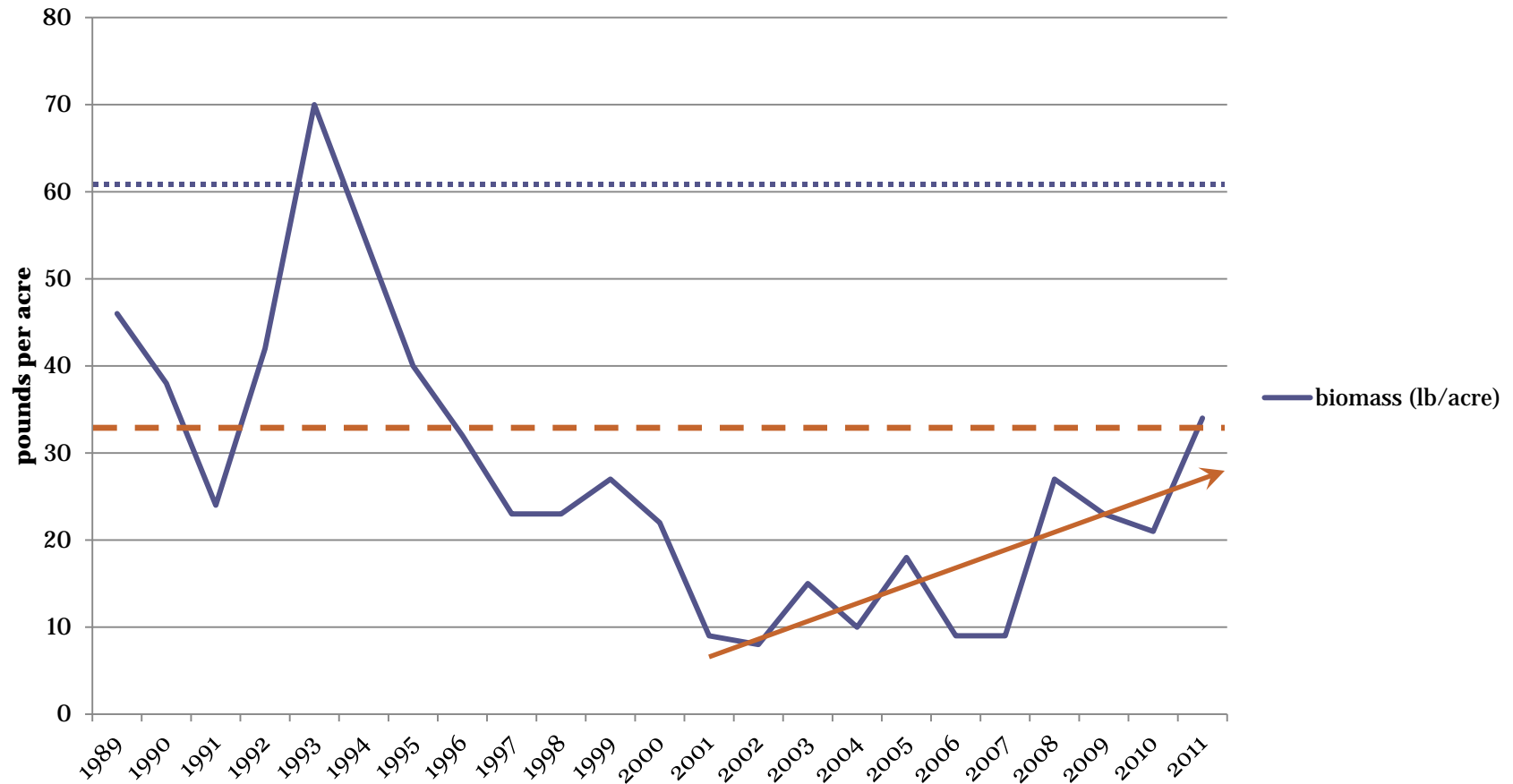
Dolores River Trout Reach



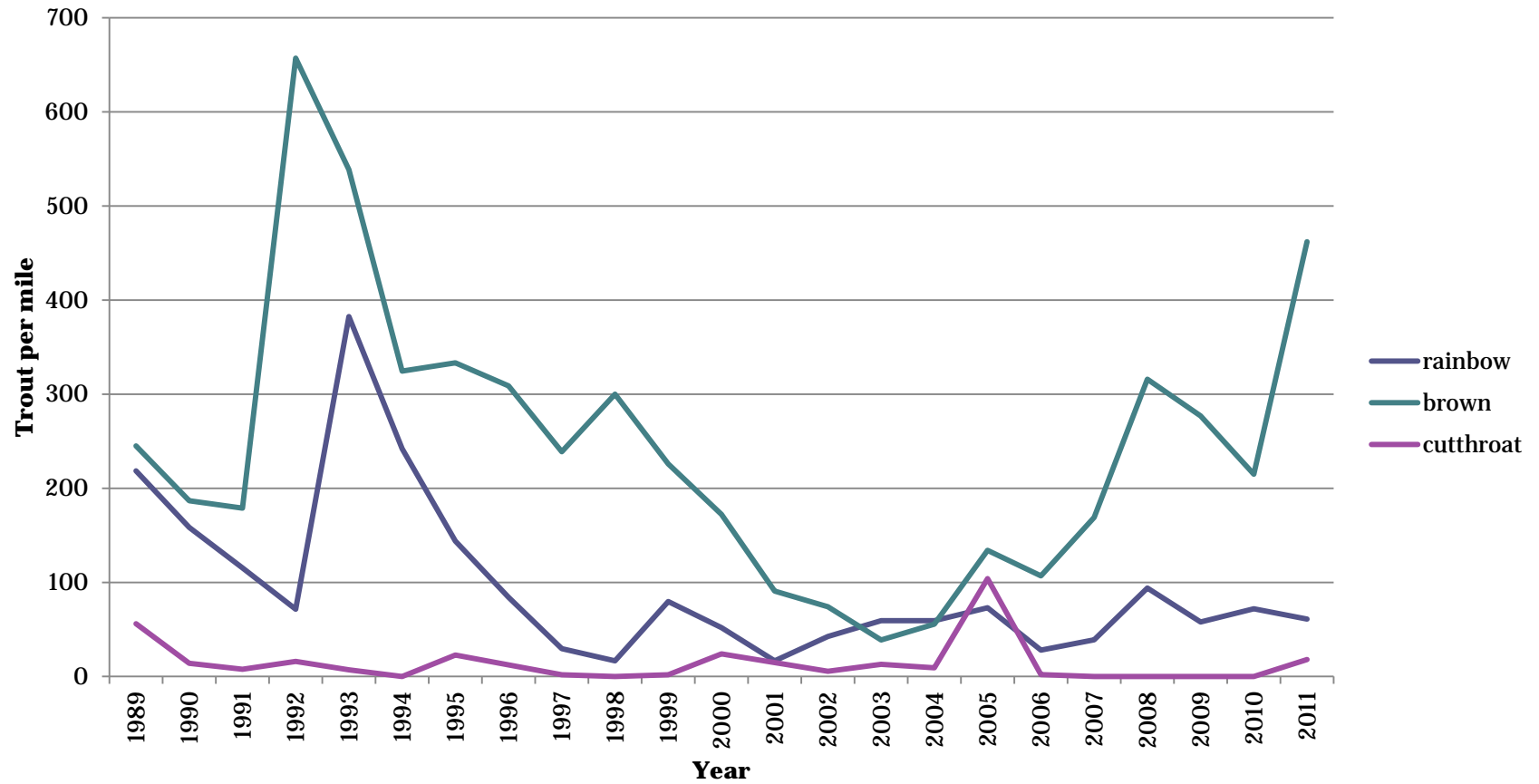
Trout composition



Trout Biomass (pounds/acre)

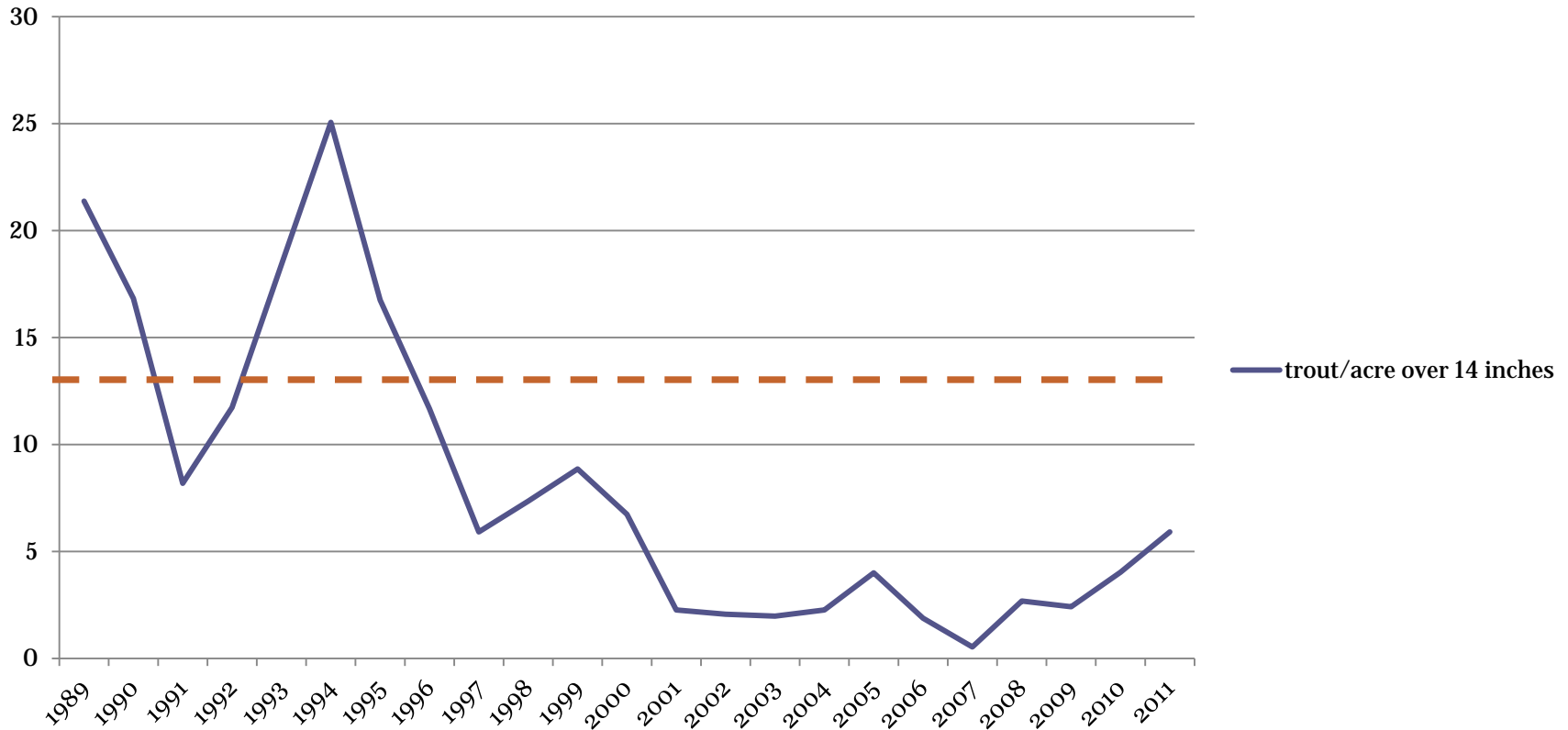


Trout density



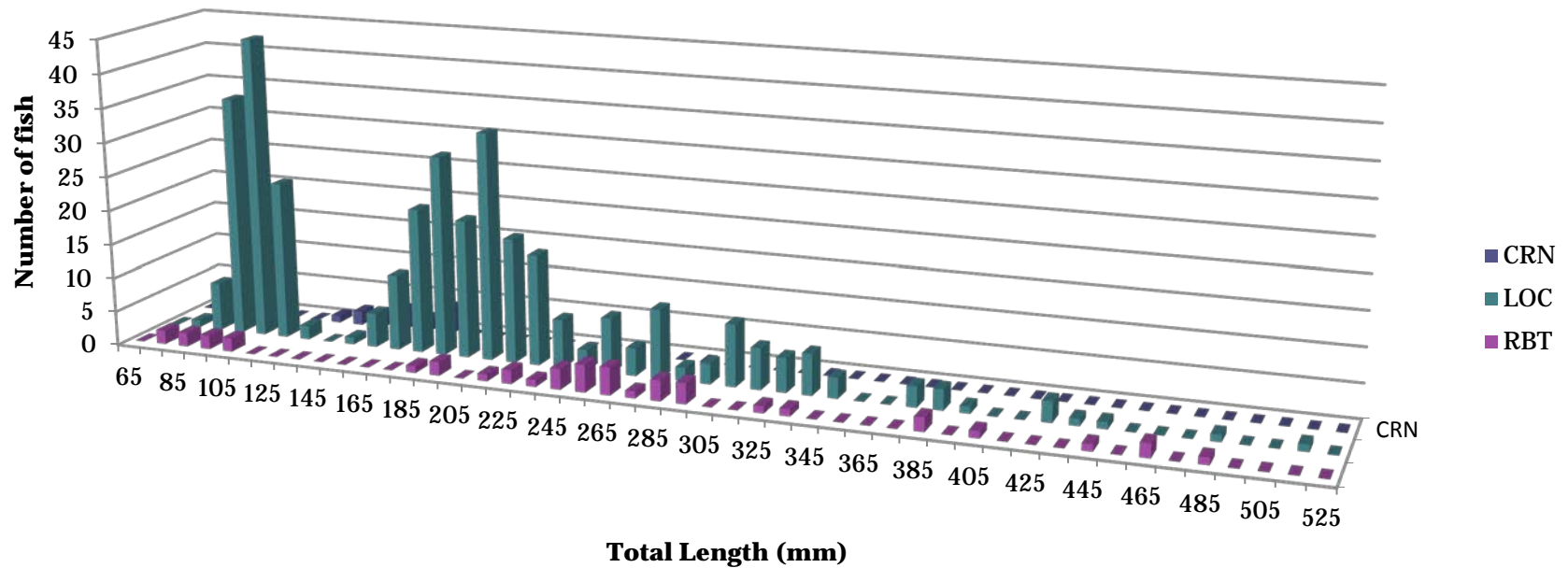
Trout Quality (fish per acre)

Quality Sized Trout in the Dolores River 3b



Trout Length Frequency

2011 Trout Population Structure



Overall, how did we do?

- ✓ Native fish Spawning?
- ✓ Native fish Recruitment?
- ✓ Expanded Distribution of Natives?
- ✓ Fewer non-natives (Yes and No)?
- ✓ Immigration of brown trout from upstream?
- ✓ Improvement of trout density, biomass, and quality?
- ✓ We can and do detect changes with current monitoring strategies



Plans

- Monitor at historic sites; add young native fish survey in August
- Investigate genetics of natives
- Remote real-time temperature monitoring
- PIT tag all natives
- Possible stationary PIT tag array



PIT tag array

