

Appendix J

Rainbow River System PHABSIM Modeling Methods and Results

Section 1

Rainbow River System PHABSIM Modeling Methods: Habitat Suitability Curves Used in PHABSIM Modeling

Section 2

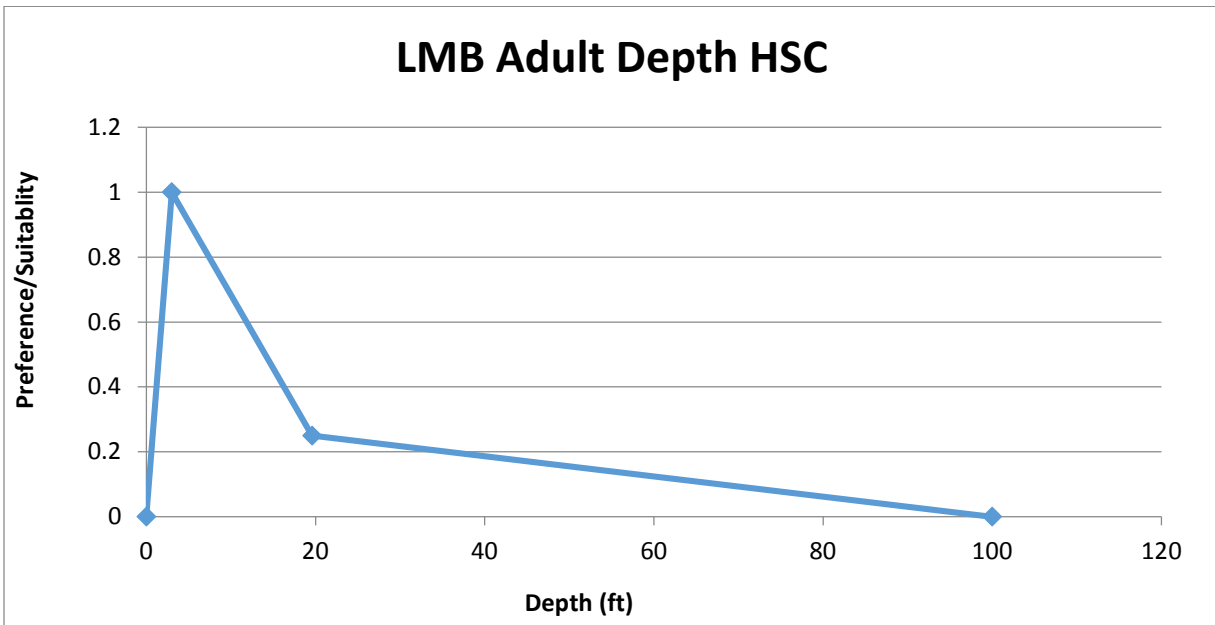
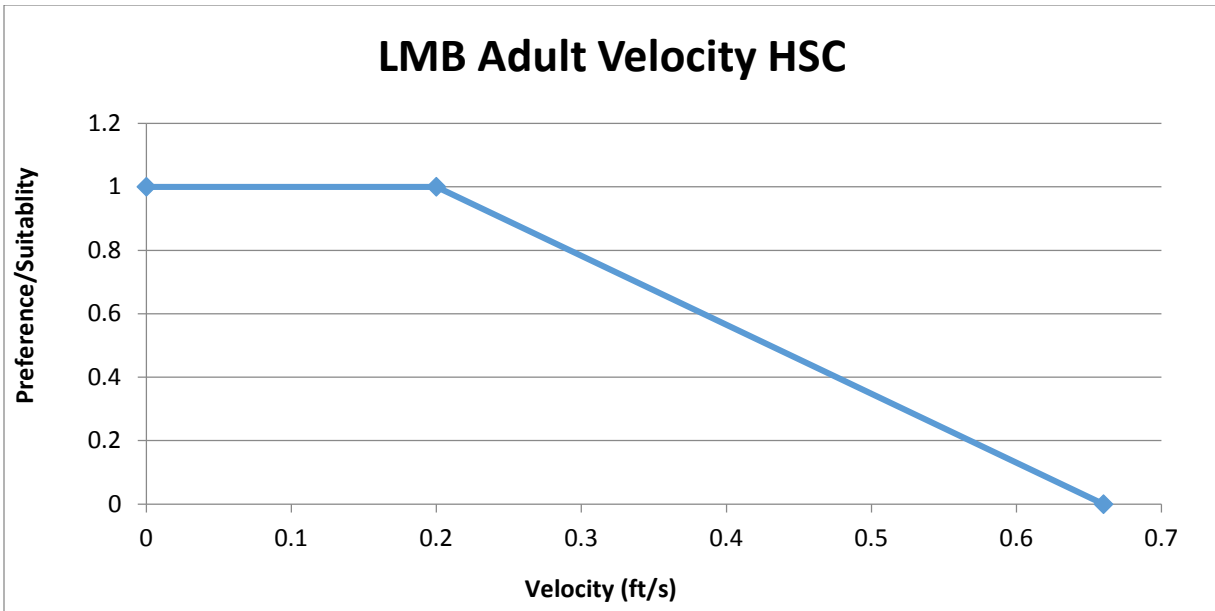
Rainbow River System PHABSIM Modeling Results: Weighted Usable Area vs. Discharge Plots for PHABSIM Sites

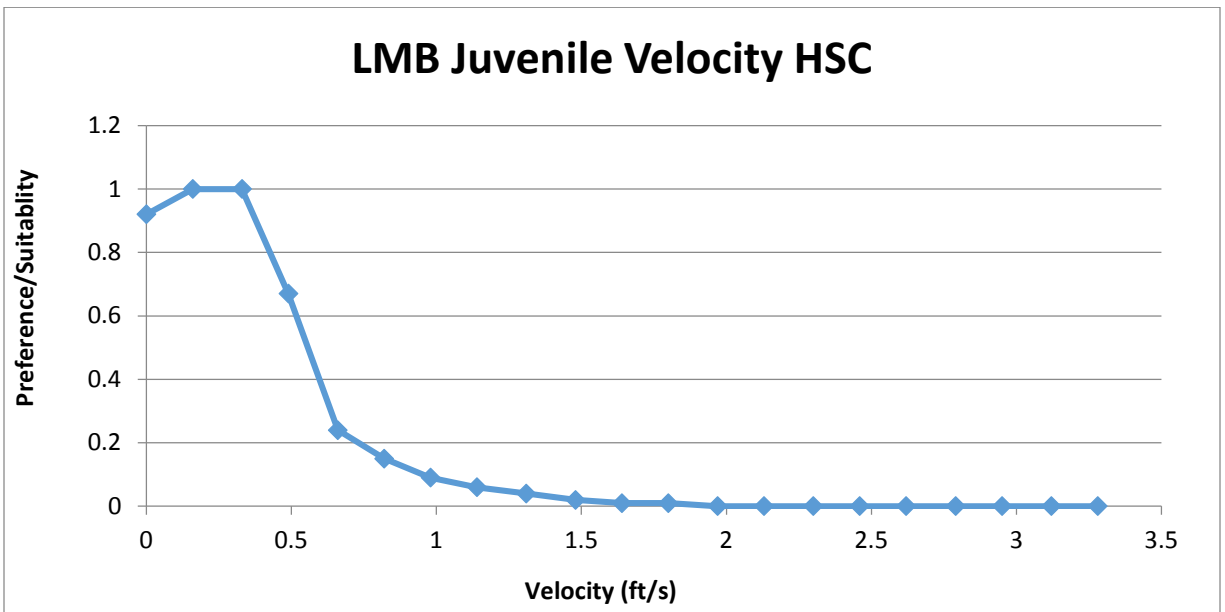
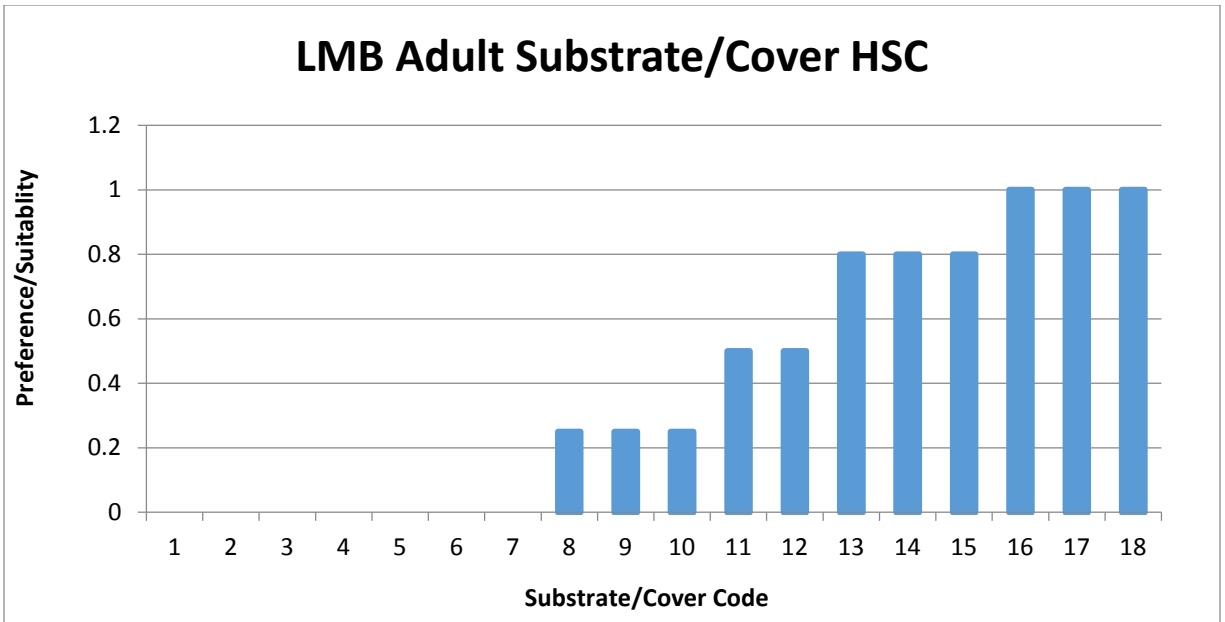
Section 3

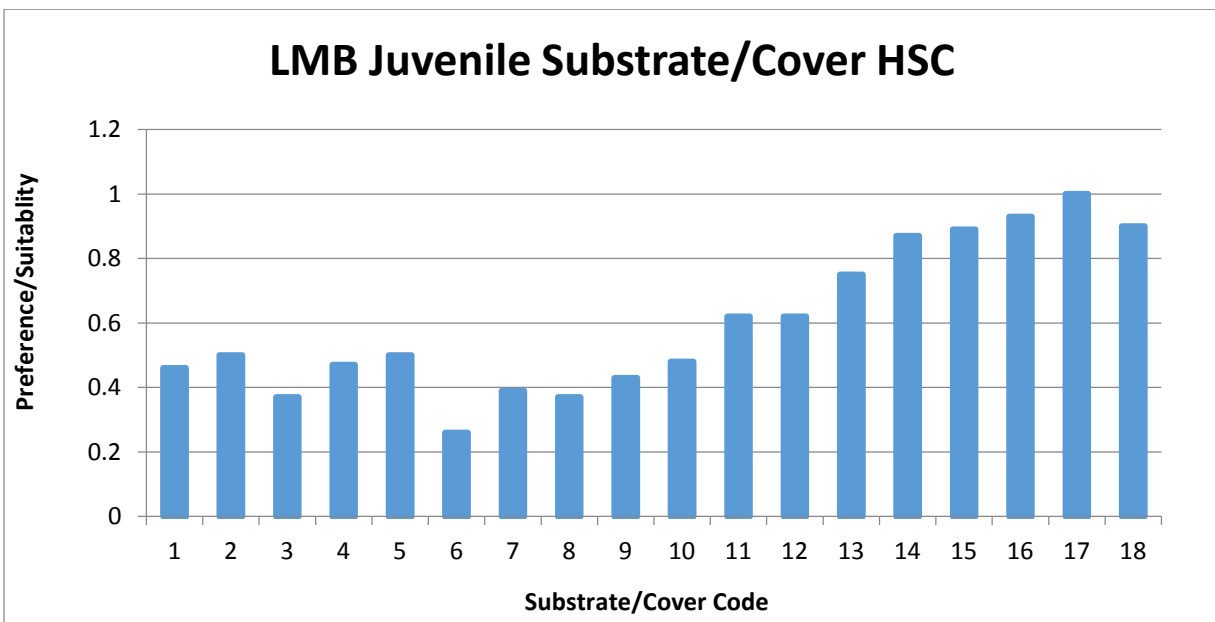
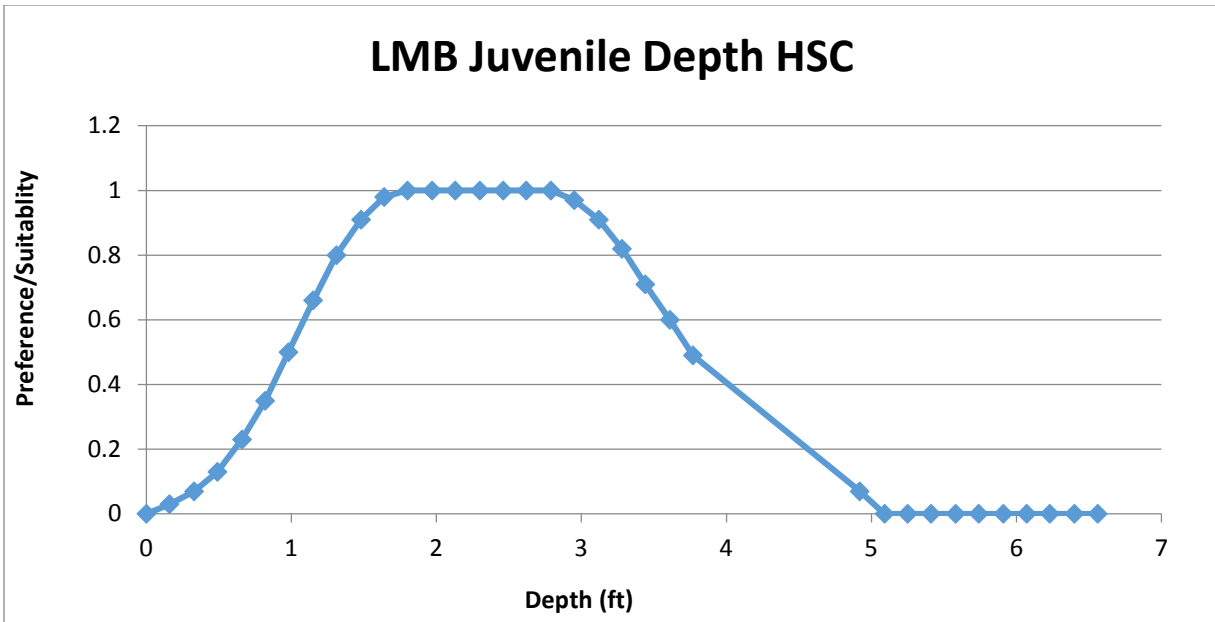
Rainbow River System PHABSIM Modeling Results: Habitat Gain/Loss vs. 5, 10, 15, and 20% Flow Reduction Plots for PHABSIM Sites

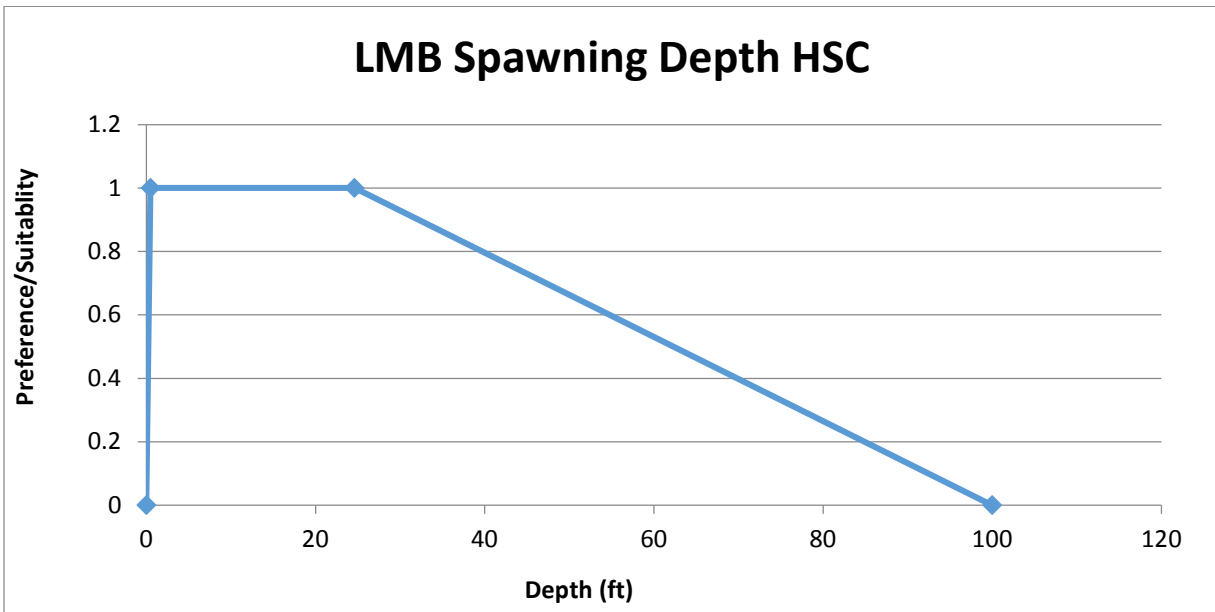
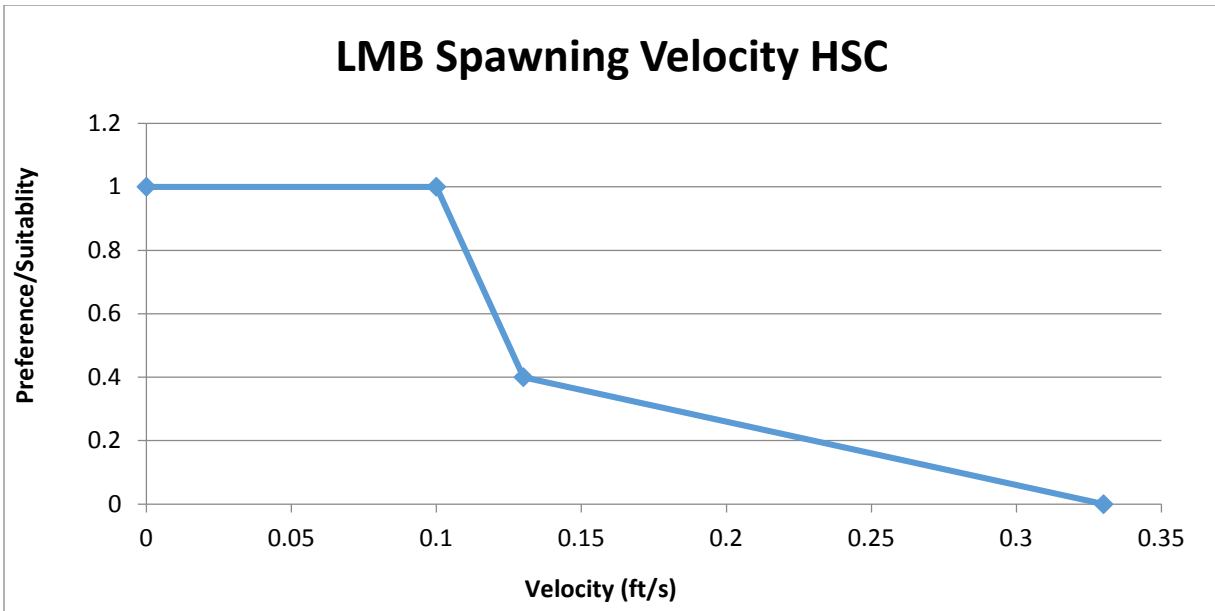
Section 1

Rainbow River System PHABSIM Modeling Methods: Habitat Suitability Curves Used in PHABSIM Modeling

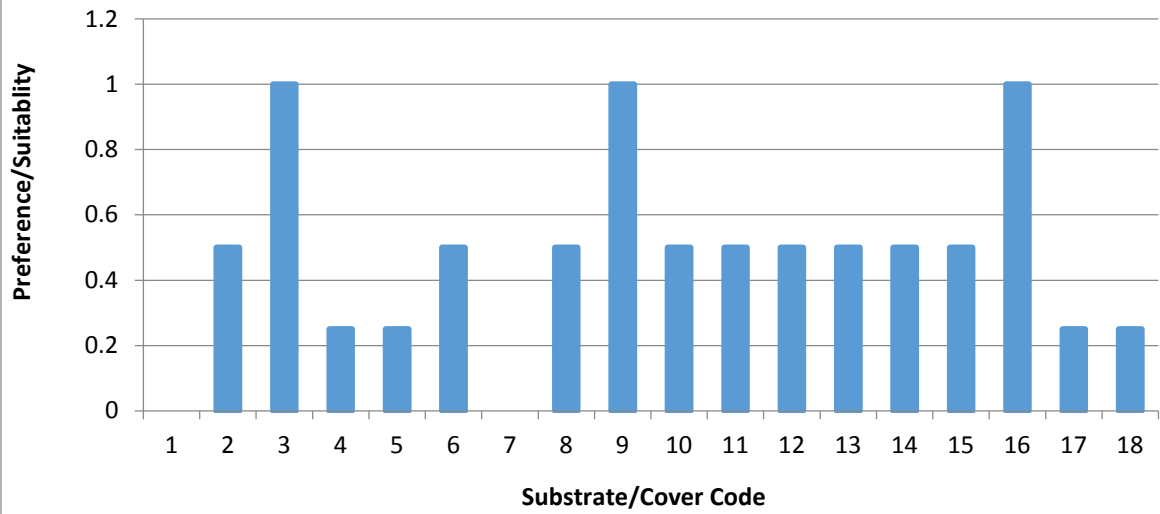




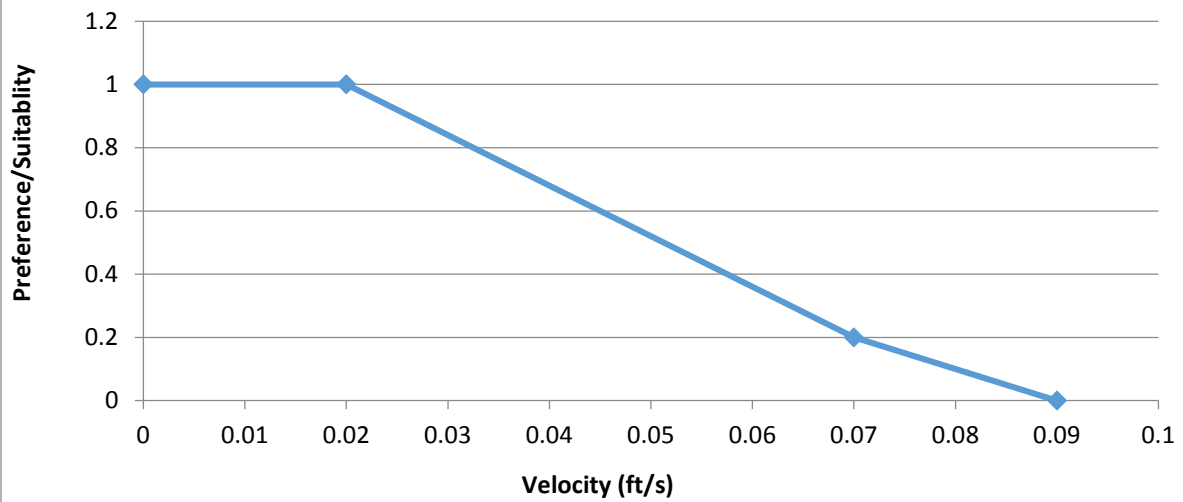


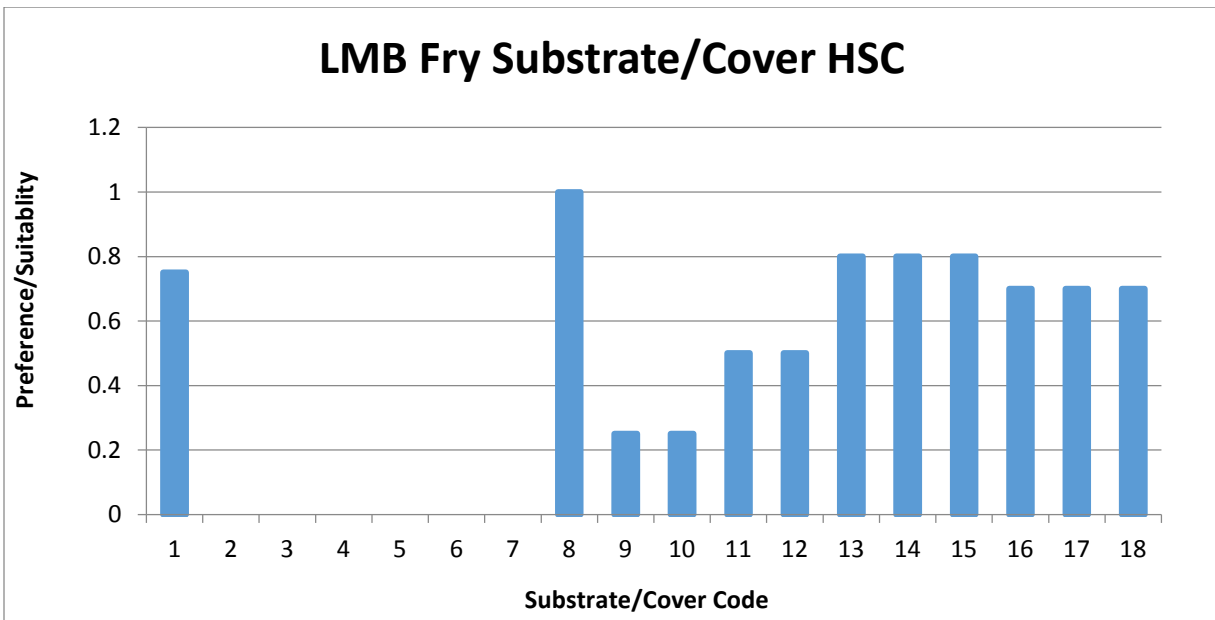
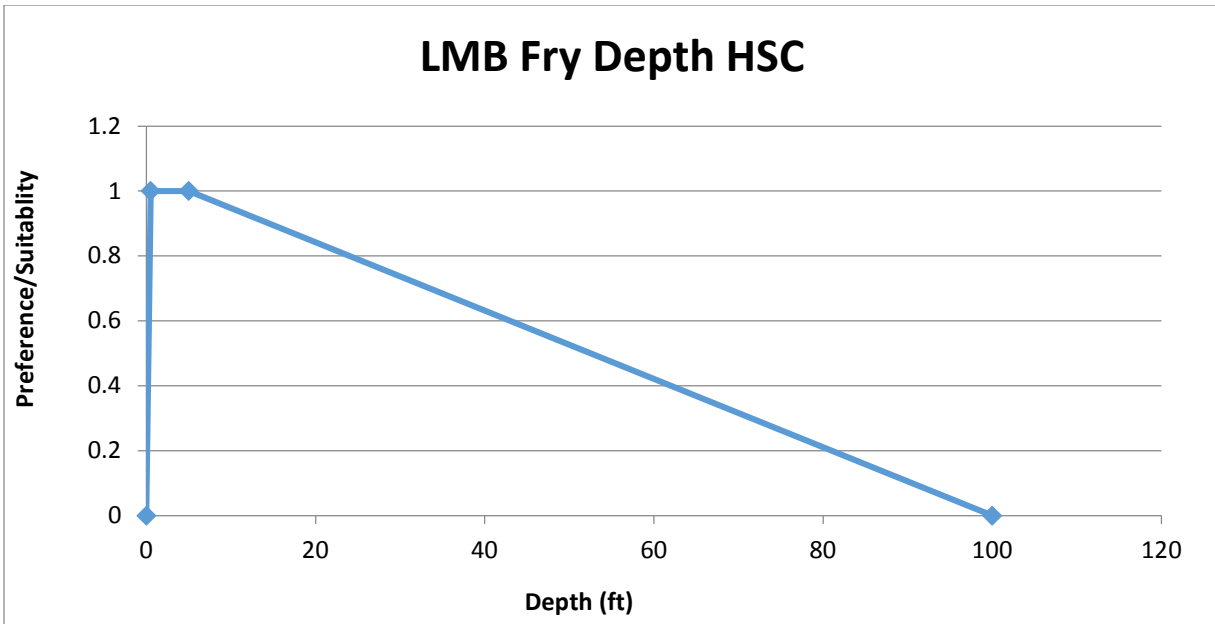


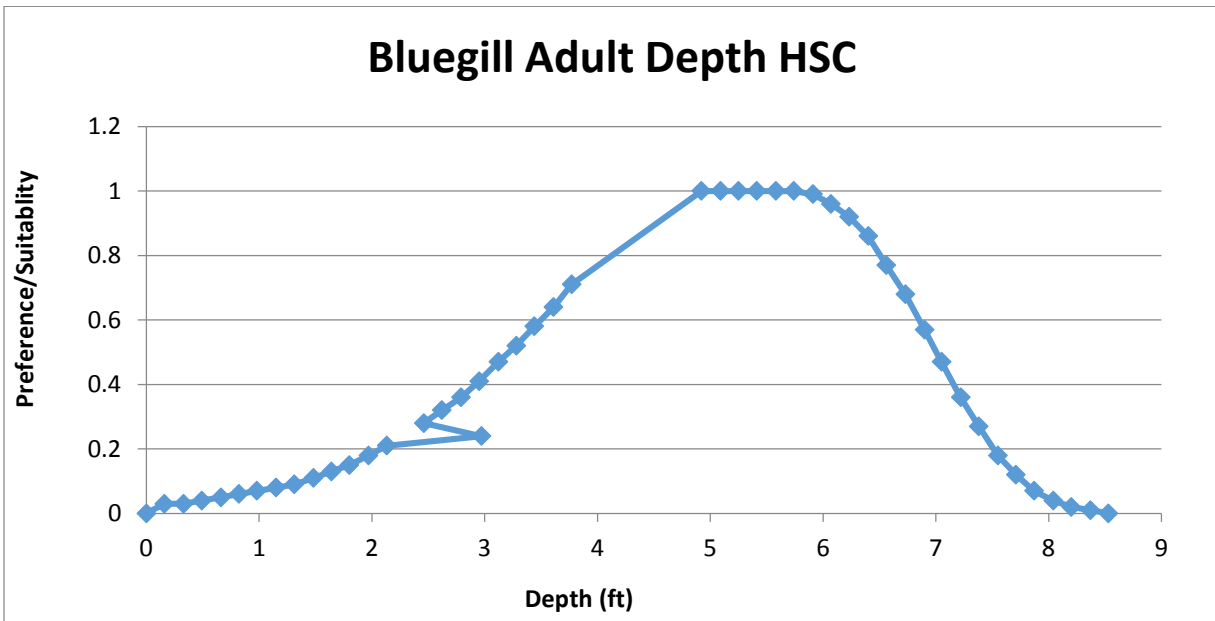
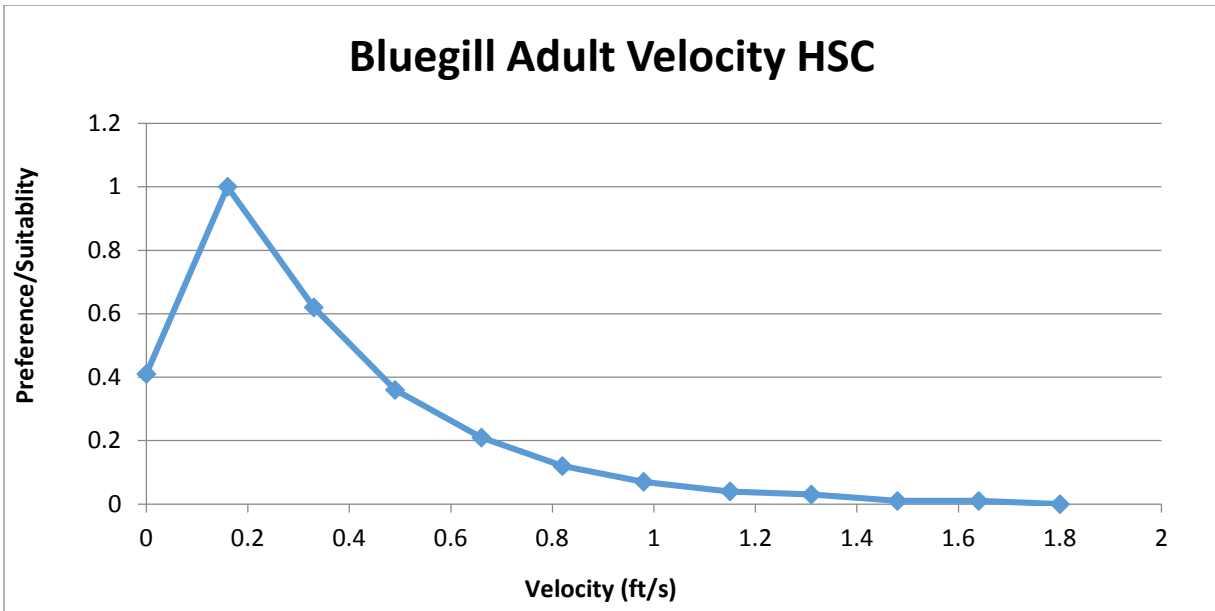
LMB Spawning Substrate/Cover HSC



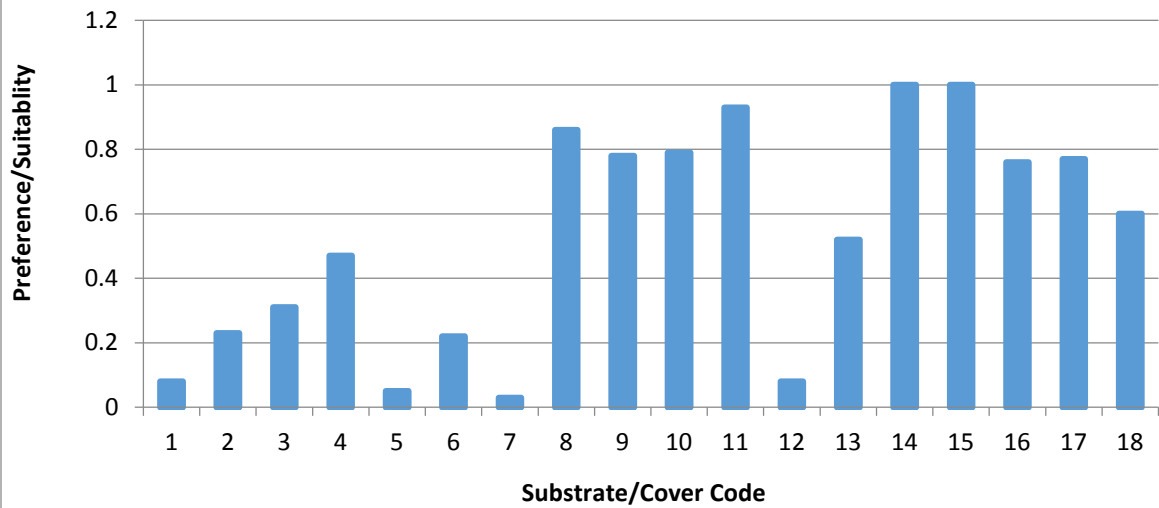
LMB Fry Velocity HSC



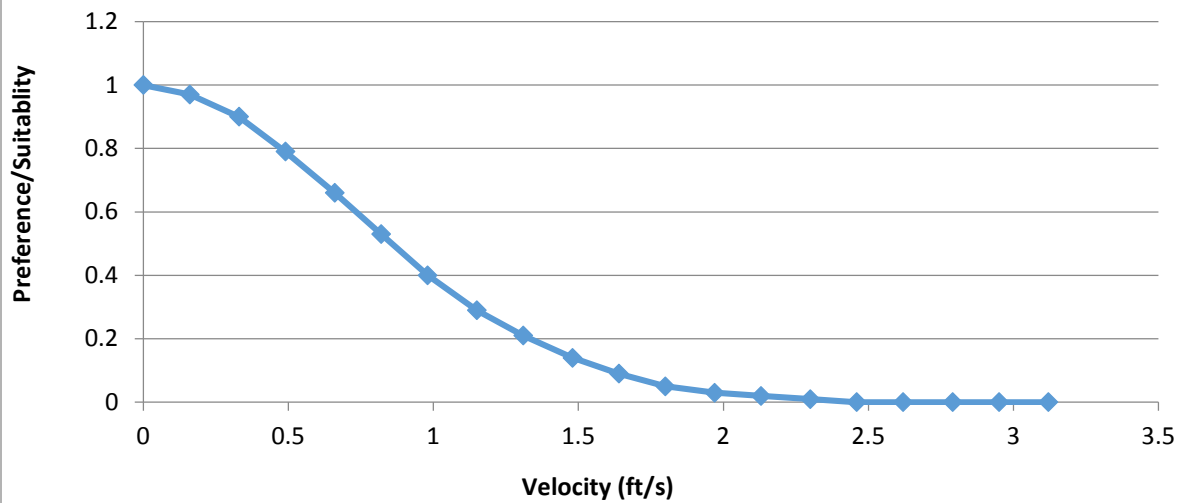


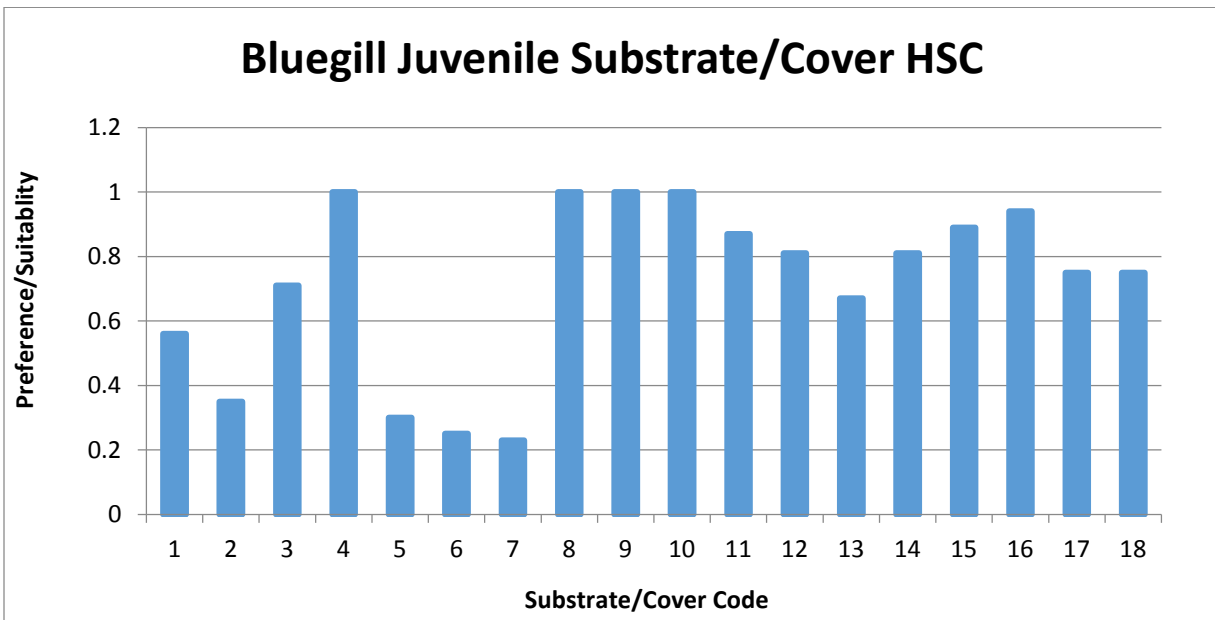
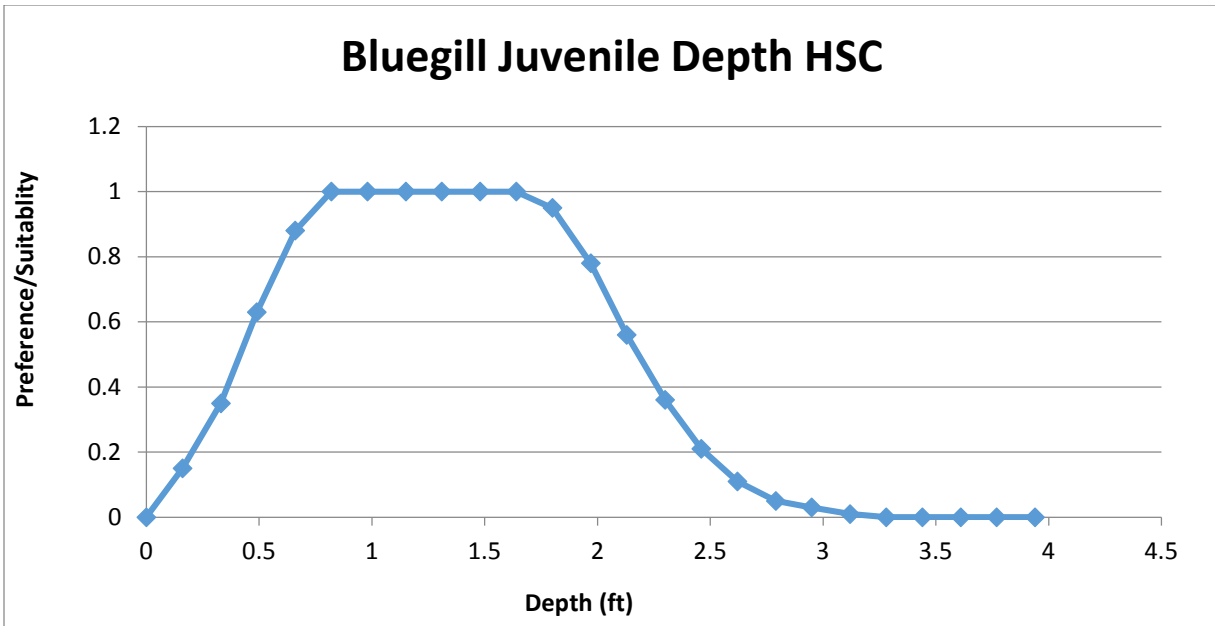


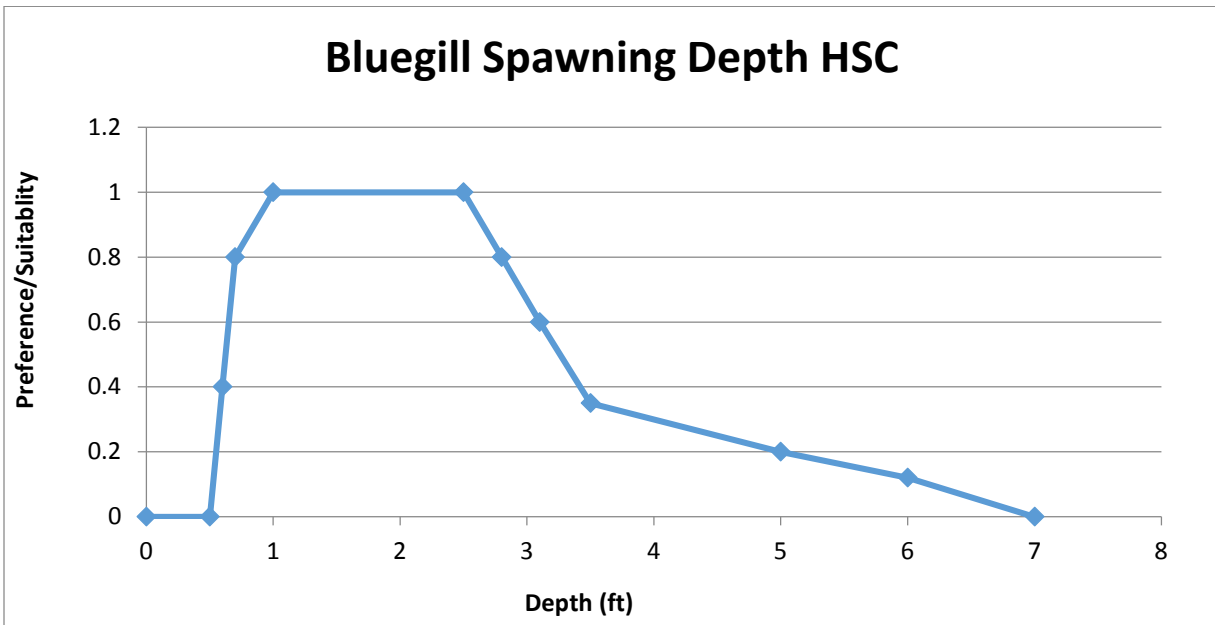
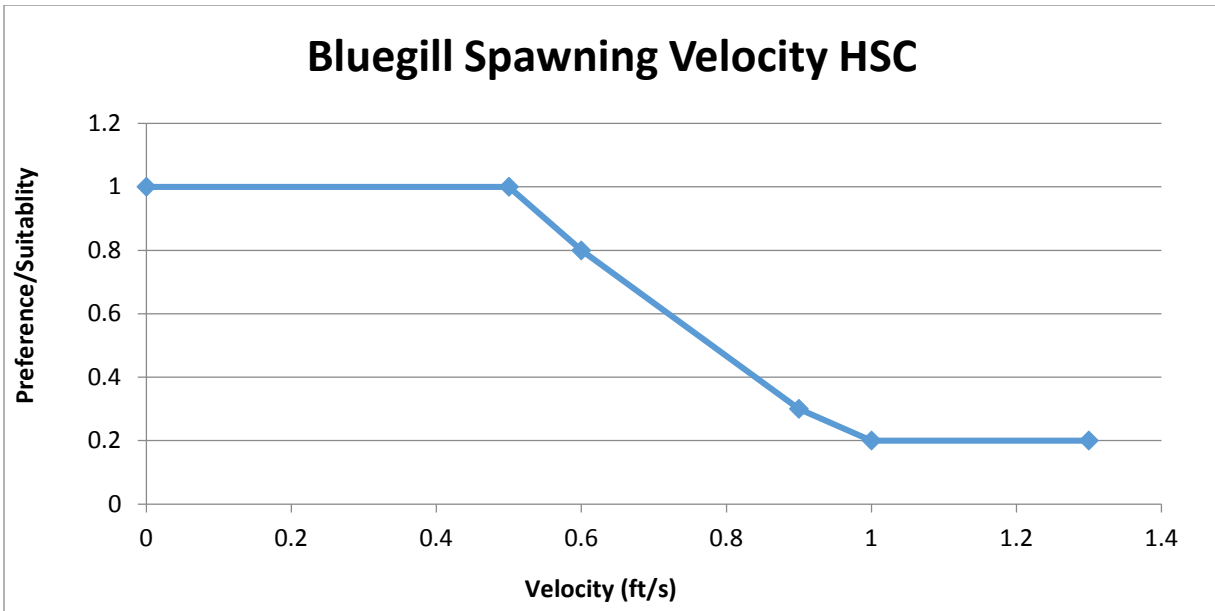
Bluegill Adult Substrate/Cover HSC



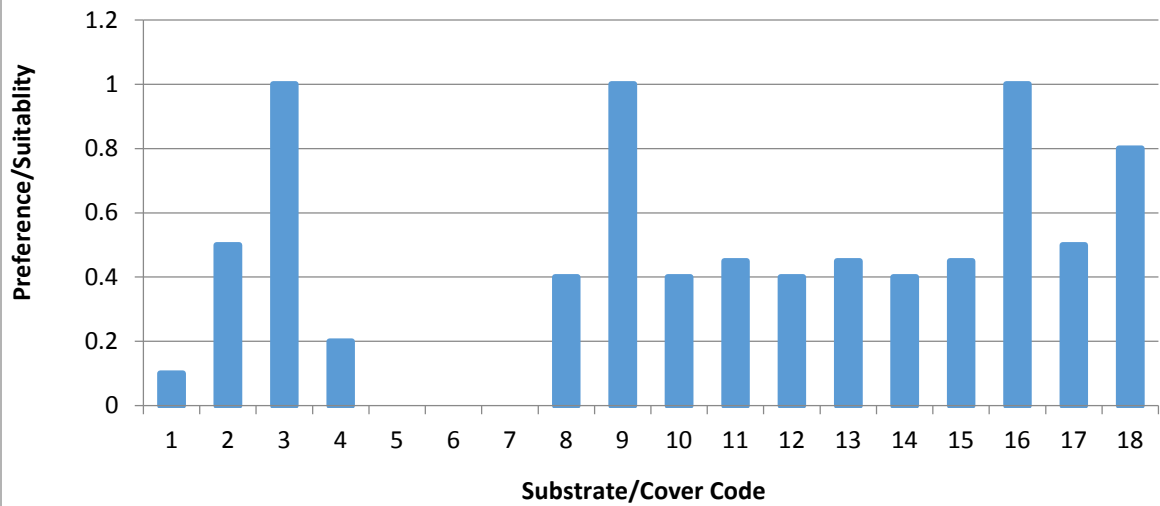
Bluegill Juvenile Velocity HSC



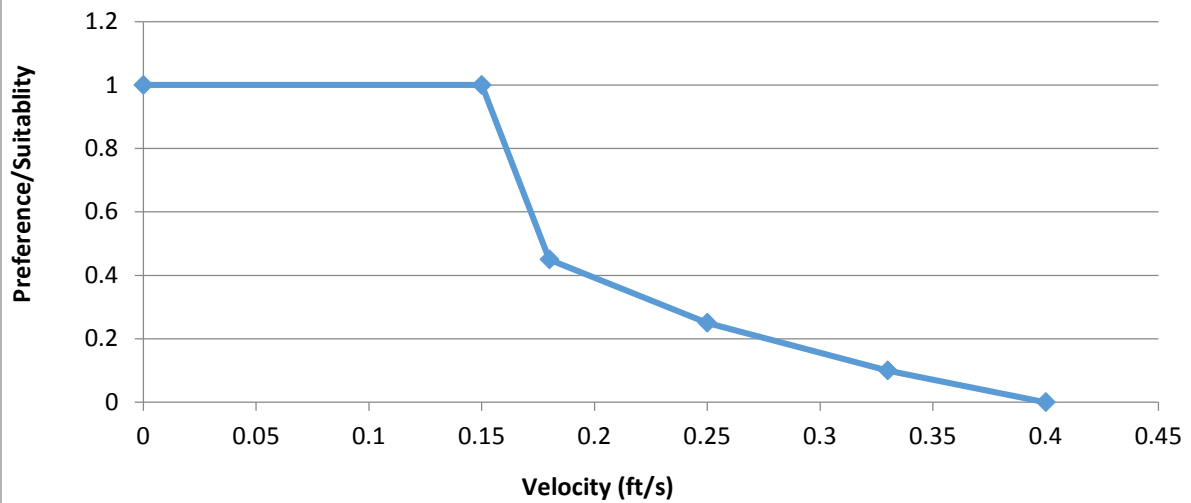


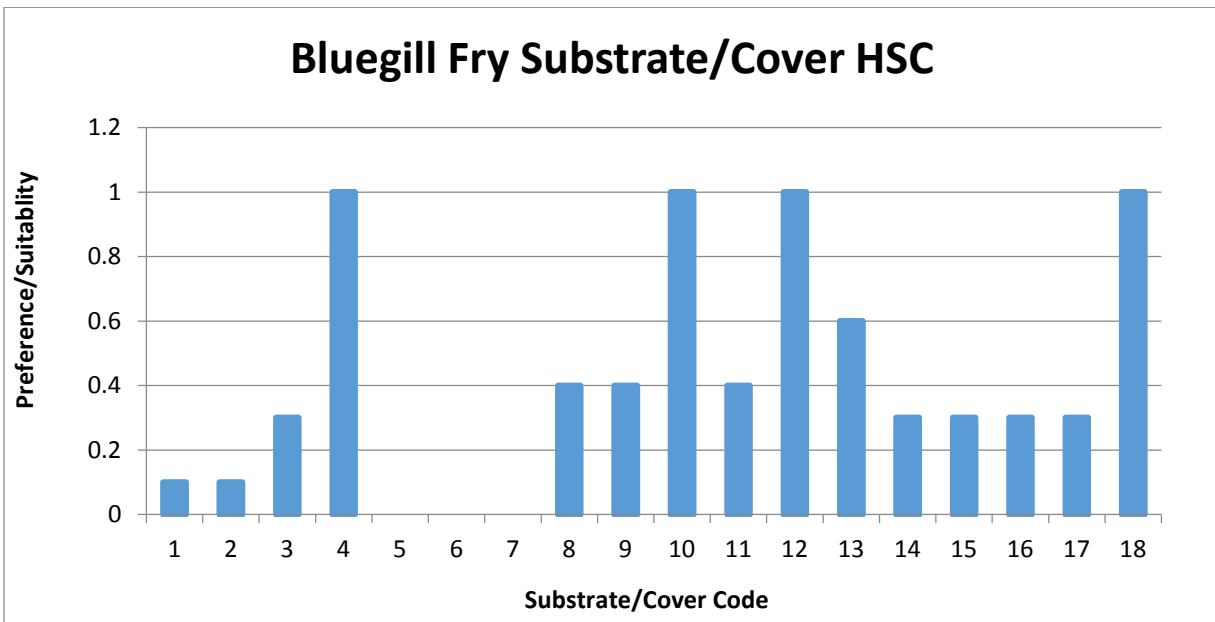
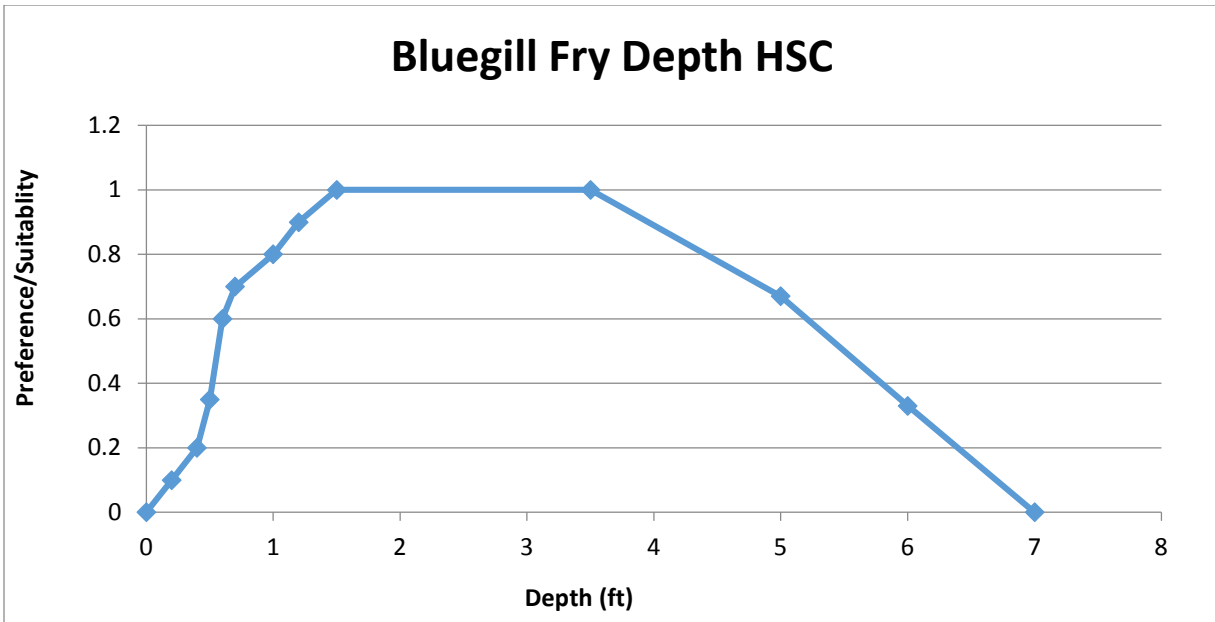


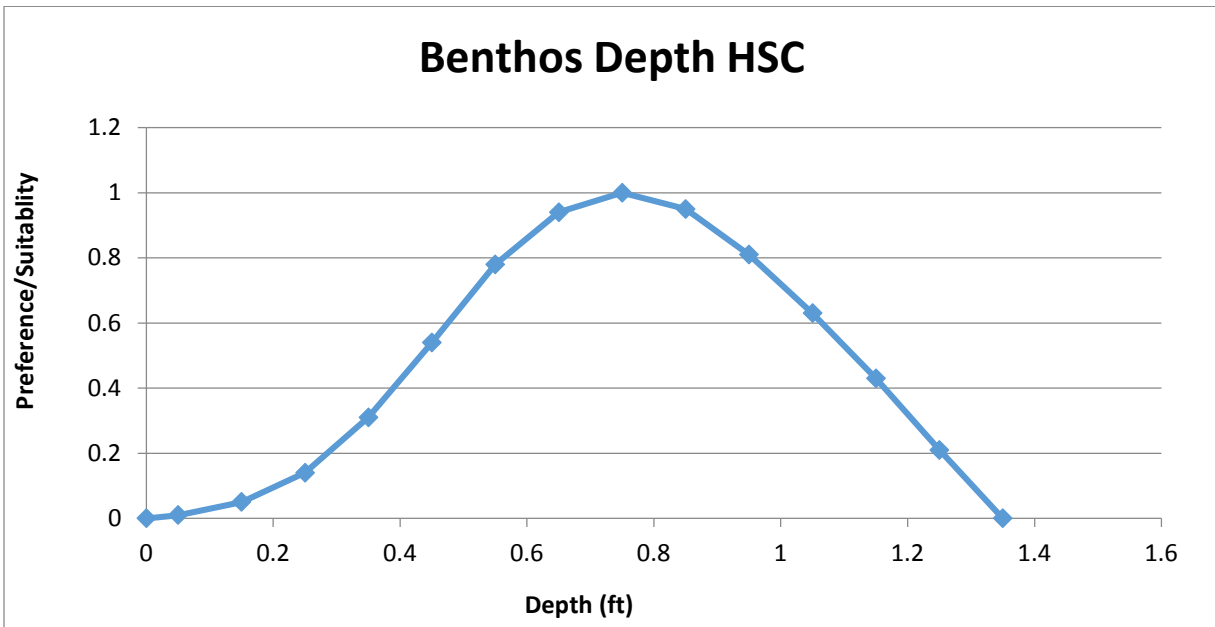
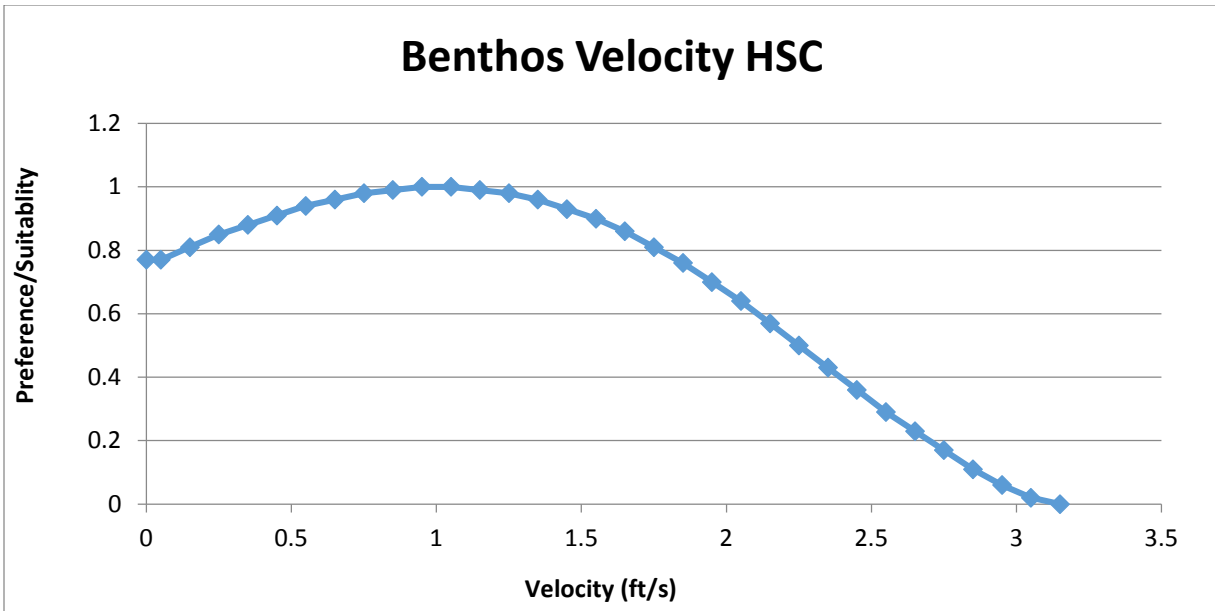
Bluegill Spawning Substrate/Cover HSC

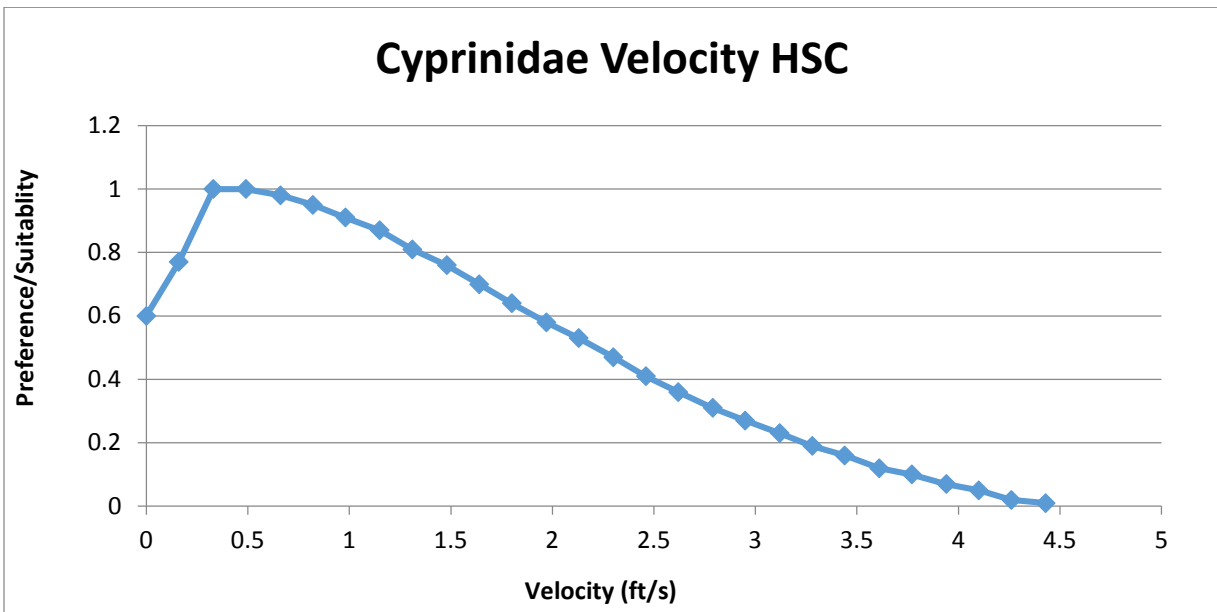
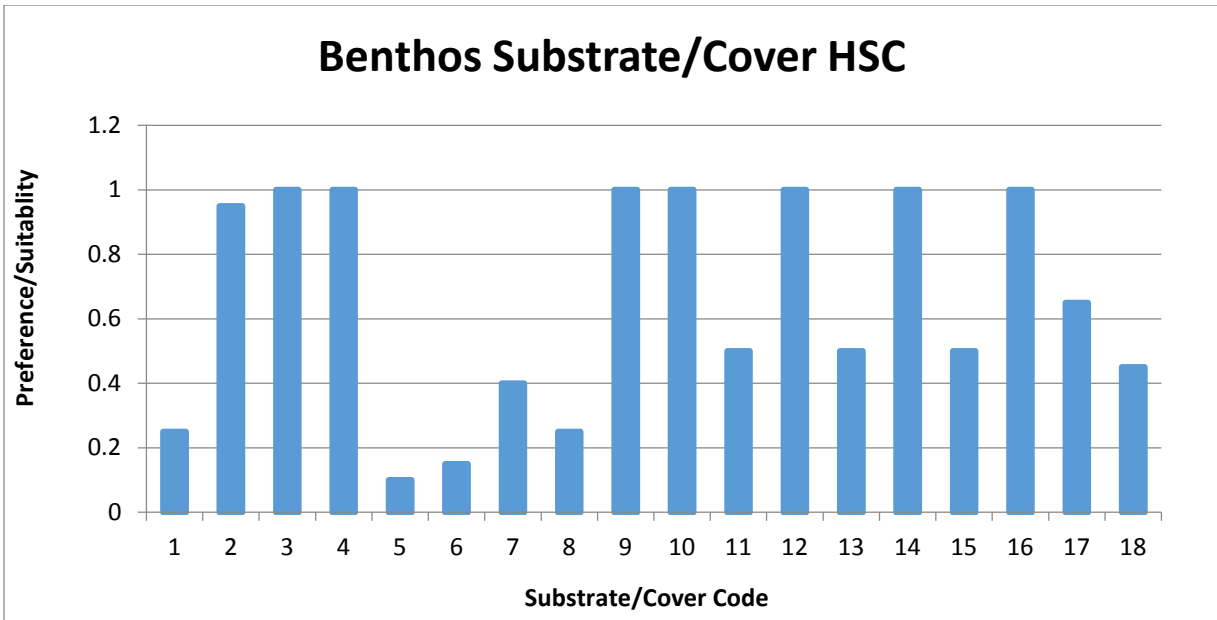


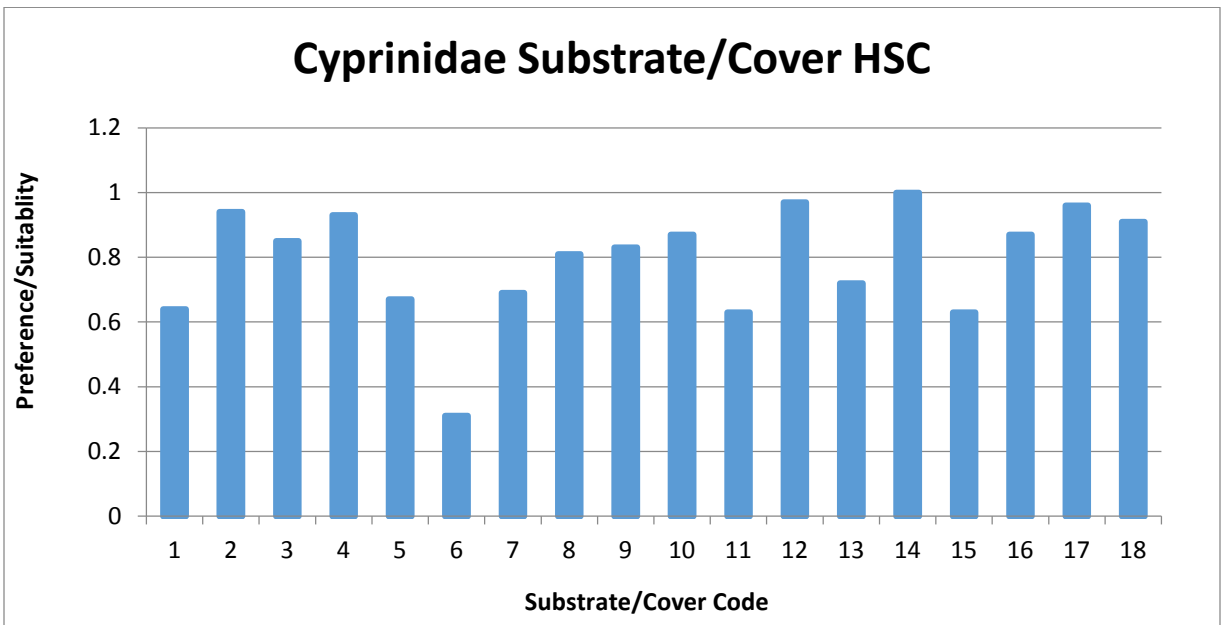
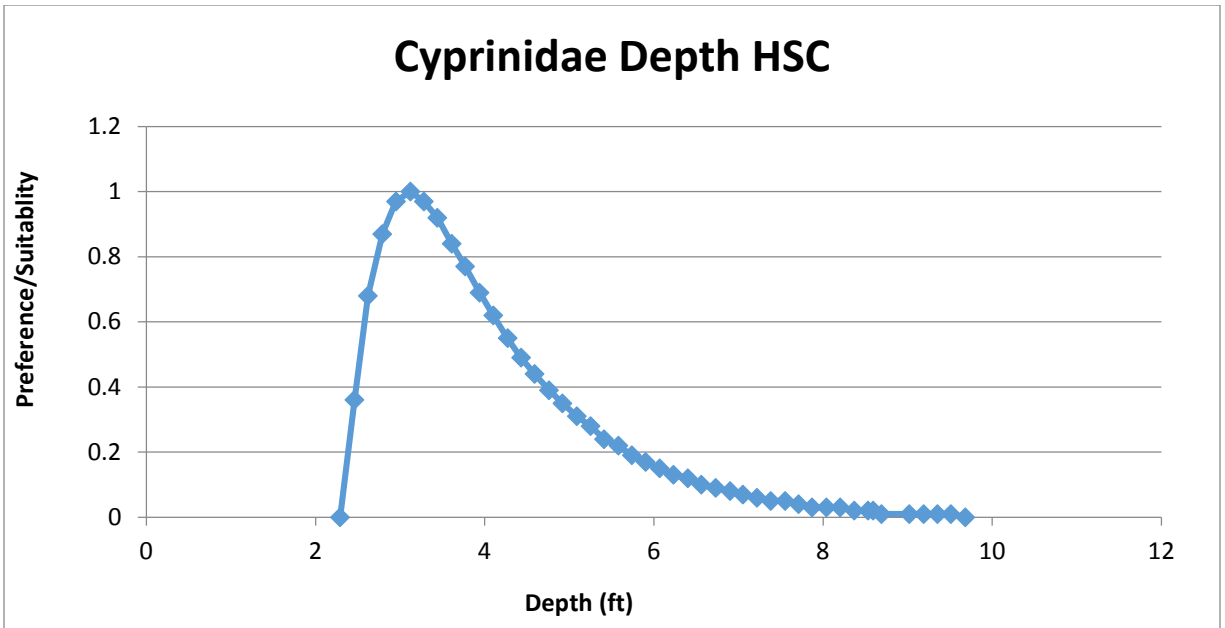
Bluegill Fry Velocity HSC

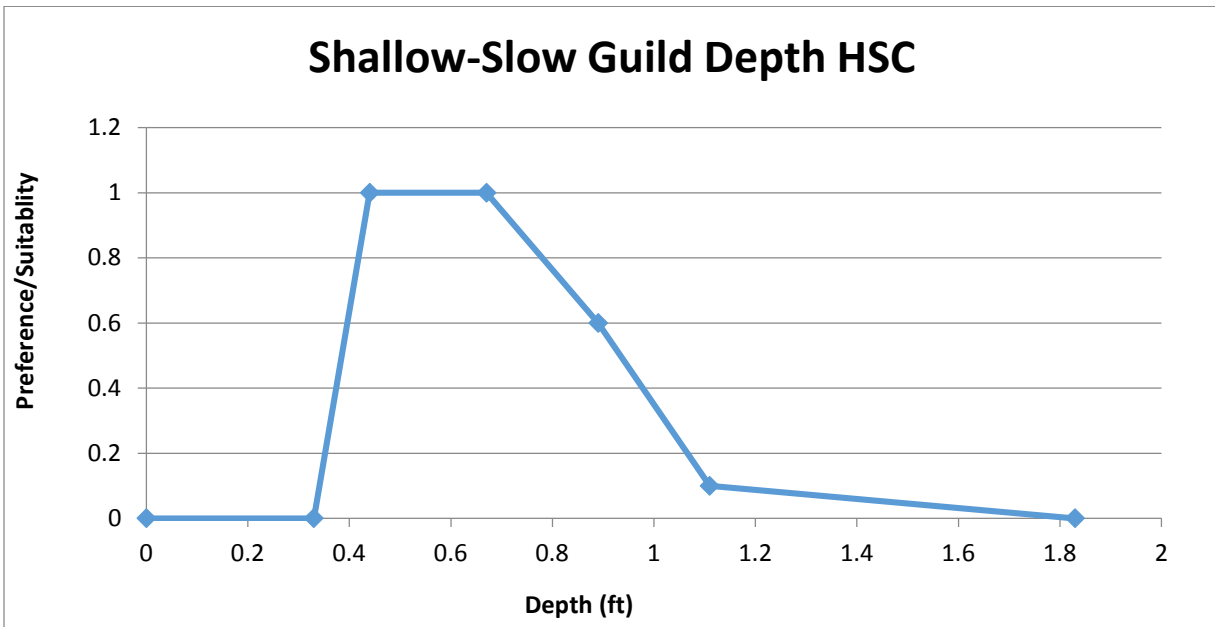
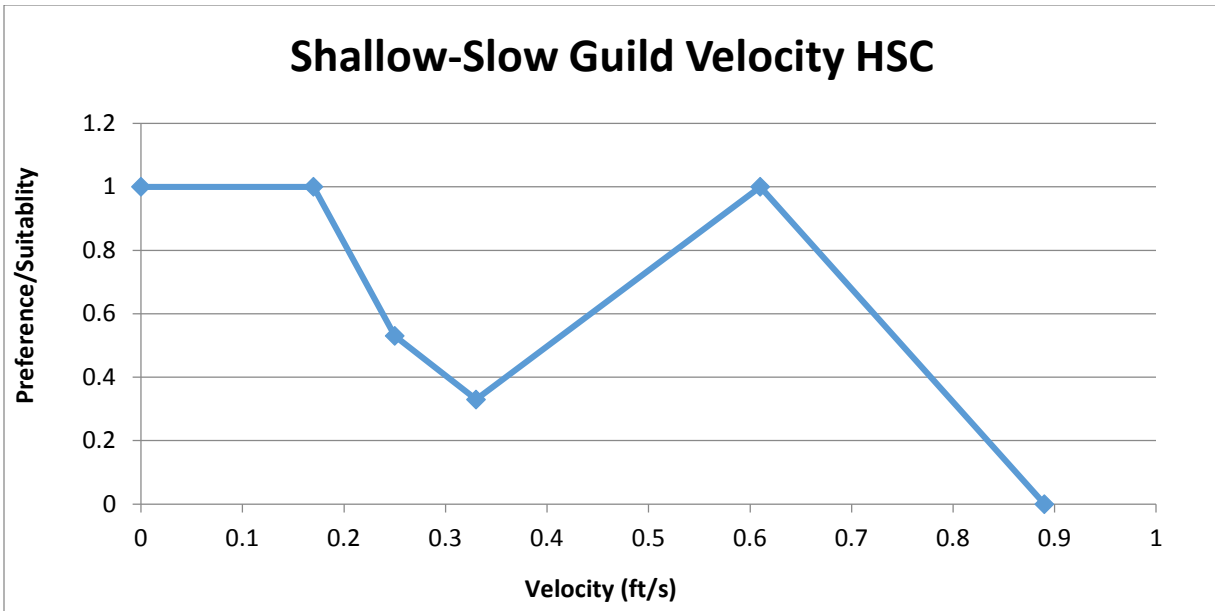




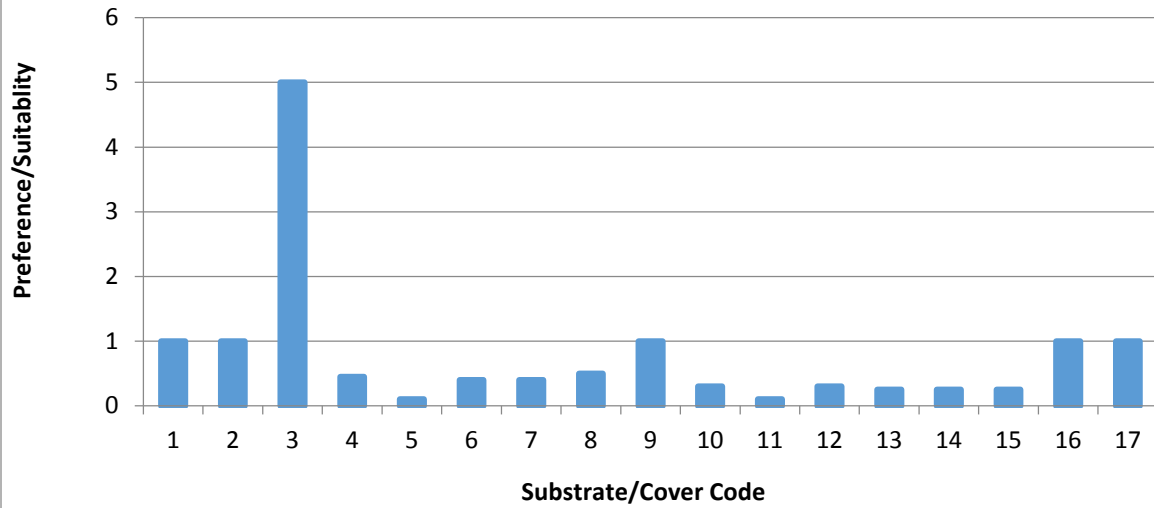




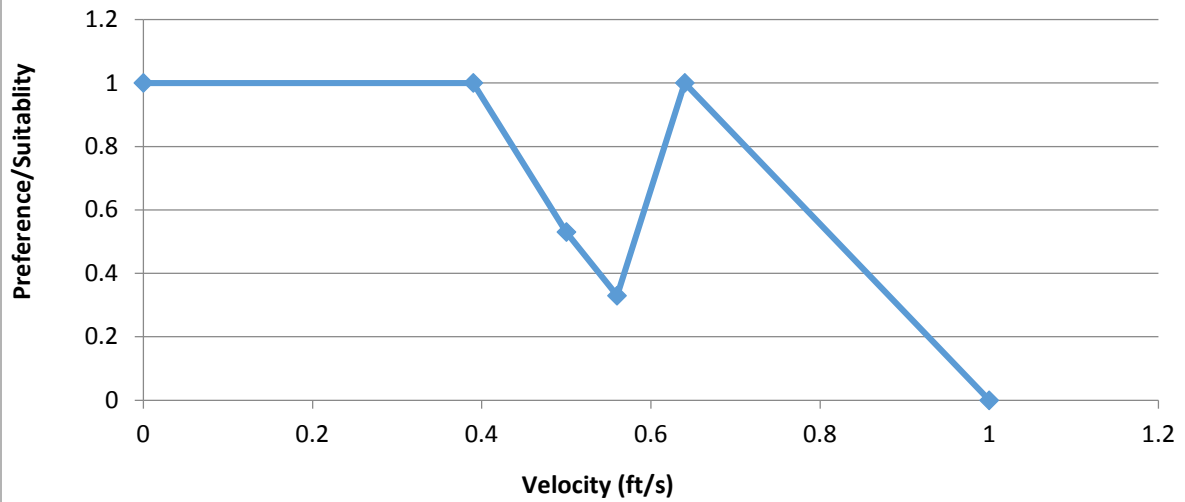


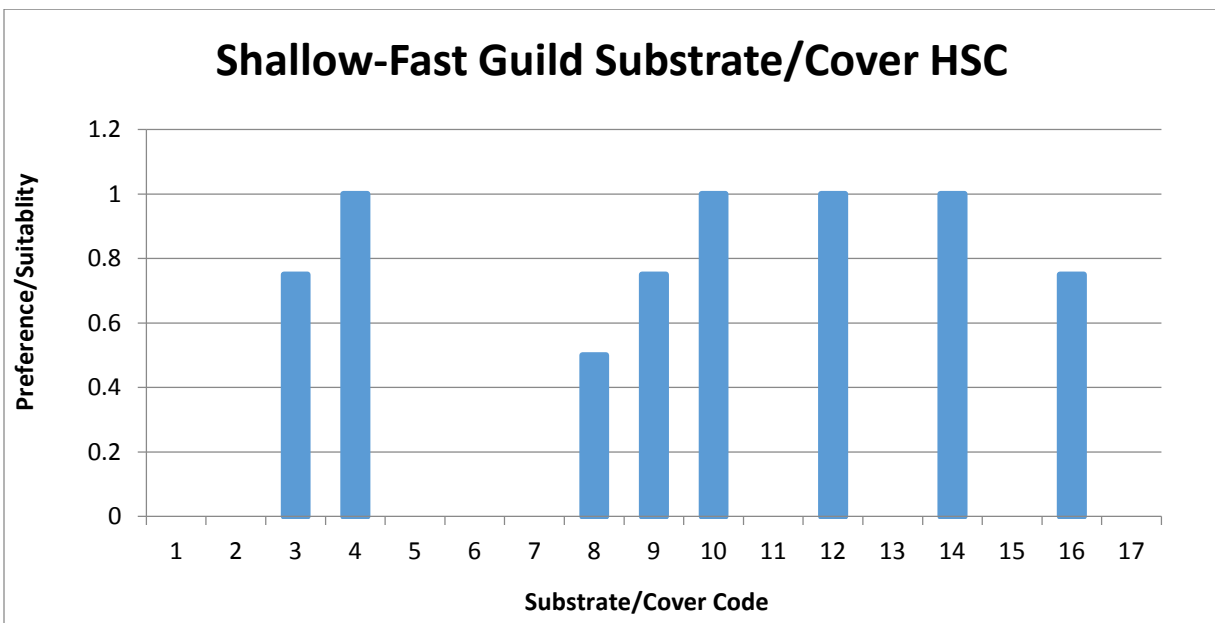
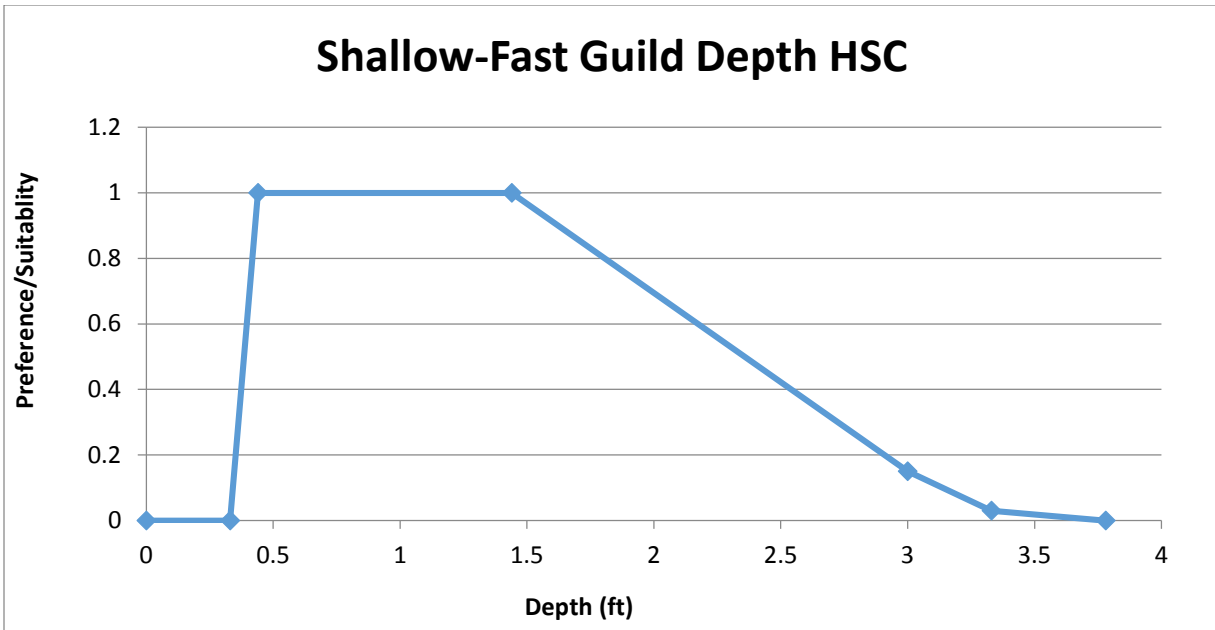


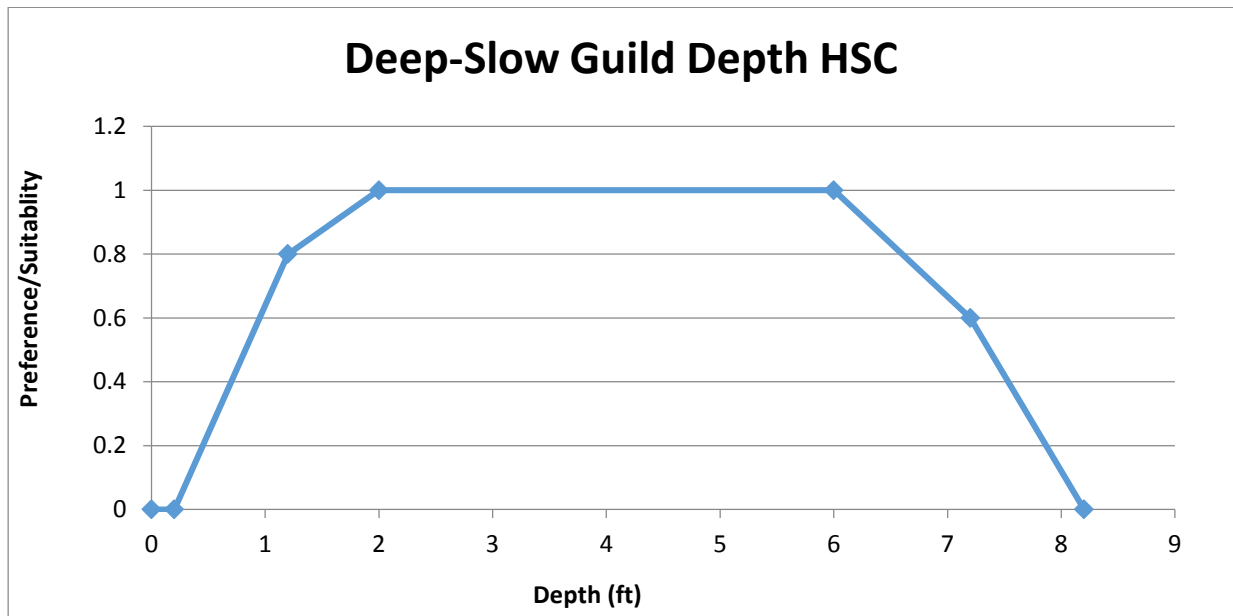
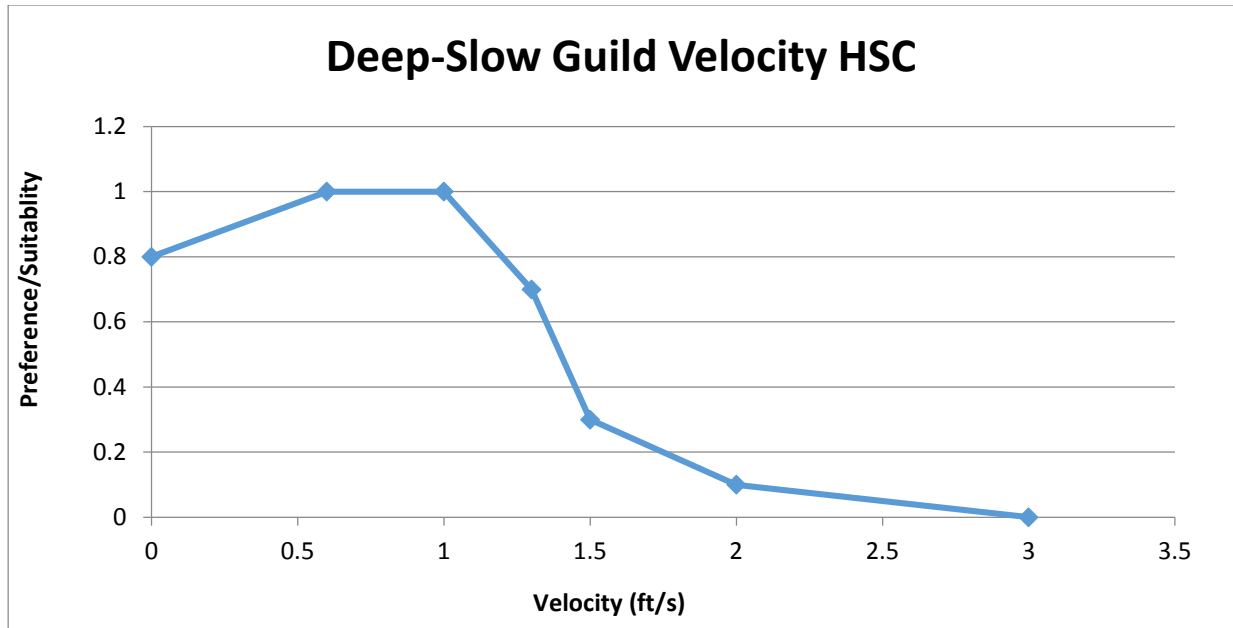
Shallow-Slow Guild Substrate/Cover HSC

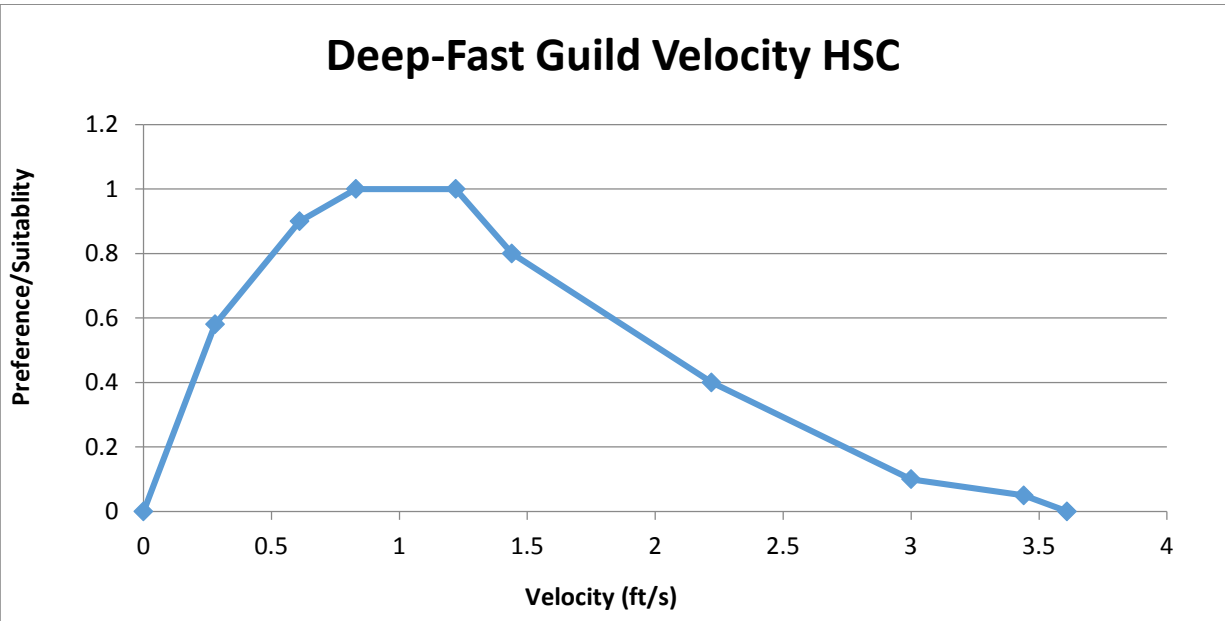
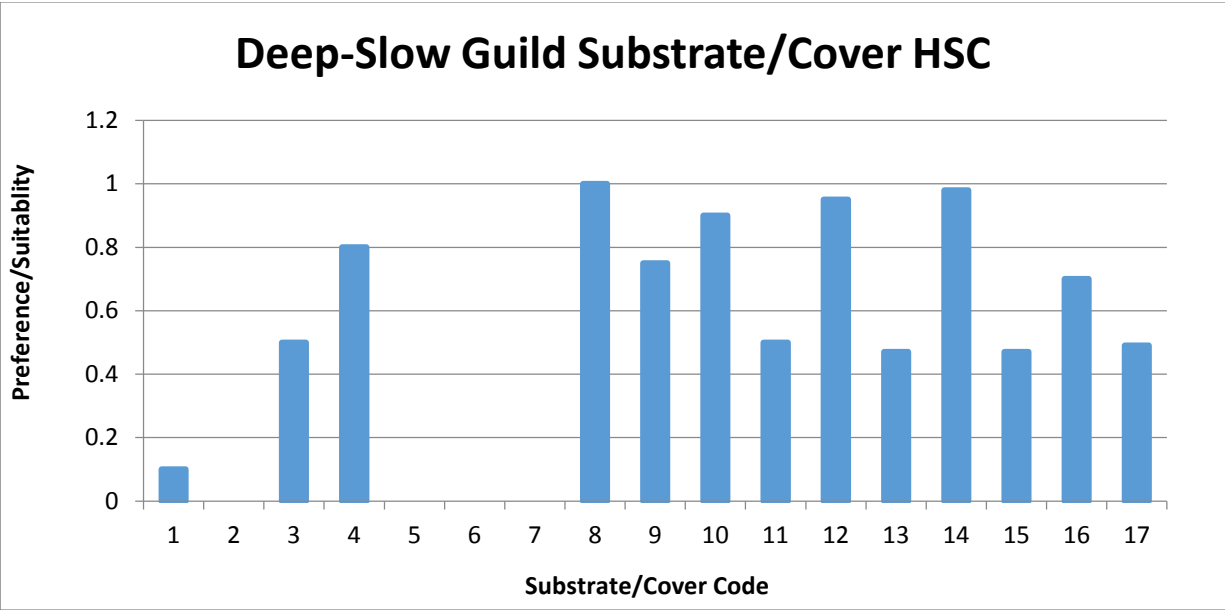


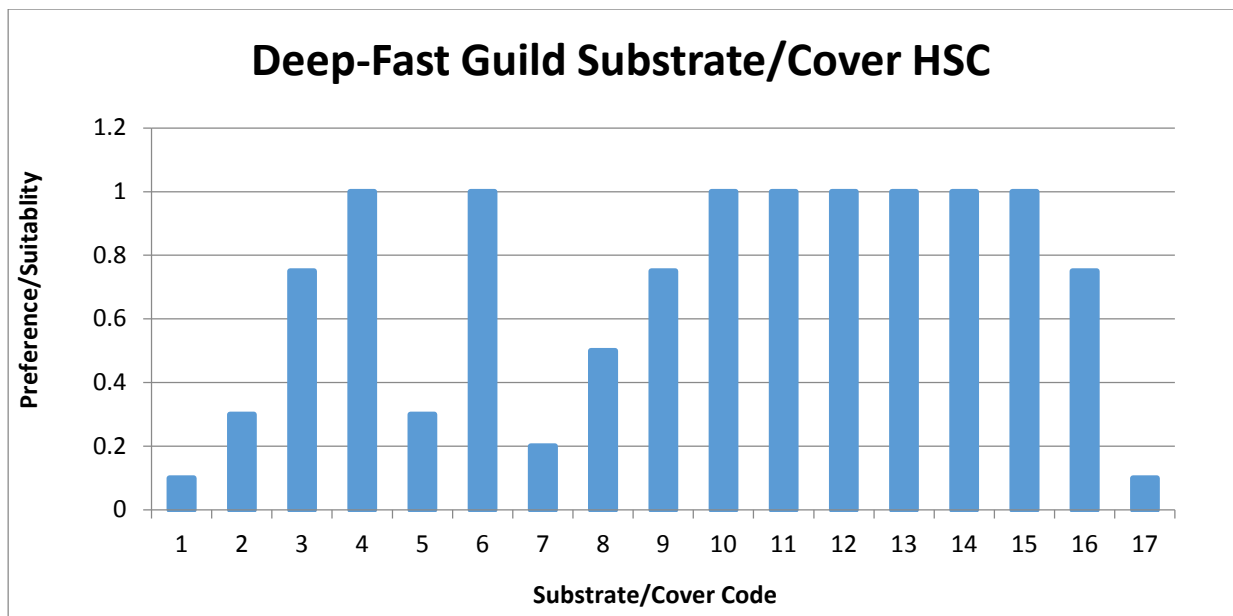
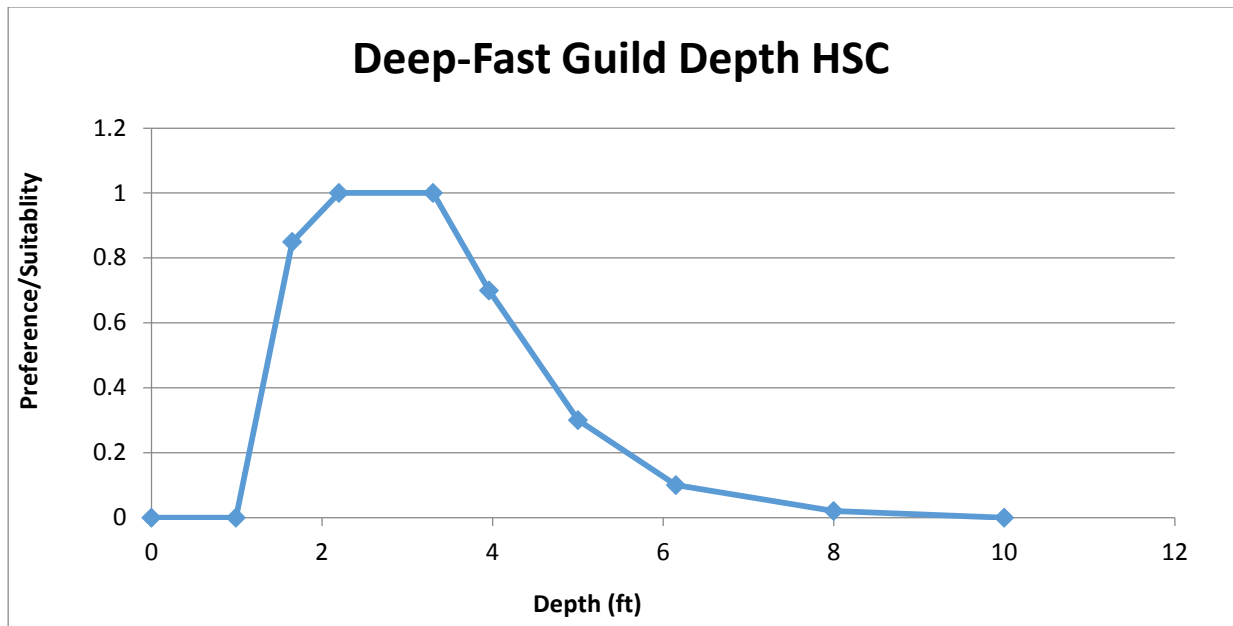
Shallow-Fast Guild Velocity HSC



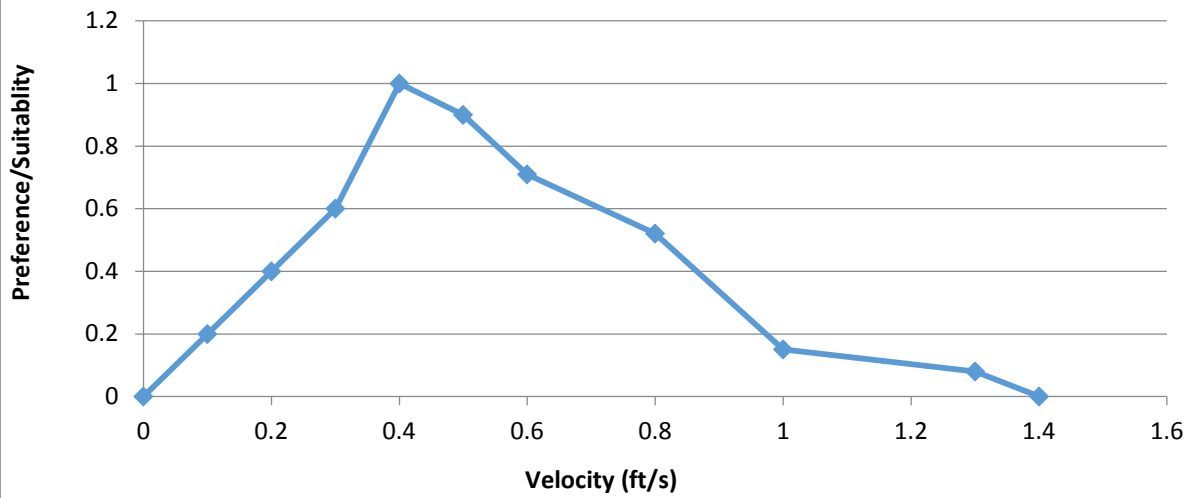




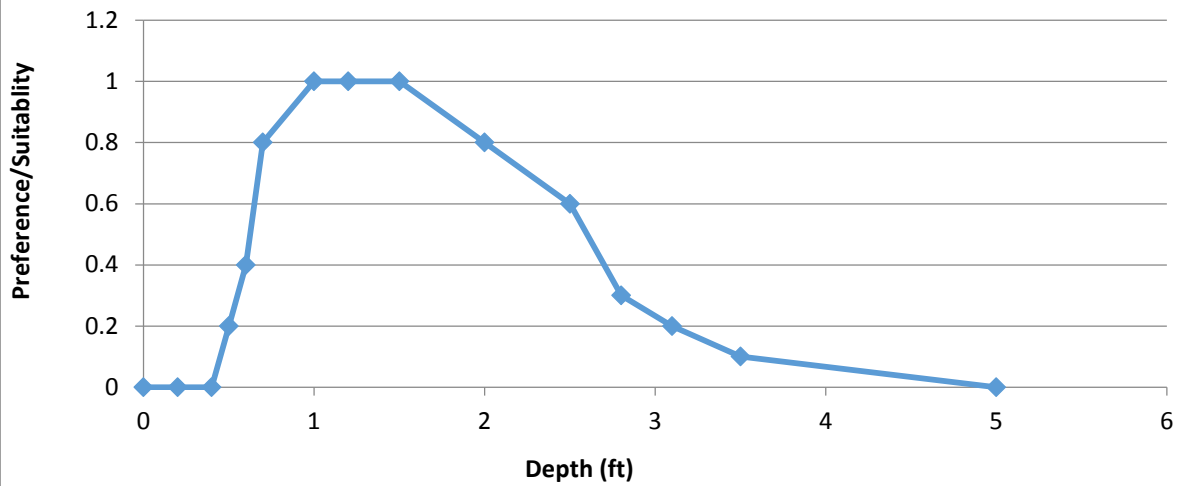


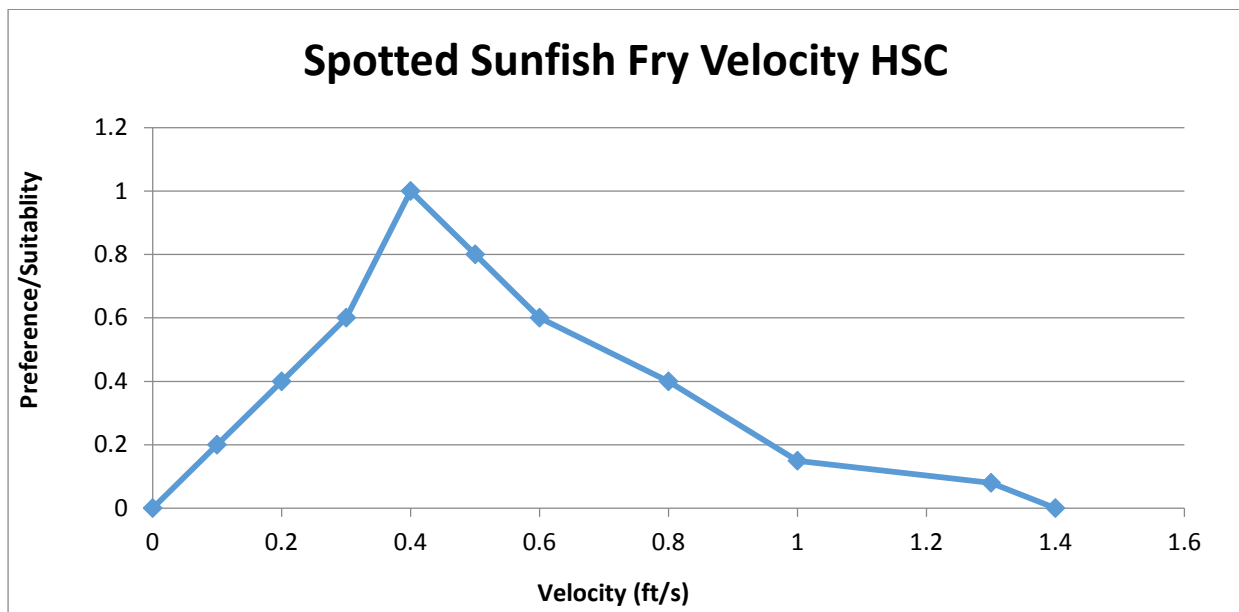
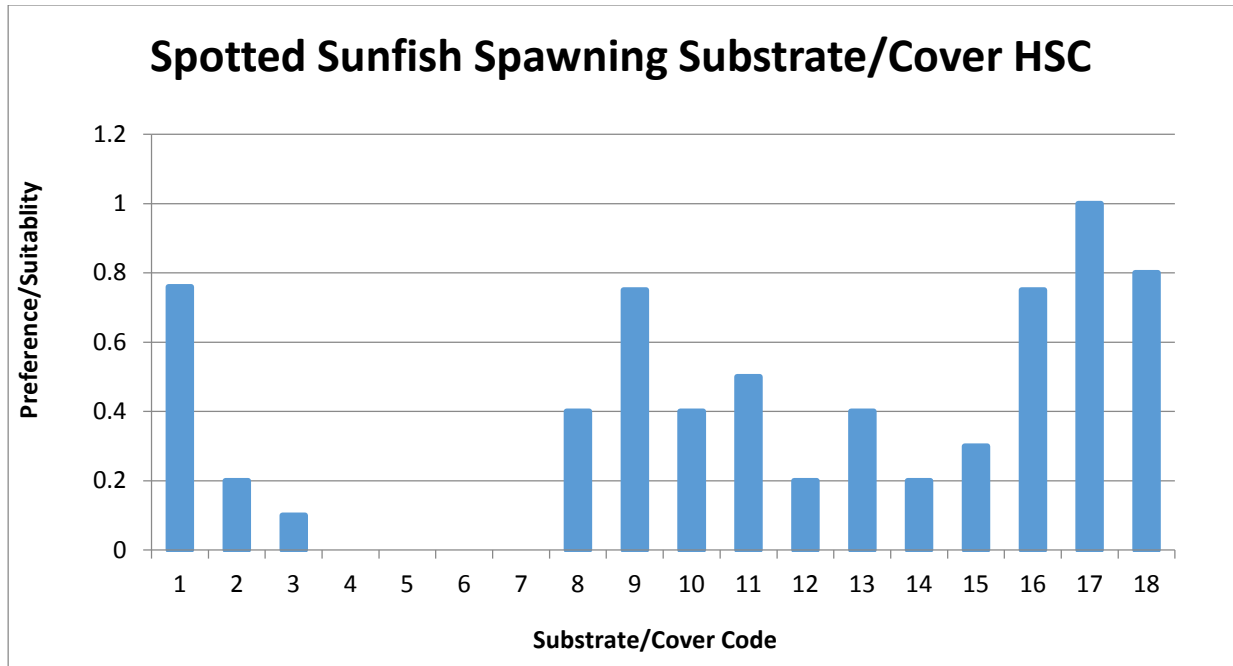


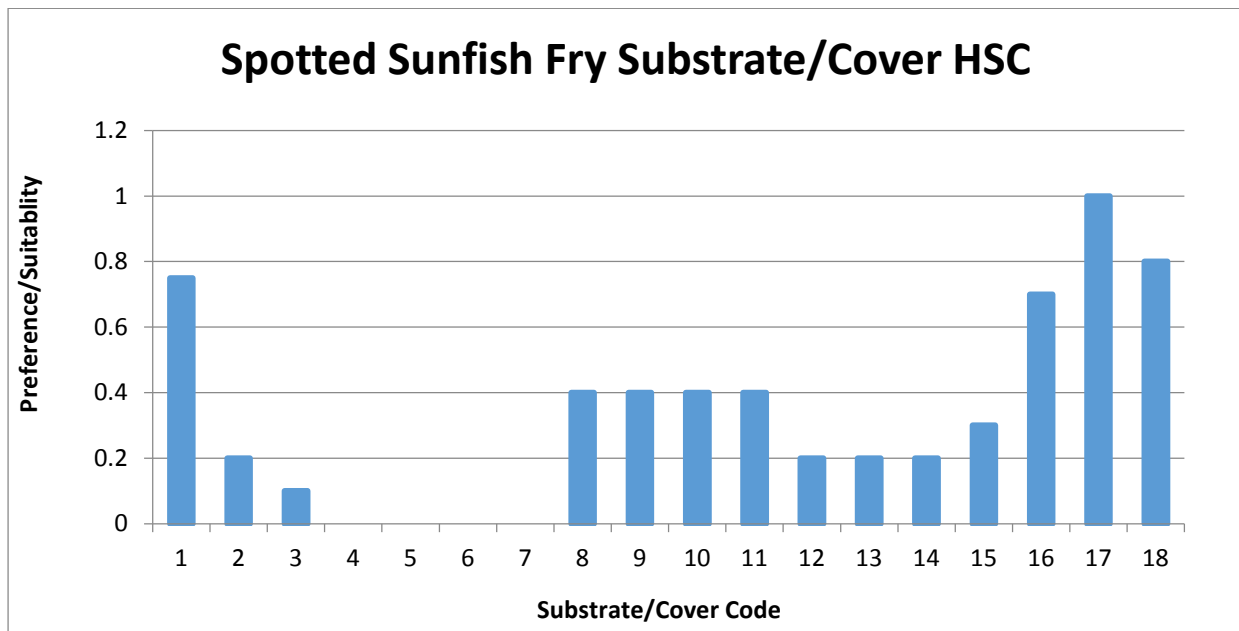
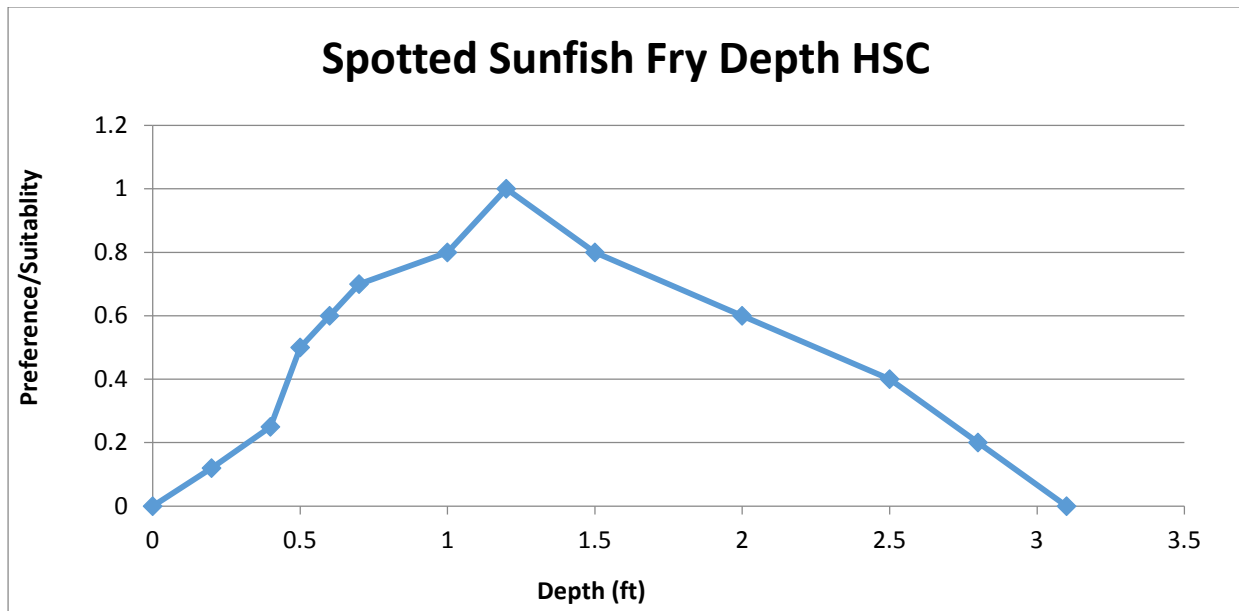
Spotted Sunfish Spawning Velocity HSC



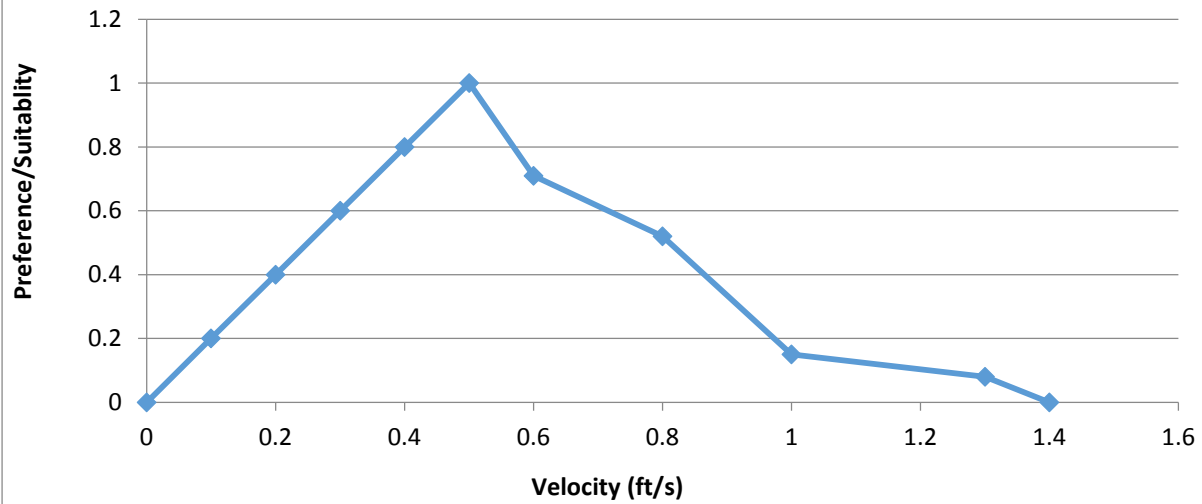
Spotted Sunfish Spawning Depth HSC



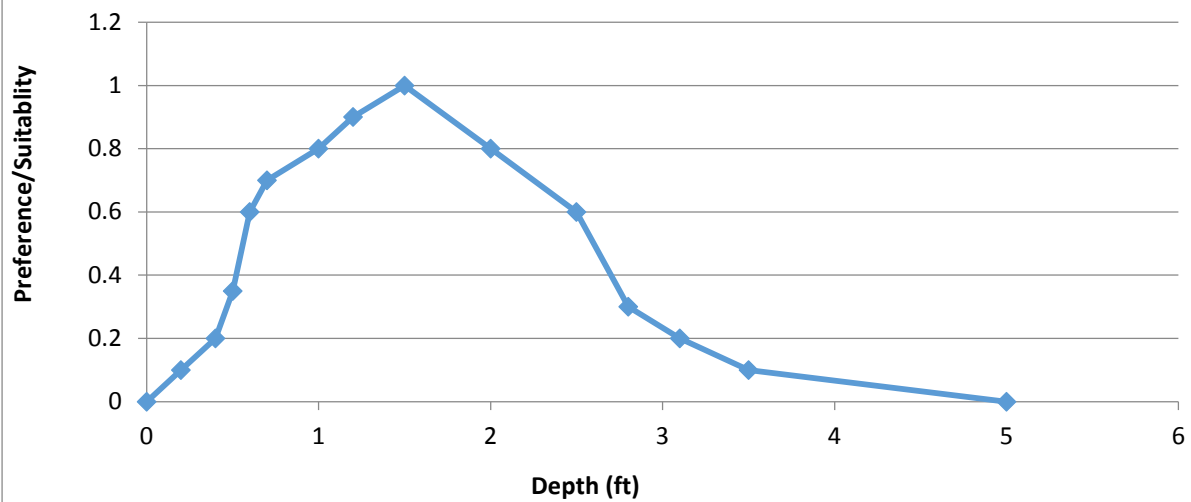




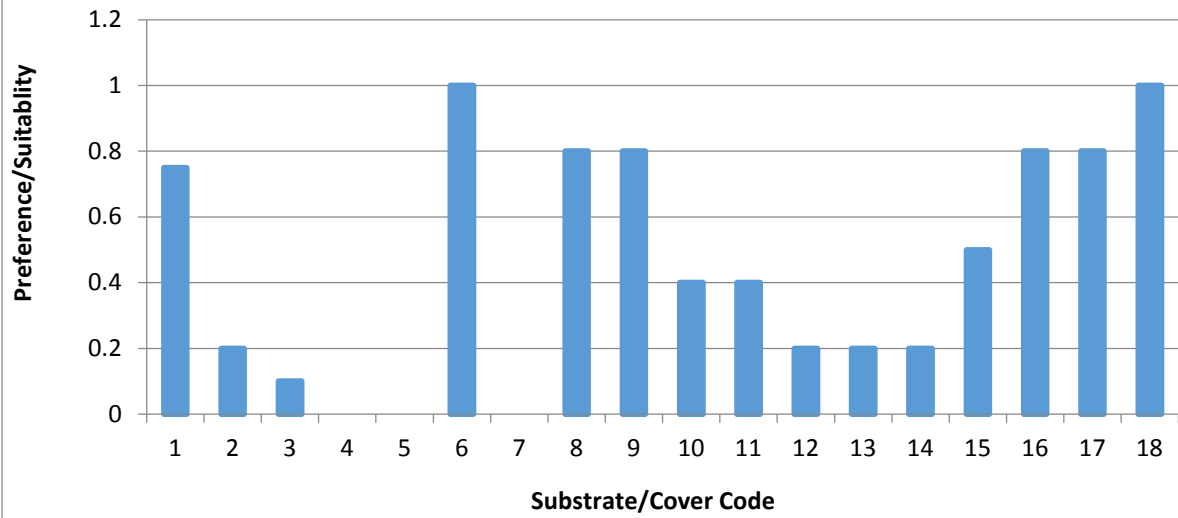
Spotted Sunfish Juvenile Velocity HSC



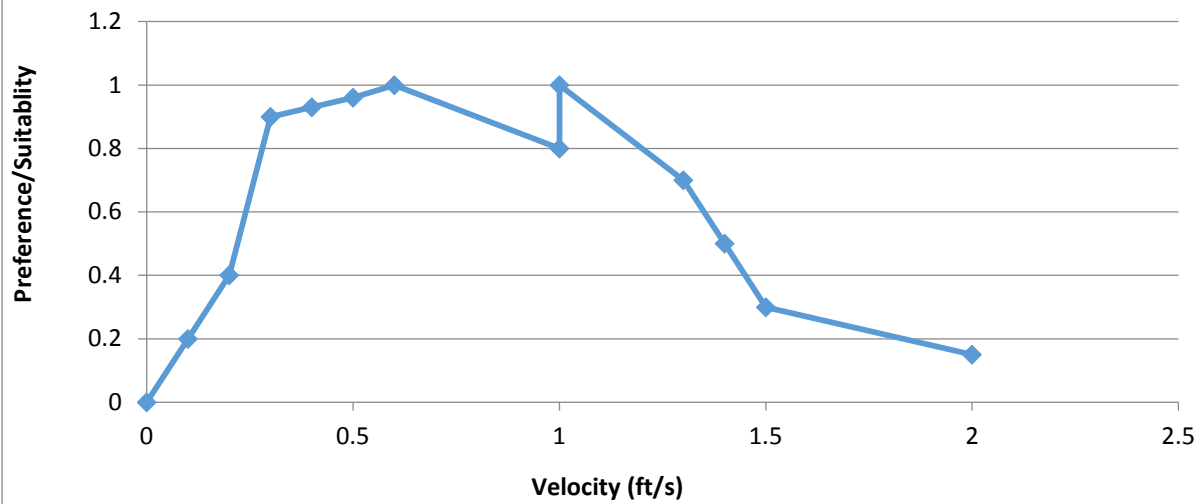
Spotted Sunfish Juvenile Depth HSC

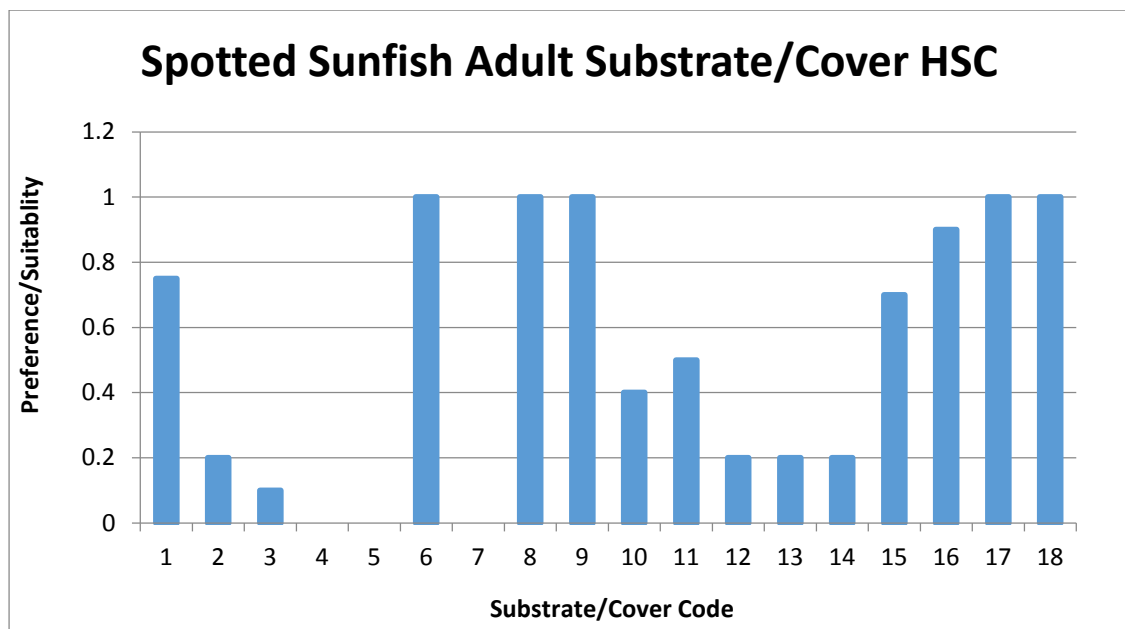
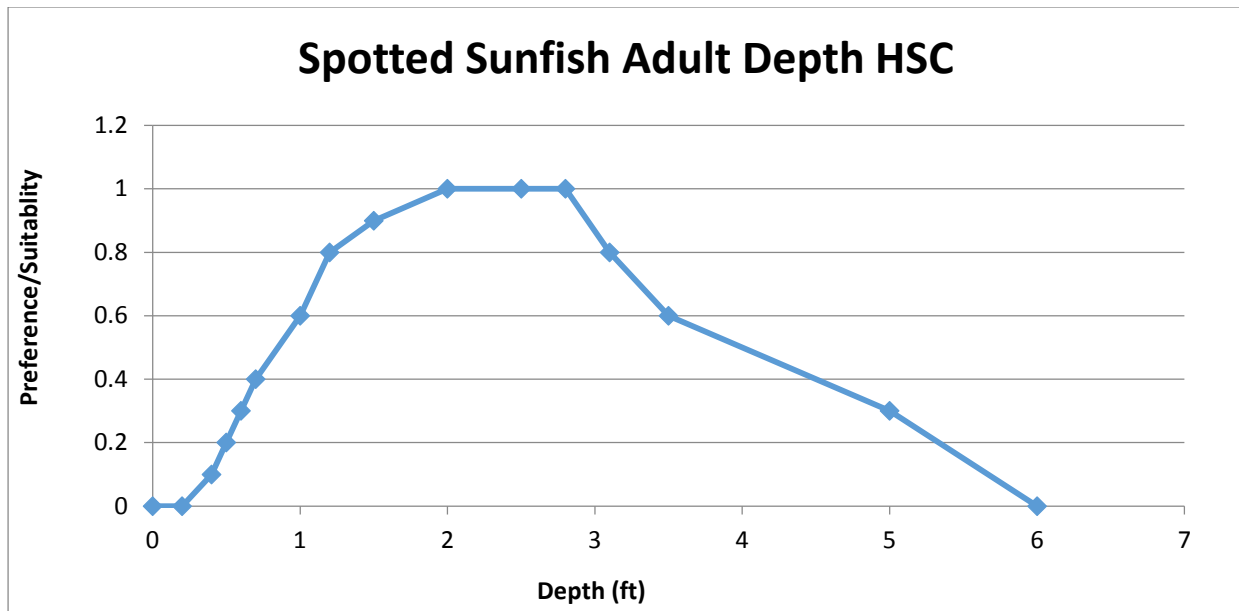


Spotted Sunfish Juvenile Substrate/Cover HSC



Spotted Sunfish Adult Velocity HSC

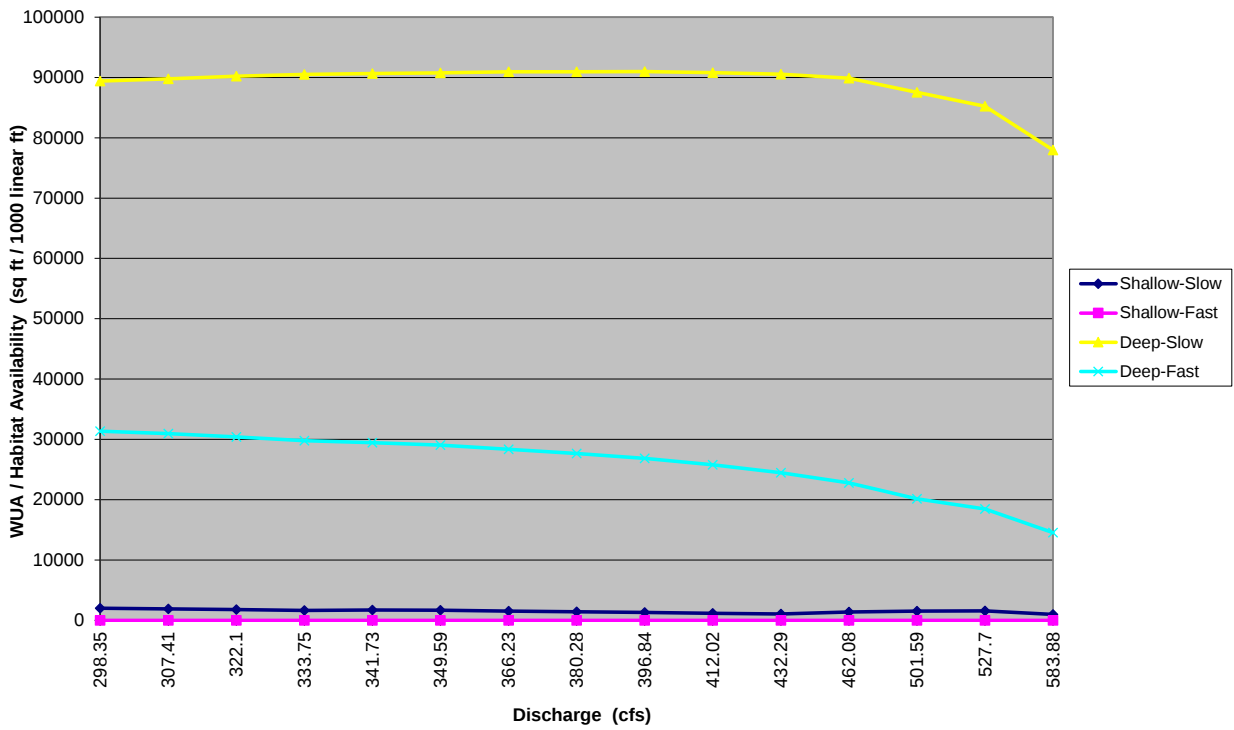




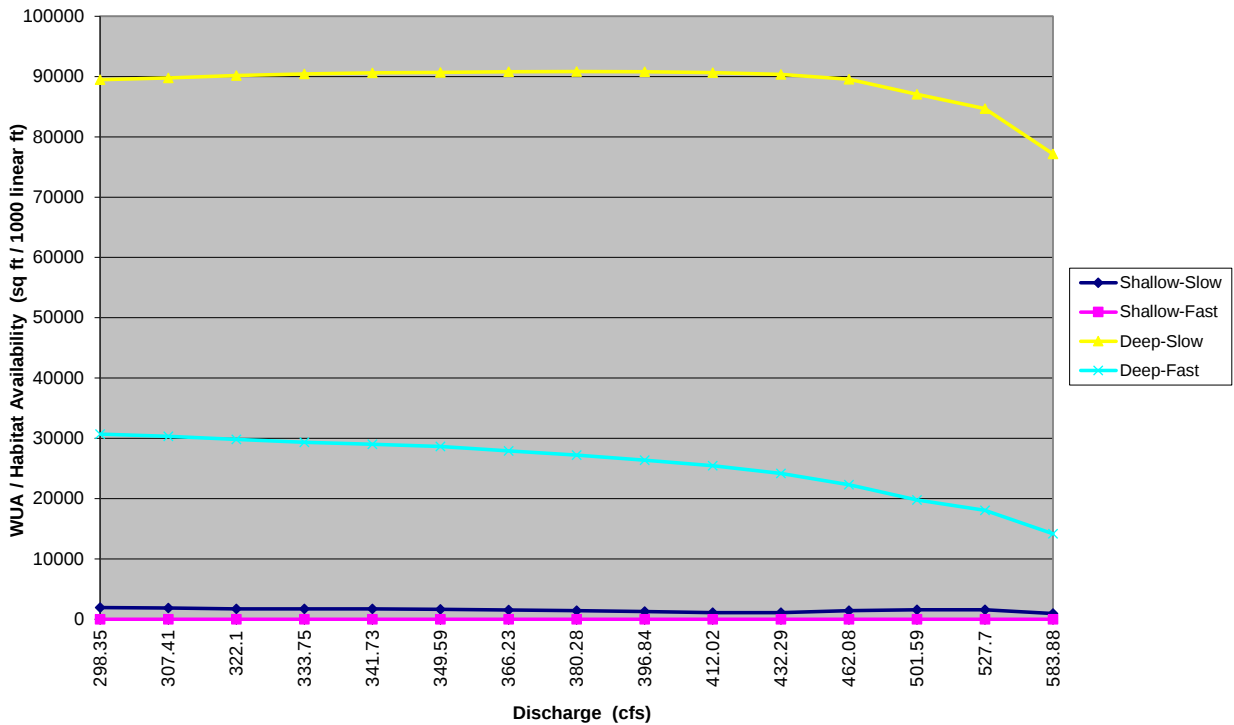
Section 2

Rainbow River System PHABSIM Modeling Results: Weighted Usable Area vs. Discharge Plots for PHABSIM 1

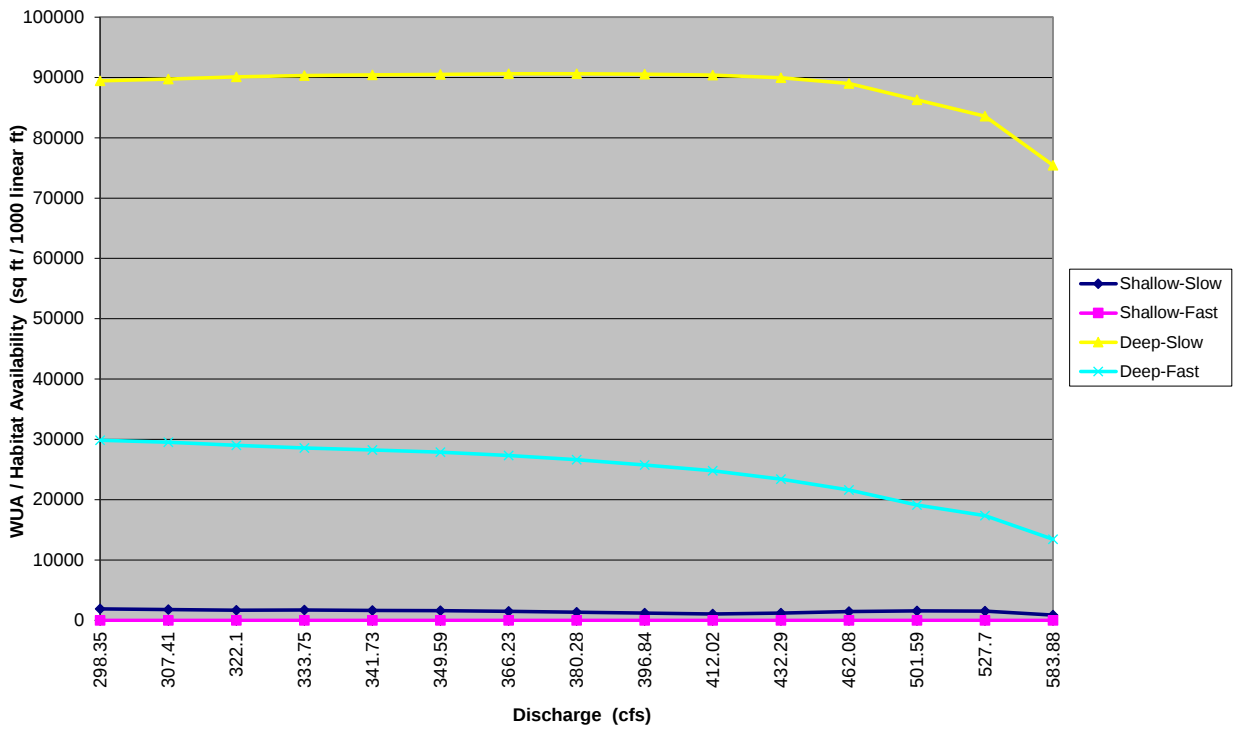
Rainbow River - PHABSIM1
Low Back Water (25%)
Fish Habitat Guilds



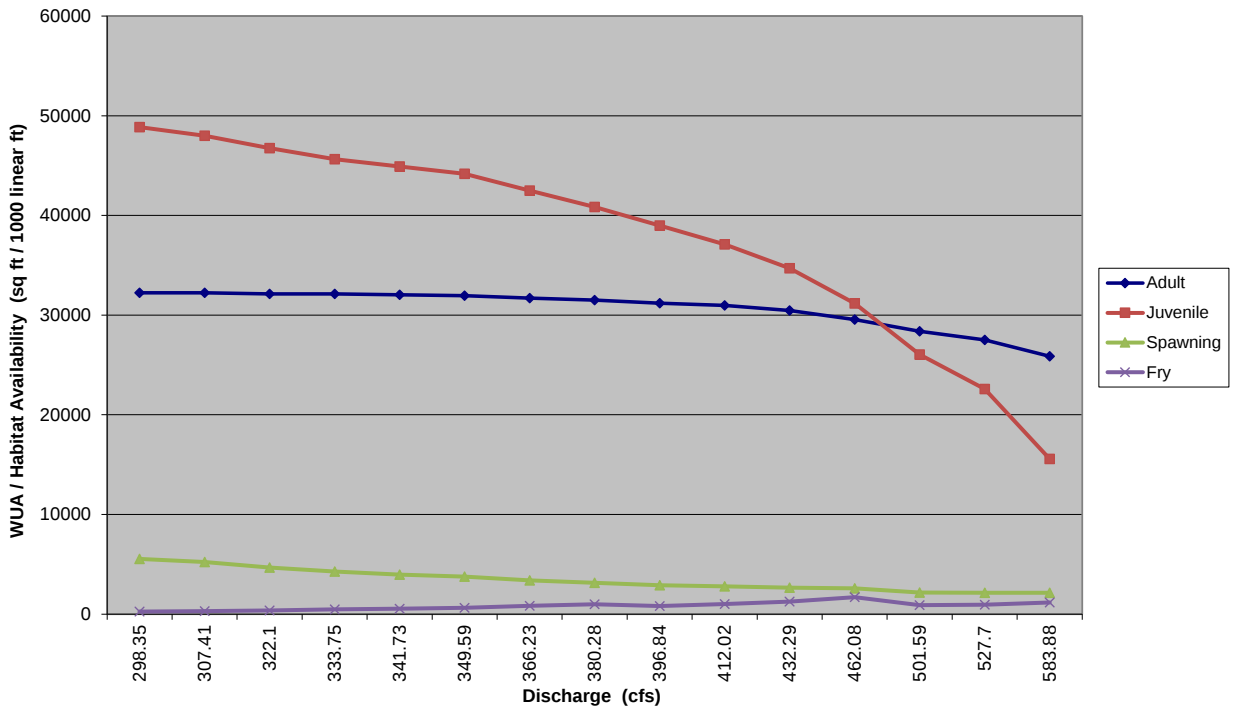
Rainbow River - PHABSIM1
Medium Back Water (50%)
Fish Habitat Guilds



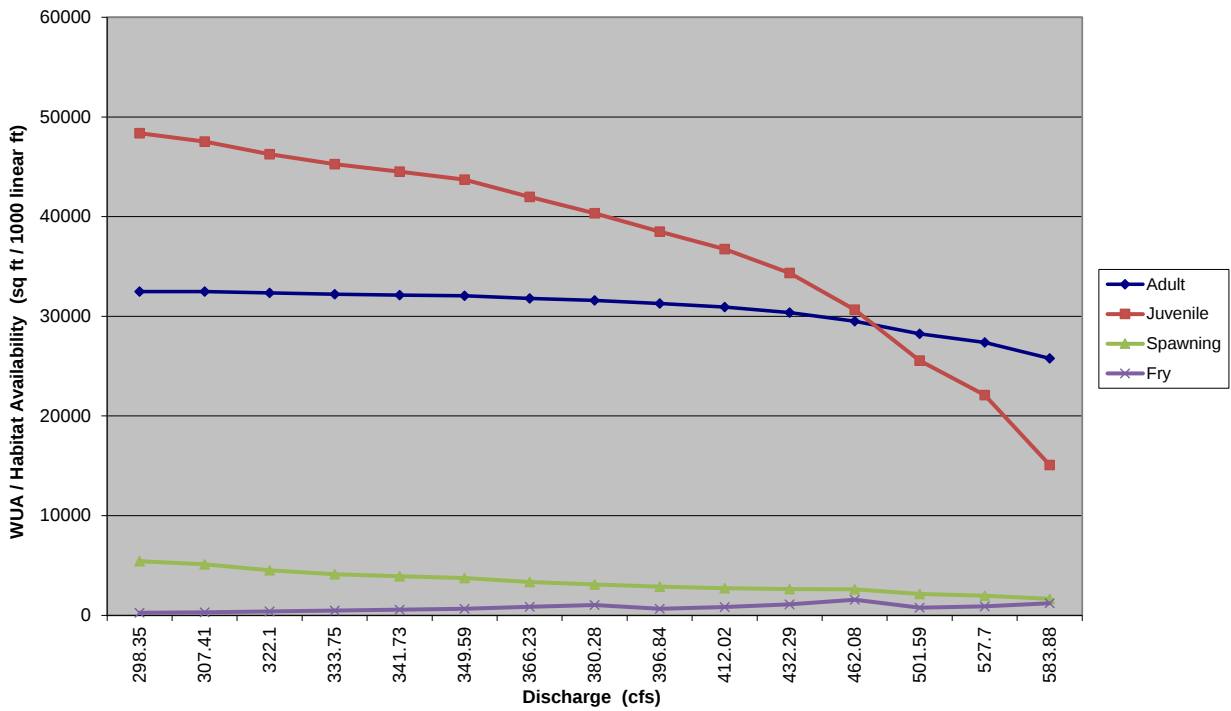
**Rainbow River - PHABSIM1
High Back Water (75%)
Fish Habitat Guilds**



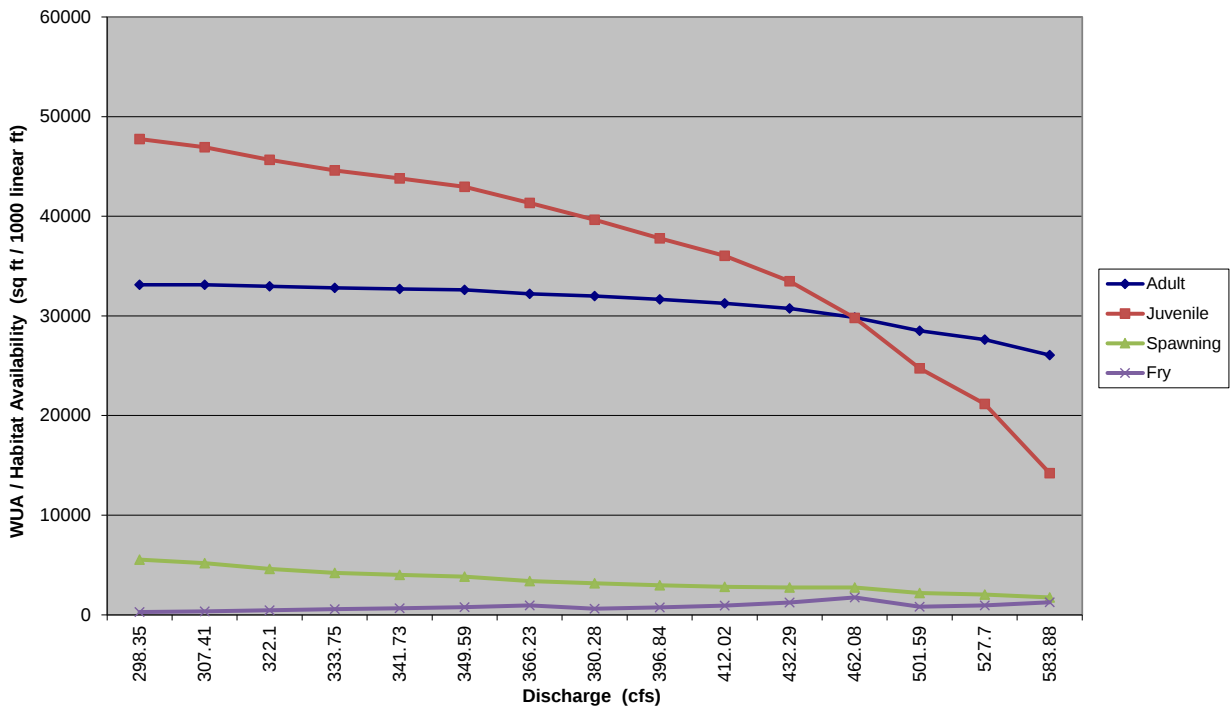
**Rainbow River - PHABSIM1
Low Back Water (25%)
Largemouth Bass**



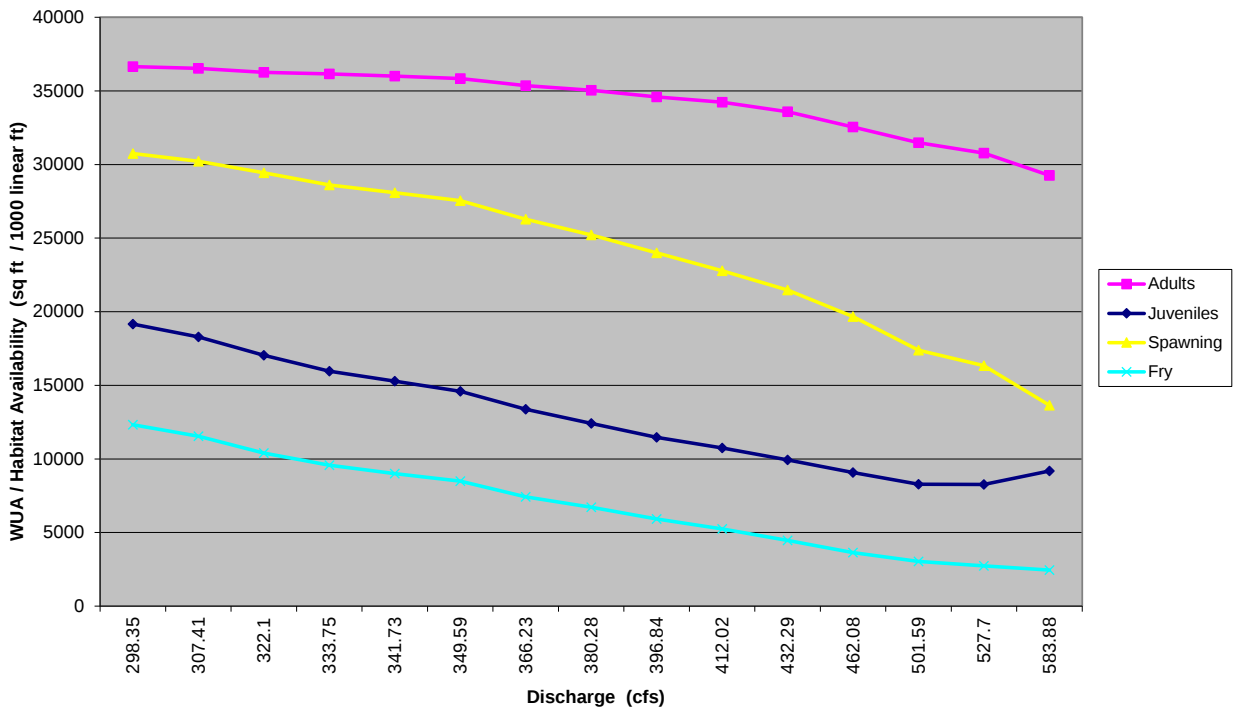
**Rainbow River - PHABSIM1
Medium Back Water (50%)
Largemouth Bass**



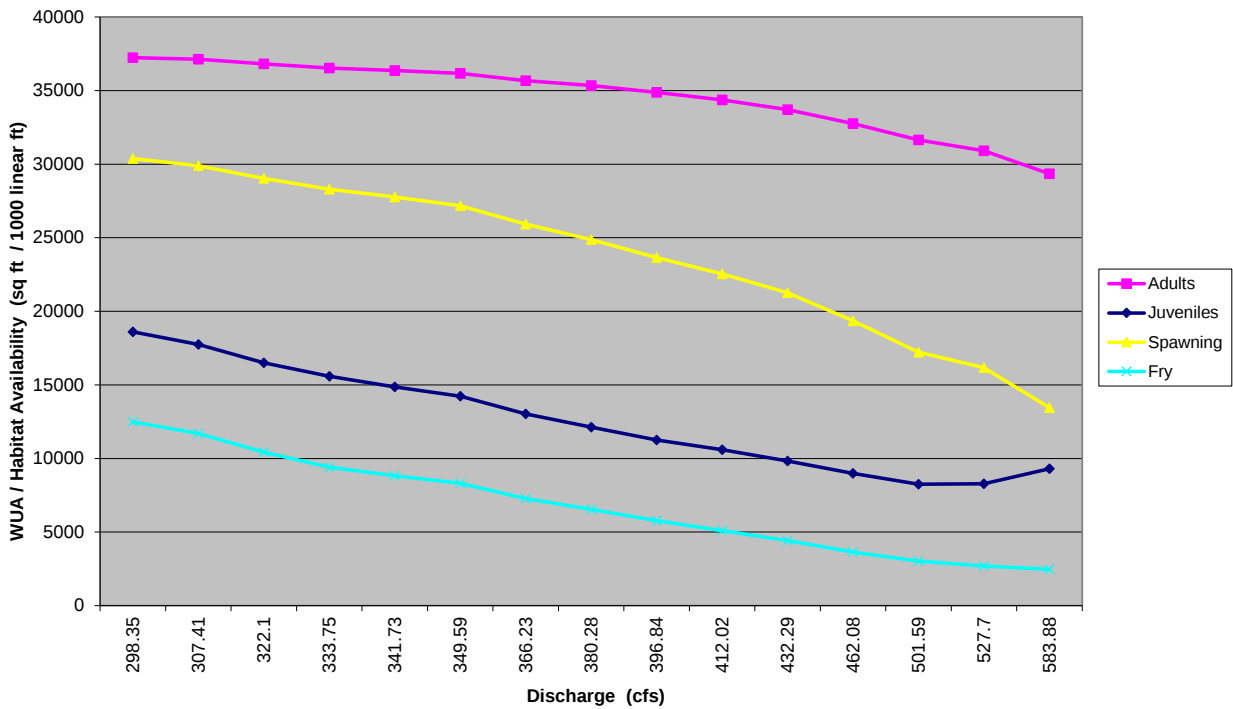
**Rainbow River - PHABSIM1
High Back Water (75%)
Largemouth Bass**



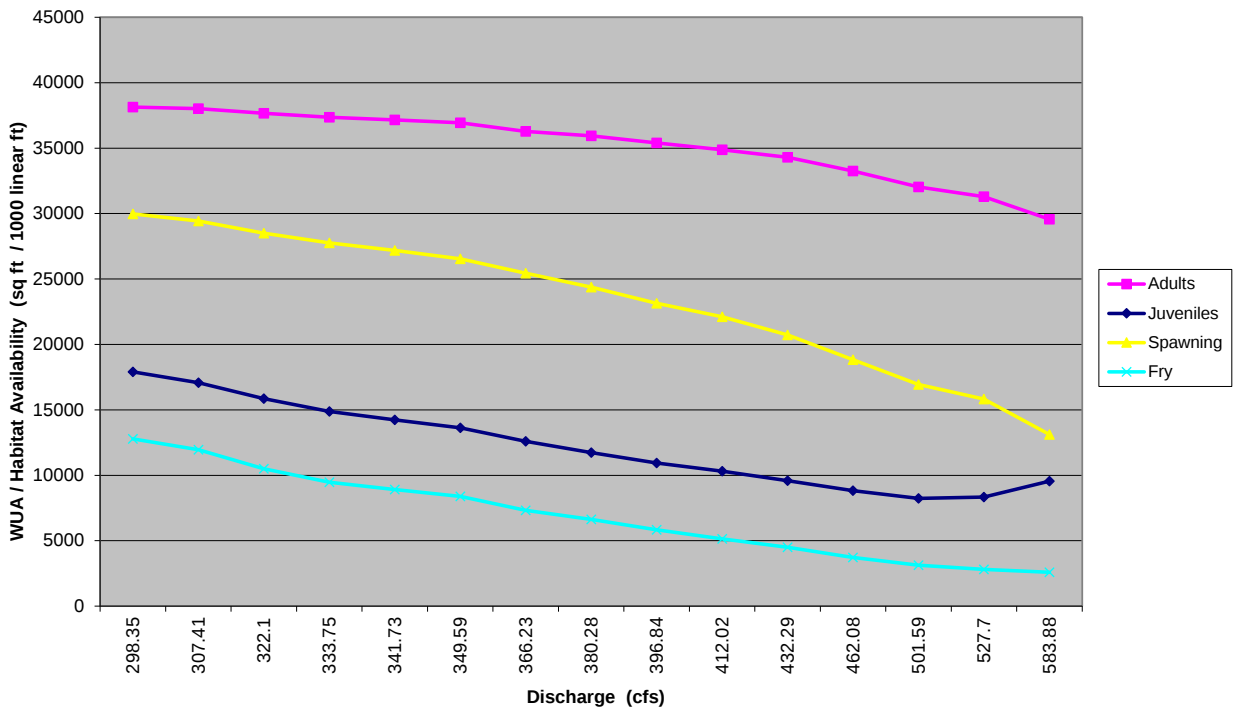
**Rainbow River - PHABSIM1
Low Back Water (25%)
Bluegill Sunfish**



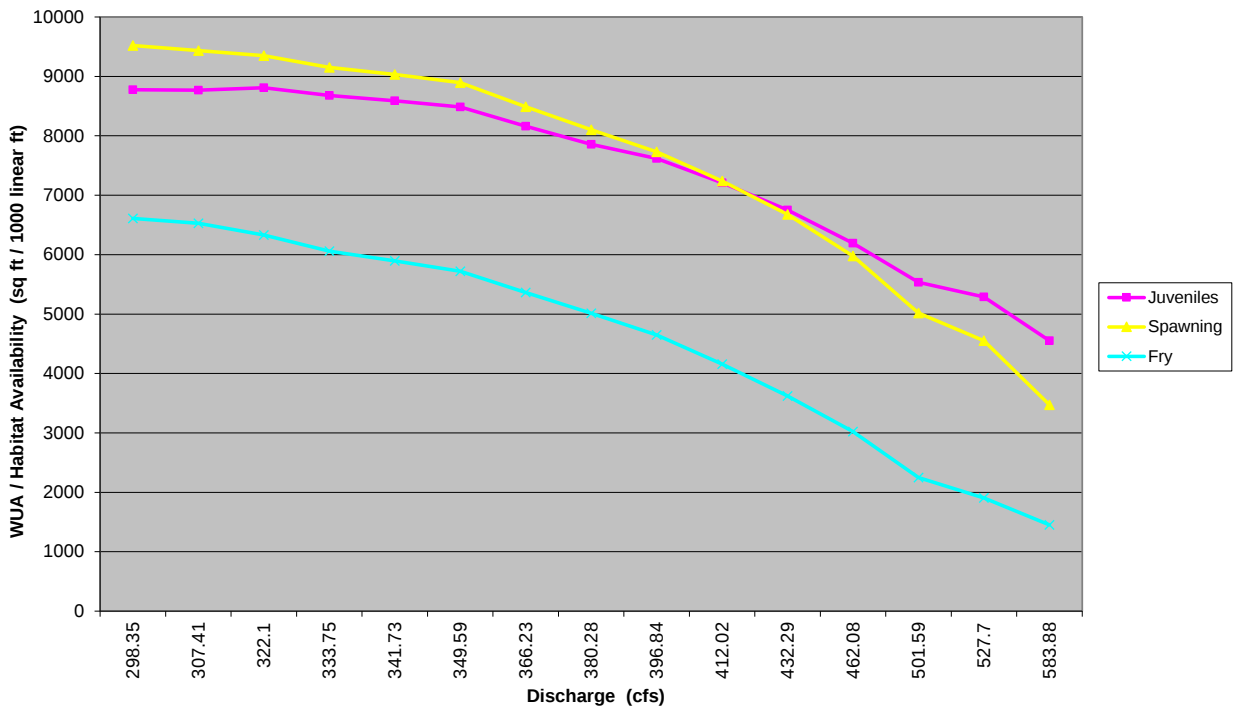
**Rainbow River - PHABSIM1
Medium Backwater (50%)
Bluegill Sunfish**



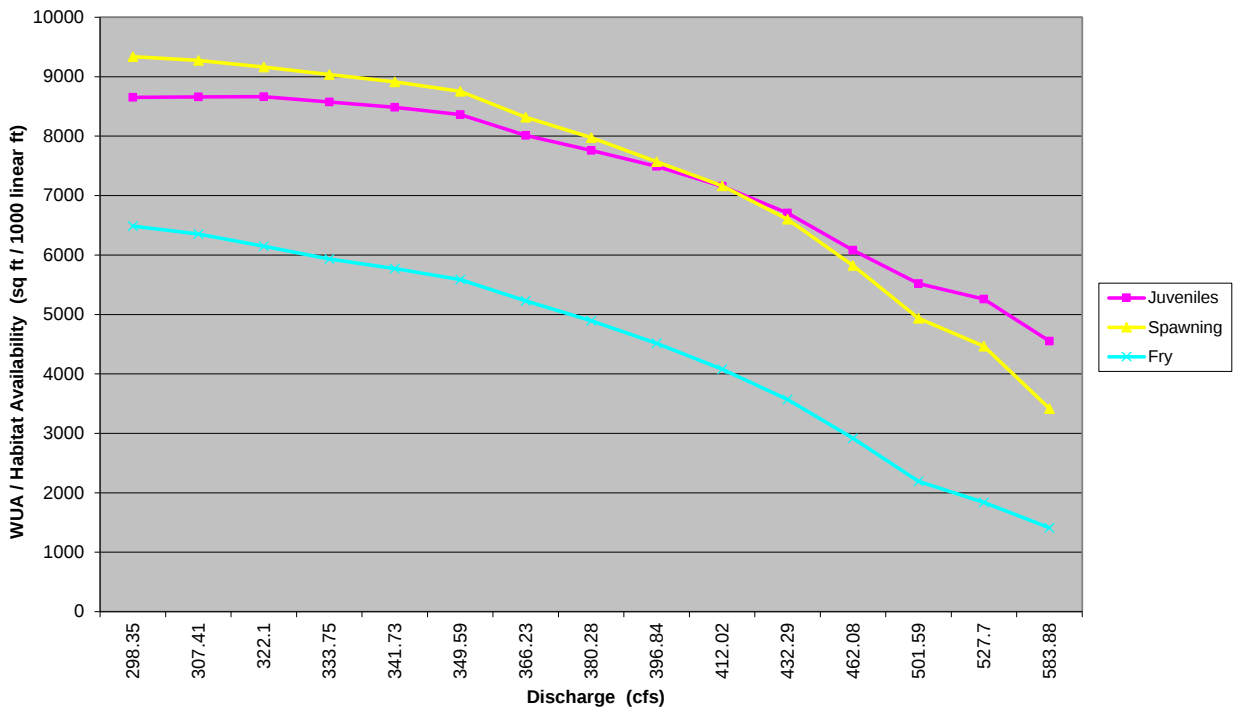
**Rainbow River - PHABSIM1
High Backwater (75%)
Bluegill Sunfish**



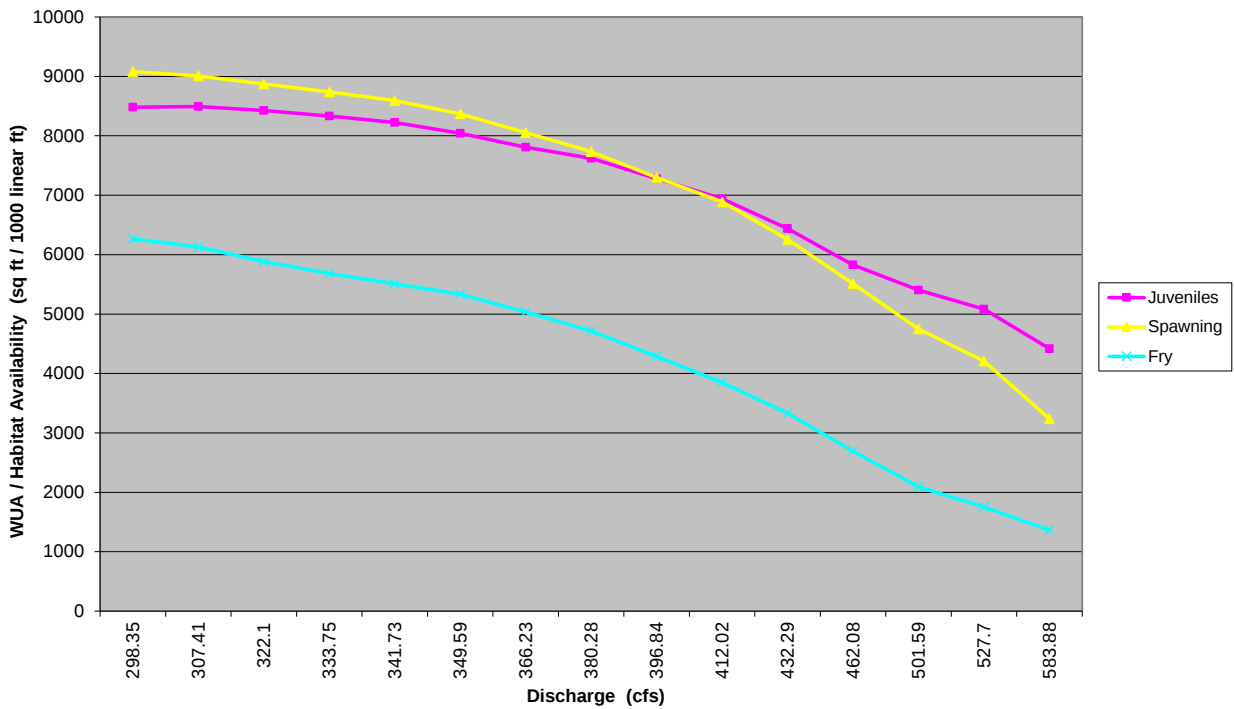
**Rainbow River - PHABSIM1
Low Back Water (25%)
Spotted Sunfish**



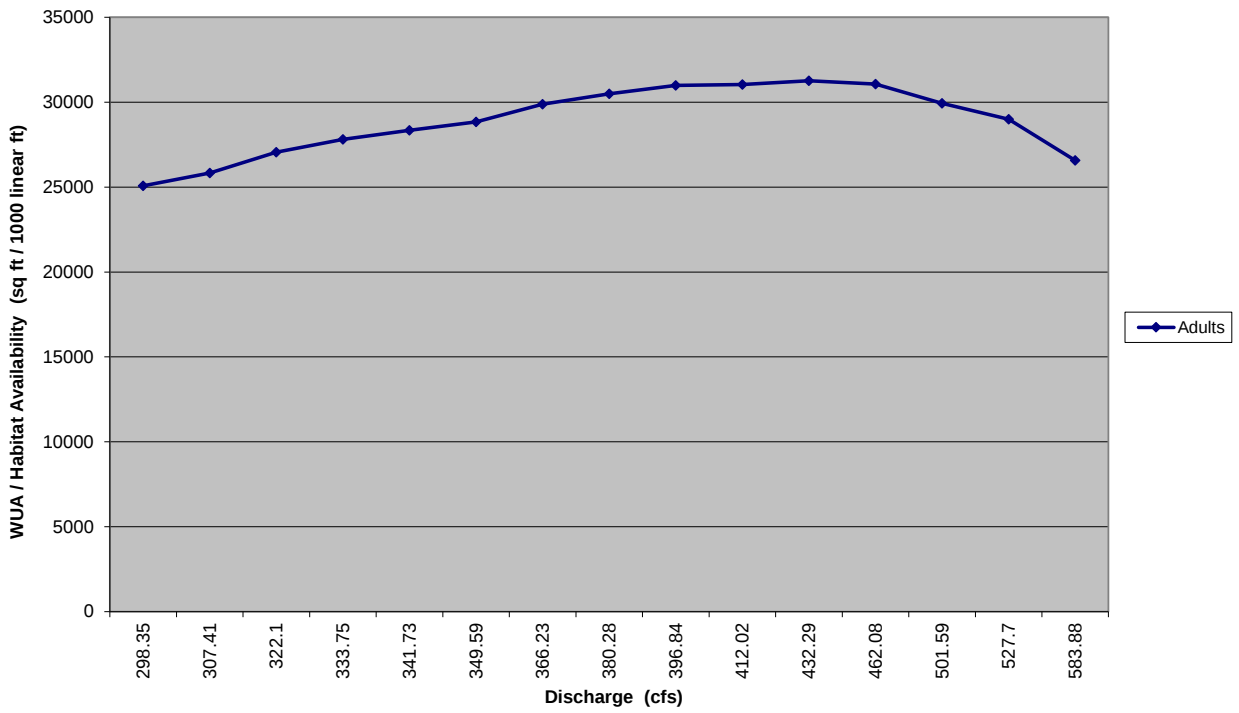
**Rainbow River - PHABSIM1
Medium Back Water (50%)
Spotted Sunfish**



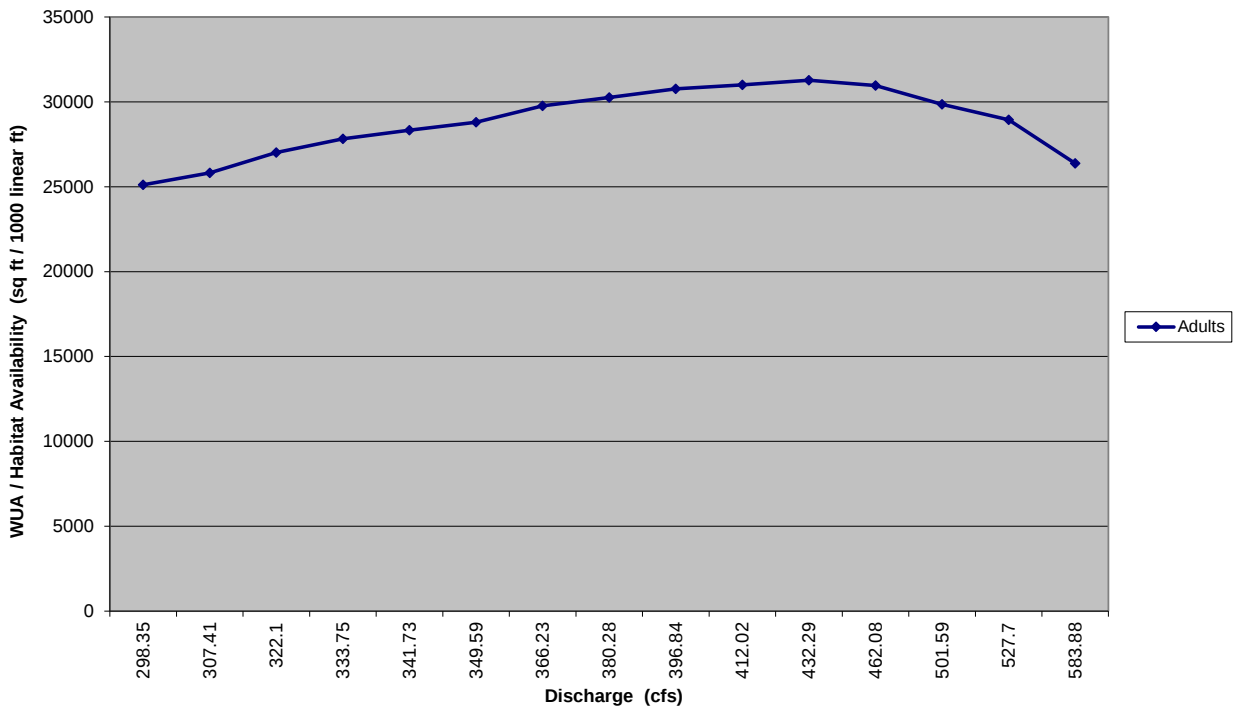
**Rainbow River - PHABSIM1
High Back Water (75%)
Spotted Sunfish**



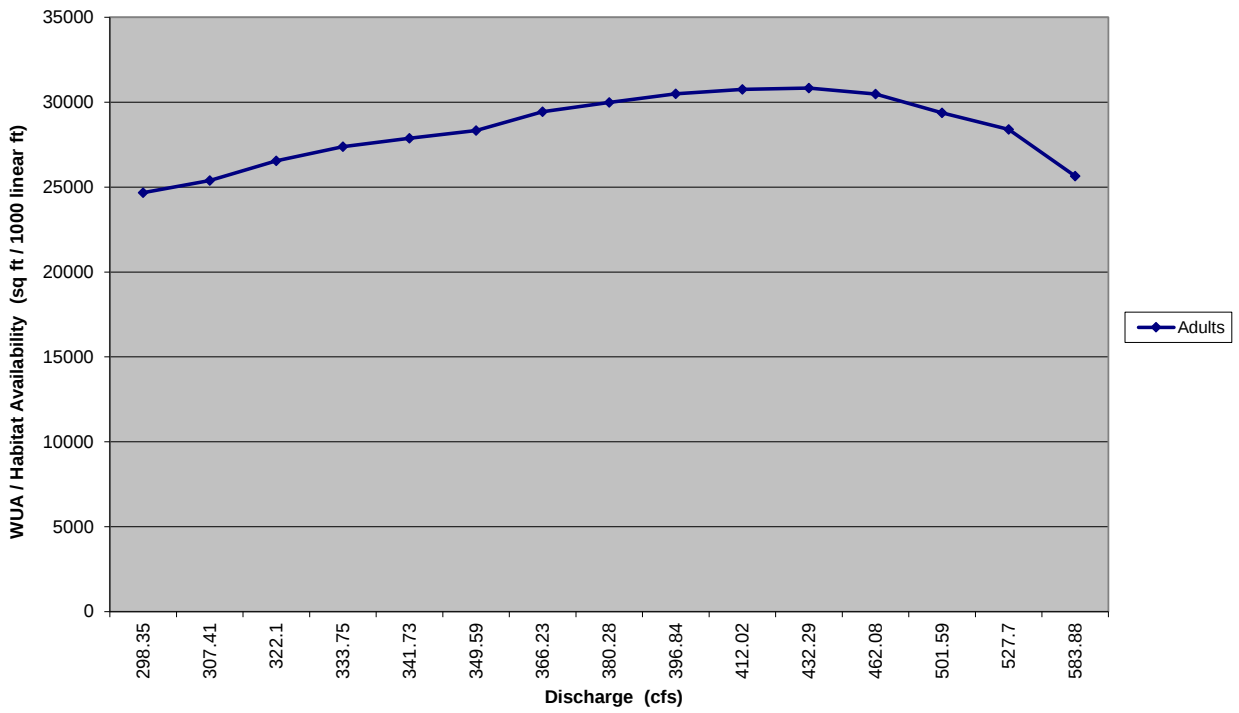
Rainbow River - PHABSIM1
Low Back Water (25%)
Spotted Sunfish



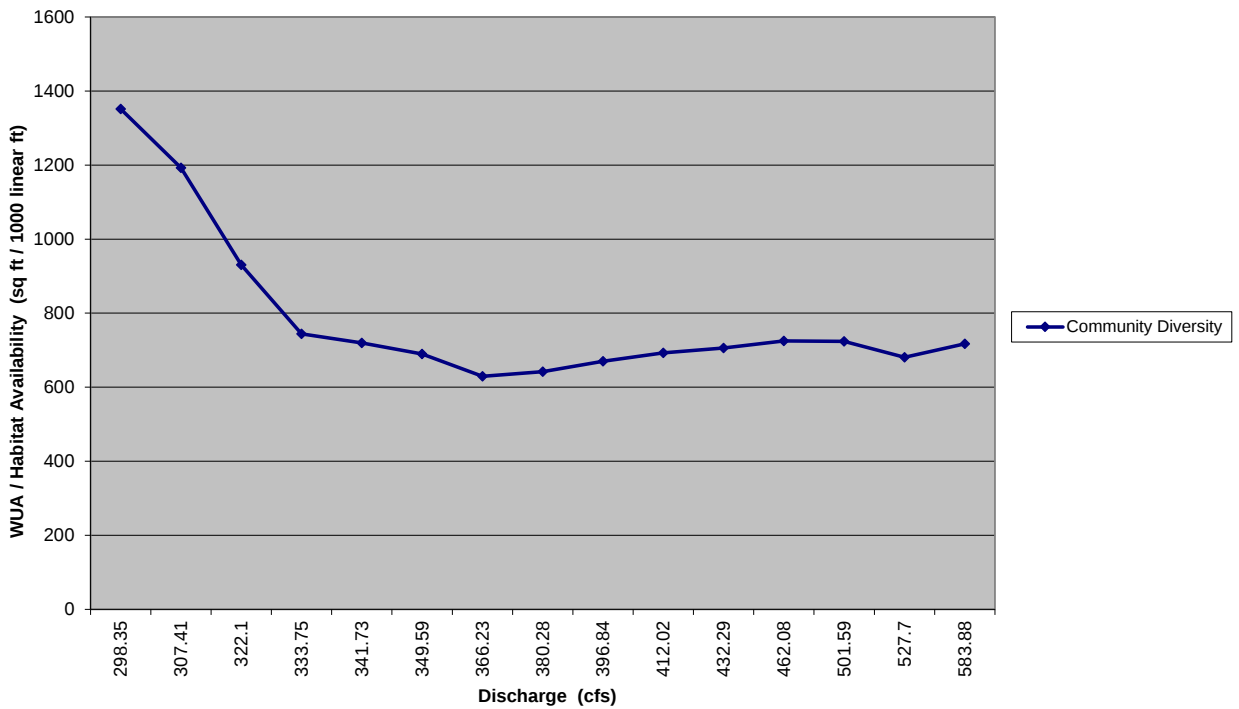
Rainbow River - PHABSIM1
Medium Back Water (50%)
Spotted Sunfish



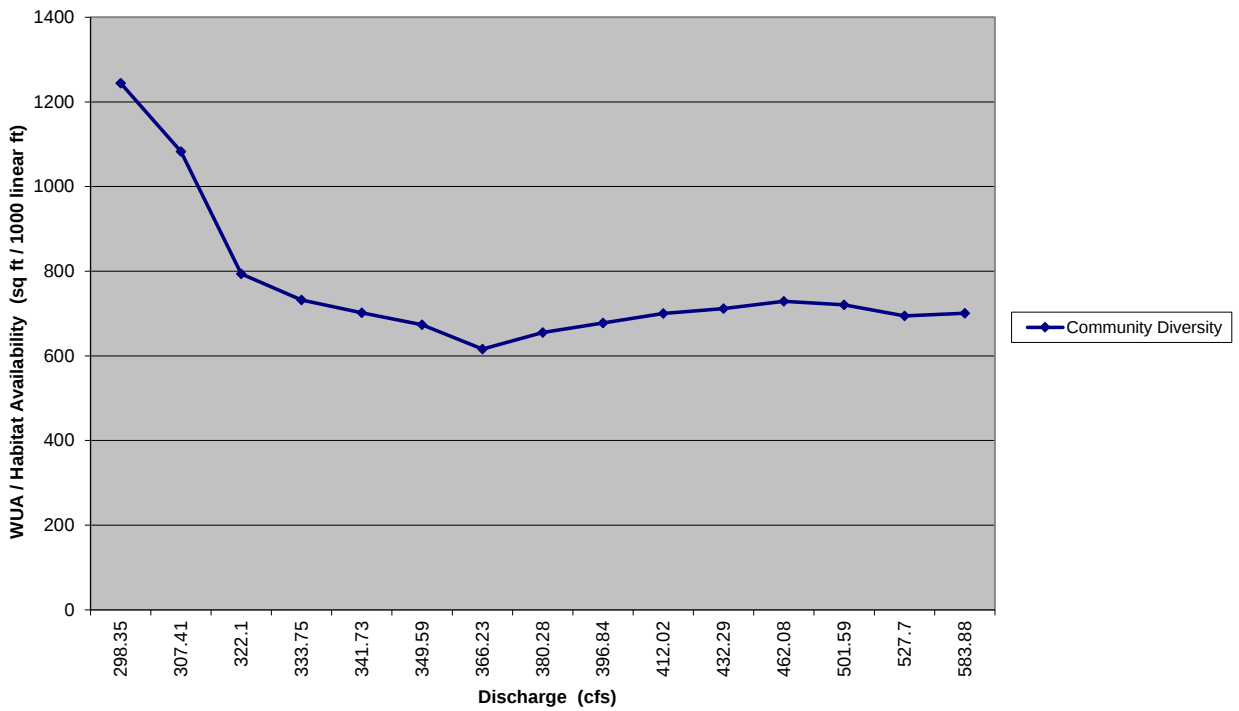
**Rainbow River - PHABSIM1
High Back Water (75%)
Spotted Sunfish**



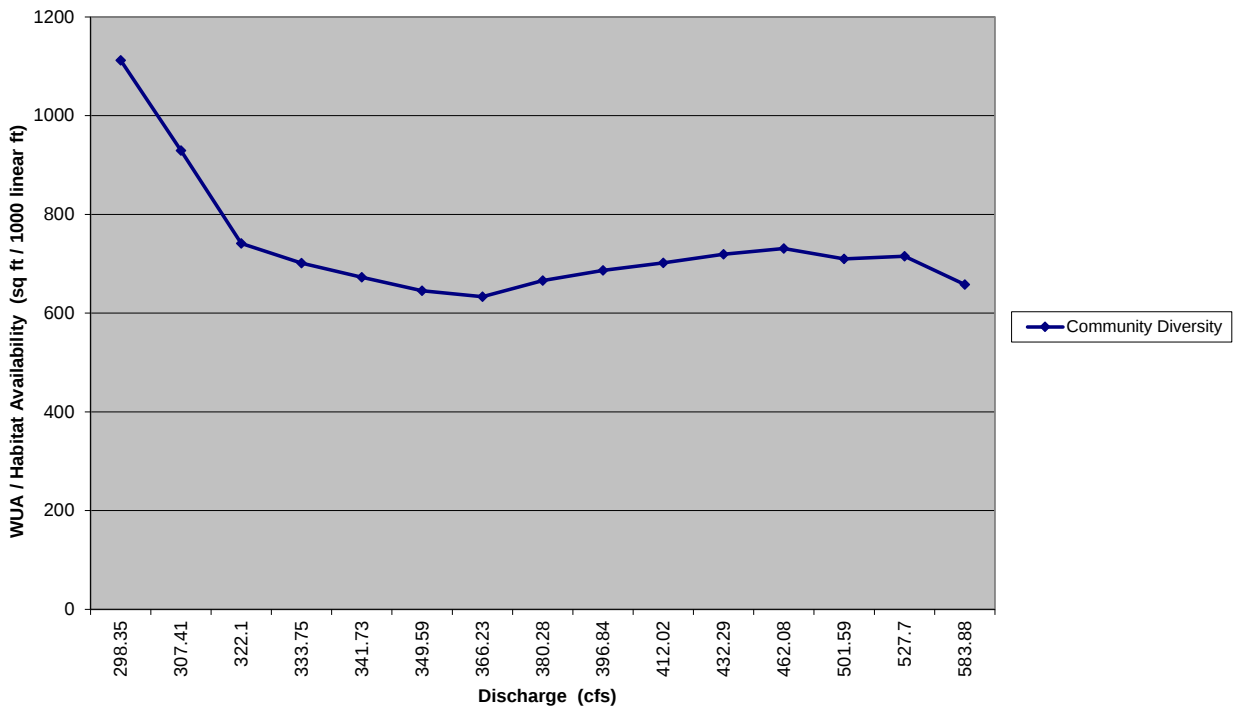
**Rainbow River - PHABSIM1
Low Back Water (25%)
Benthic Macroinvertebrates**



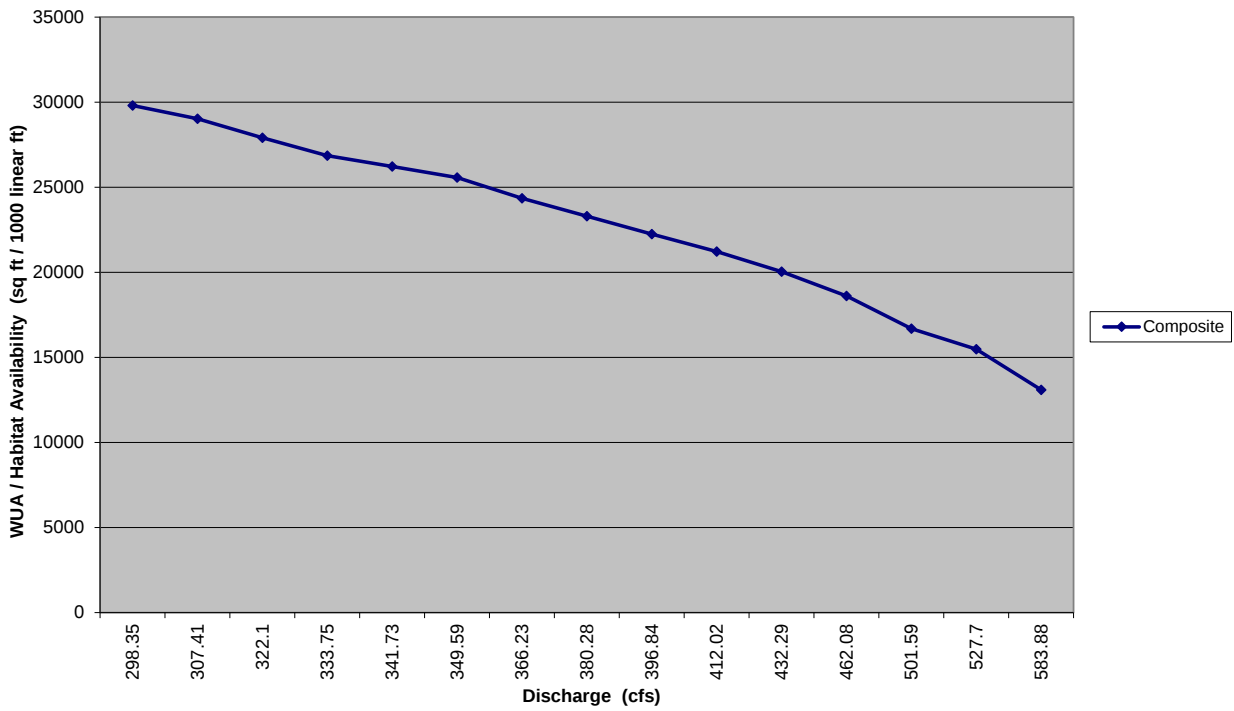
**Rainbow River - PHABSIM1
Medium Back Water (50%)
Benthic Macroinvertebrates**



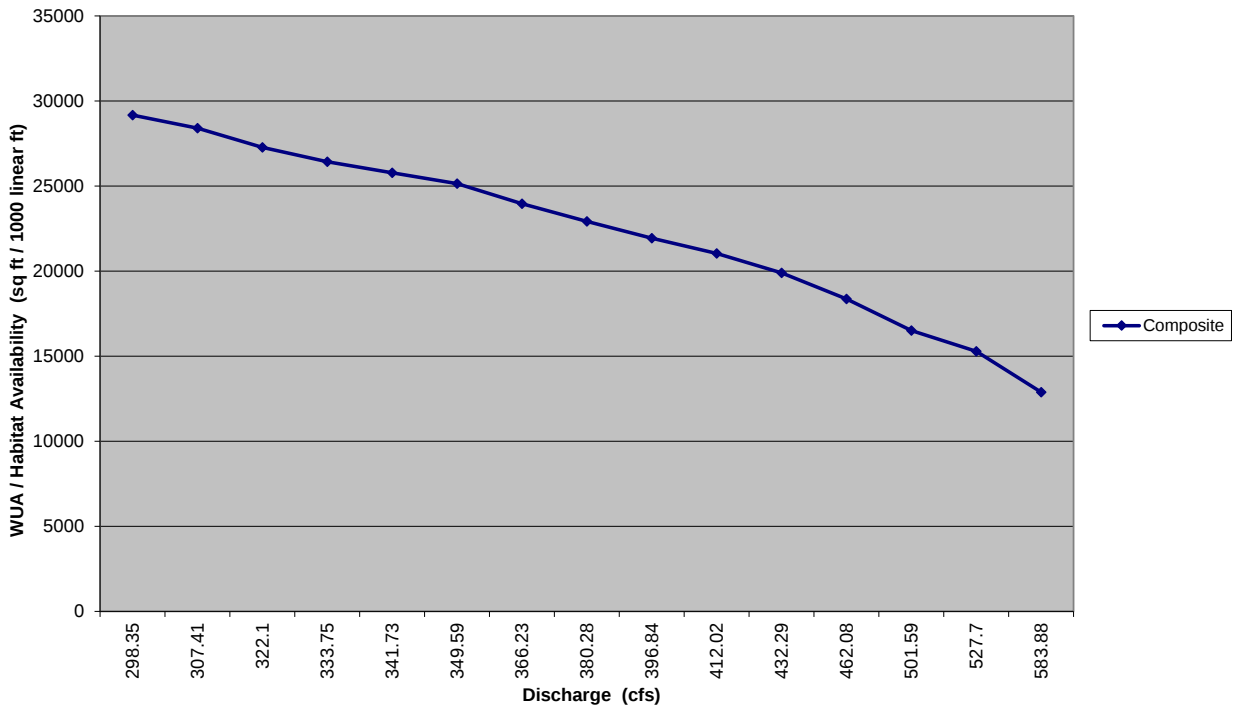
**Rainbow River - PHABSIM1
High Back Water (75%)
Benthic Macroinvertebrates**



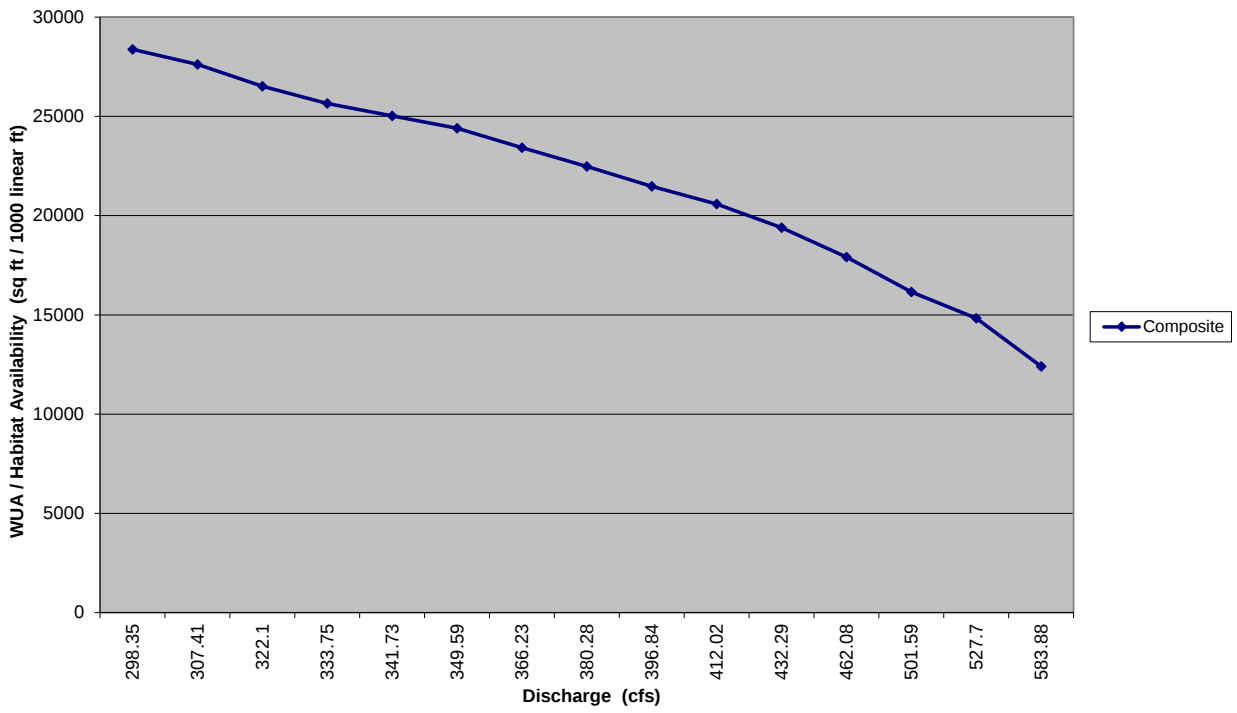
Rainbow River - PHABSIM1
Low Back Water (25%)
Cyprinidae - Minnows, Chubs, Dace, Shiners



Rainbow River - PHABSIM1
Medium Back Water (50%)
Cyprinidae - Minnows, Chubs, Dace, Shiners



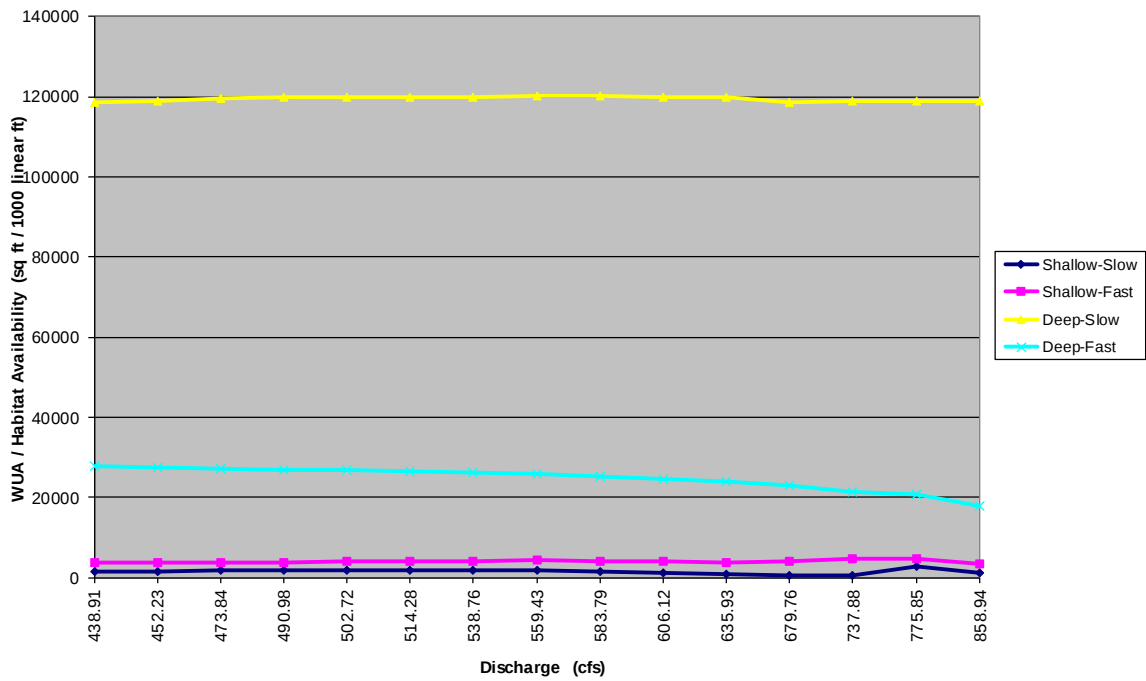
Rainbow River - PHABSIM1
High Back Water (75%)
Cyprinidae - Minnows, Chubs, Dace, Shiners



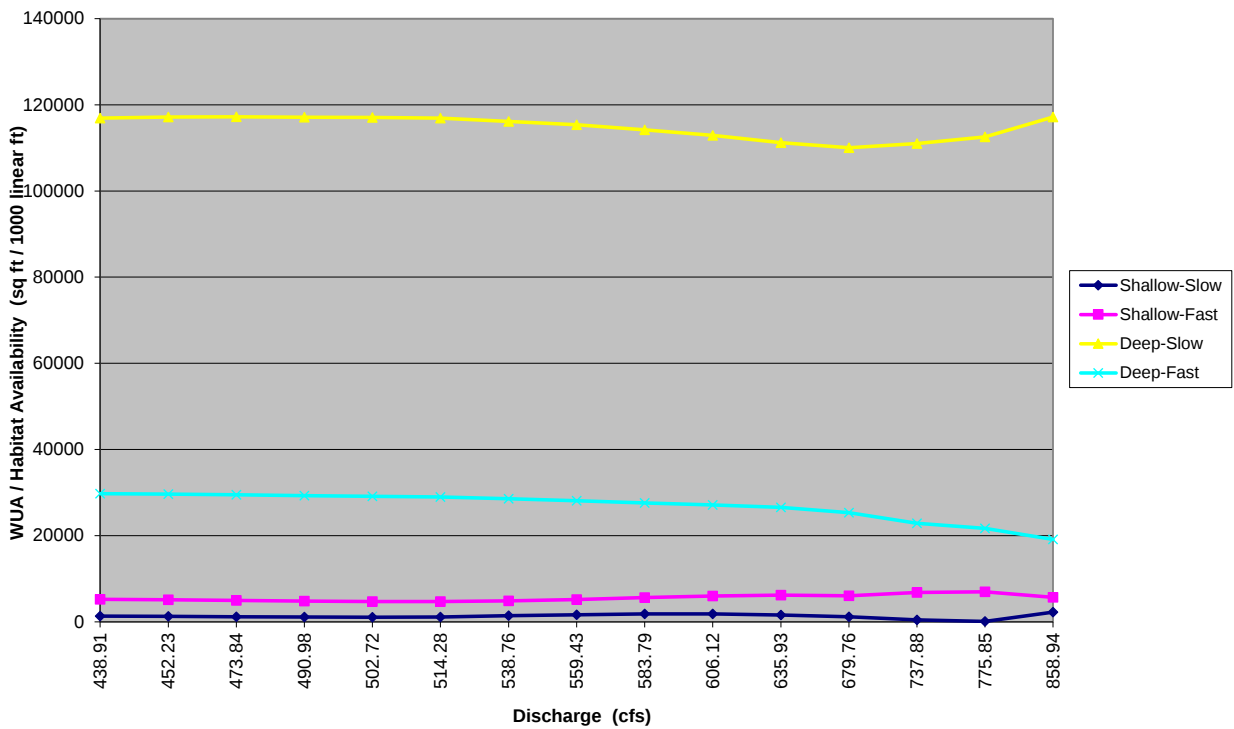
Section 2

Rainbow River System PHABSIM Modeling Results: Weighted Usable Area vs. Discharge Plots for PHABSIM 2

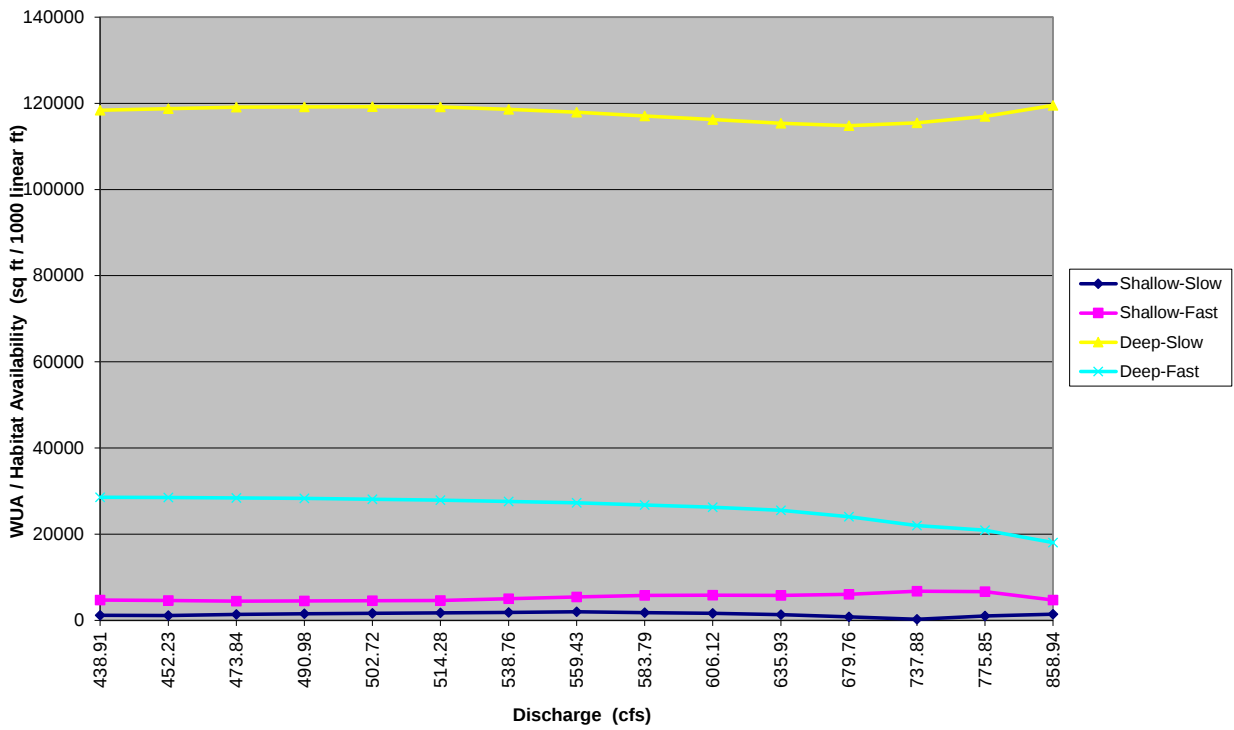
**Rainbow River - PHABSIM2
Low Back Water (25%)
Fish Habitat Guilds**



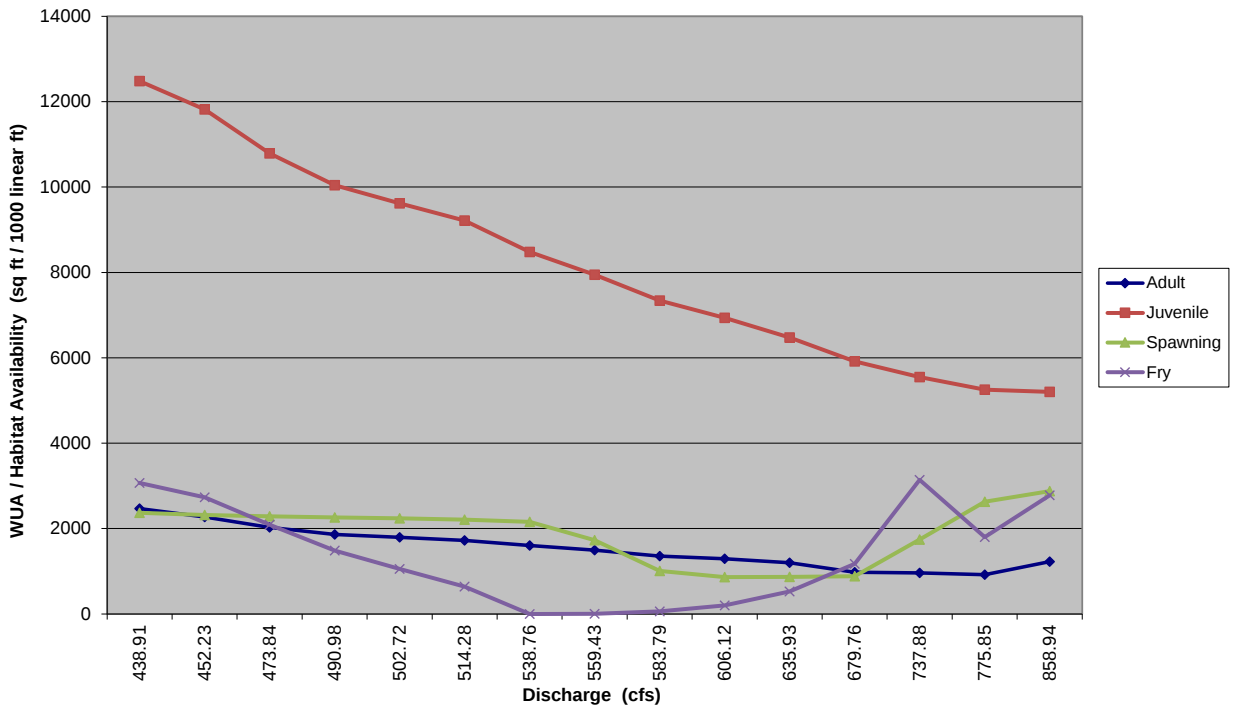
**Rainbow River - PHABSIM2
Medium Back Water (50%)
Fish Habitat Guilds**



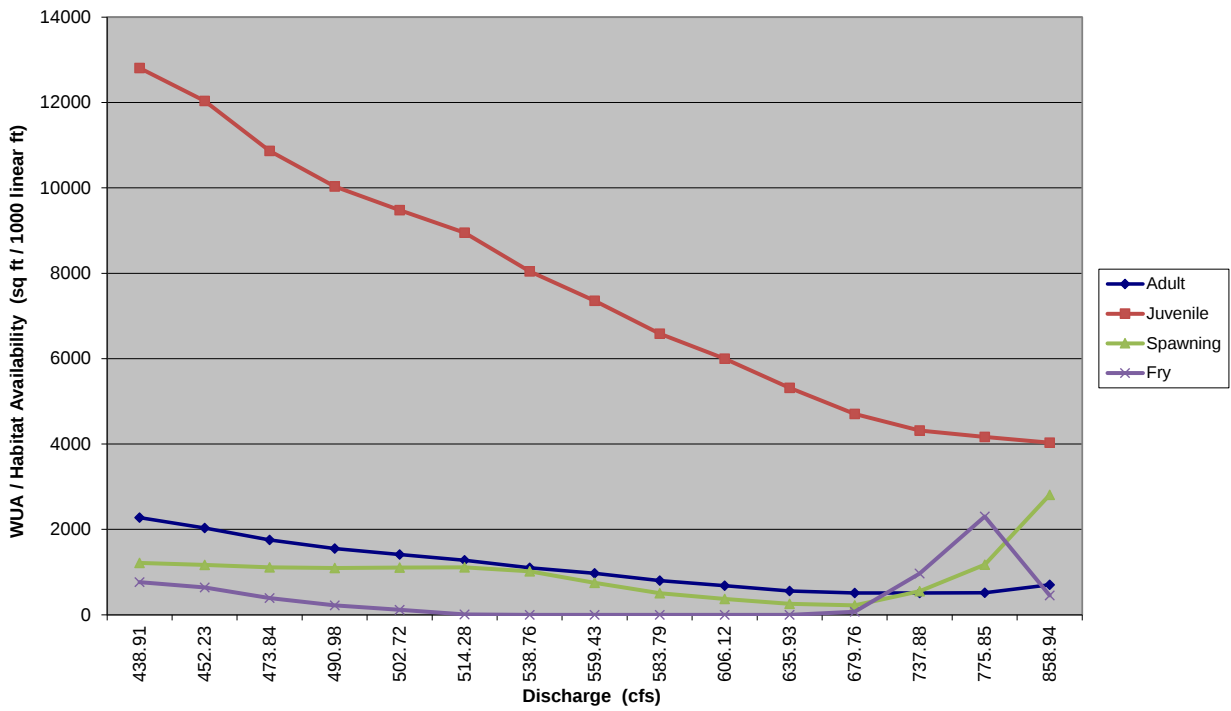
**Rainbow River - PHABSIM2
High Back Water (75%)
Fish Habitat Guilds**



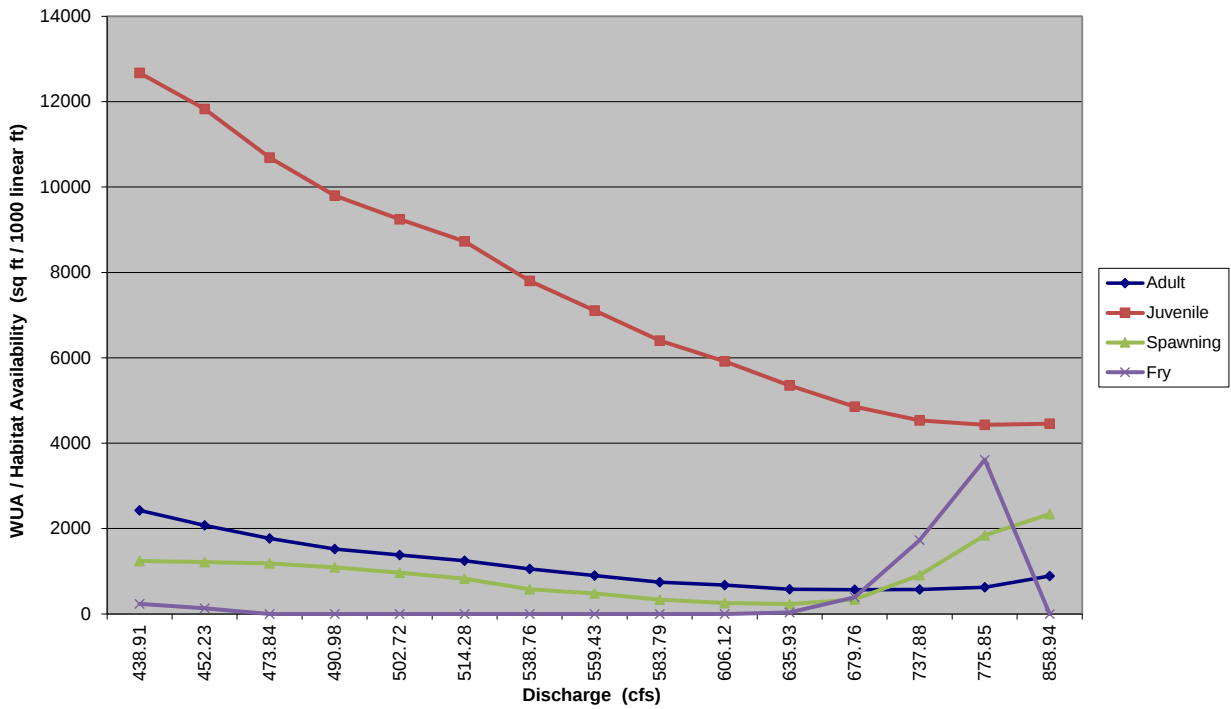
**Rainbow River - PHABSIM2
Low Back Water (25%)
Largemouth Bass**



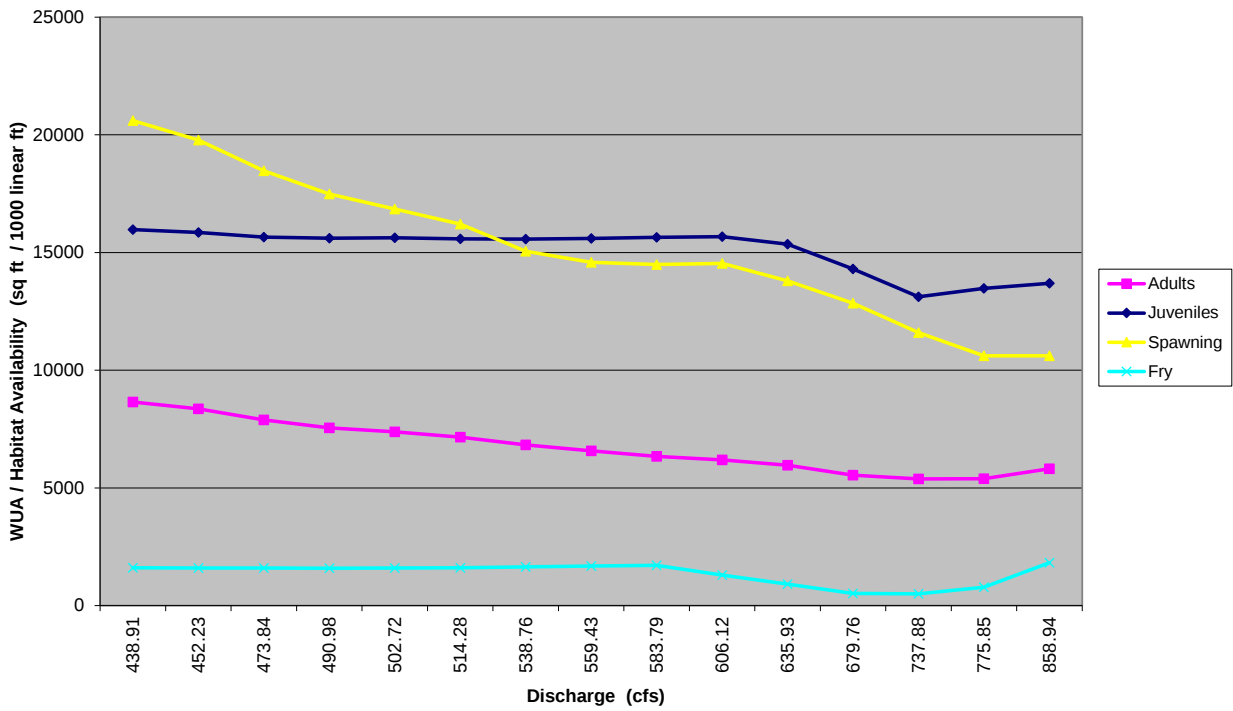
Rainbow River - PHABSIM2
Medium Back Water (50%)
Largemouth Bass



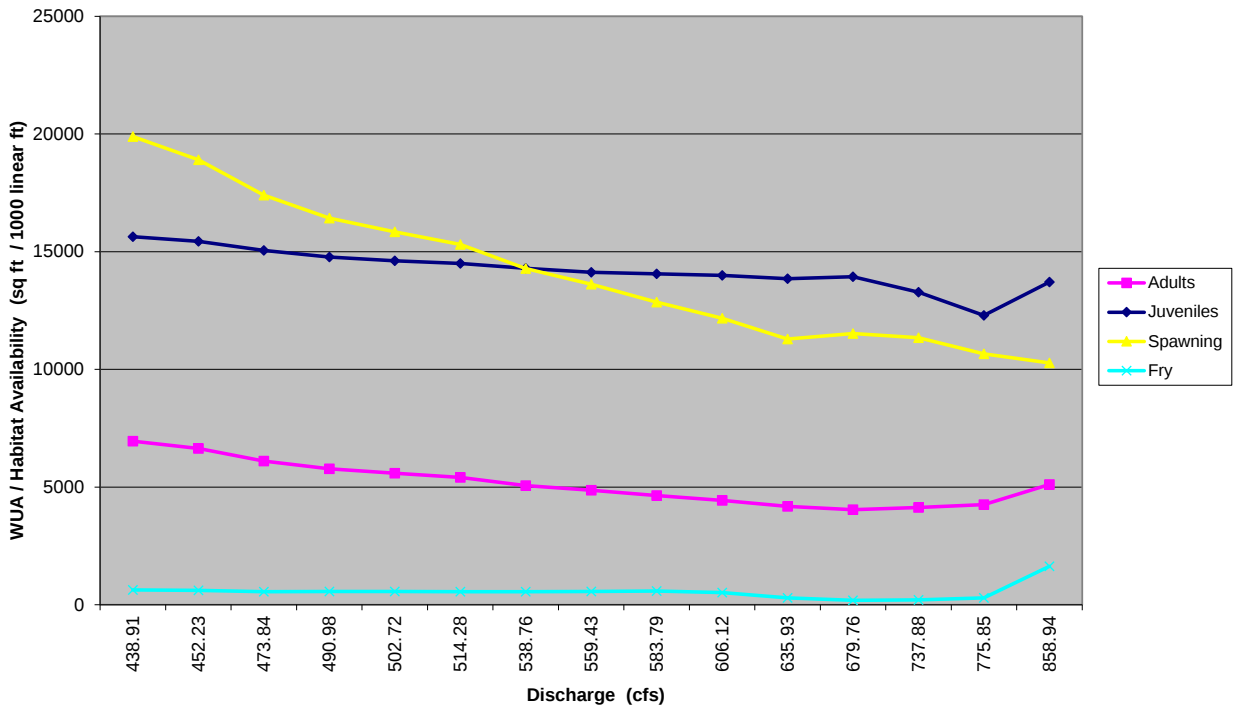
Rainbow River - PHABSIM2
High Back Water (75%)
Largemouth Bass



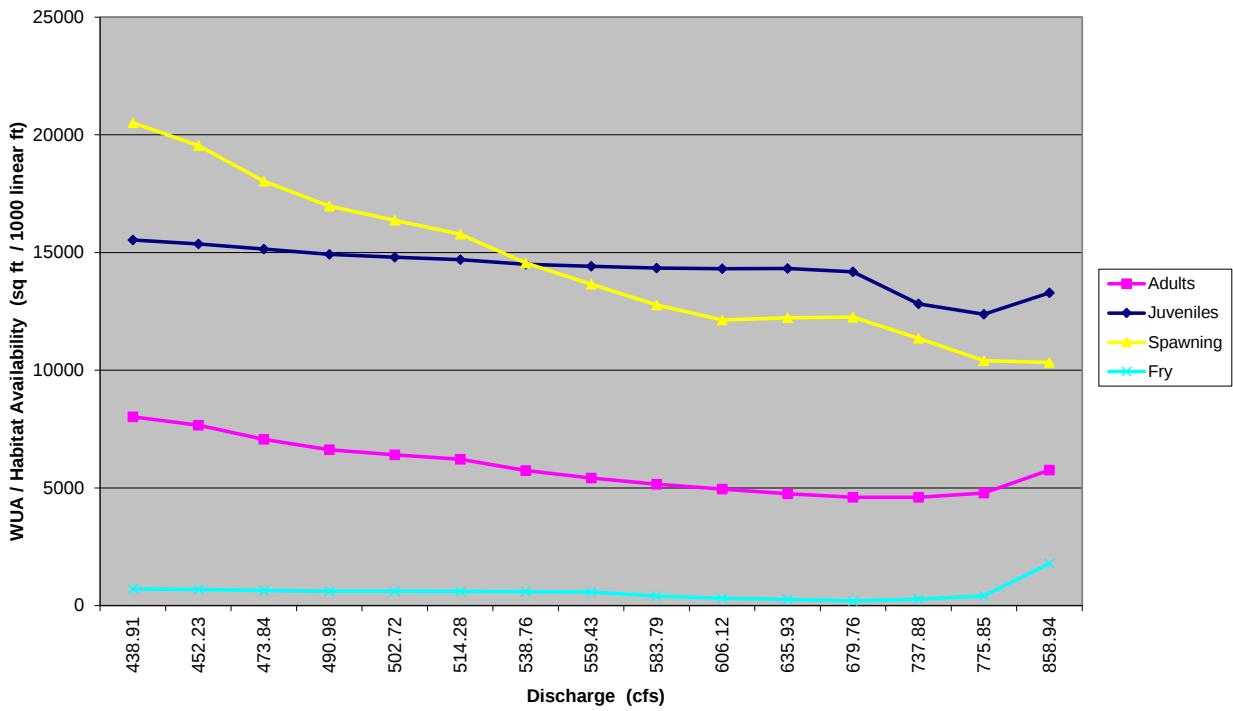
**Rainbow River - PHABSIM2
Low Back Water (25%)
Bluegill Sunfish**



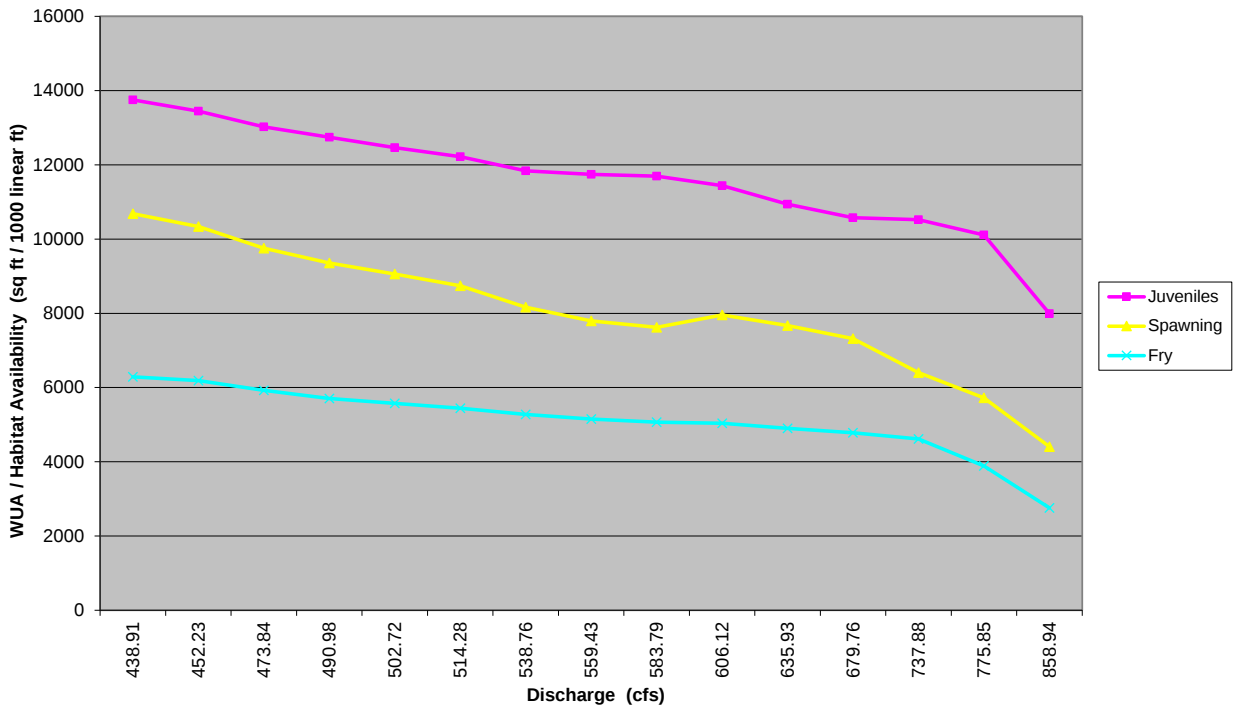
**Rainbow River - PHABSIM2
Medium Back Water (50%)
Bluegill Sunfish**



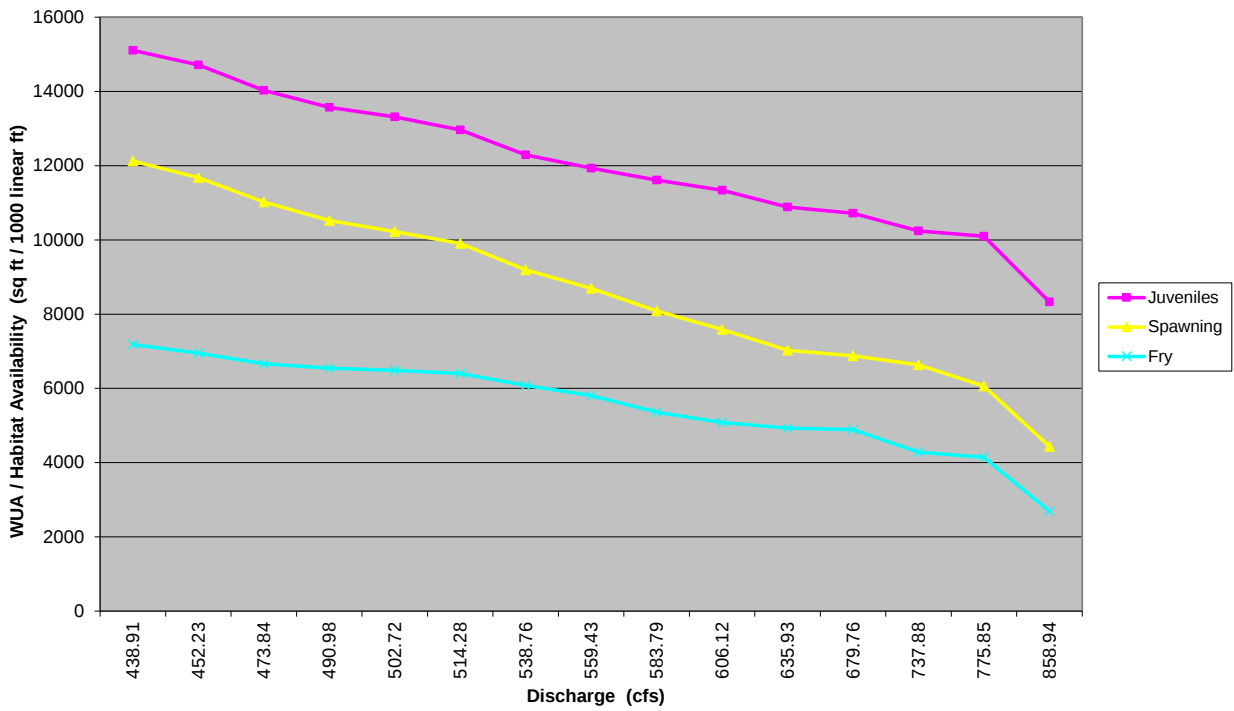
**Rainbow River - PHABSIM2
High Backwater (75%)
Bluegill Sunfish**



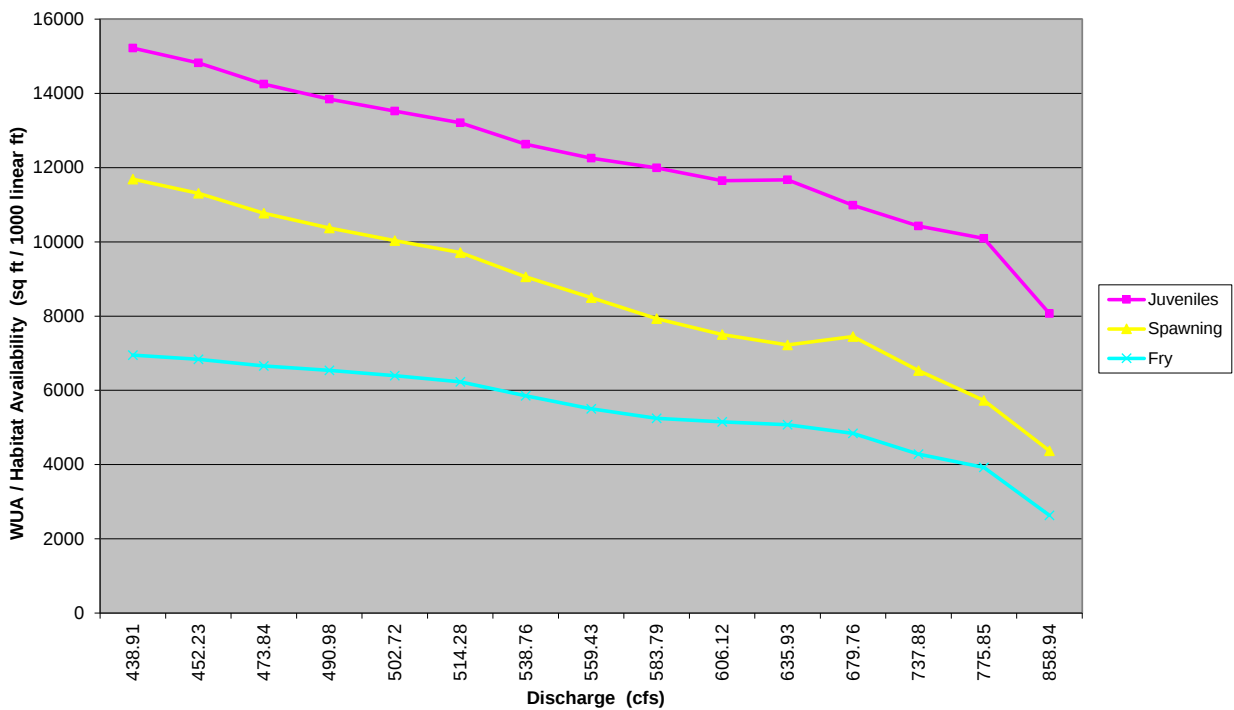
**Rainbow River - PHABSIM2
Low Back Water (25%)
Spotted Sunfish**



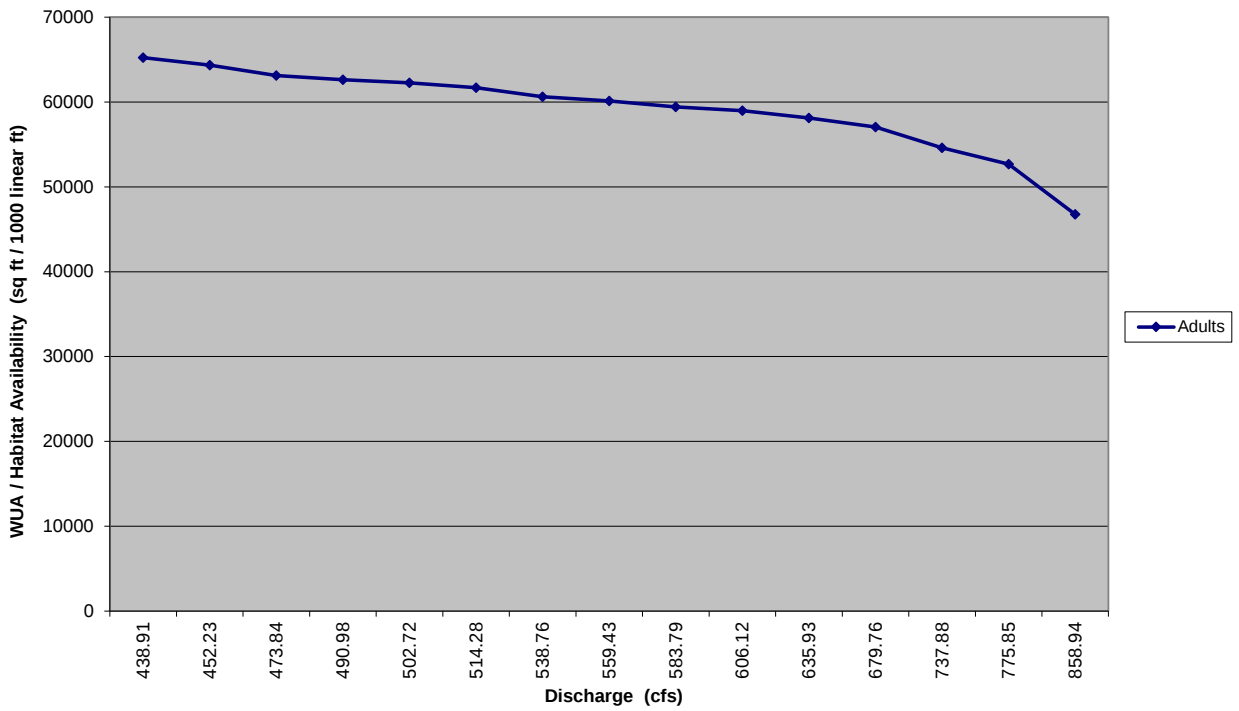
**Rainbow River - PHABSIM2
Medium Back Water (50%)
Spotted Sunfish**



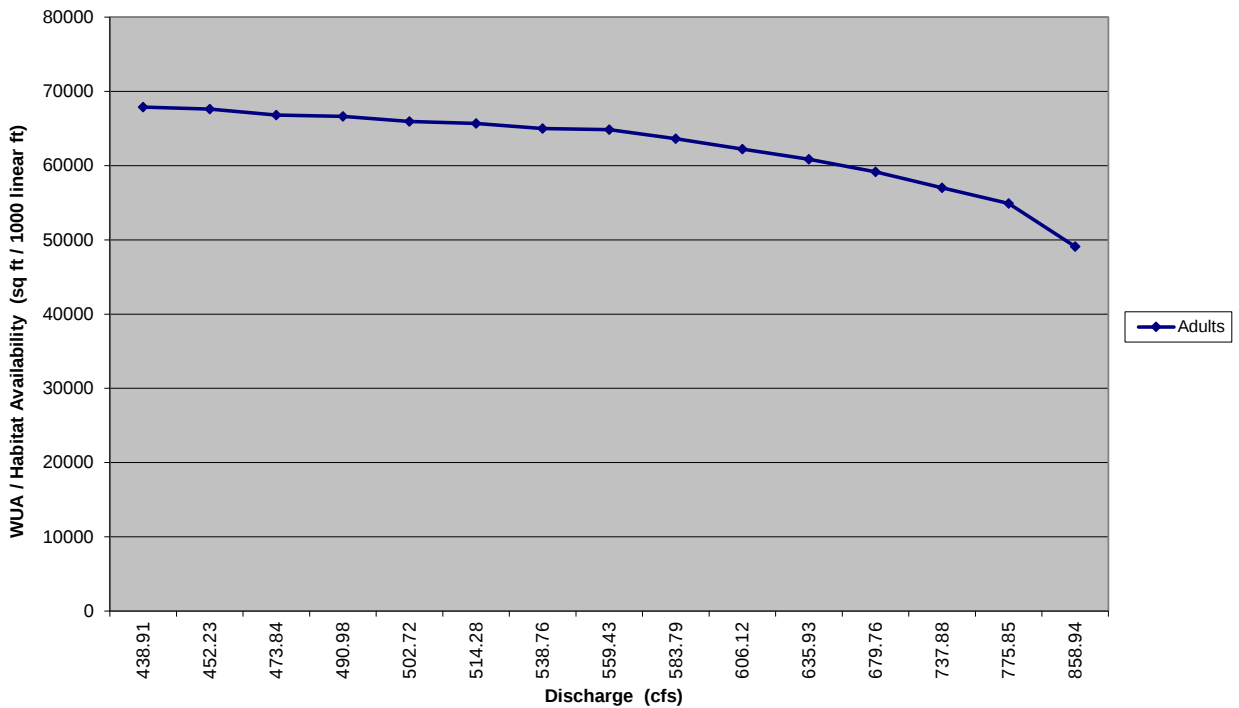
**Rainbow River - PHABSIM2
High Back Water (75%)
Spotted Sunfish**



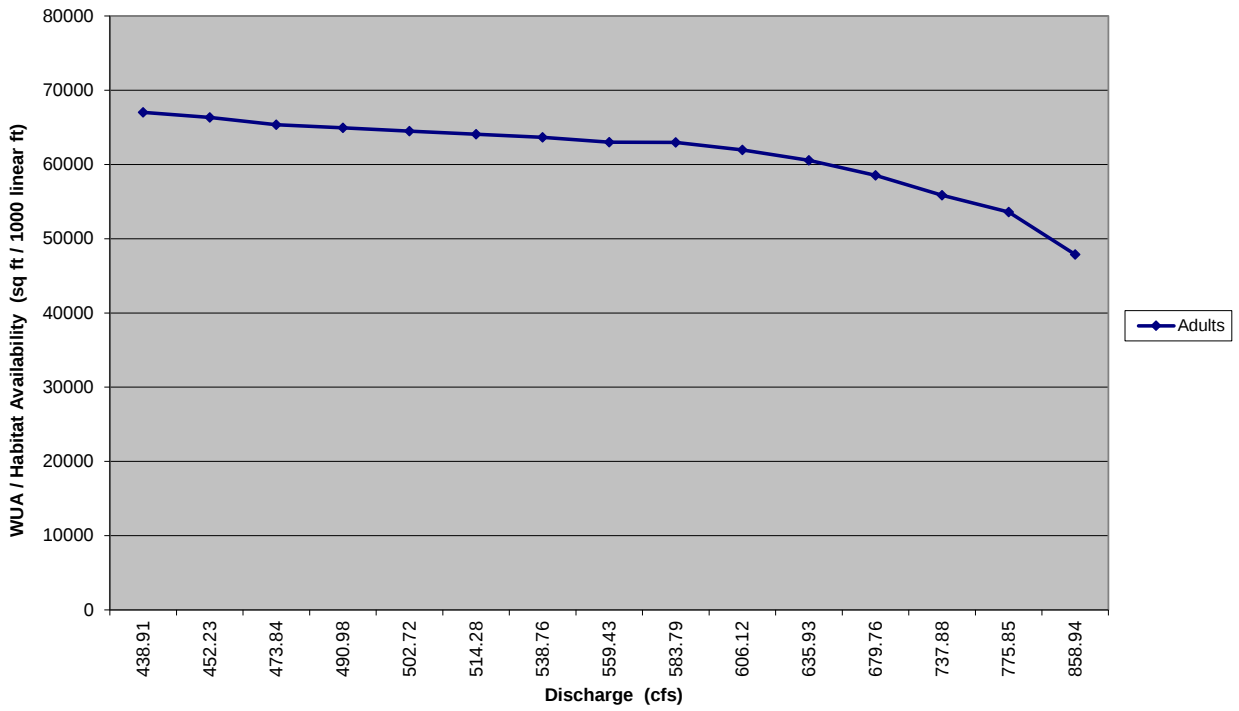
Rainbow River - PHABSIM2
Low Back Water (25%)
Spotted Sunfish



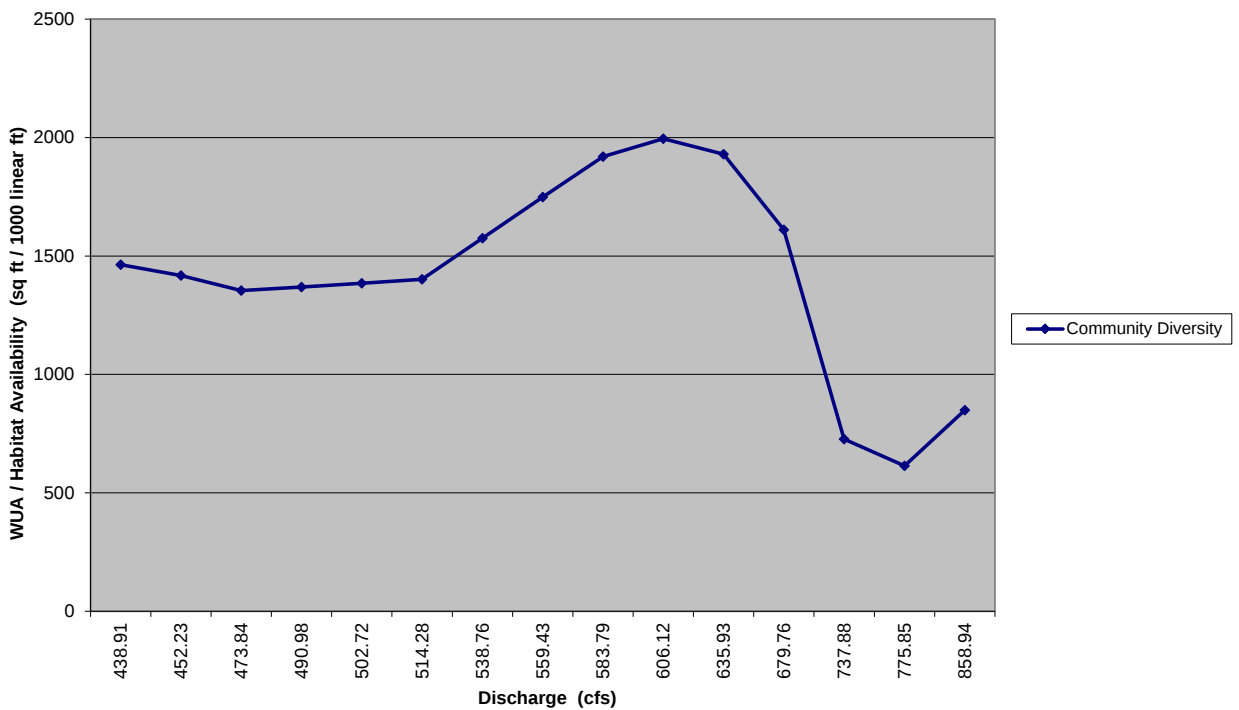
Rainbow River - PHABSIM2
Medium Back Water (50%)
Spotted Sunfish



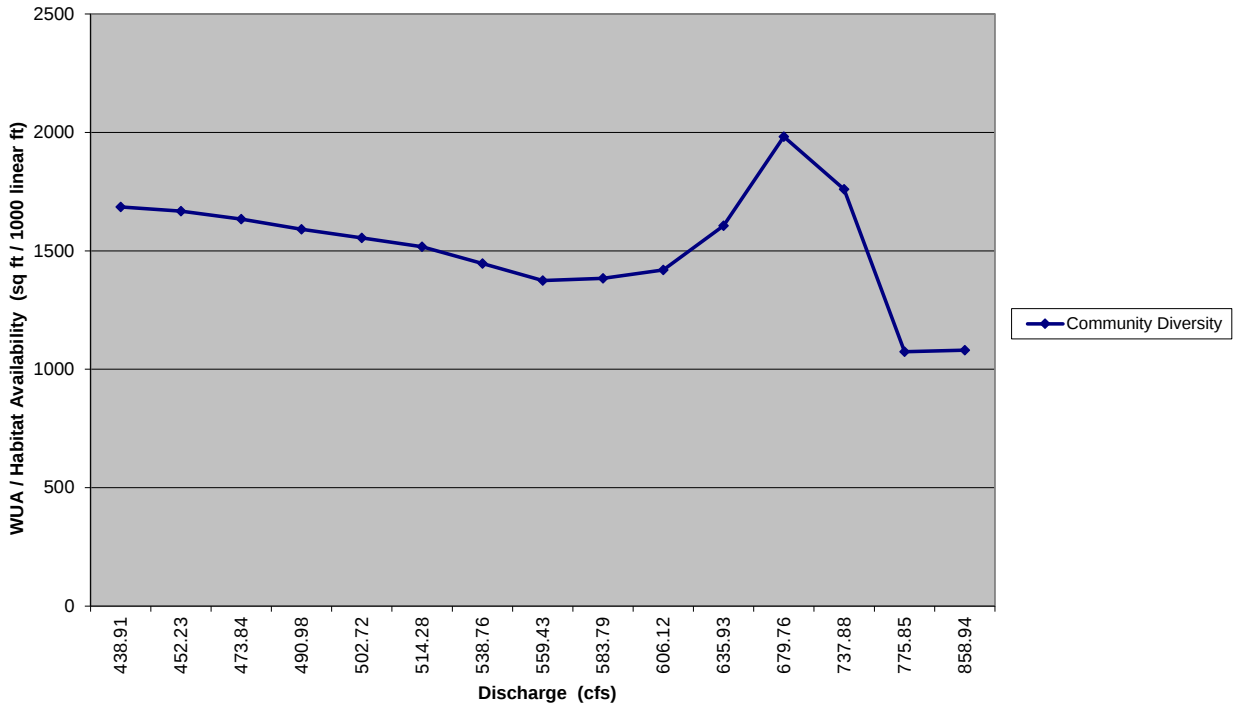
**Rainbow River - PHABSIM2
High Back Water (75%)
Spotted Sunfish**



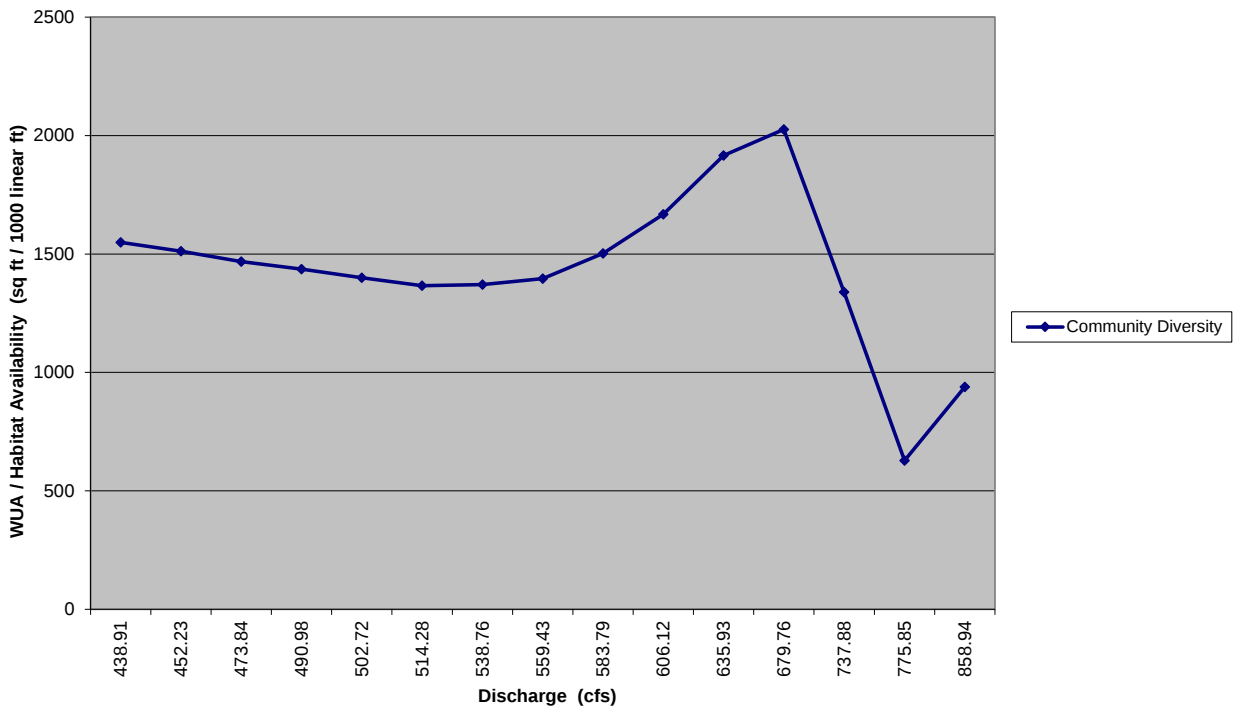
**Rainbow River - PHABSIM2
Low Back Water (25%)
Benthic Macroinvertebrates**



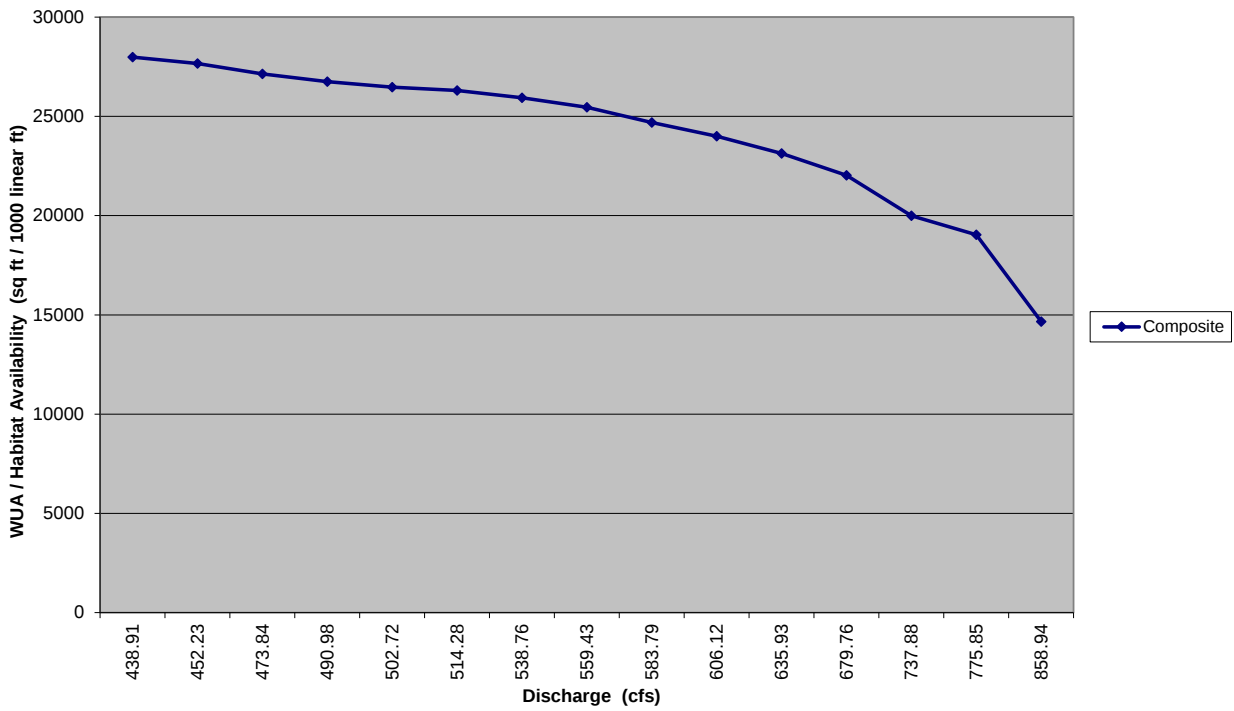
**Rainbow River - PHABSIM2
Medium Back Water (50%)
Benthic Macroinvertebrates**



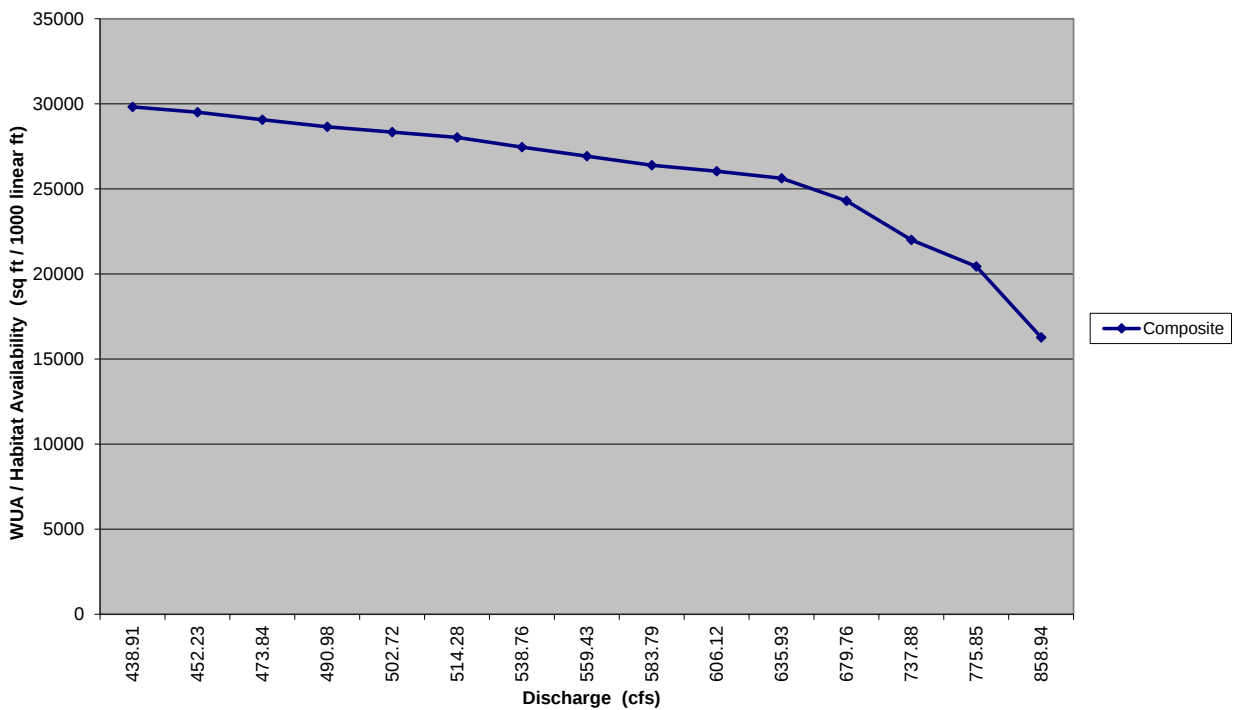
**Rainbow River - PHABSIM2
High Back Water (75%)
Benthic Macroinvertebrates**



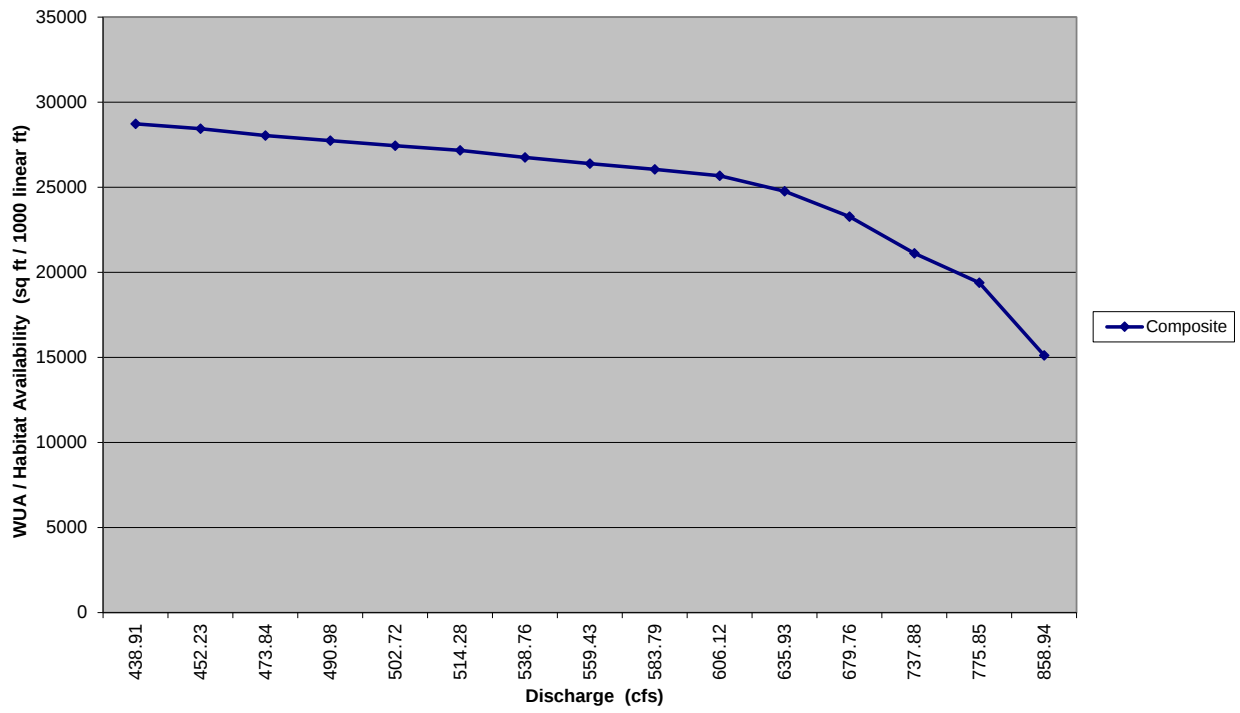
Rainbow River - PHABSIM2
Low Back Water (25%)
Cyprinidae - Minnows, Chubs, Dace, Shiners



Rainbow River - PHABSIM2
Medium Back Water (50%)
Cyprinidae - Minnows, Chubs, Dace, Shiners



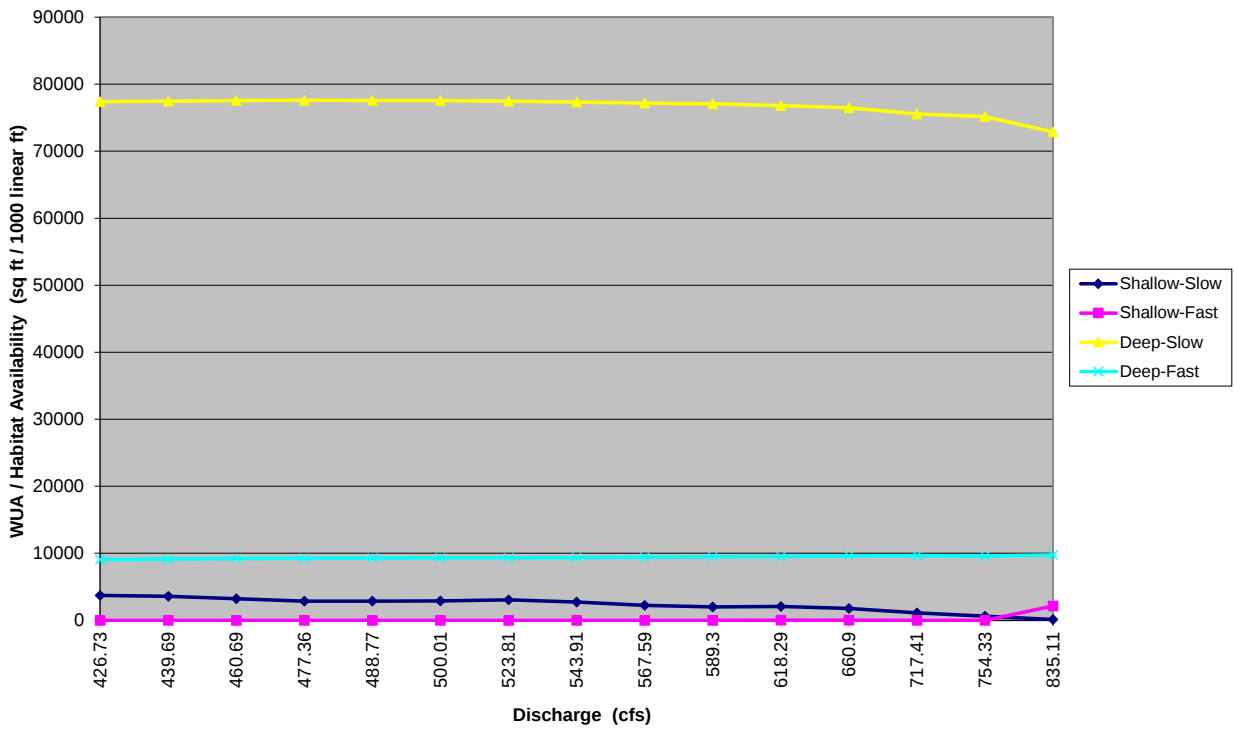
Rainbow River - PHABSIM2
High Back Water (75%)
Cyprinidae - Minnows, Chubs, Dace, Shiners



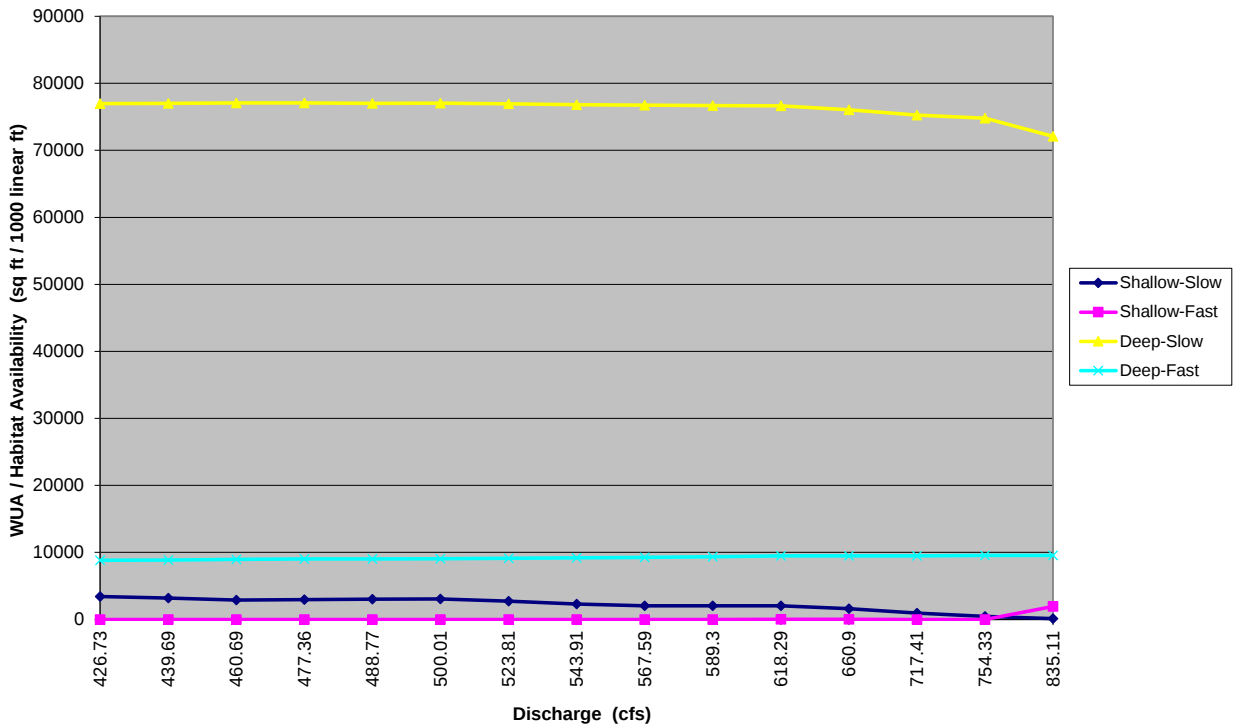
Section 2

Rainbow River System PHABSIM Modeling Results: Weighted Usable Area vs. Discharge Plots for the Pool Site

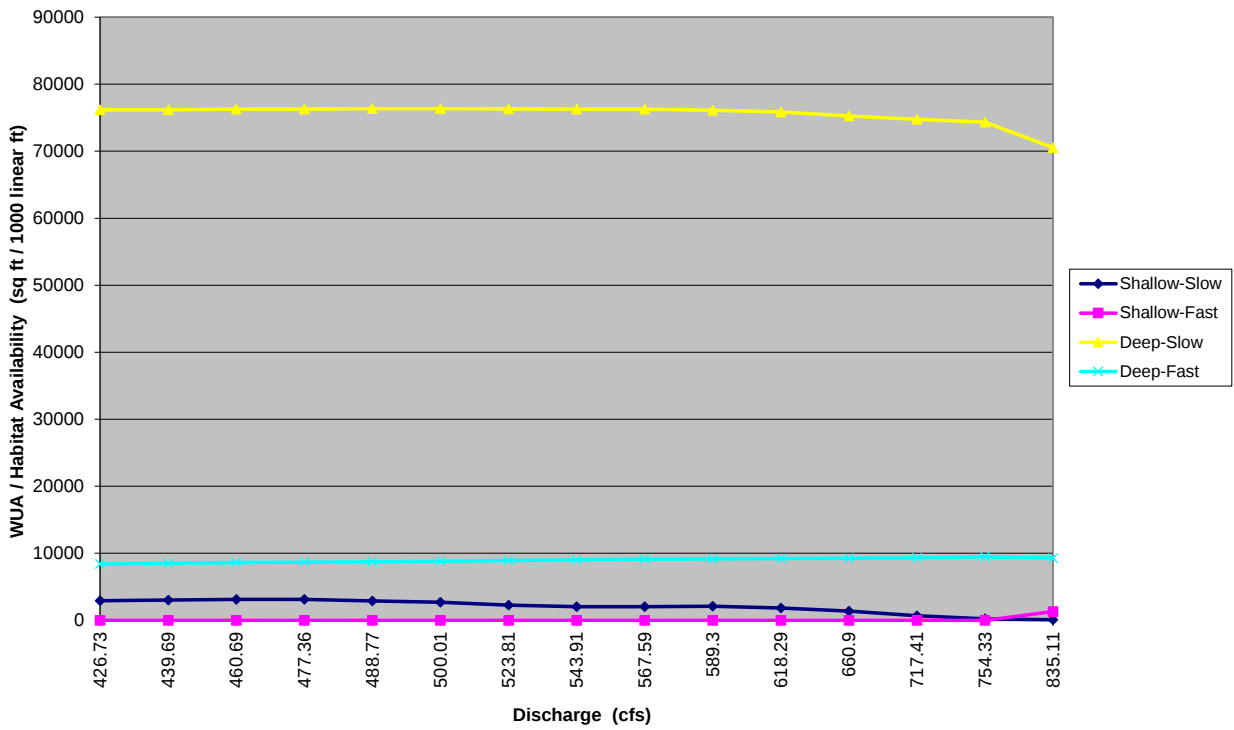
**Rainbow River - Pool Site
Low Back Water (25%)
Fish Habitat Guilds**



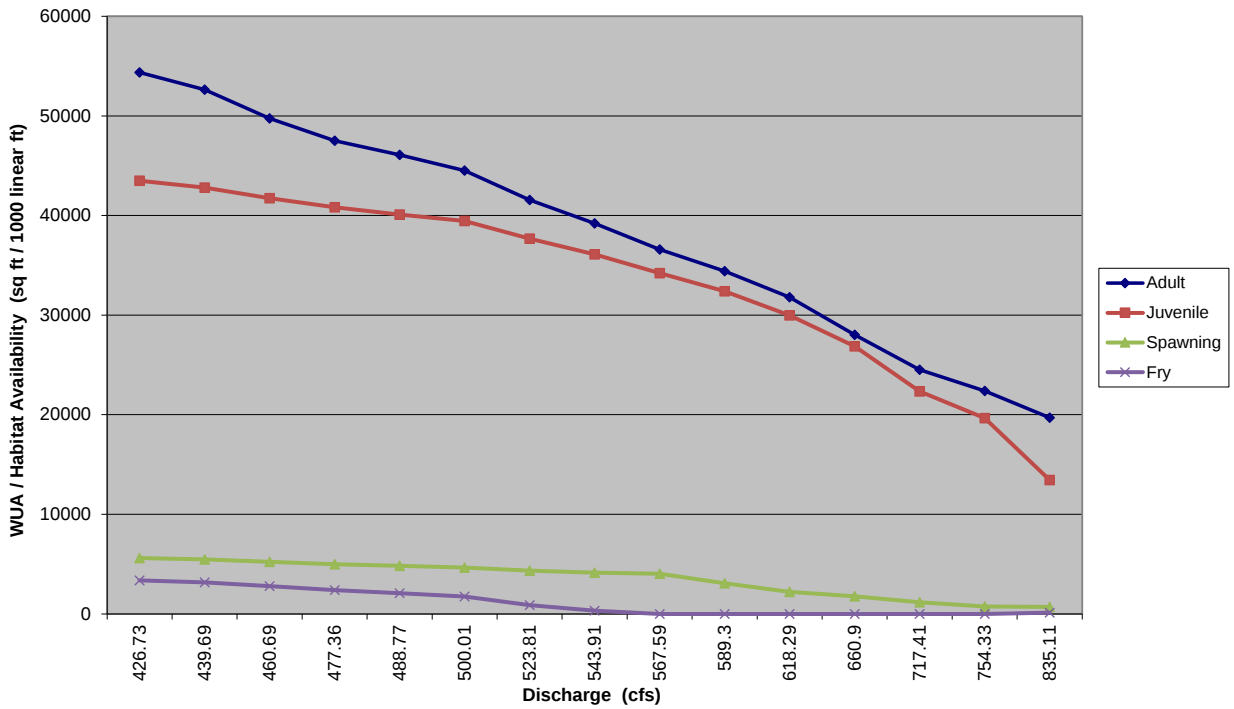
**Rainbow River - Pool Site
Medium Back Water (50%)
Fish Habitat Guilds**



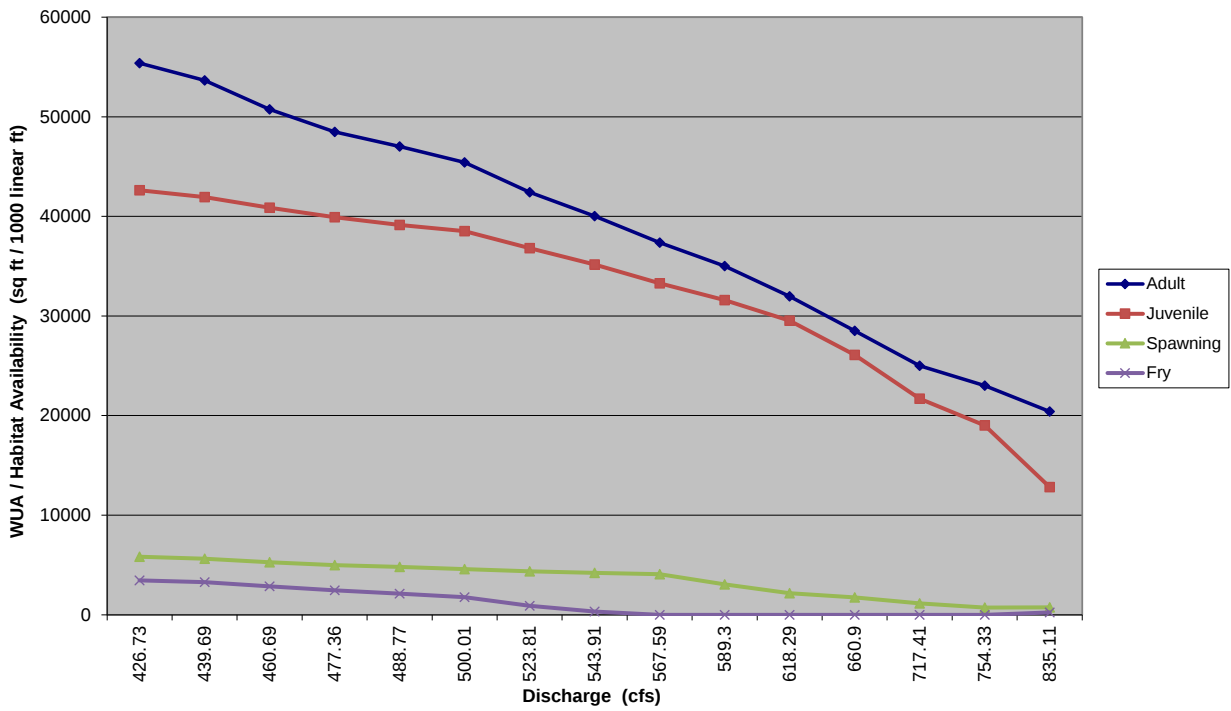
**Rainbow River - Pool Site
High Back Water (75%)
Fish Habitat Guilds**



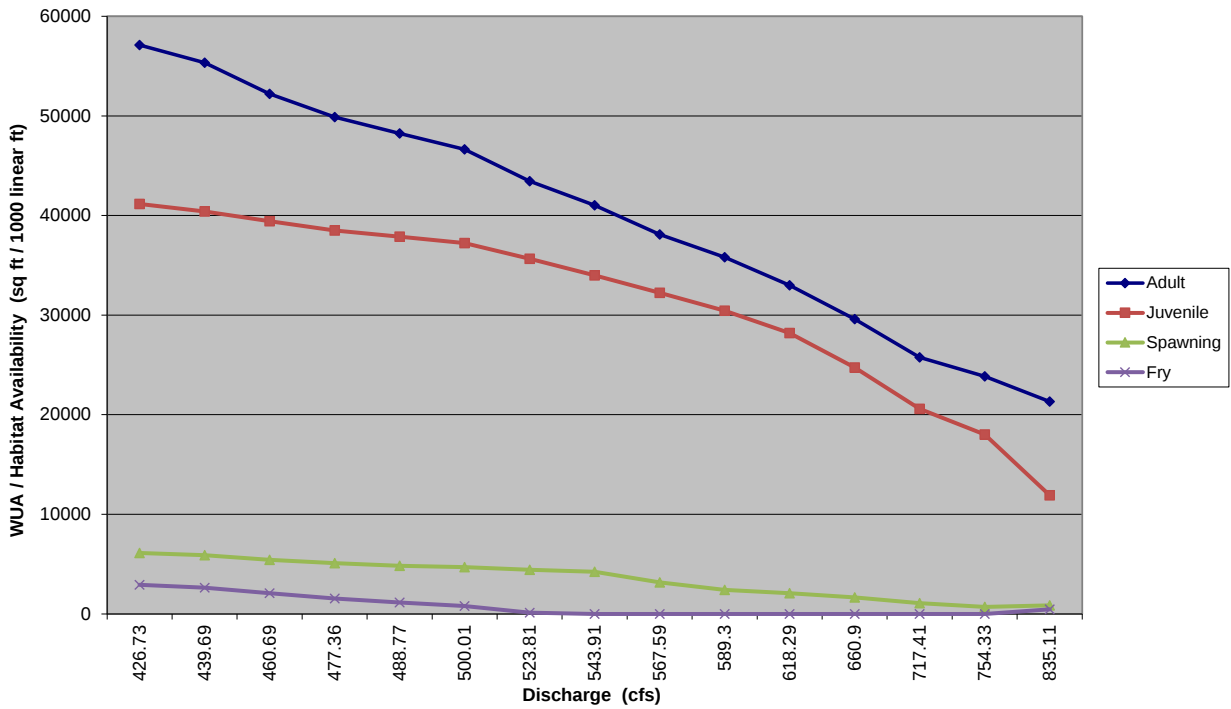
**Rainbow River - Pool Site
Low Back Water (25%)
Largemouth Bass**



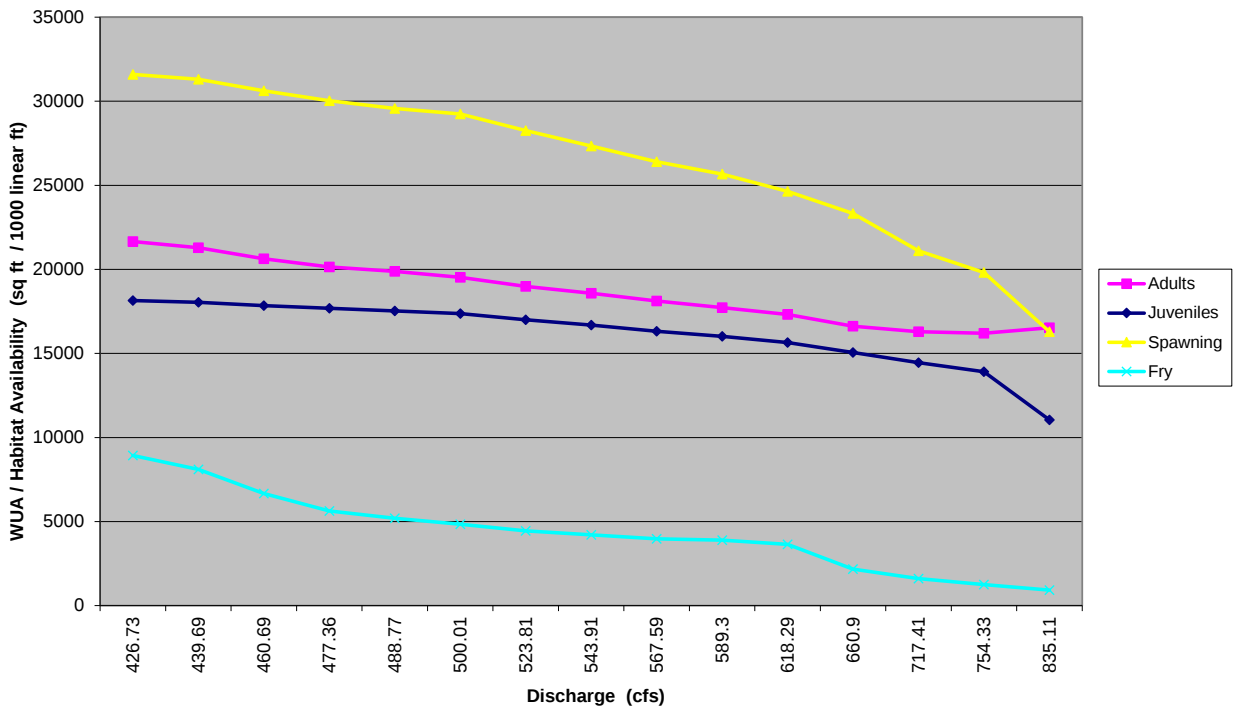
**Rainbow River - Pool Site
Medium Back Water (50%)
Largemouth Bass**



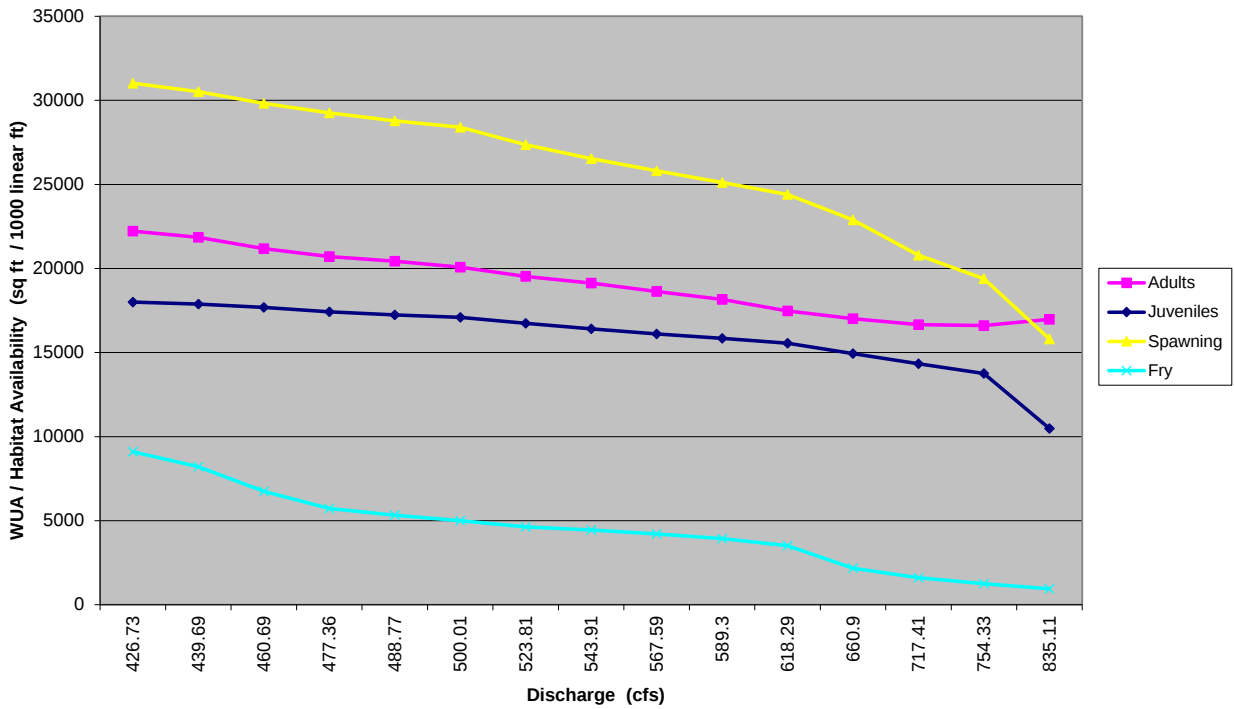
**Rainbow River - Pool Site
High Back Water (75%)
Largemouth Bass**



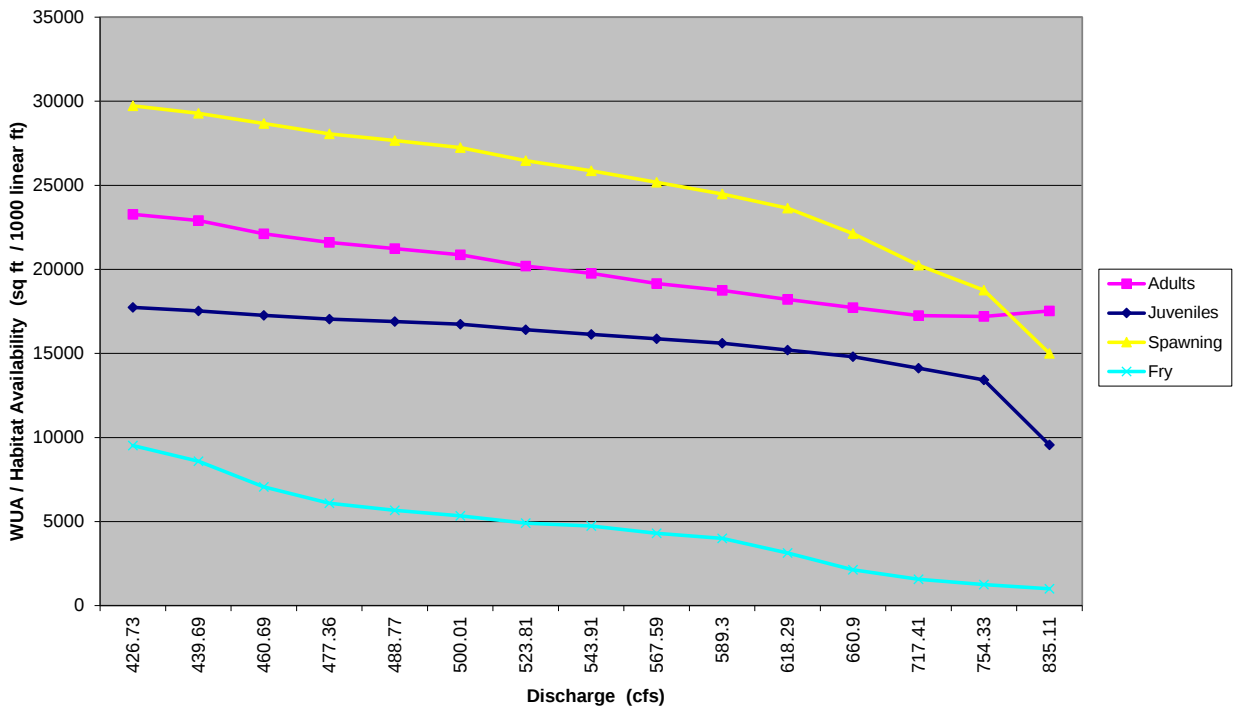
**Rainbow River - Pool Site
Low Back Water (25%)
Bluegill Sunfish**



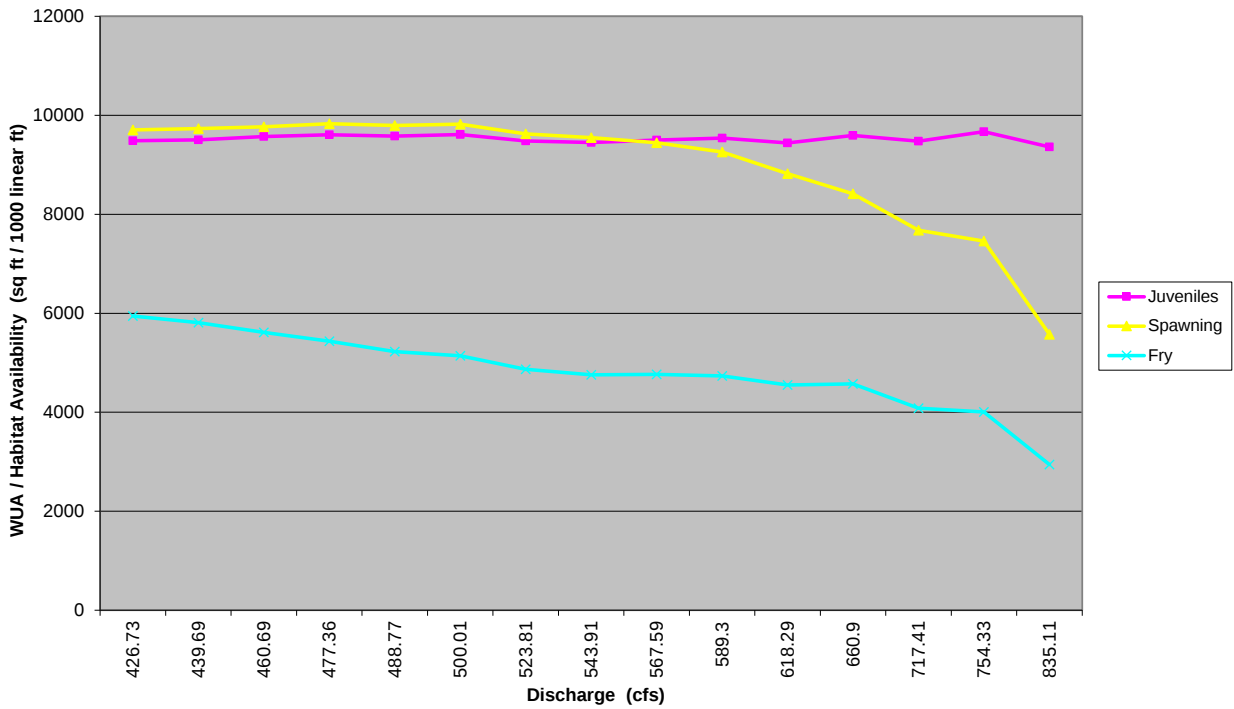
**Rainbow River - Pool Site
Medium Back Water (50%)
Bluegill Sunfish**



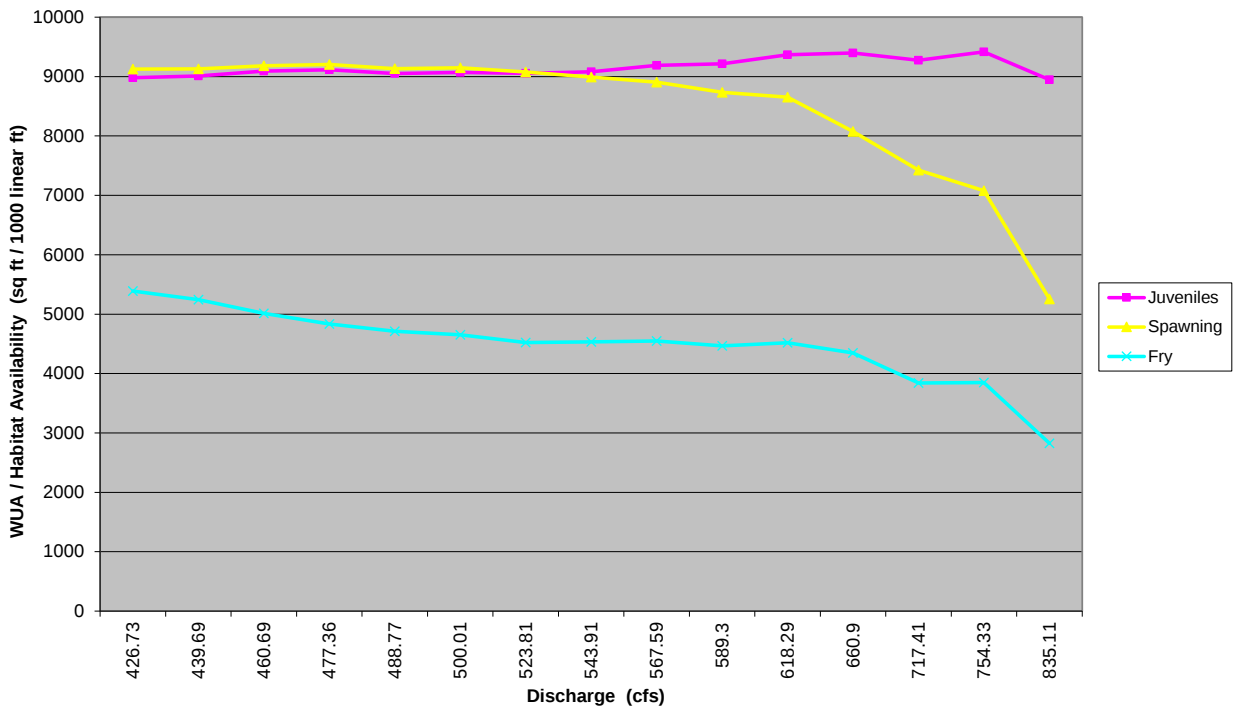
**Rainbow River - Pool Site
High Back Water (75%)
Bluegill Sunfish**



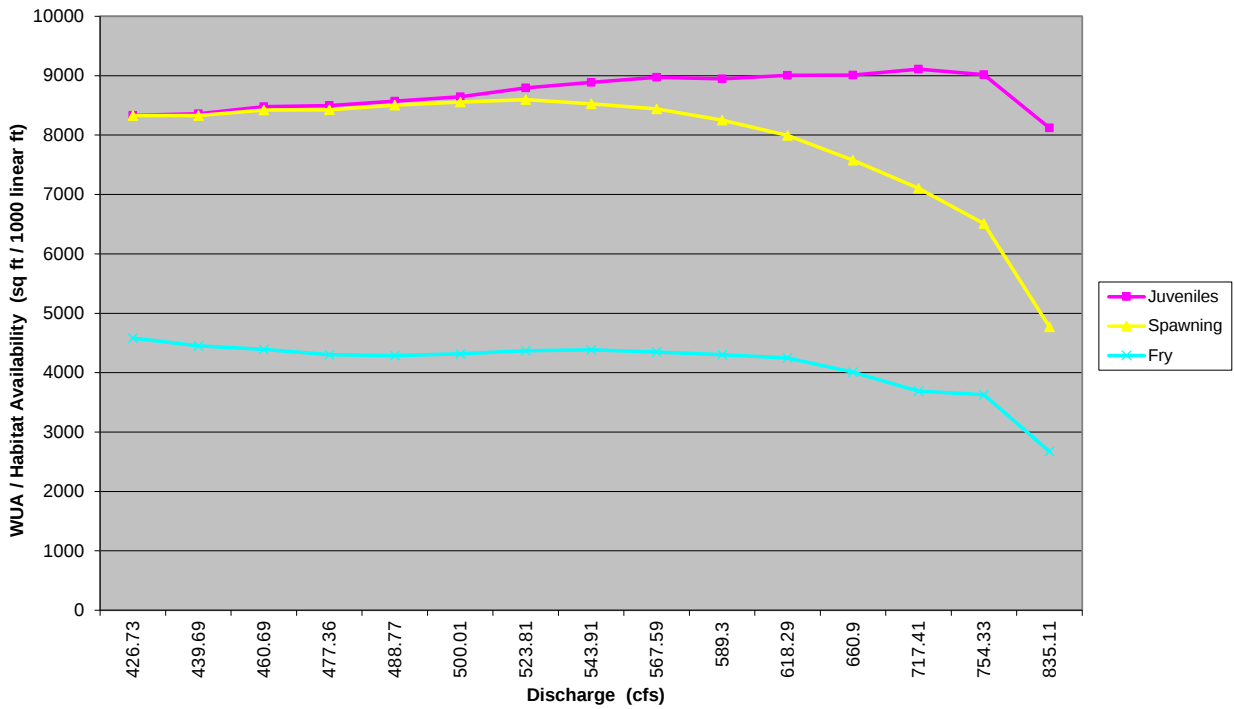
**Rainbow River - Pool Site
Low Back Water (25%)
Spotted Sunfish**



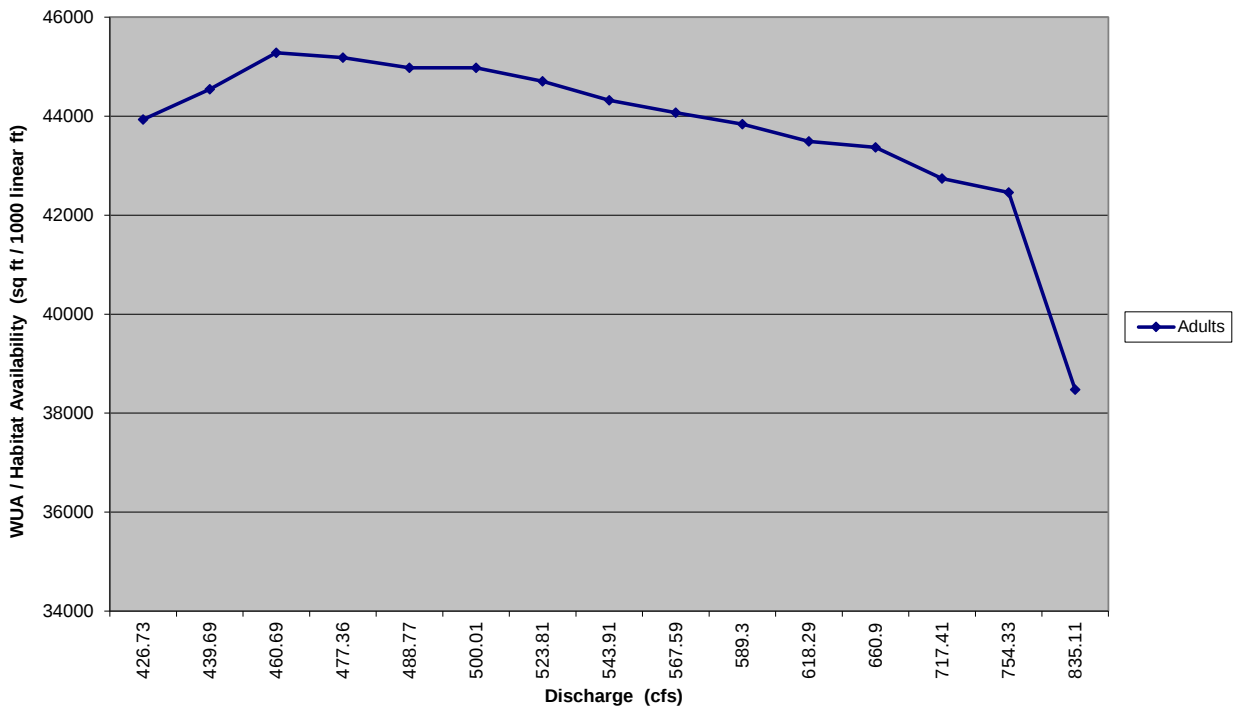
**Rainbow River - Pool Site
Medium Back Water (50%)
Spotted Sunfish**



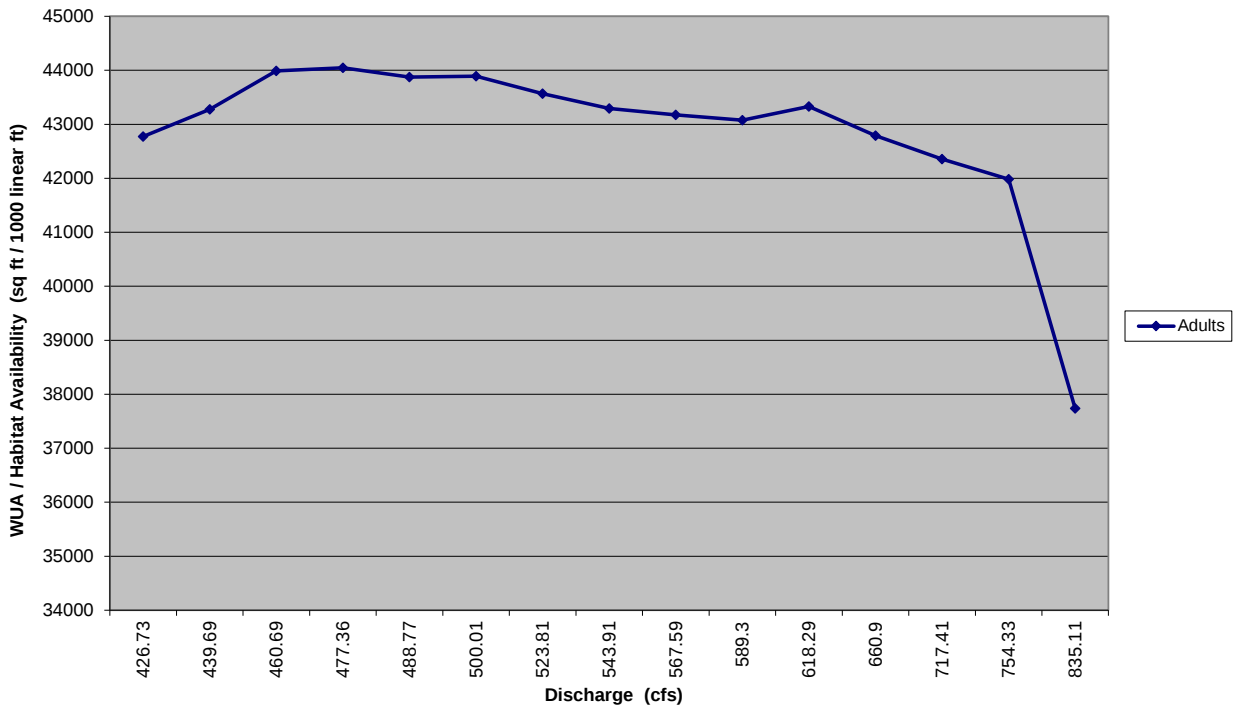
**Rainbow River - Pool Site
High Back Water (75%)
Spotted Sunfish**



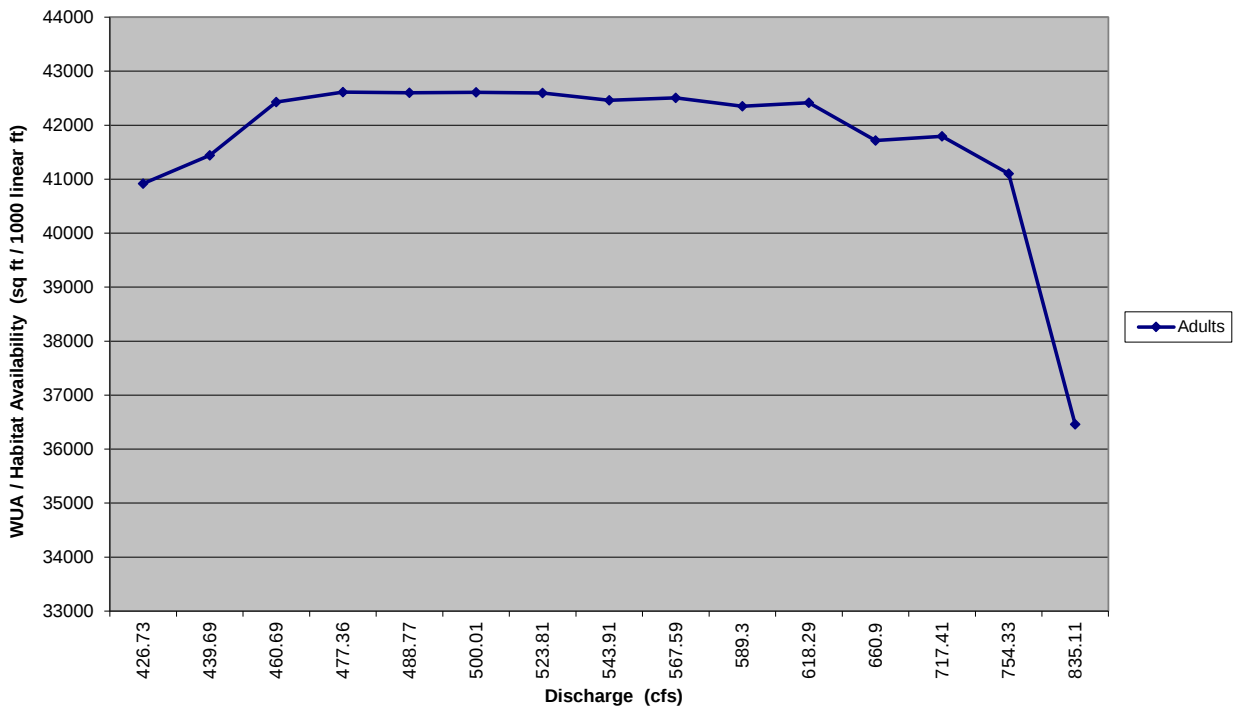
Rainbow River - Pool Site
Low Back Water (25%)
Spotted Sunfish



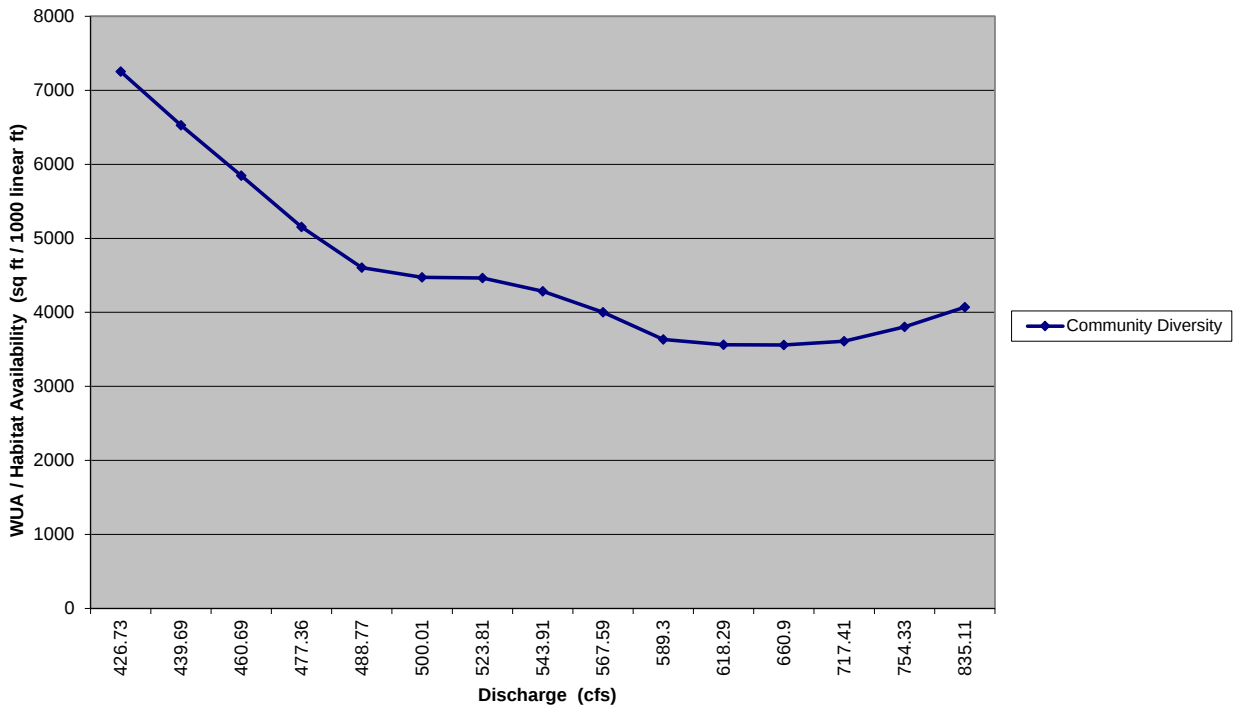
Rainbow River - Pool Site
Medium Back Water (50%)
Spotted Sunfish



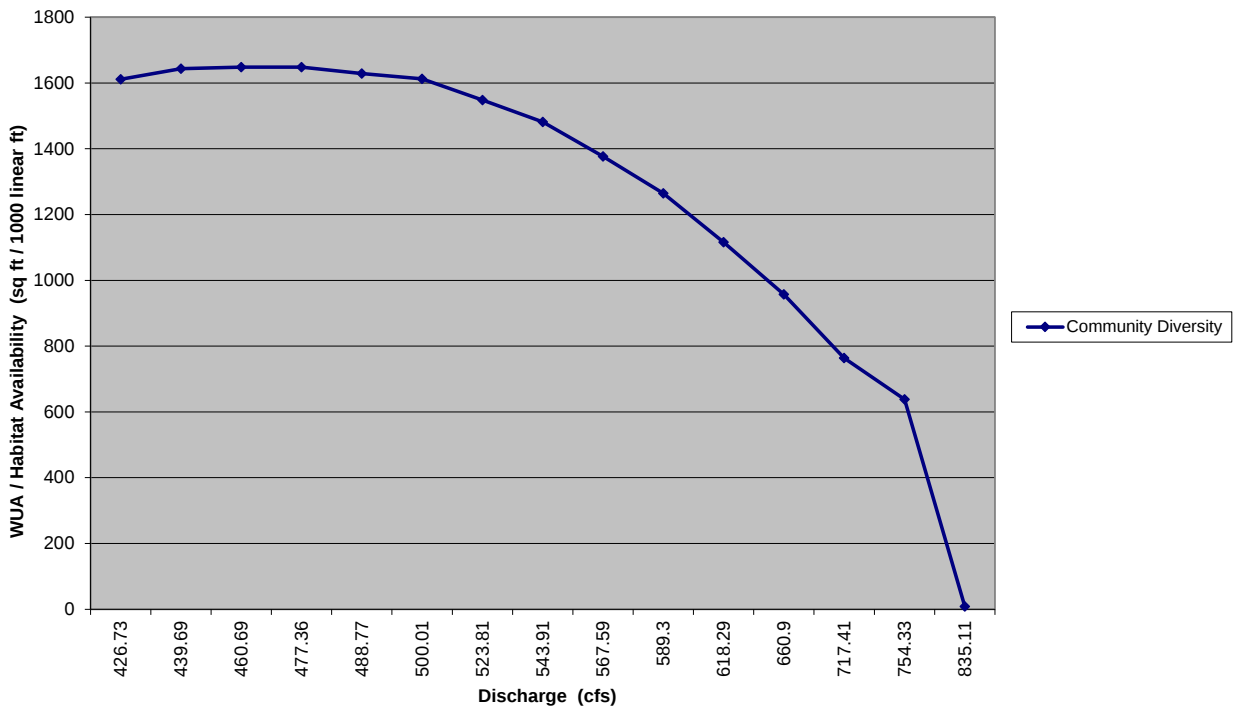
**Rainbow River - Pool Site
High Back Water (75%)
Spotted Sunfish**



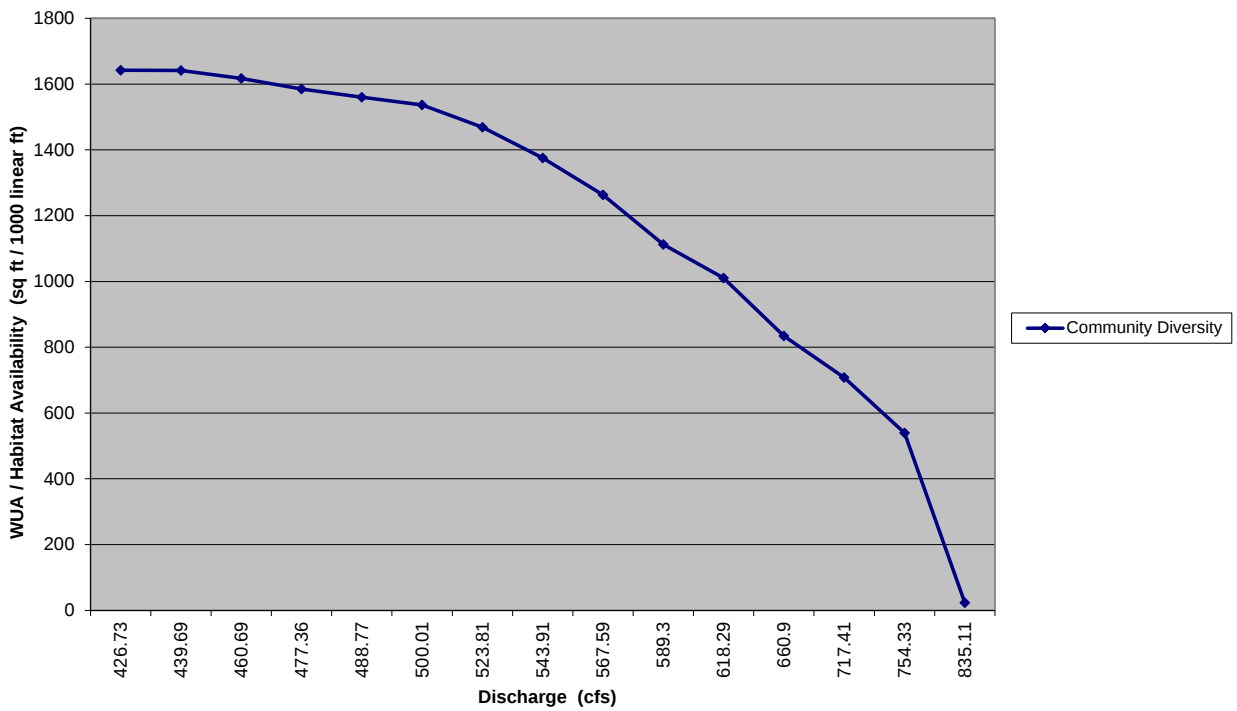
**Rainbow River - Pool Site
Low Back Water (25%)
Benthic Macroinvertebrates**



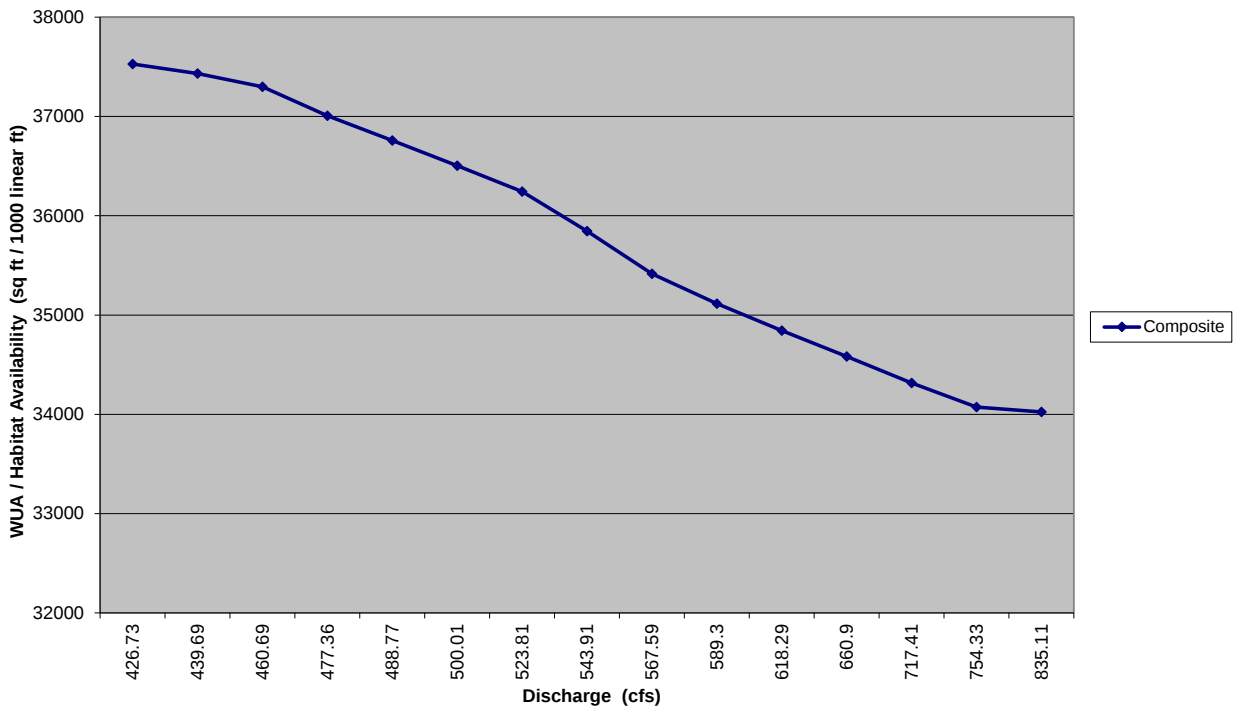
**Rainbow River - Pool Site
Medium Back Water (50%)
Benthic Macroinvertebrates**



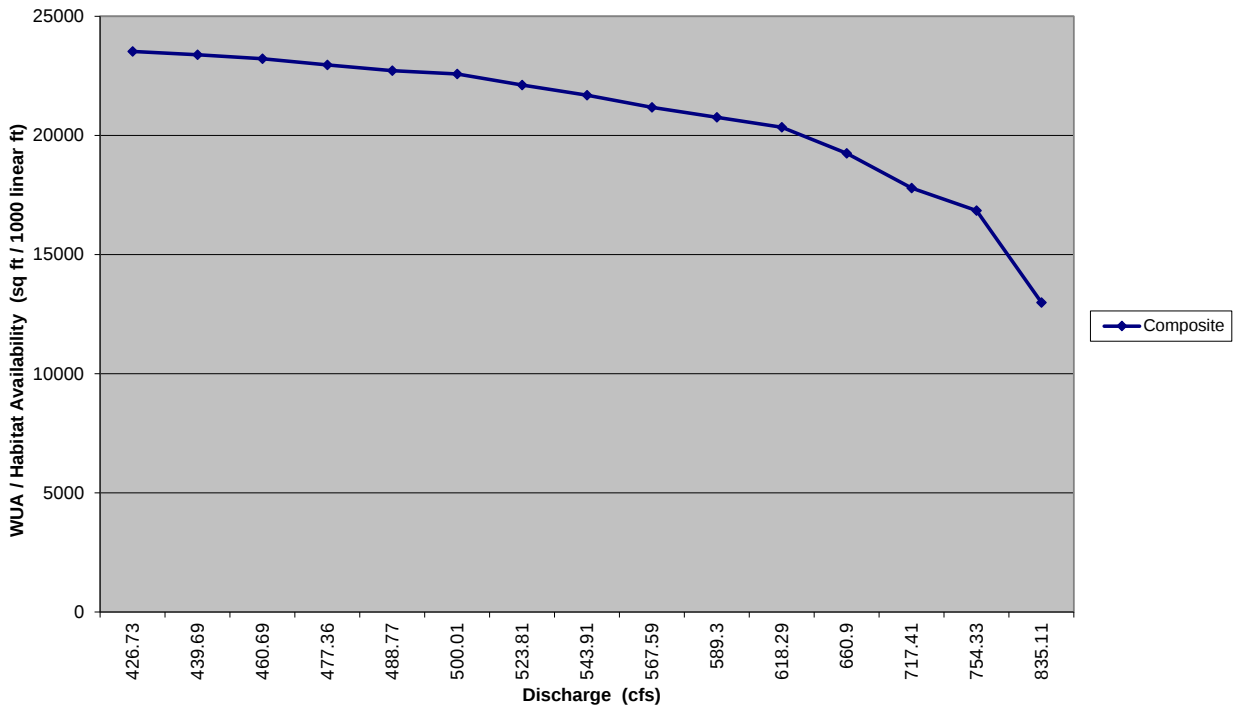
**Rainbow River - Pool Site
High Back Water (75%)
Benthic Macroinvertebrates**



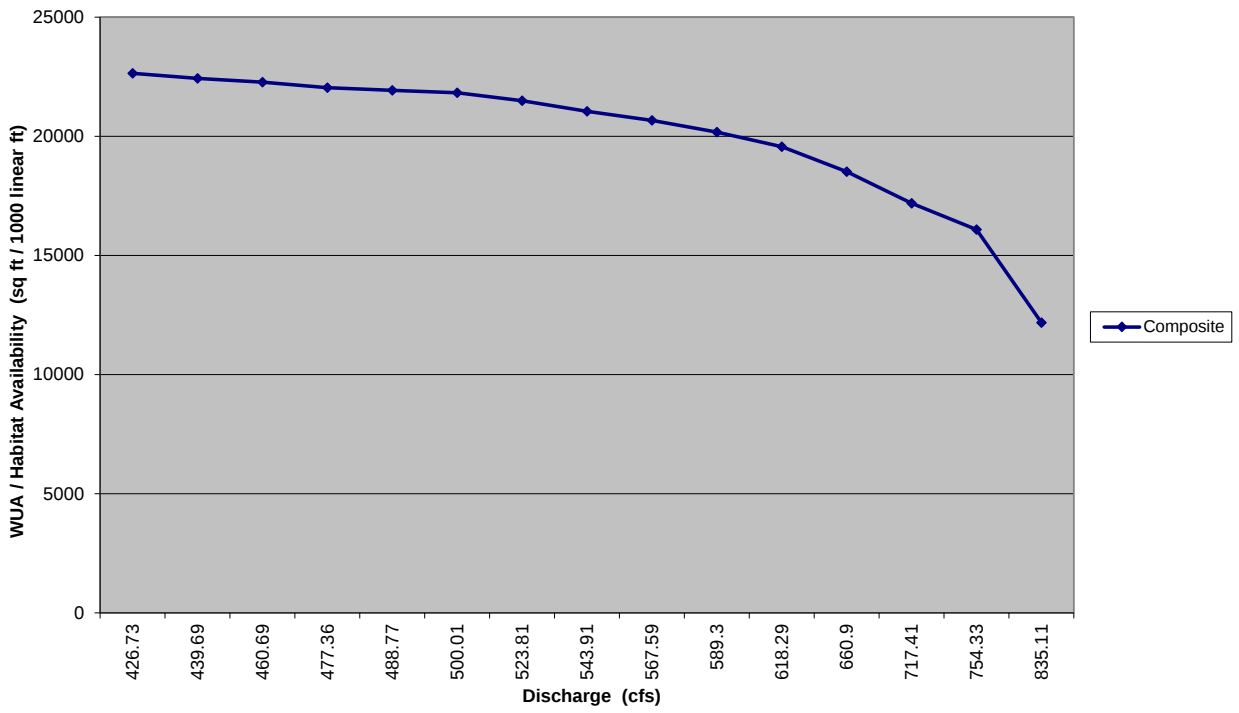
Rainbow River - Pool Site
Low Back Water (25%)
Cyprinidae - Minnows, Chubs, Dace, Shiners



Rainbow River - Pool Site
Medium Back Water (50%)
Cyprinidae - Minnows, Chubs, Dace, Shiners



Rainbow River - Pool Site
High Back Water (75%)
Cyprinidae - Minnows, Chubs, Dace, Shiners

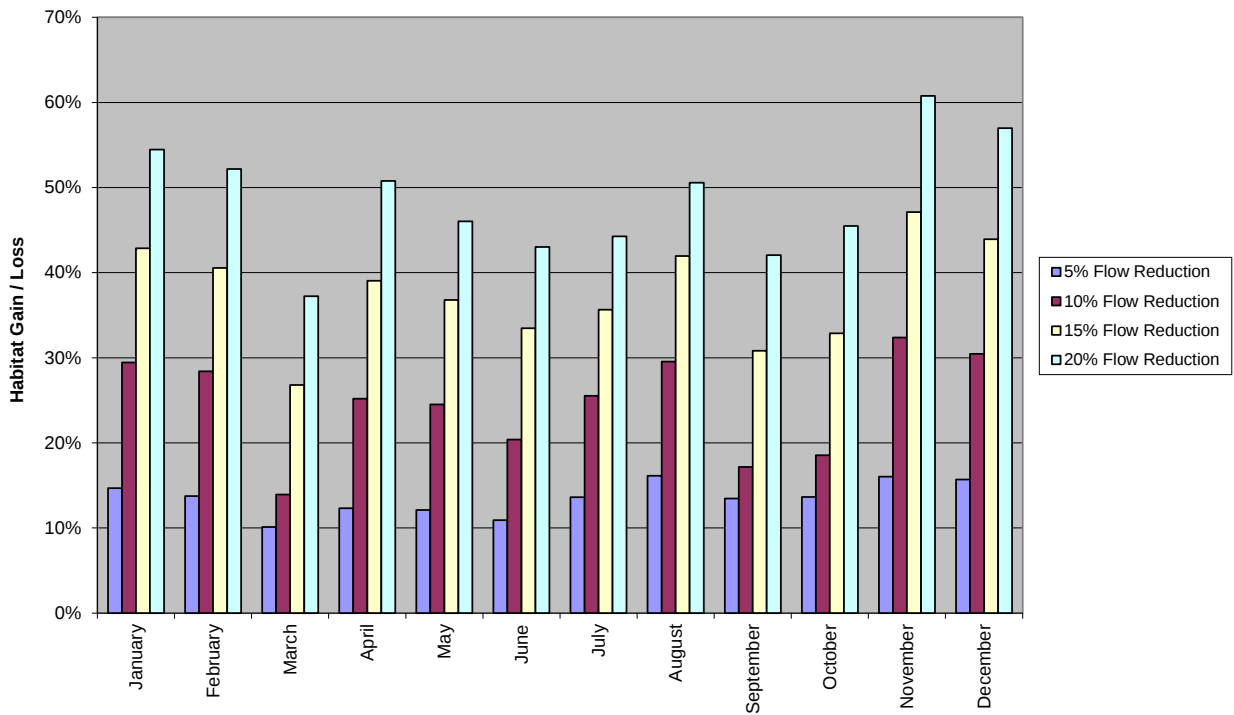


Section 3

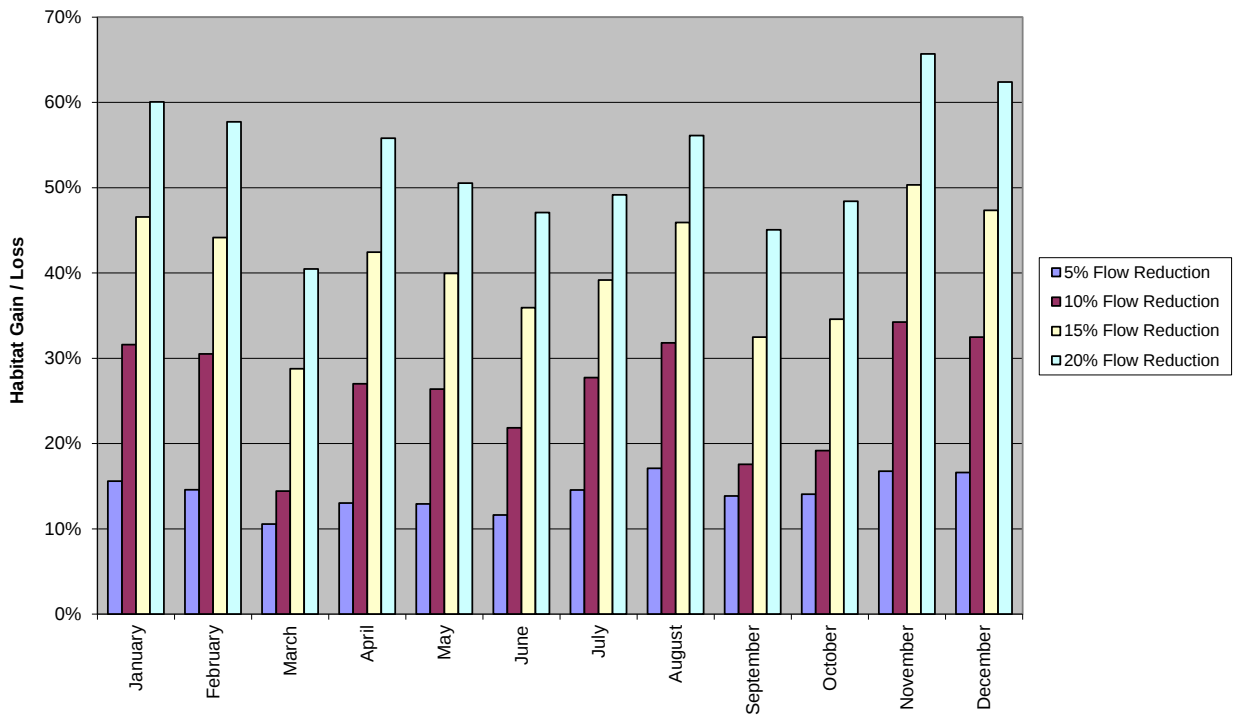
Rainbow River System PHABSIM Modeling Results:

Habitat Gain/Loss vs. 5, 10, 15, and 20% Flow Reduction Plots for PHABSIM 1

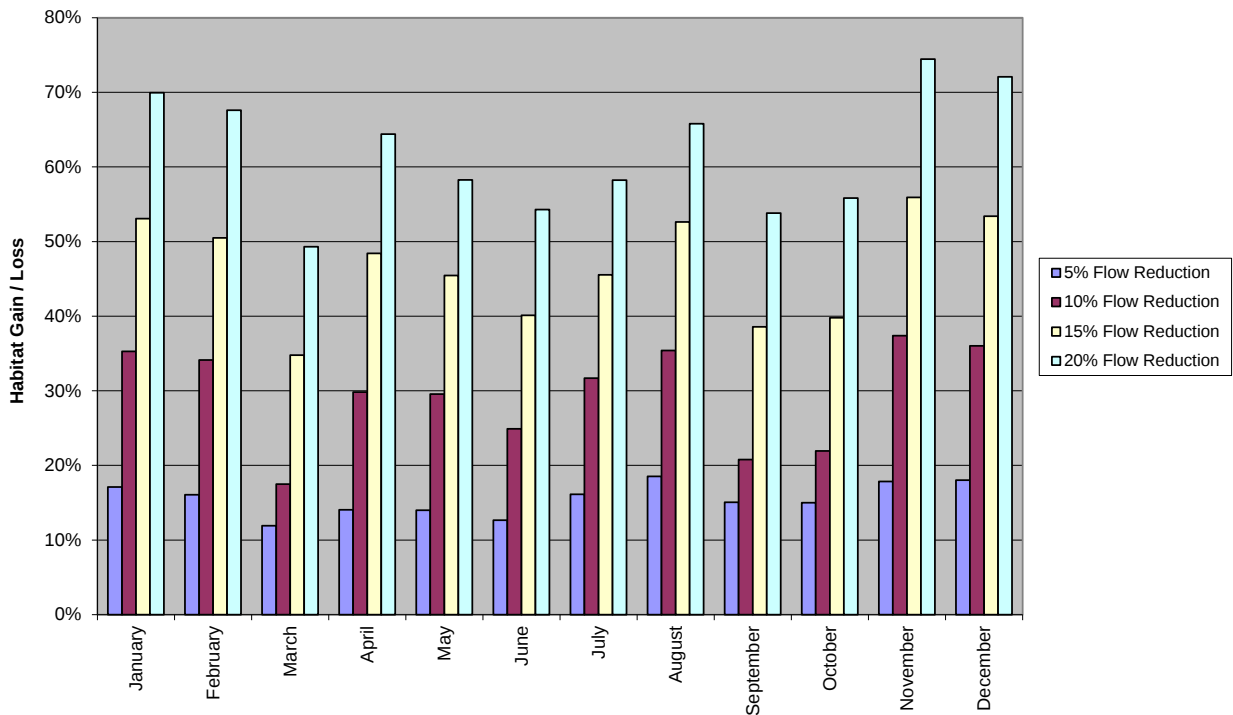
Shallow-Slow Fish Habitat Guild (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM1 Site



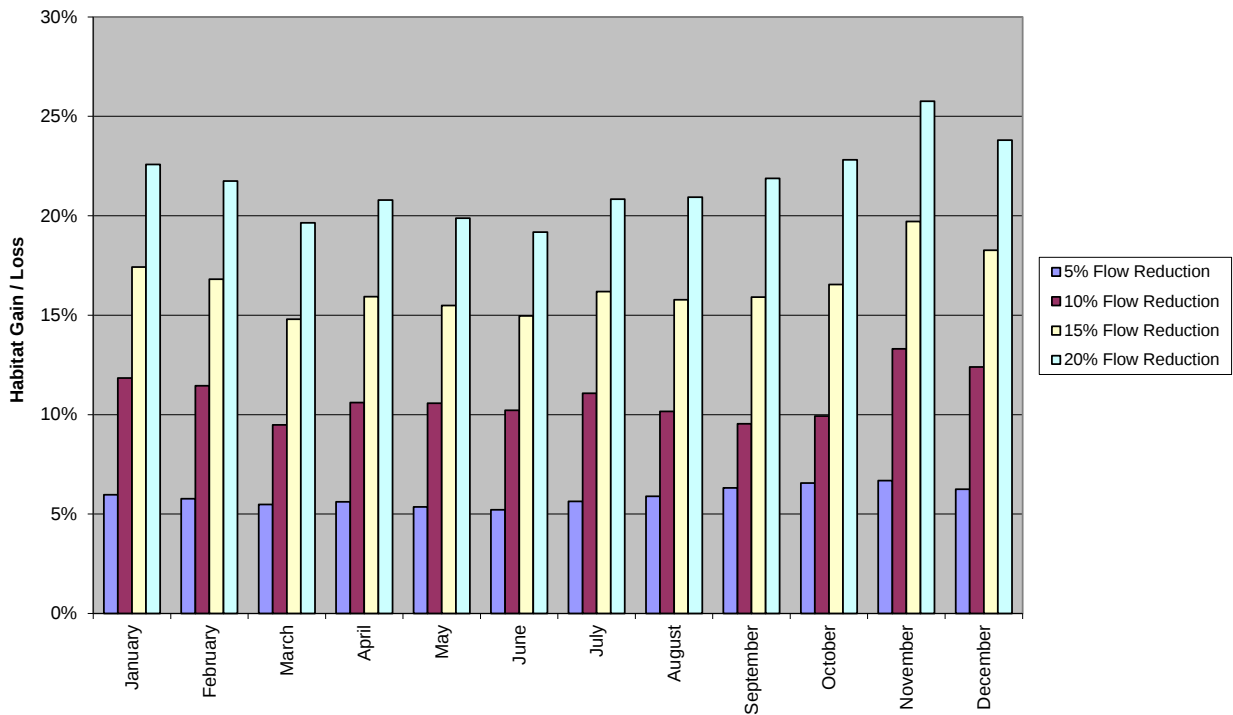
Shallow-Slow Fish Habitat Guild (1965-2014)
Medium Back Water (50%)
Rainbow River - PHABSIM1 Site



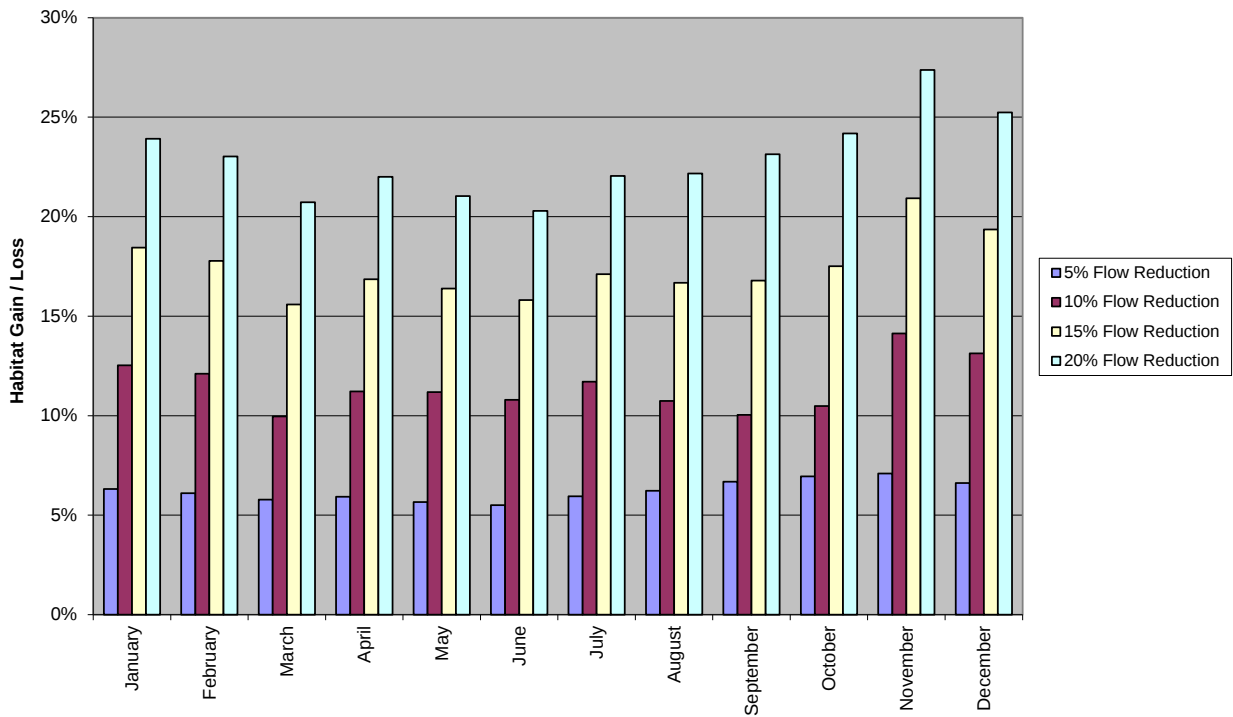
Shallow-Slow Fish Habitat Guild (1965-2014)
High Back Water (75%)
Rainbow River - PHABSIM1Site



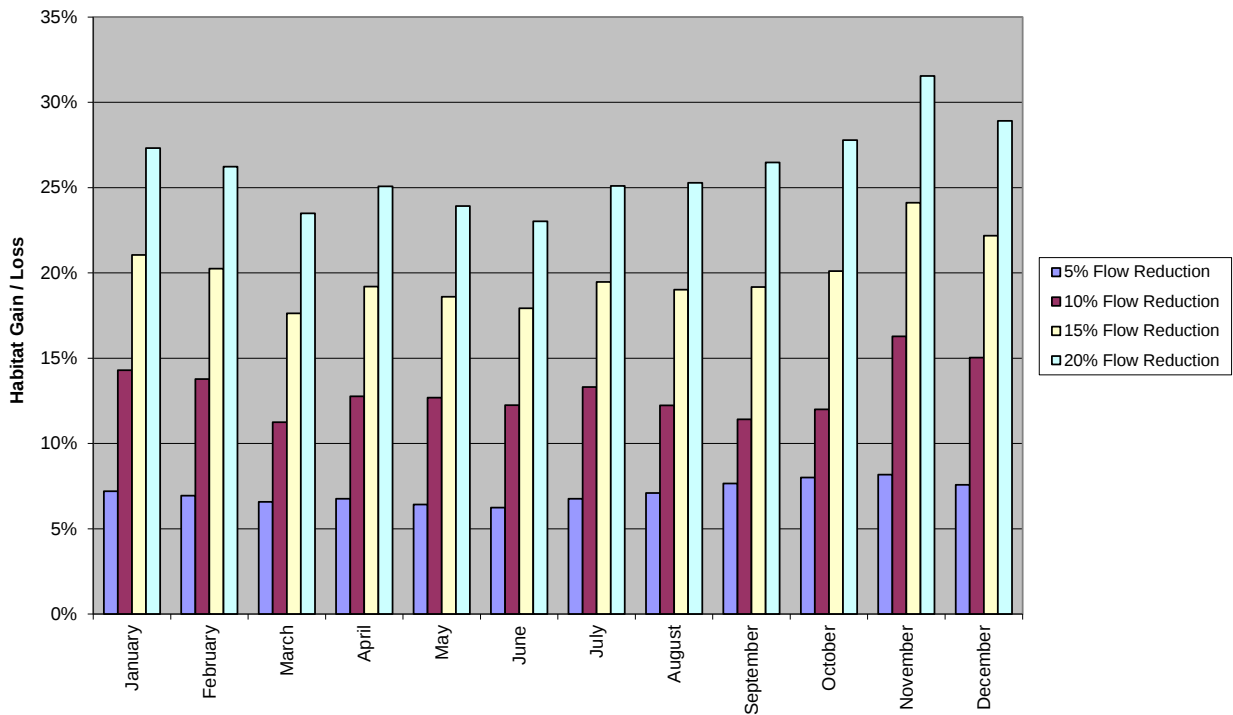
Deep-Slow Fish Habitat Guild (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM1 Site



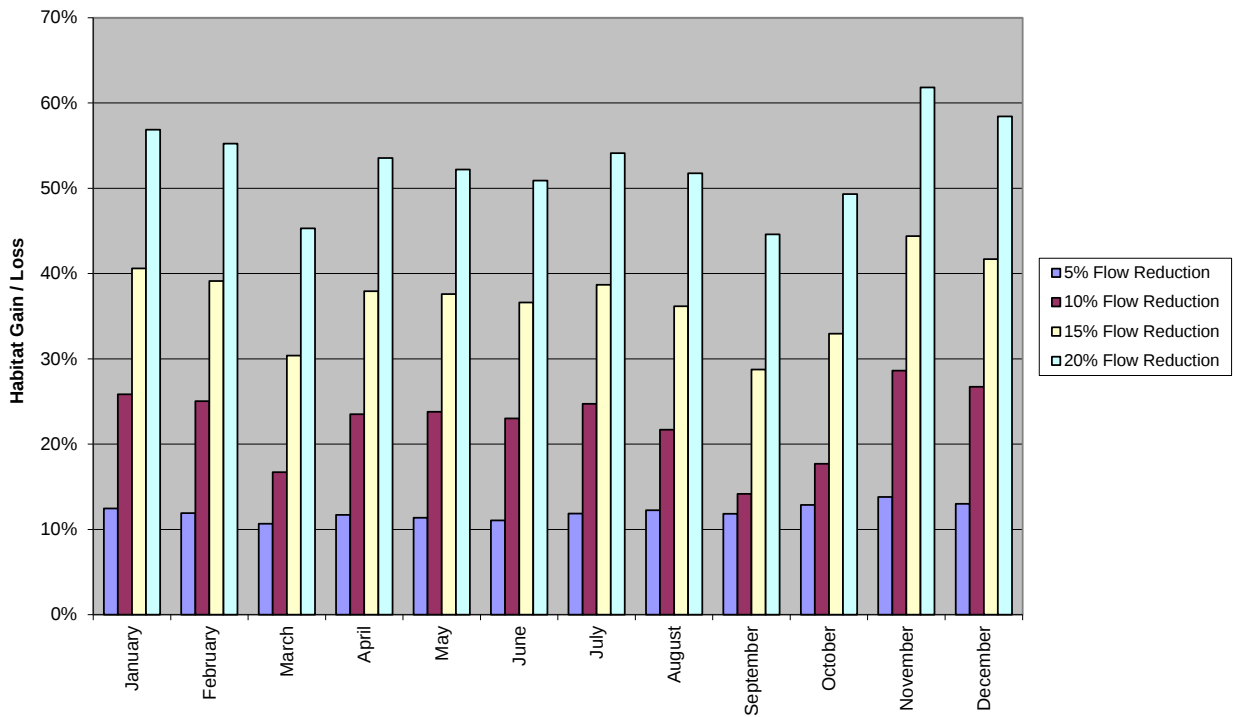
Deep-Slow Fish Habitat Guild (1965-2014)
Medium Back Water (50%)
Rainbow River - PHABSIM1 Site



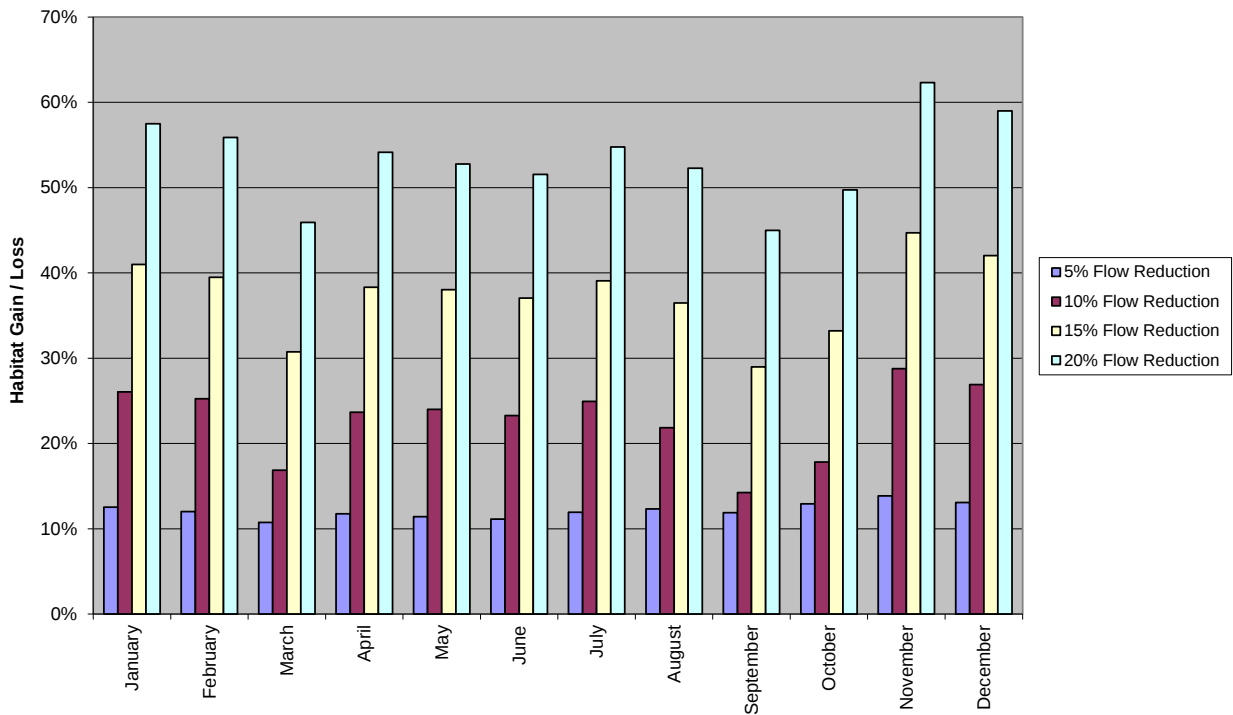
Deep-Slow Fish Habitat Guild (1965-2014)
High Back Water (75%)
Rainbow River - PHABSIM1 Site



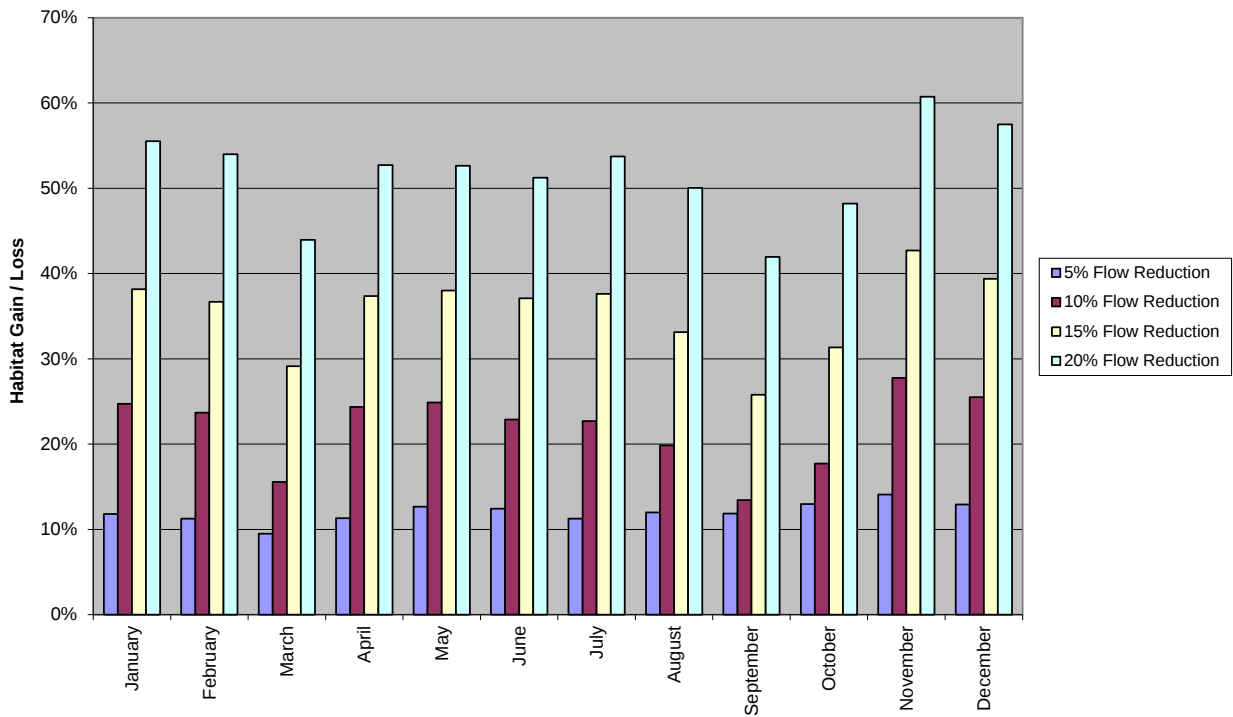
Deep-Fast Fish Habitat Guild (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM1 Site



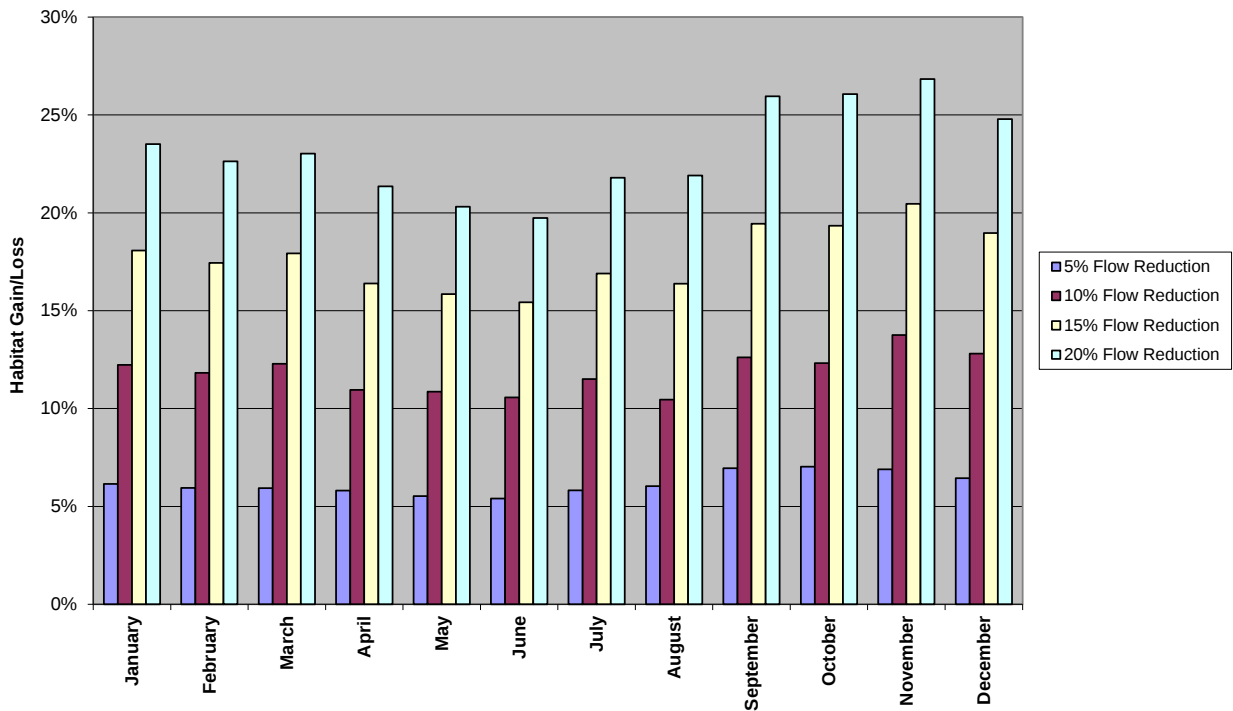
Deep-Fast Fish Habitat Guild (1965-2014)
Medium Back Water (50%)
Rainbow River - PHABSIM1 Site



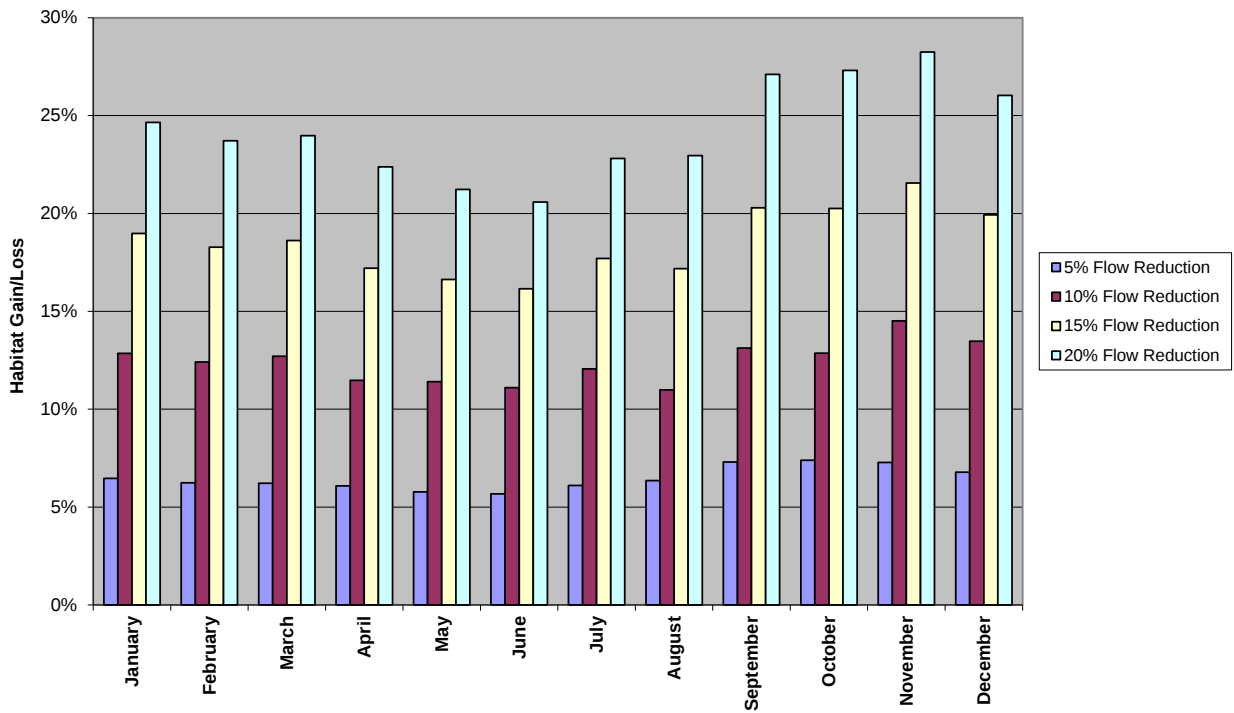
Deep-Fast Fish Habitat Guild (1965-2014)
High Back Water (75%)
Rainbow River - PHABSIM1 Site



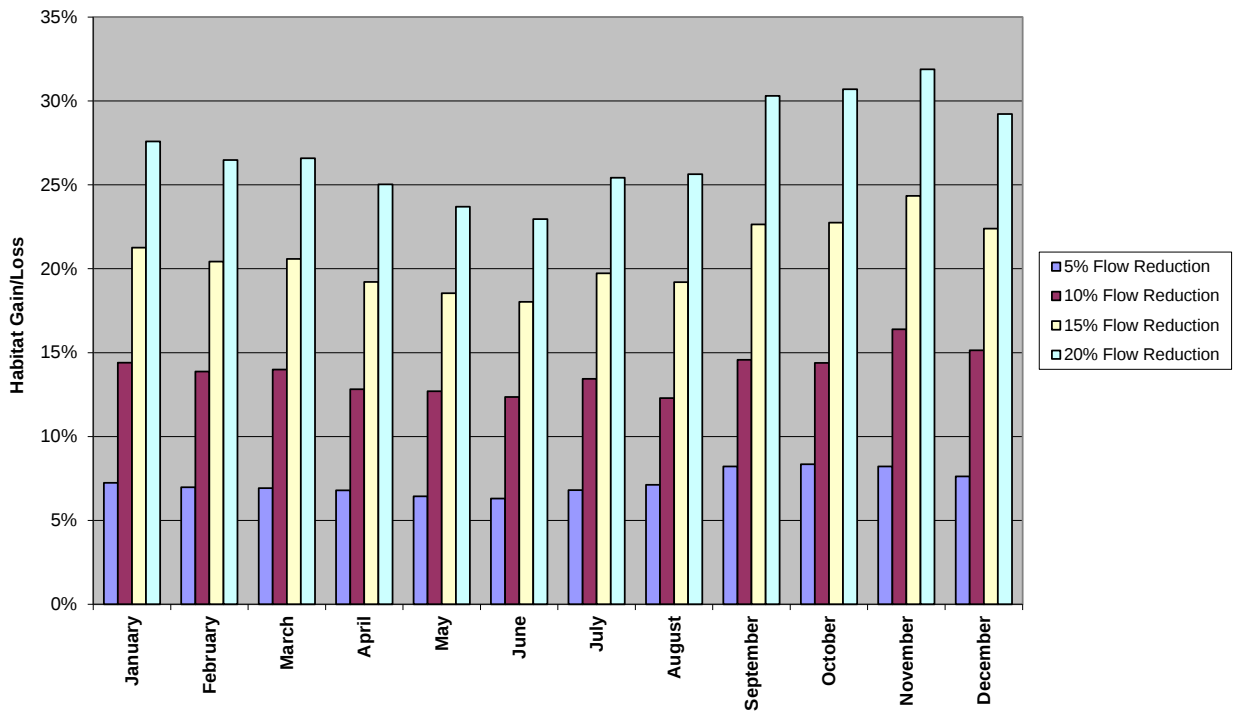
Spotted Sunfish Adults (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM1 Site



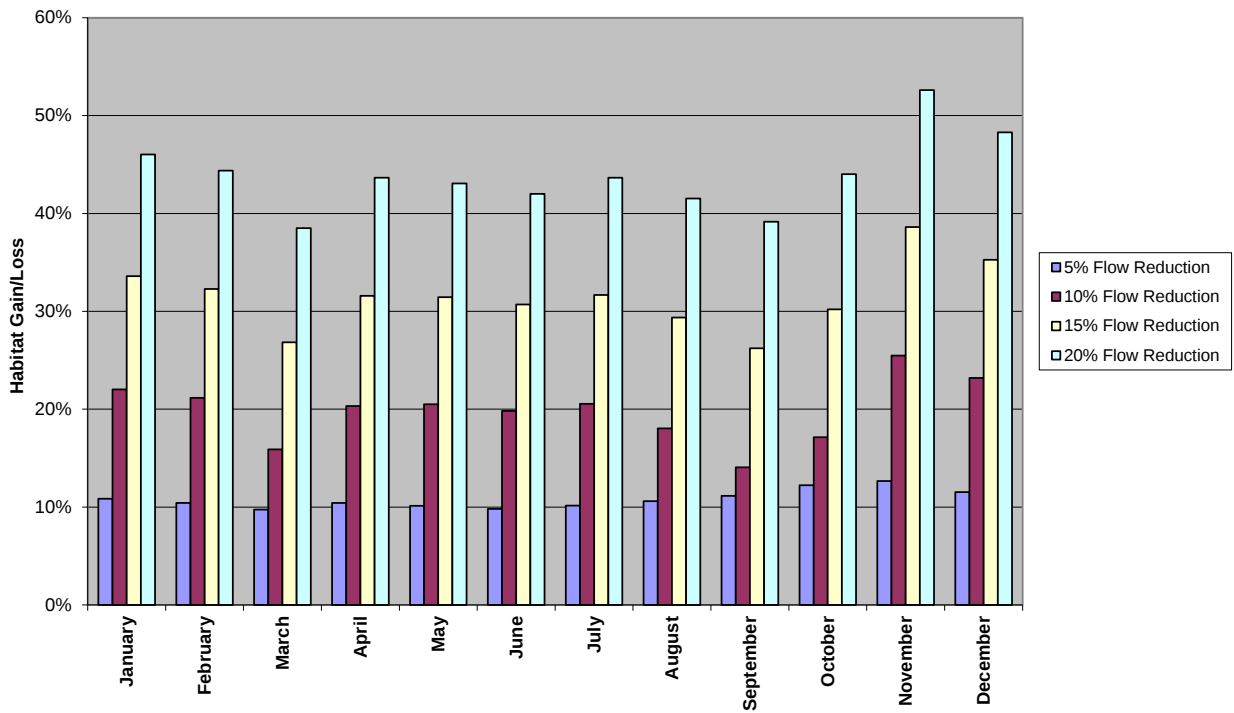
Spotted Sunfish Adults (1965-2014)
Medium Back Water (50%)
Rainbow River - PHABSIM1 Site



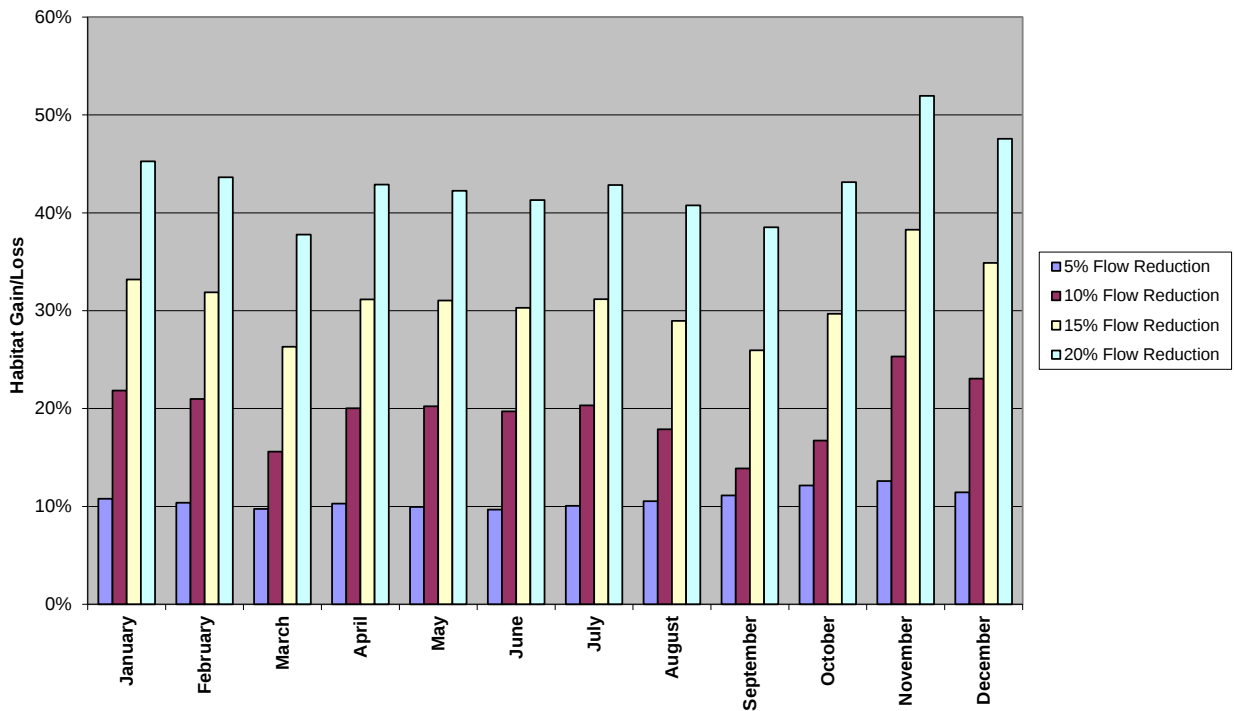
Spotted Sunfish Adults (1965-2014)
High Back Water (75%)
Rainbow River - PHABSIM1 Site



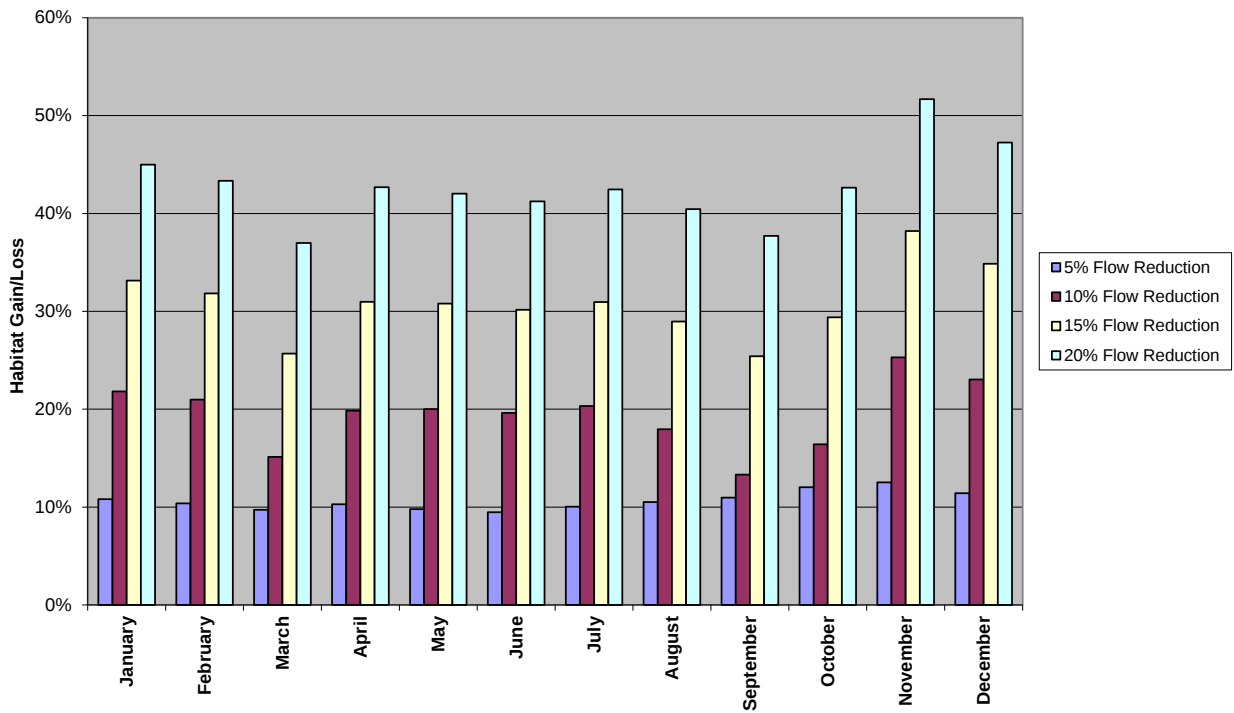
Juvenile Spotted Sunfish (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM1 Site



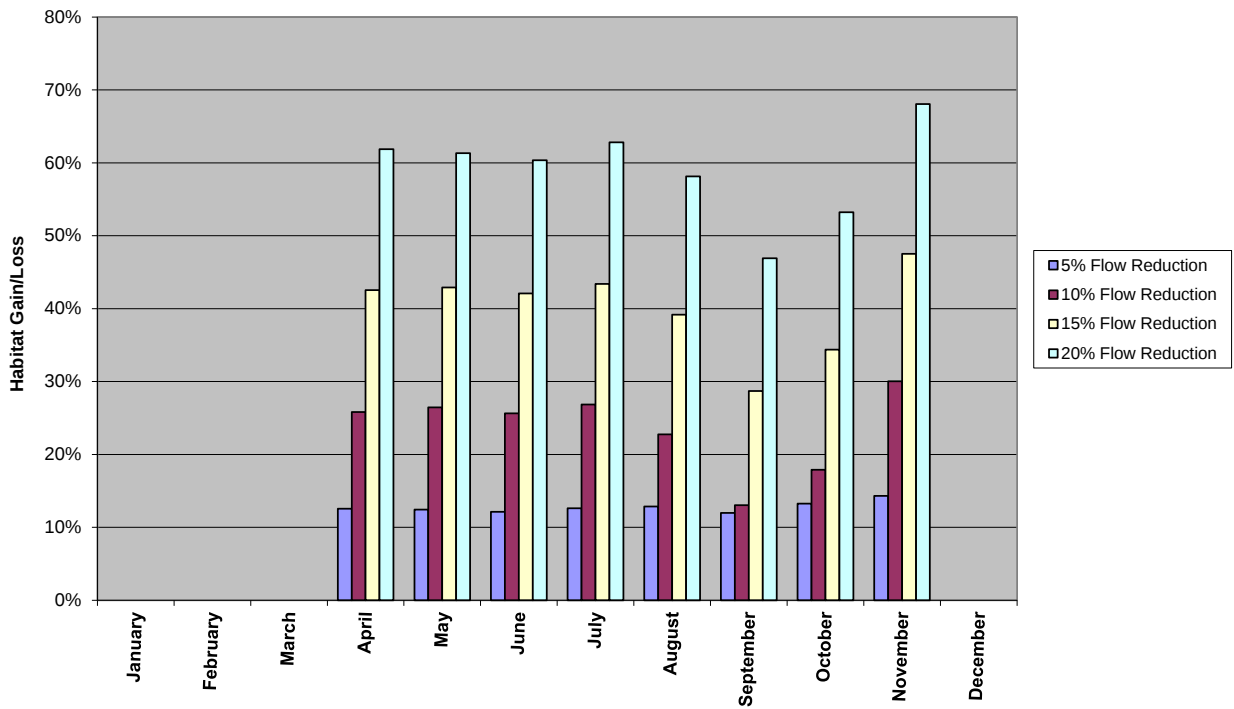
Juvenile Spotted Sunfish (1965-2014)
Medium Back Water (50%)
Rainbow River - PHABSIM1 Site



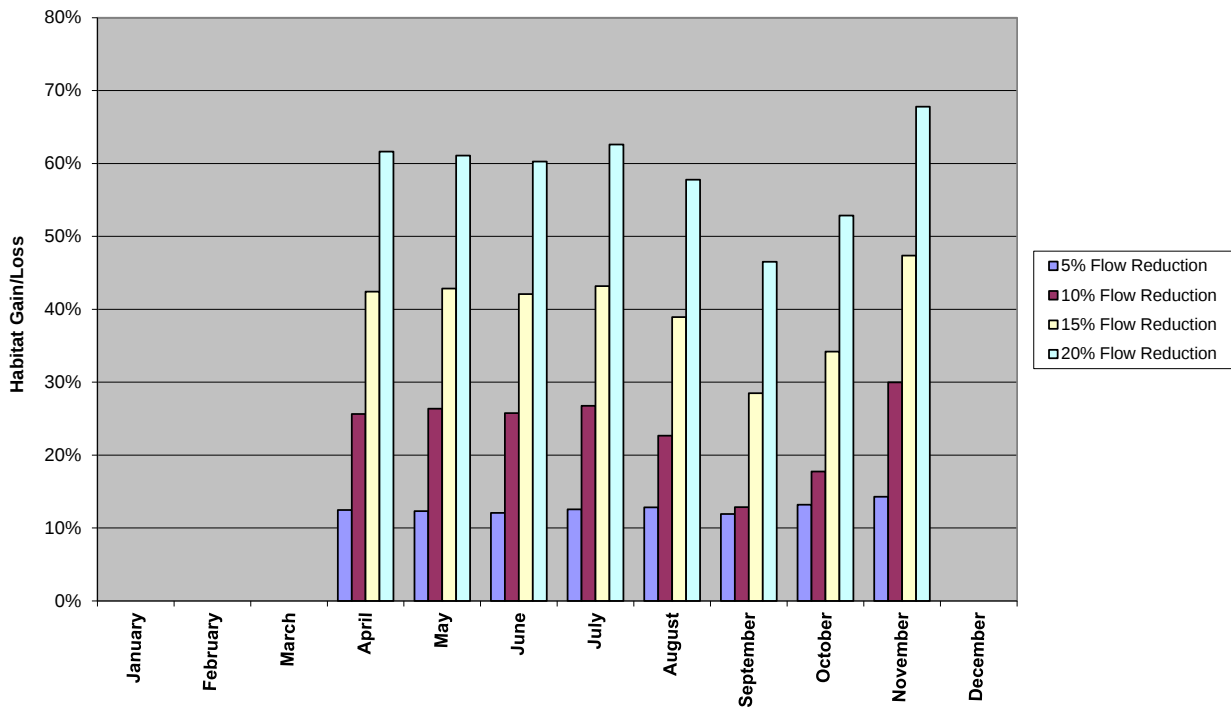
Juvenile Spotted Sunfish (1965-2014)
High Back Water (75%)
Rainbow River - PHABSIM1 Site



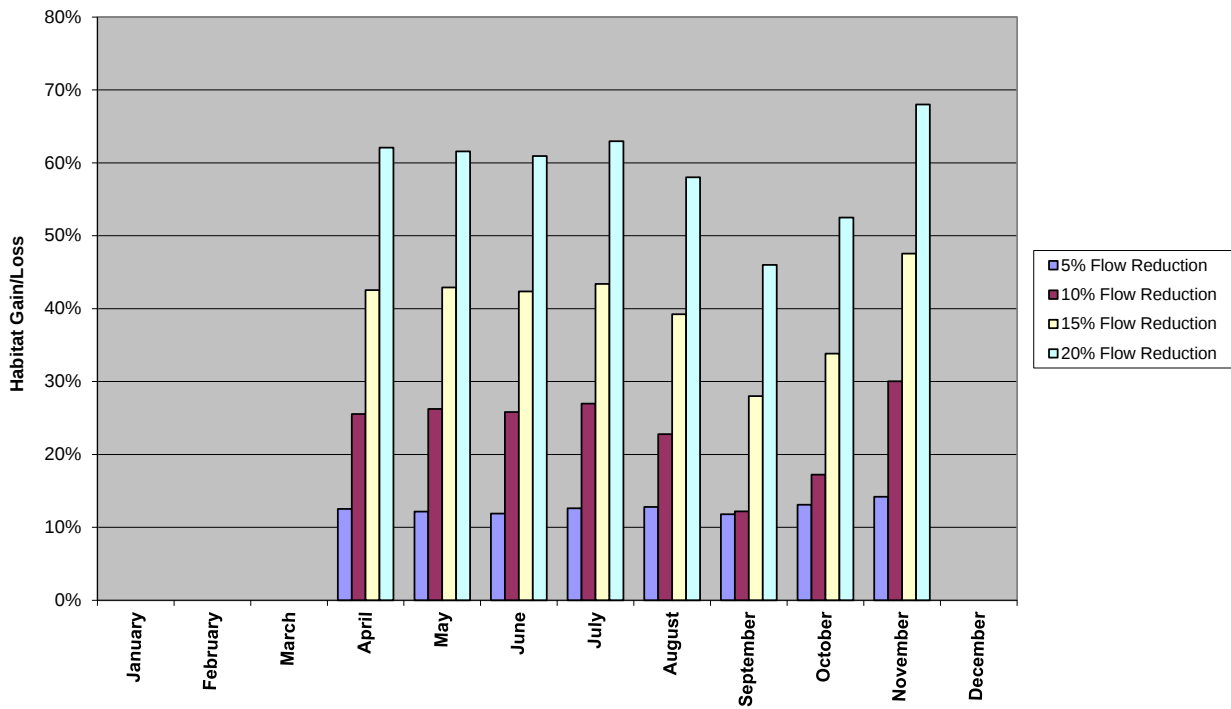
Spawning Spotted Sunfish (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM1 Site



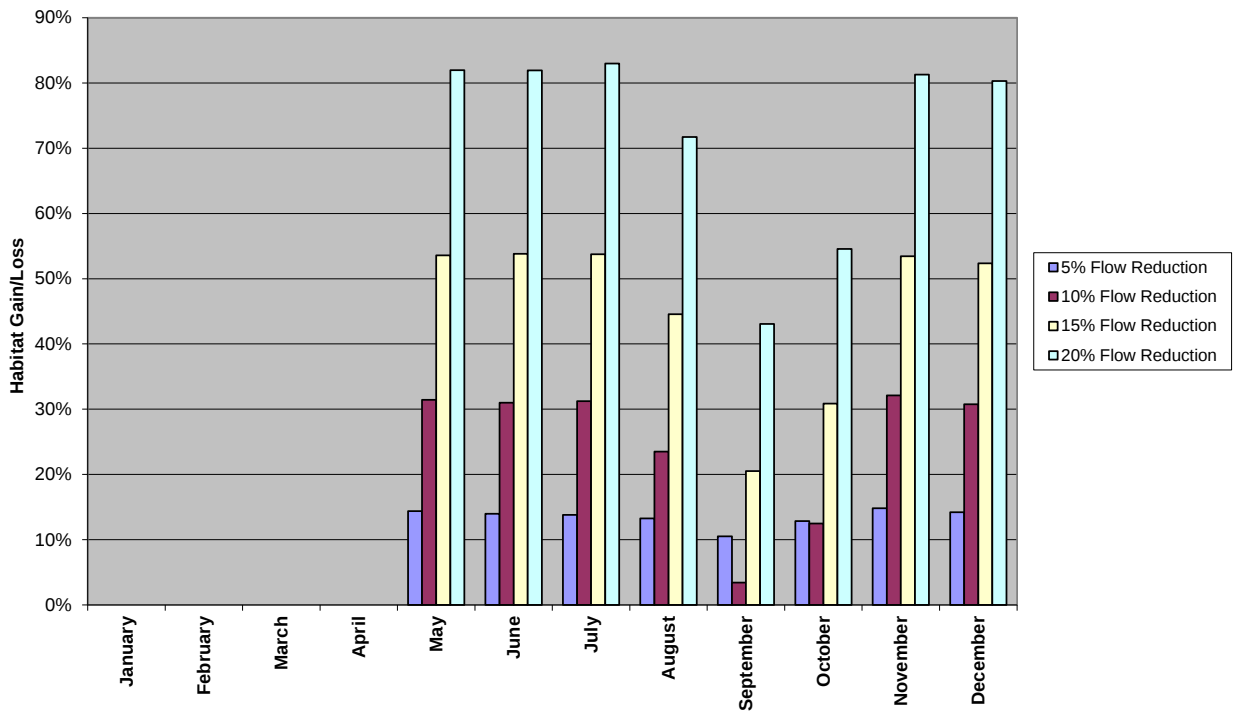
Spawning Spotted Sunfish (1965-2014)
Medium Back Water (50%)
Rainbow River - PHABSIM1 Site



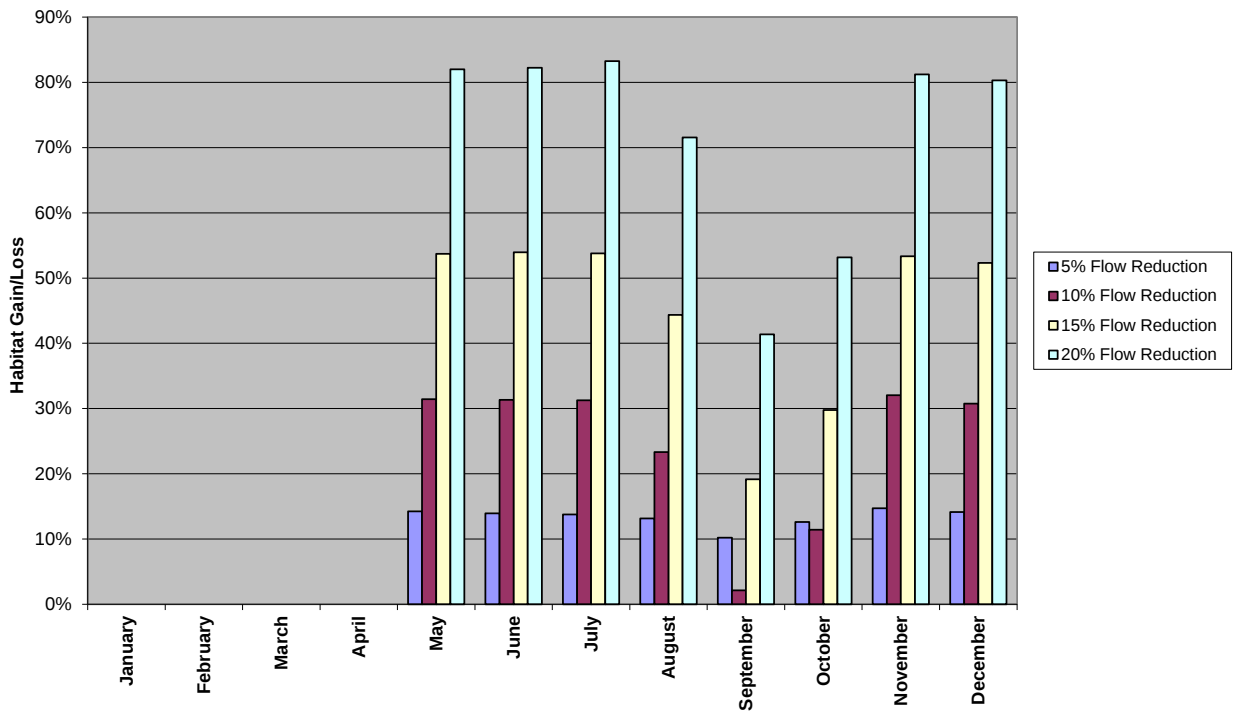
Spawning Spotted Sunfish (1965-2014)
High Back Water (75%)
Rainbow River - PHABSIM1 Site



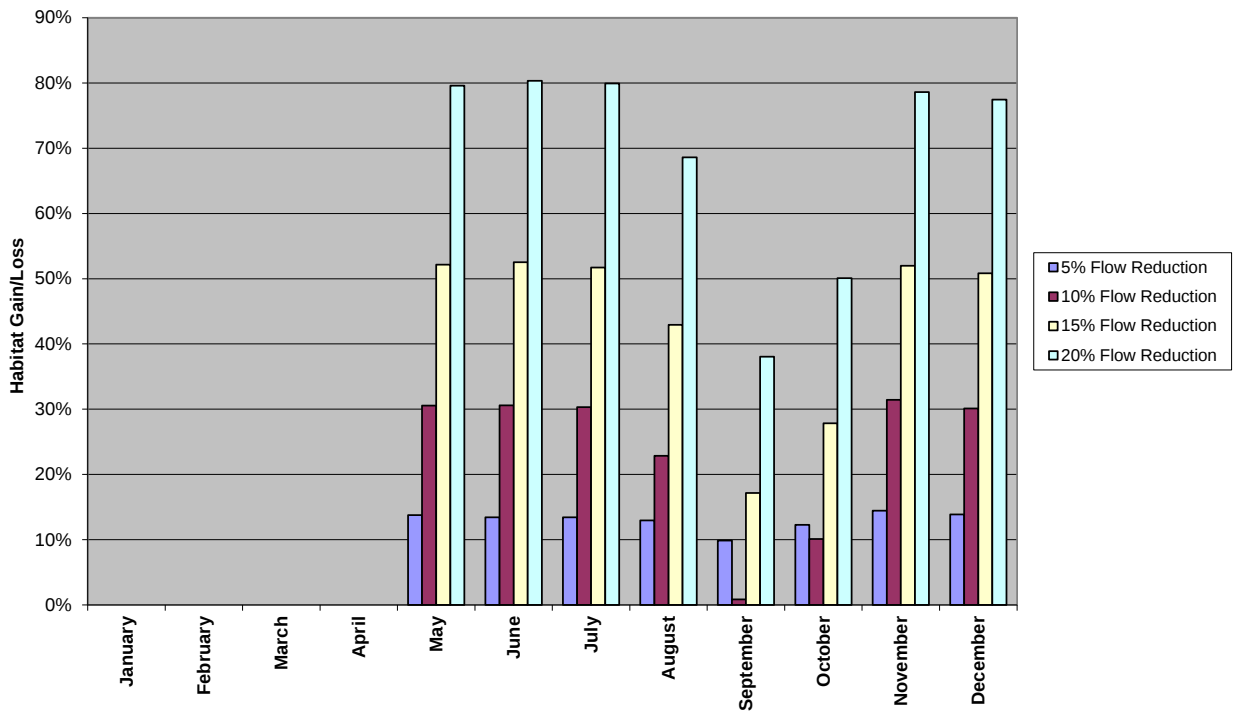
Spotted Sunfish Fry (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM1 Site



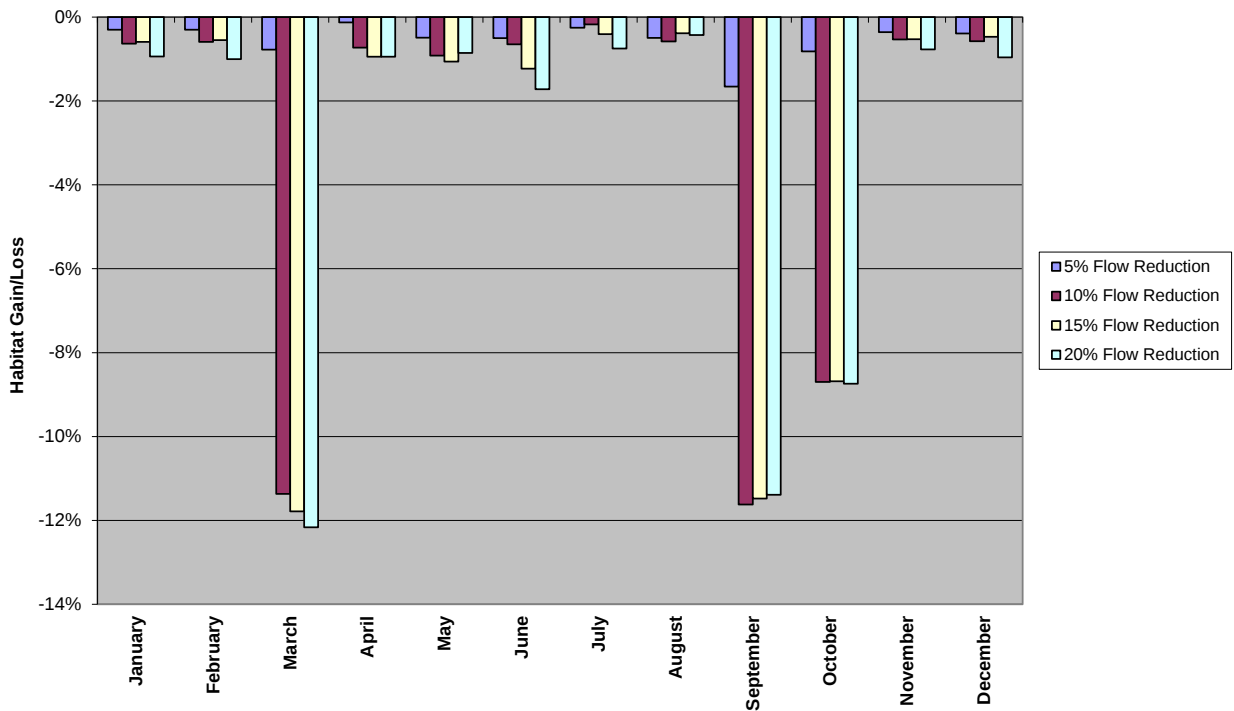
Spotted Sunfish Fry (1965-2014)
Medium Back Water (50%)
Rainbow River - PHABSIM1 Site



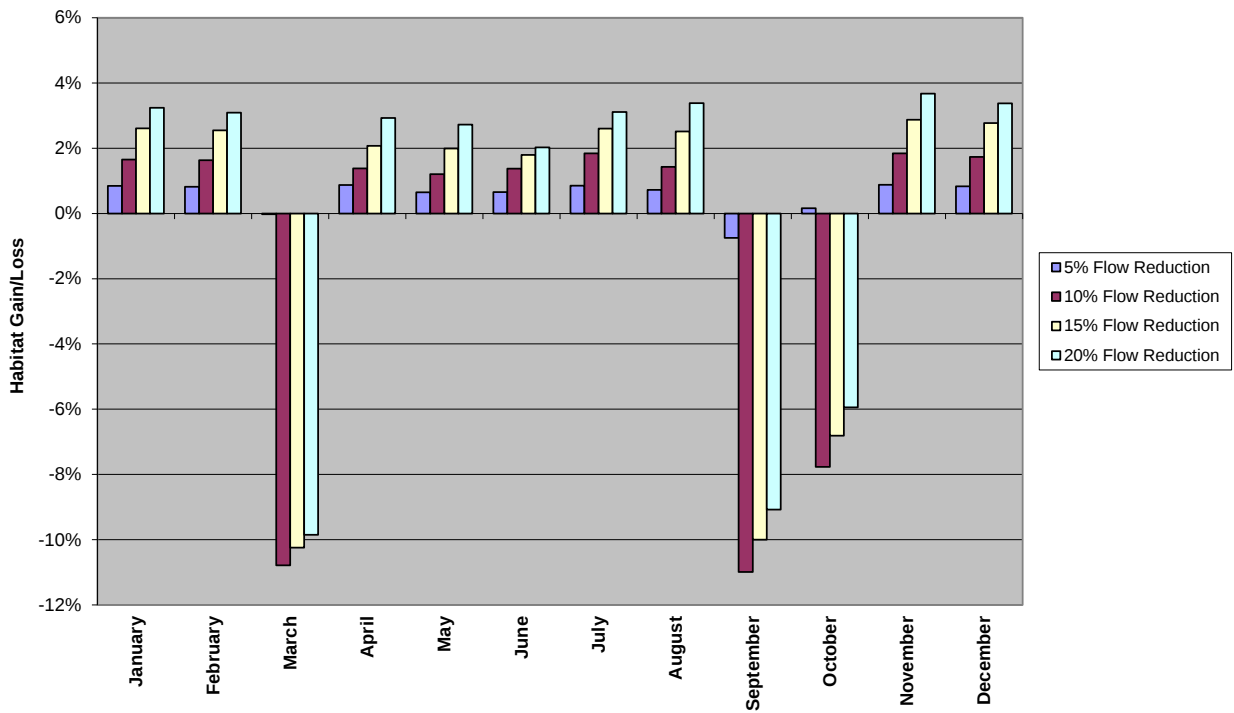
Spotted Sunfish Fry (1965-2014)
High Back Water (75%)
Rainbow River - PHABSIM1 Site



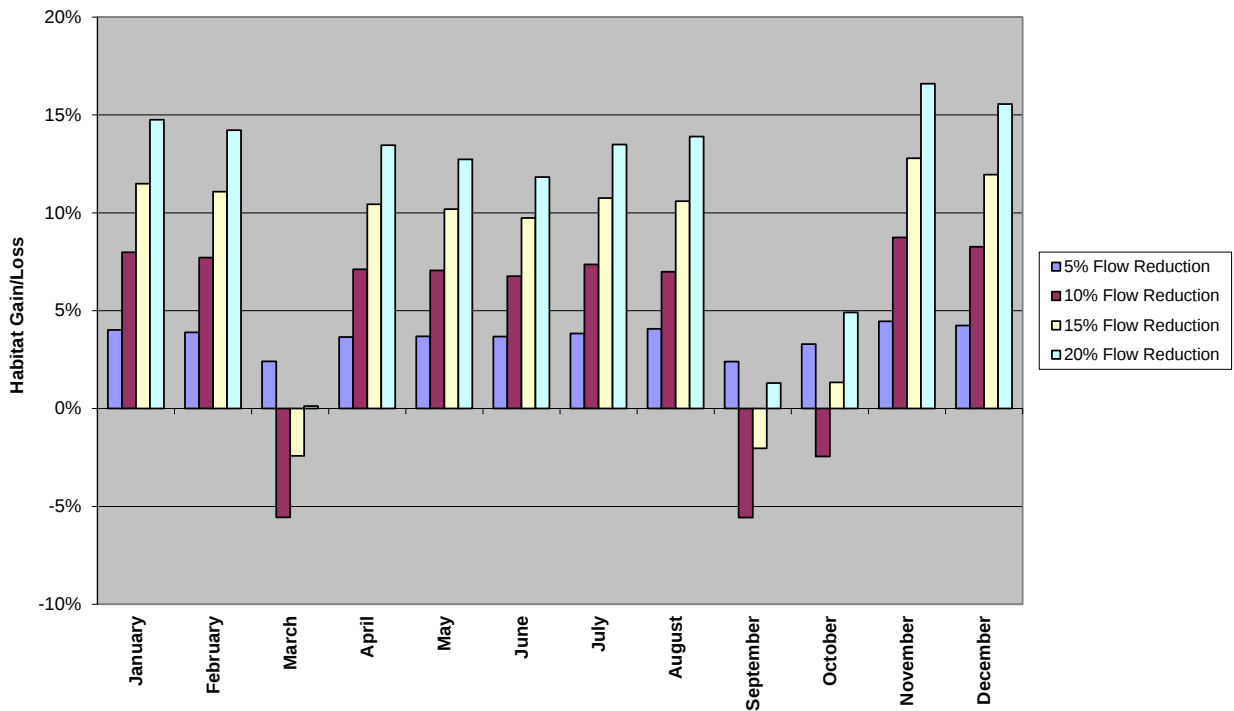
Benthic Macroinvertebrates (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM1 Site



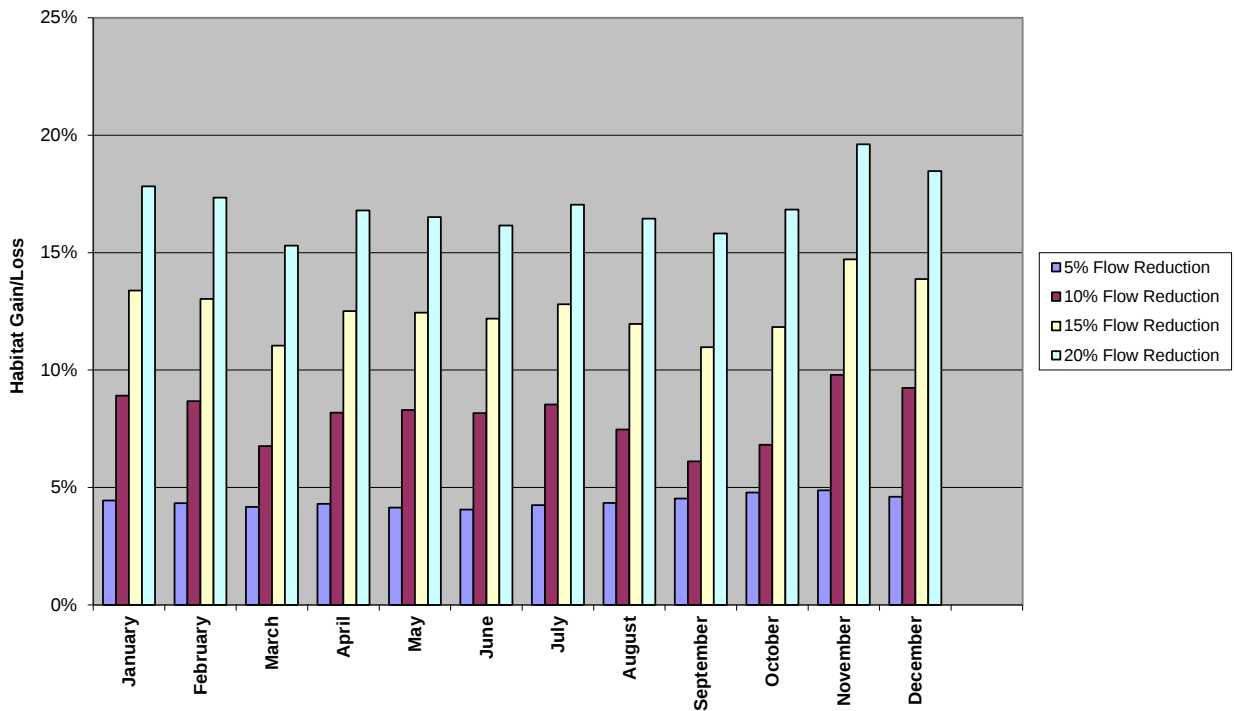
Benthic Macroinvertebrates (1965-2014)
Medium Back Water (50%)
Rainbow River - PHABSIM1 Site



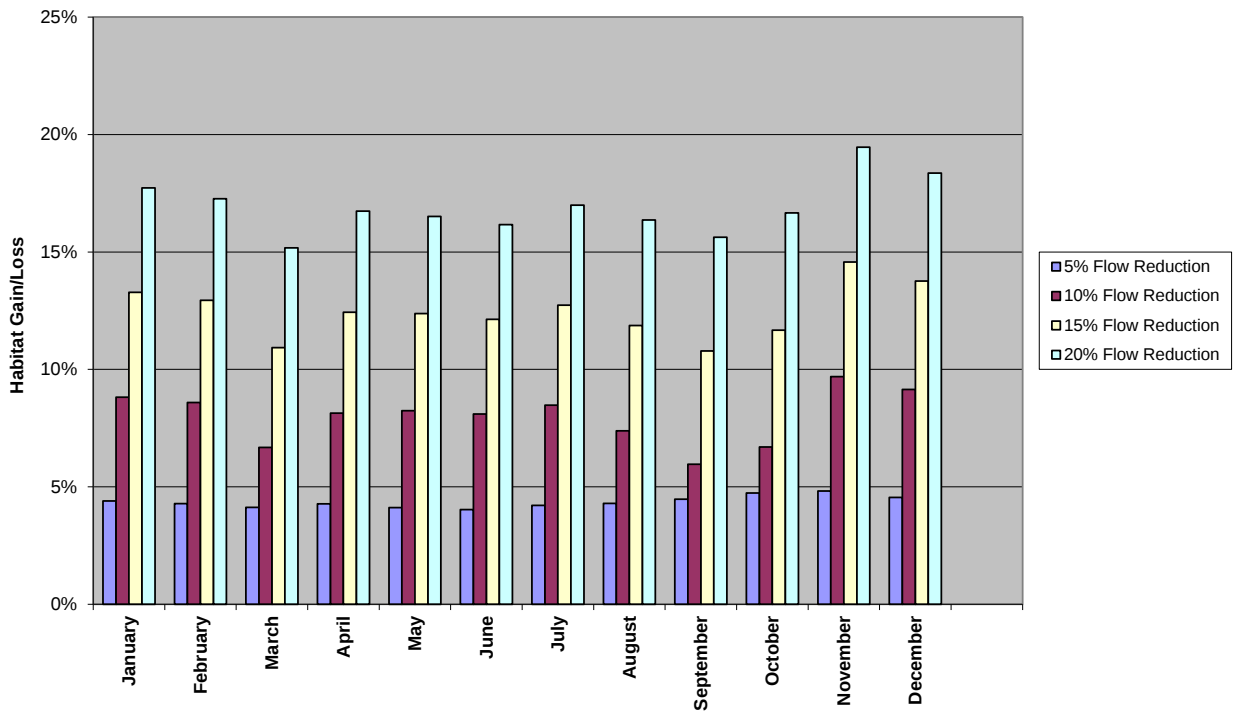
Benthic Macroinvertebrates (1965-2014)
High Back Water (75%)
Rainbow River - PHABSIM1 Site



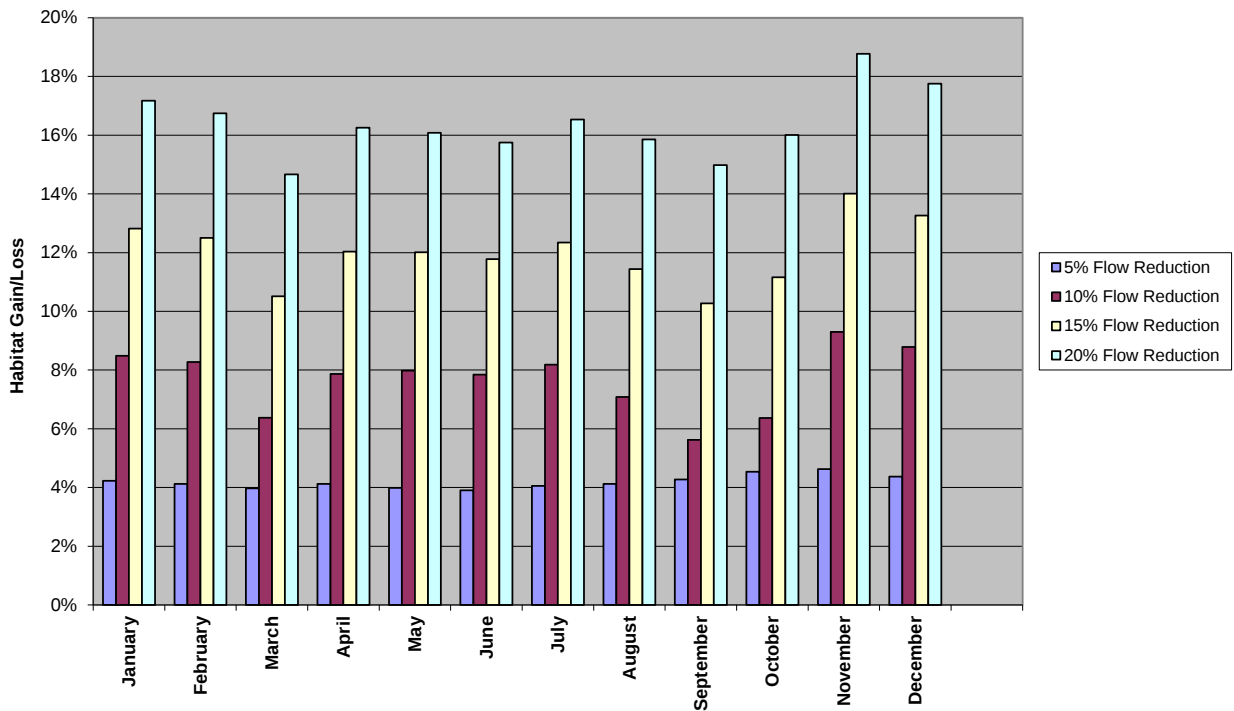
Largemouth Bass Adults (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM1 Site



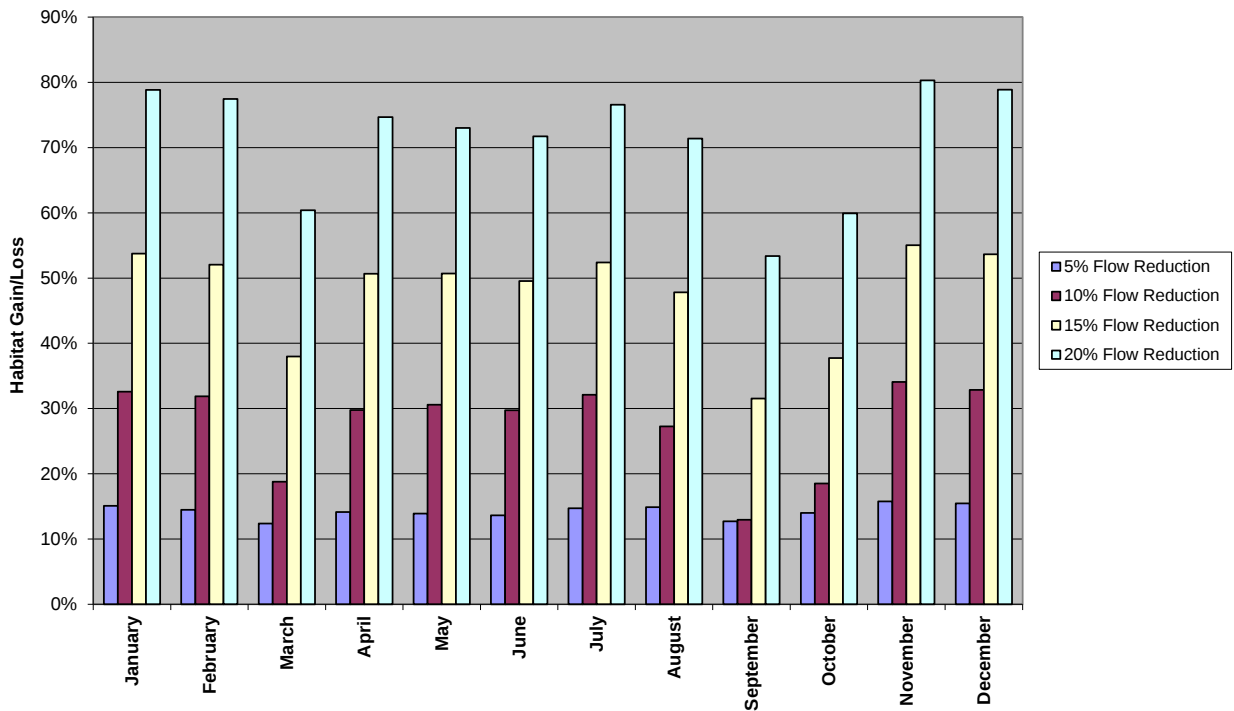
Largemouth Bass Adults (1965-2014)
Medium Back Water (50%)
Rainbow River - PHABSIM1 Site



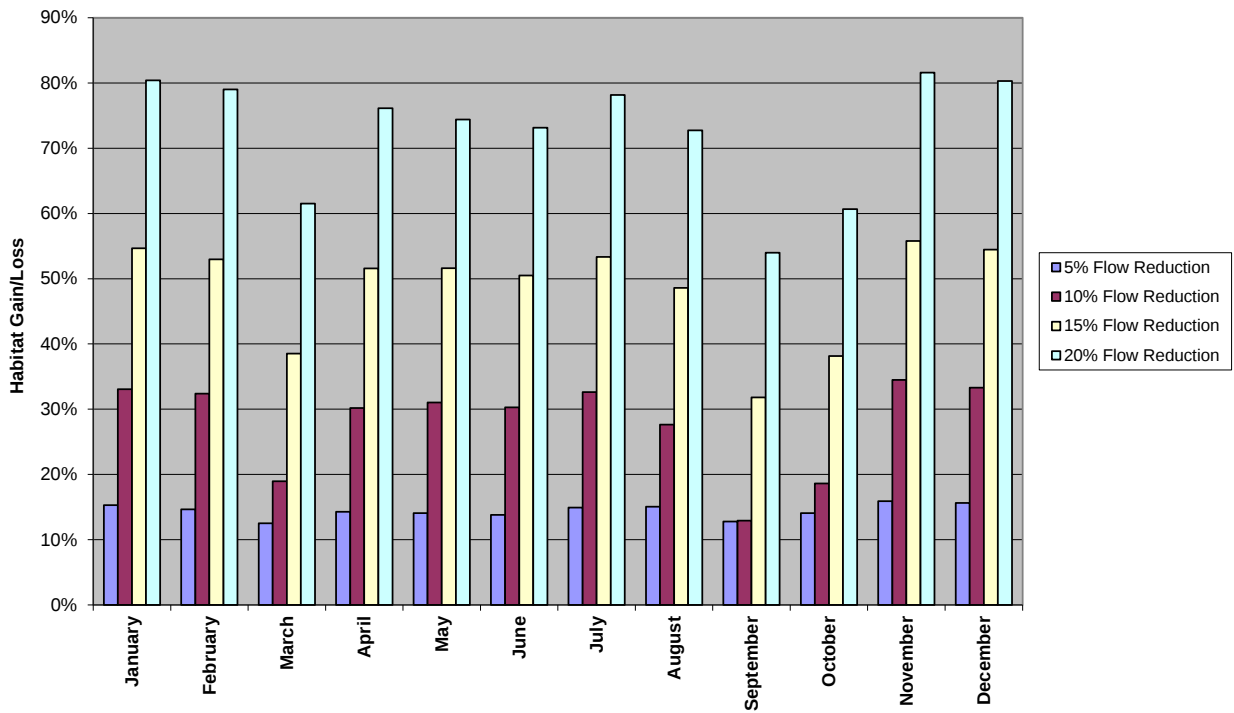
Largemouth Bass Adults (1965-2014)
High Back Water (75%)
Rainbow River - PHABSIM1 Site



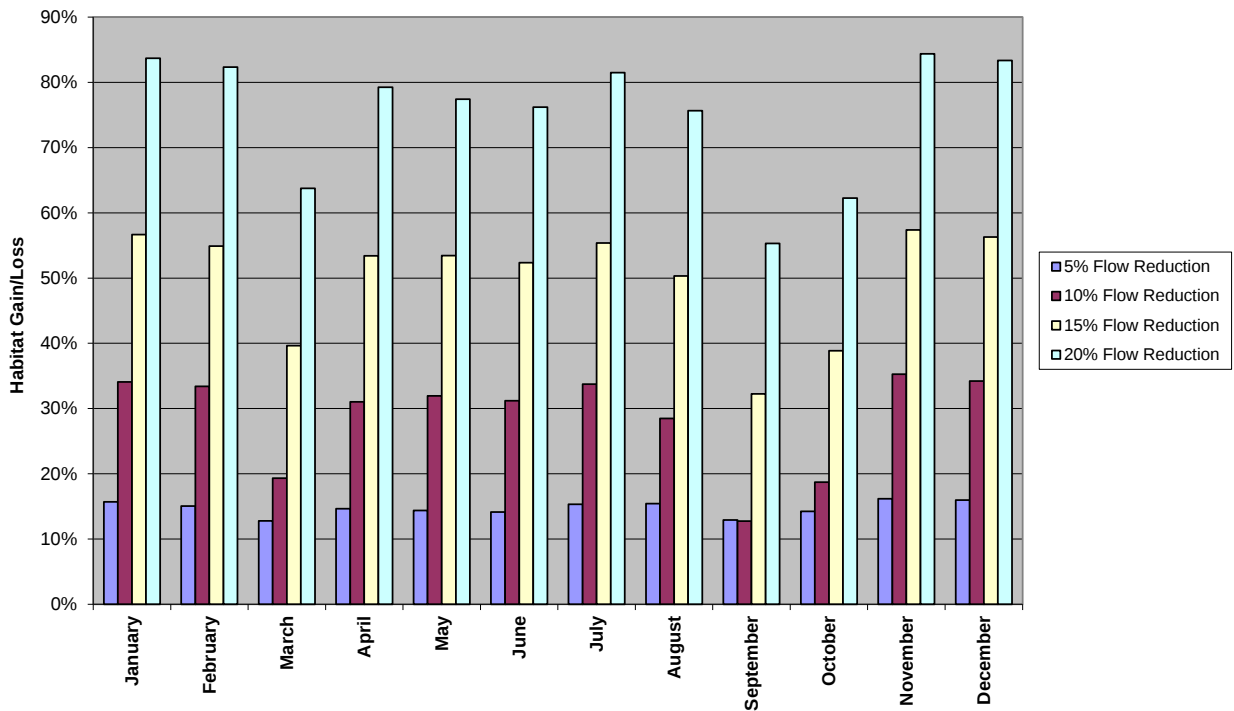
Largemouth Bass Juvenile (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM1Site



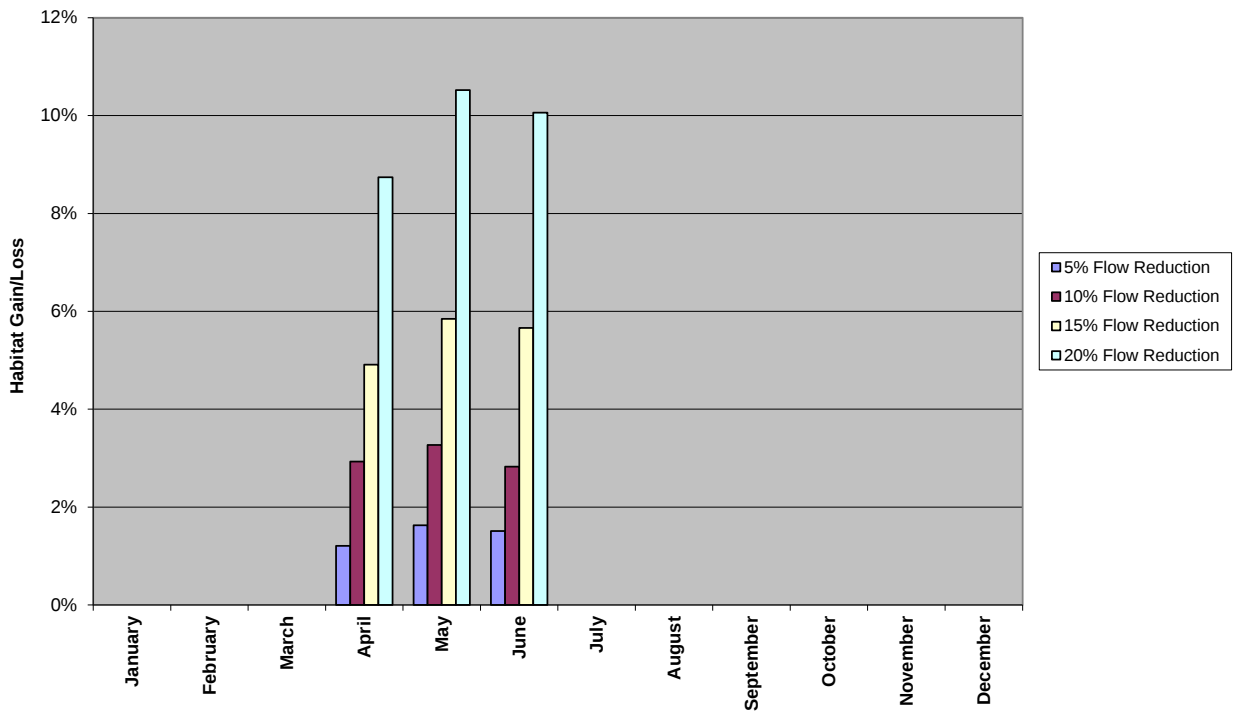
Largemouth Bass Juvenile (1965-2014)
Medium Back Water (50%)
Rainbow River - PHABSIM1Site



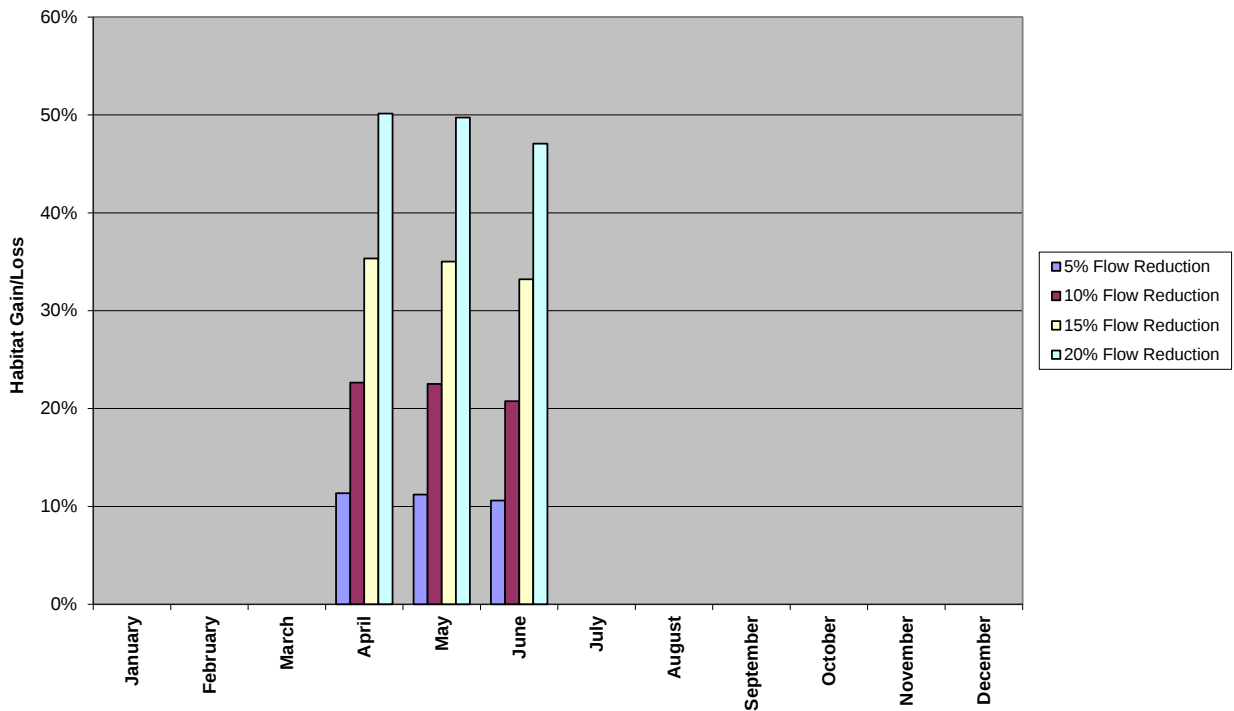
Largemouth Bass Juvenile (1965-2014)
High Back Water (75%)
Rainbow River - PHABSIM1Site



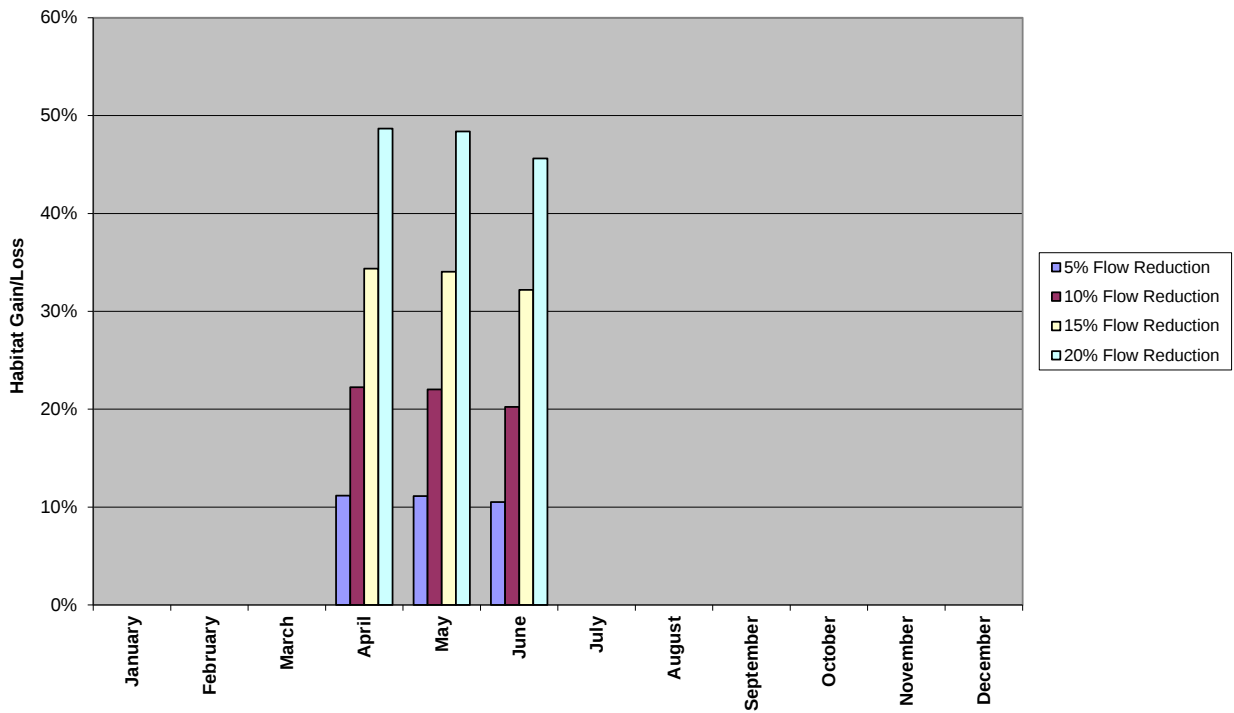
Largemouth Bass Spawning (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM1 Site



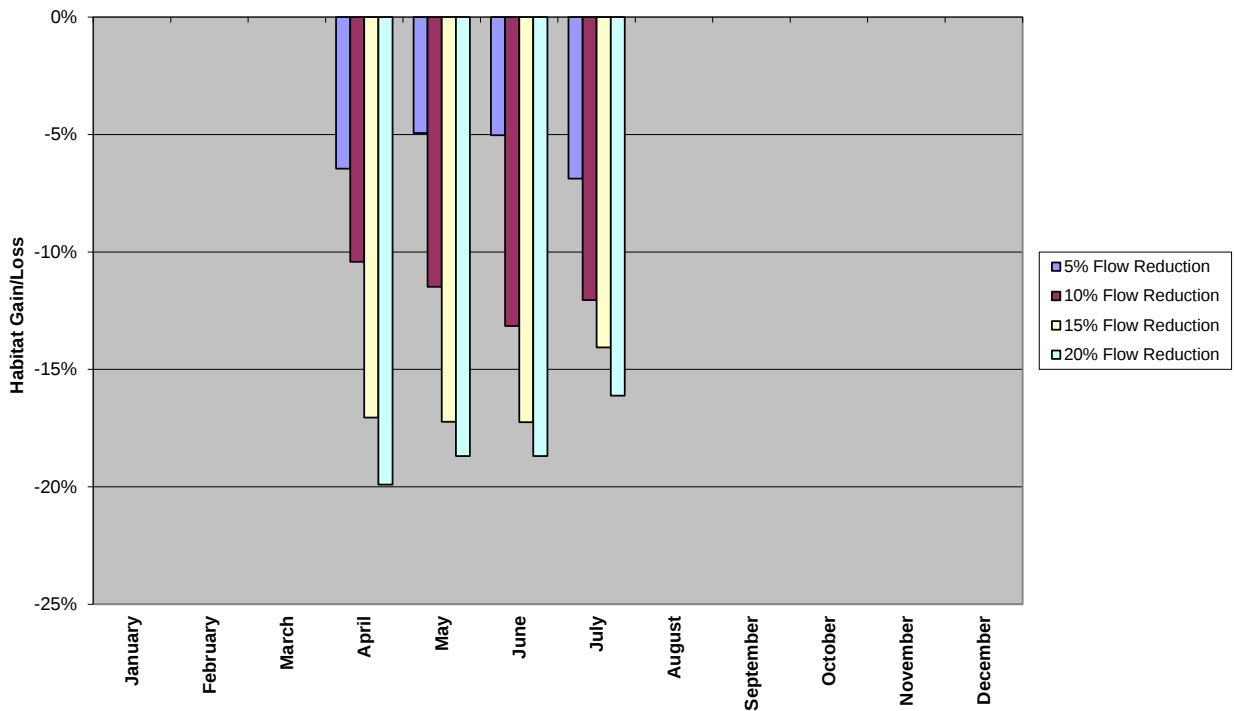
Largemouth Bass Spawning (1965-2014)
Medium Back Water (50%)
Rainbow River - PHABSIM1 Site



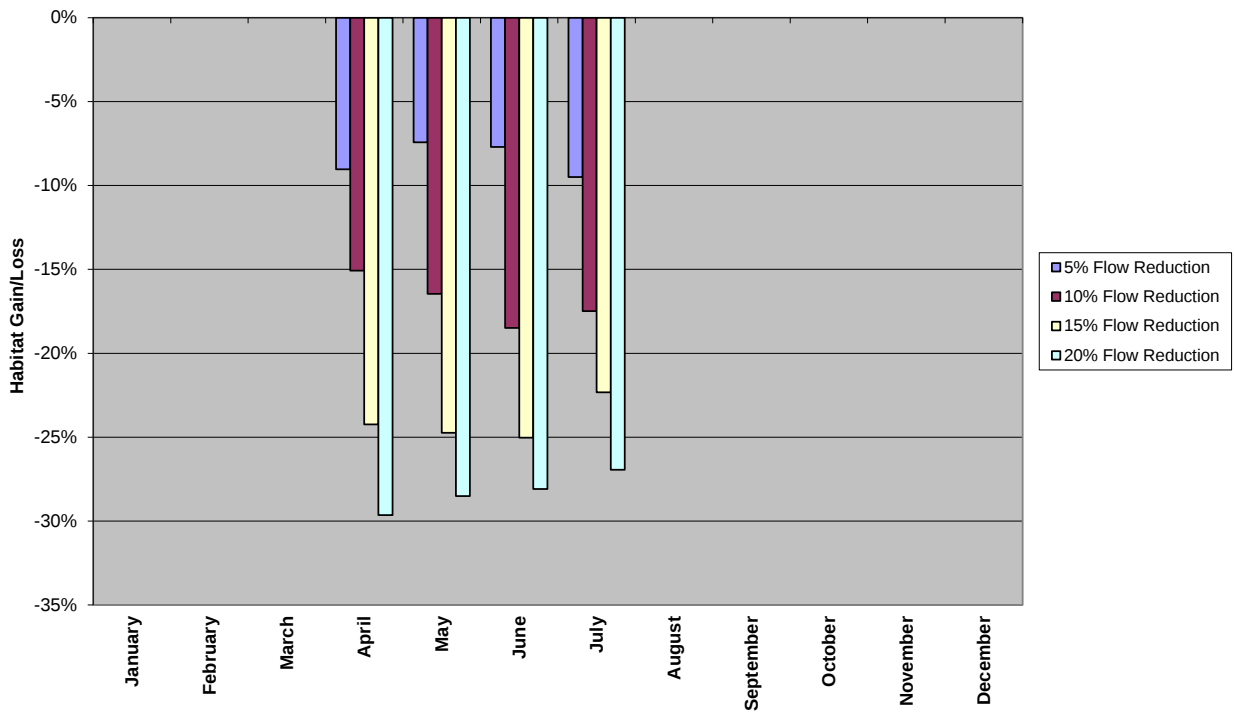
Largemouth Bass Spawning (1965-2014)
High Back Water (75%)
Rainbow River - PHABSIM1 Site



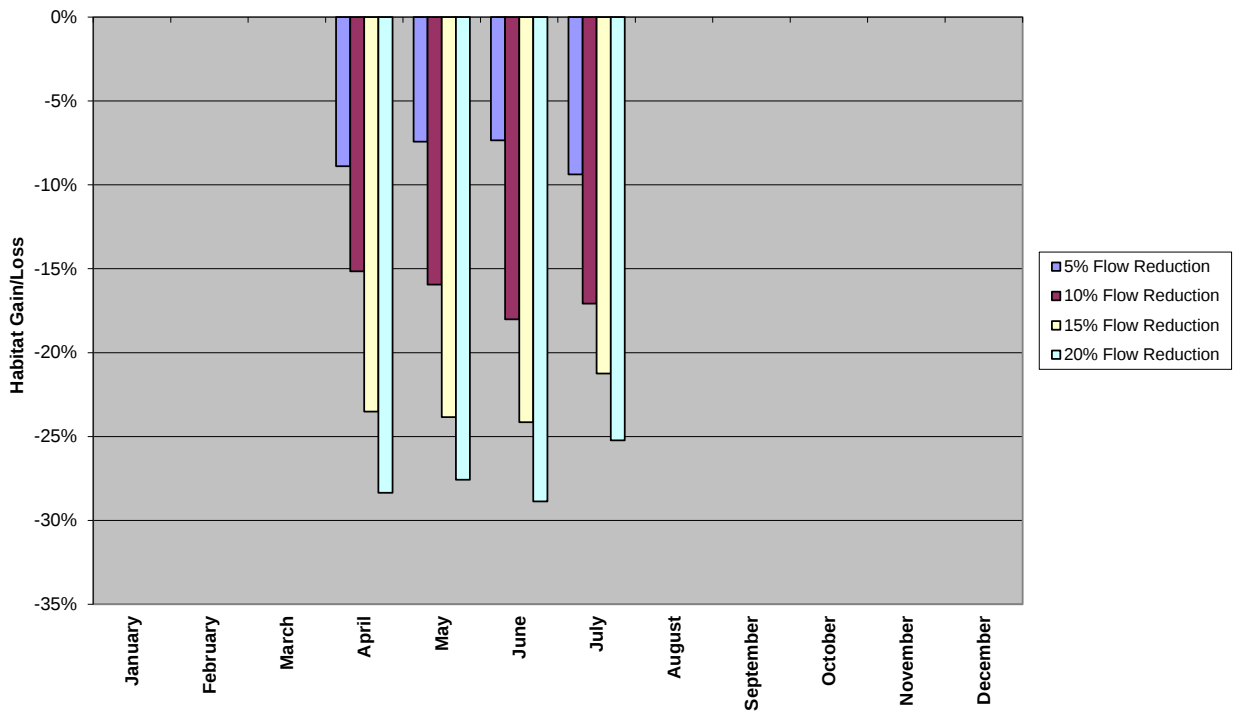
Largemouth Bass Fry (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM1 Site



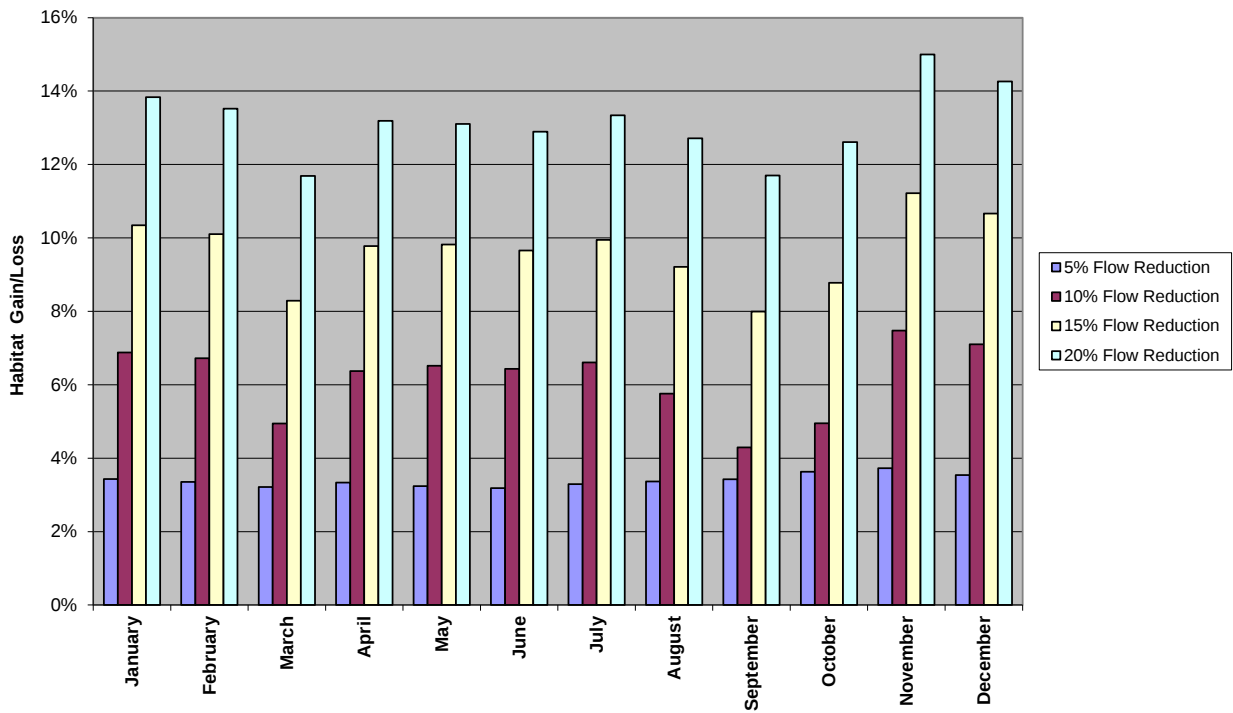
Largemouth Bass Fry (1965-2014)
Medium Back Water (50%)
Rainbow River - PHABSIM1Site



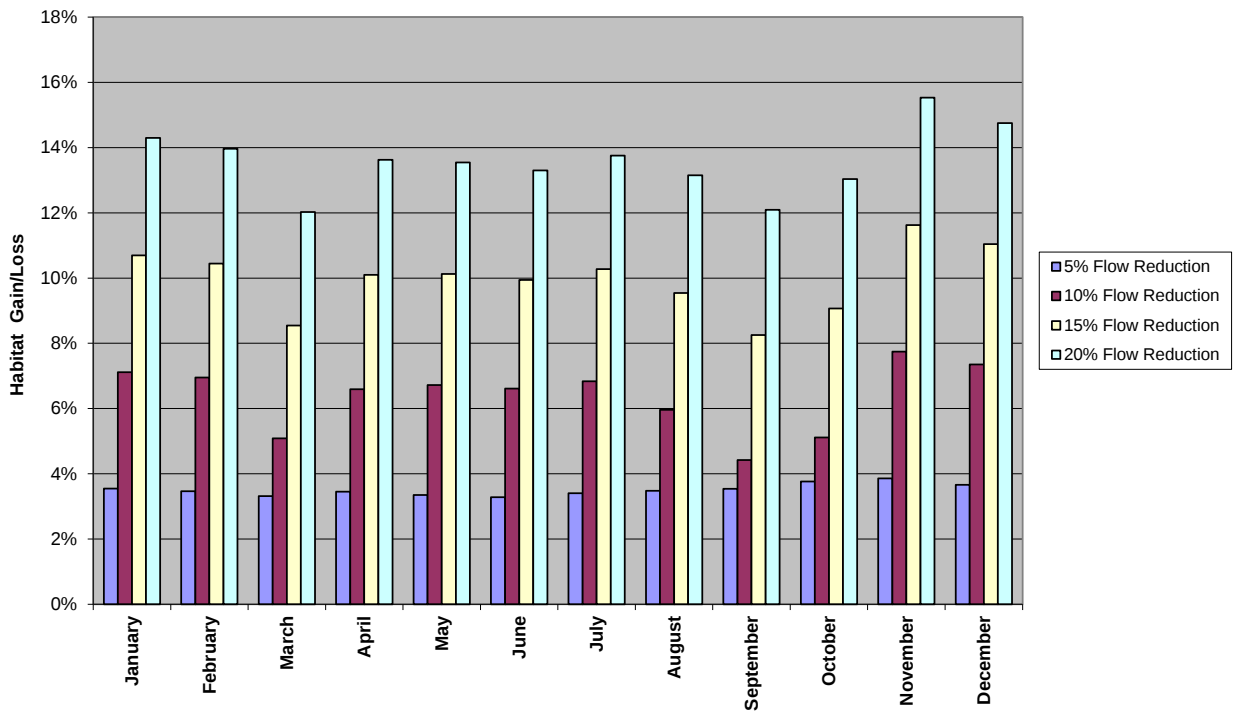
Largemouth Bass Fry (1965-2014)
High Back Water (75%)
Rainbow River - PHABSIM1Site



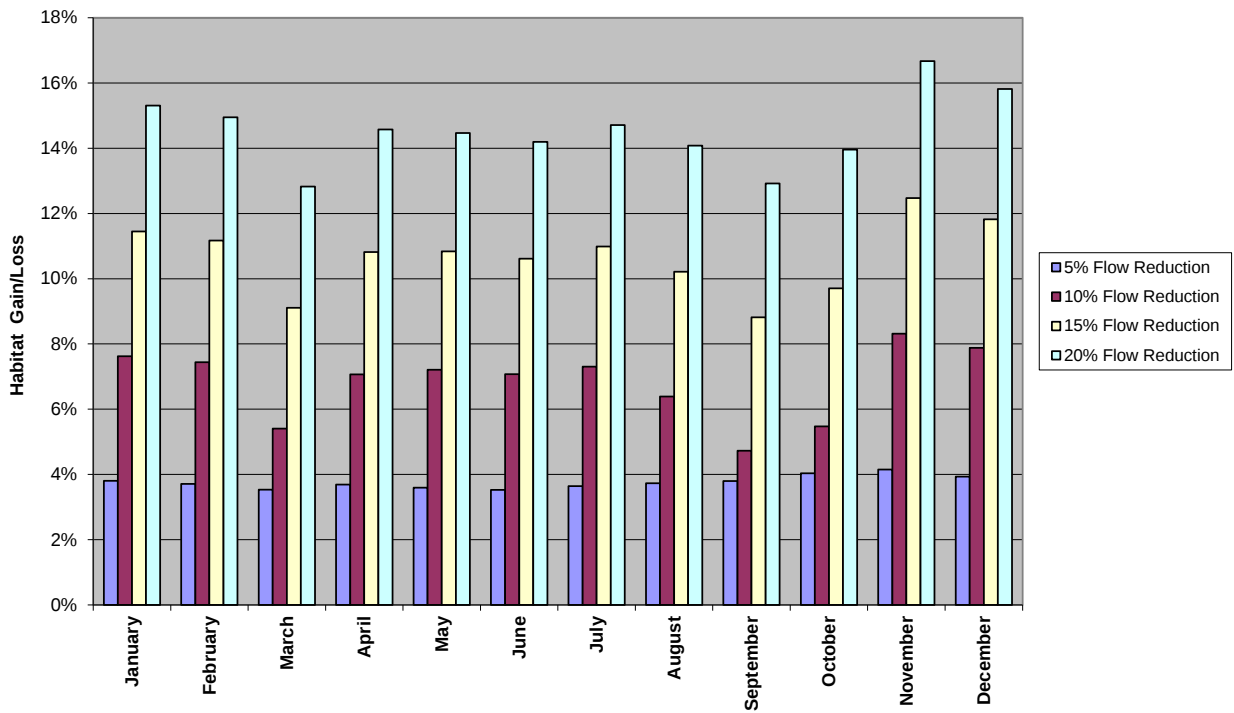
Bluegill Sunfish Adults (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM1 Site



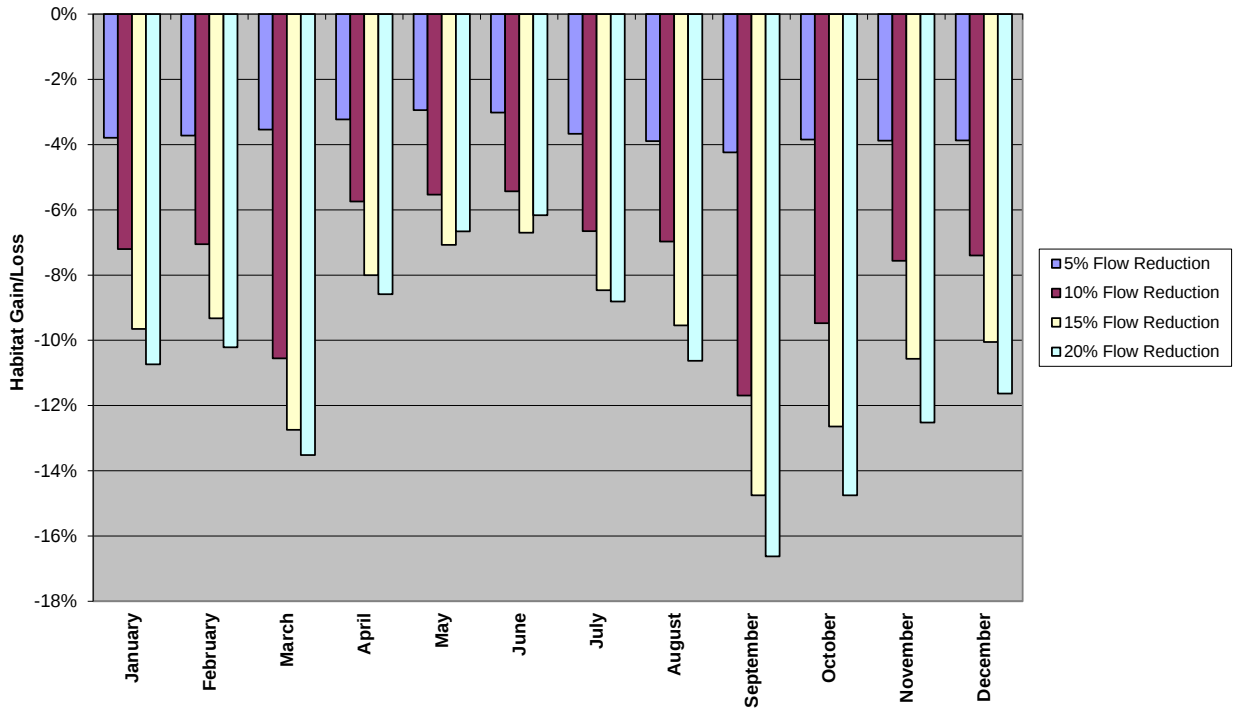
Bluegill Sunfish Adults (1965-2014)
Medium Back Water (50%)
Rainbow River - PHABSIM1 Site



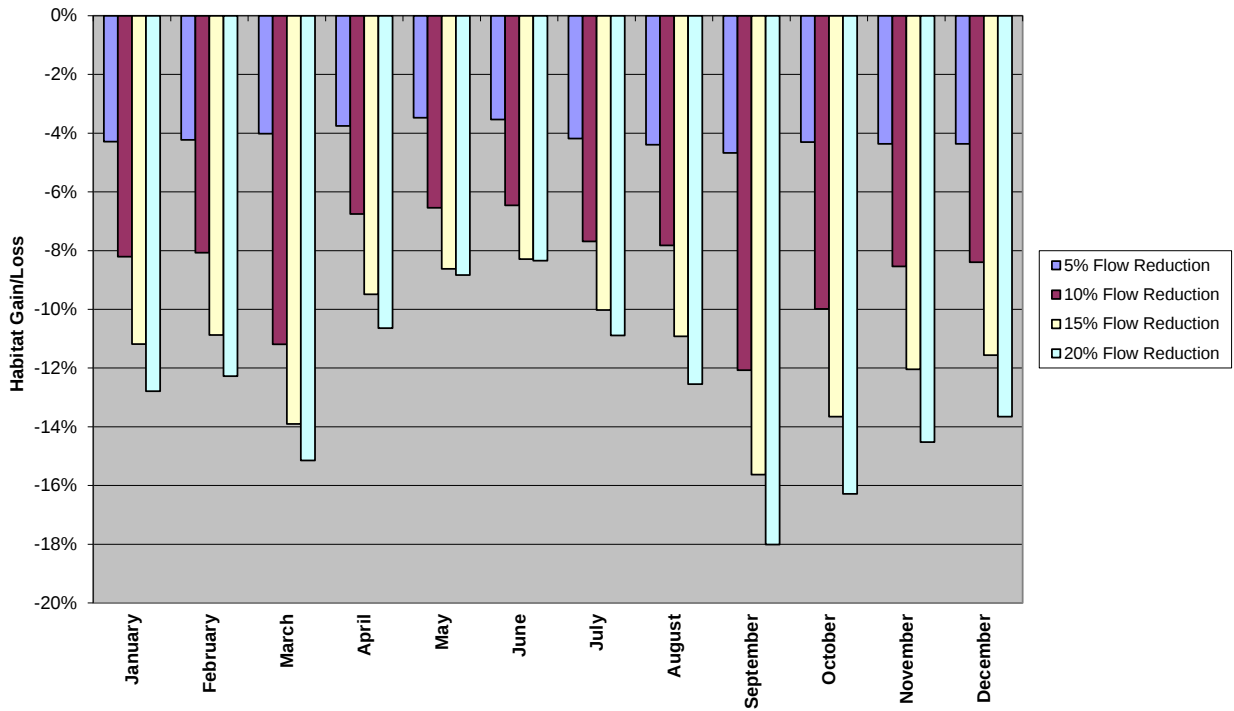
Bluegill Sunfish Adults (1965-2014)
High Back Water (75%)
Rainbow River - PHABSIM1 Site



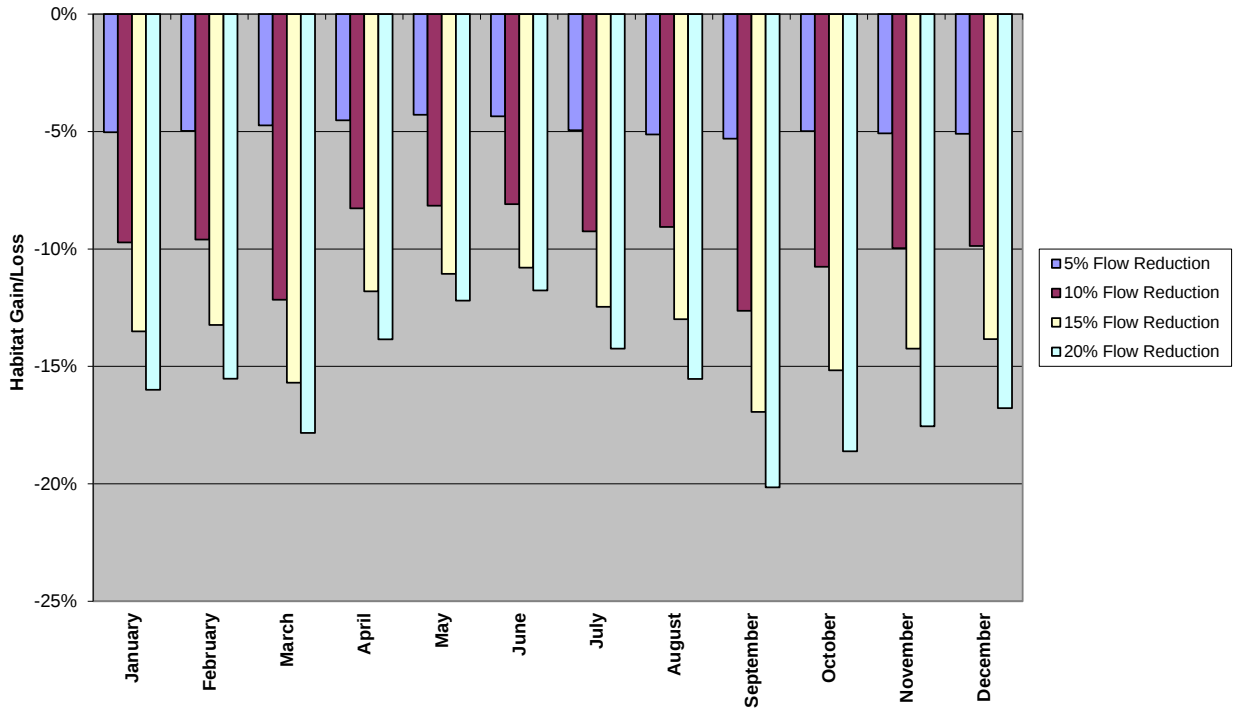
Bluegill Sunfish Juveniles (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM1 Site



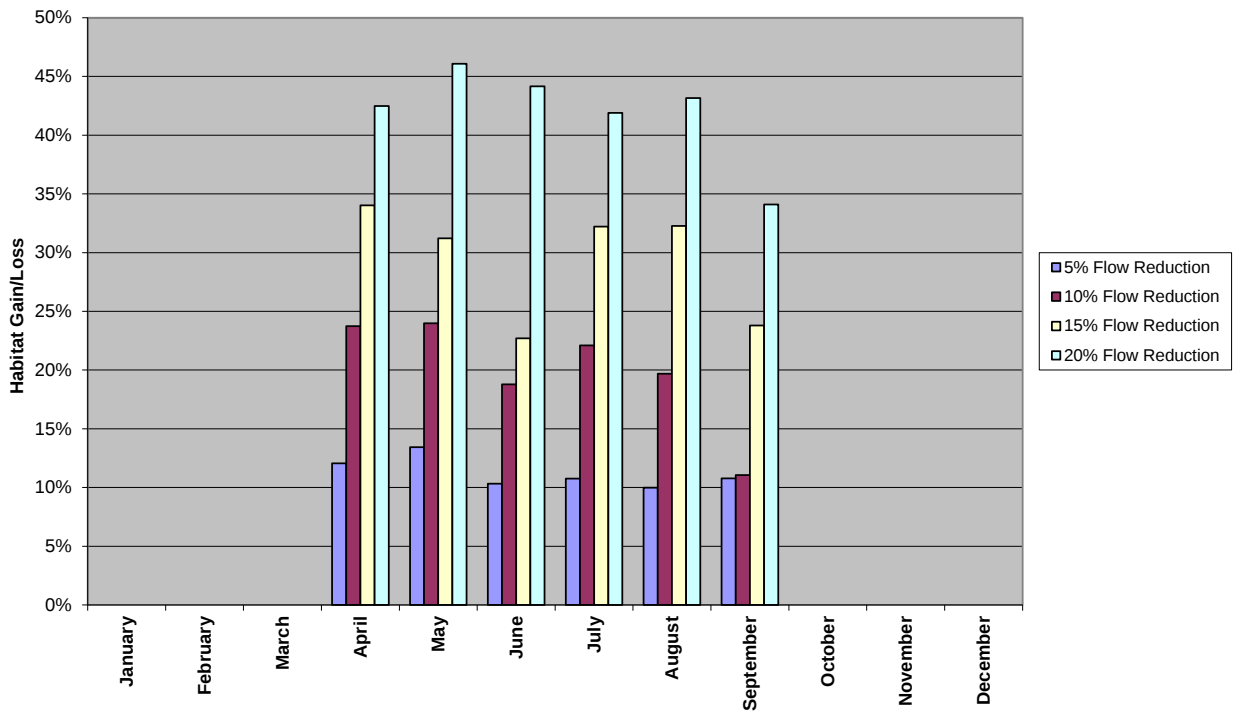
Bluegill Sunfish Juveniles (1965-2014)
Medium Back Water (50%)
Rainbow River - PHABSIM1 Site



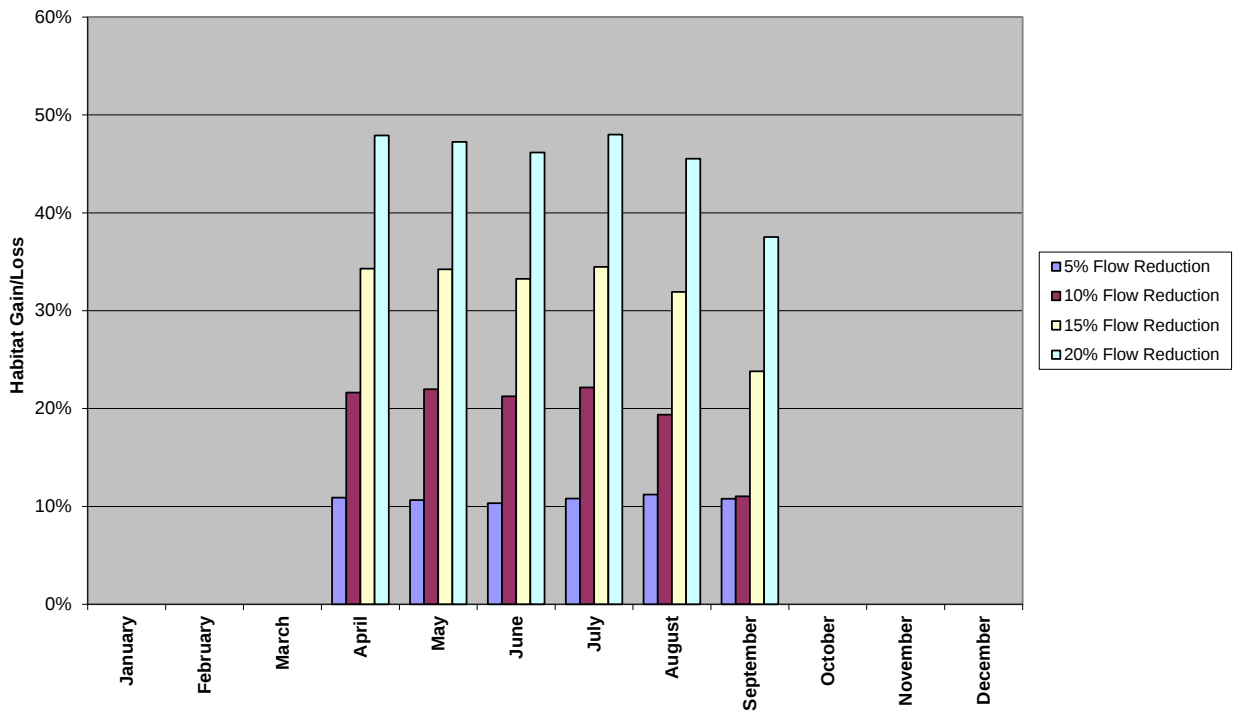
Bluegill Sunfish Juveniles (1965-2014)
High Back Water (75%)
Rainbow River - PHABSIM1 Site



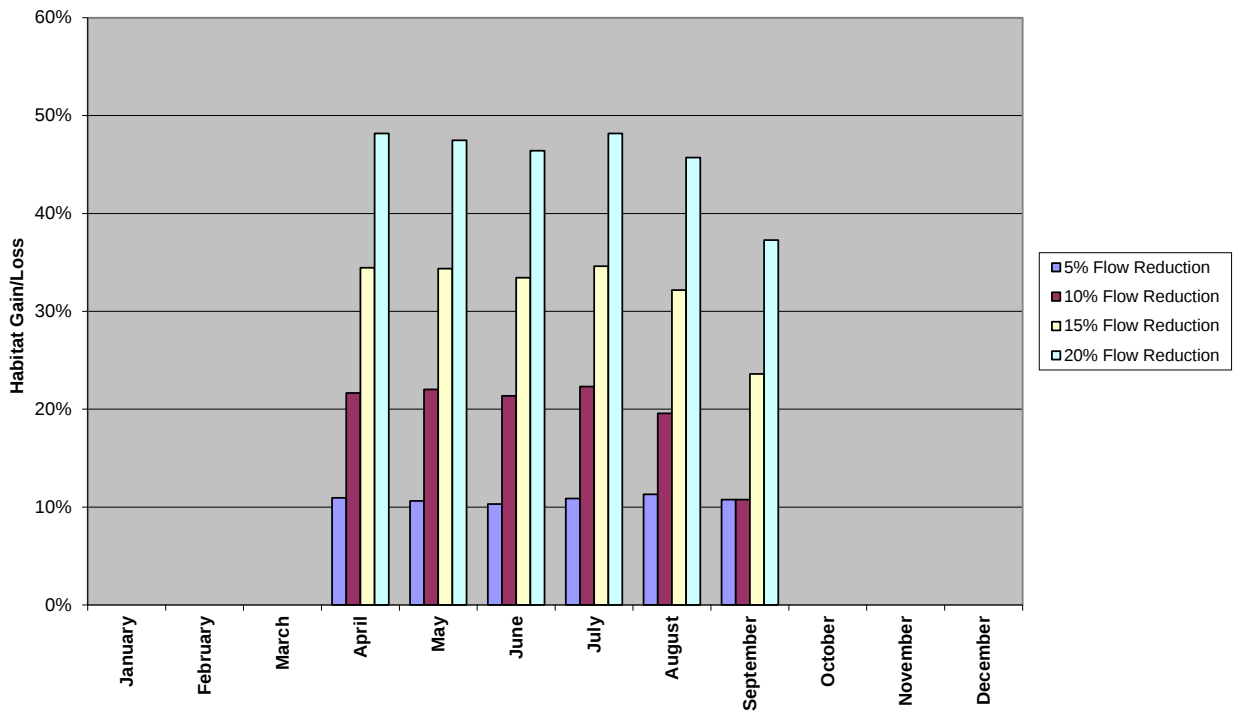
Bluegill Sunfish Spawning (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM1Site



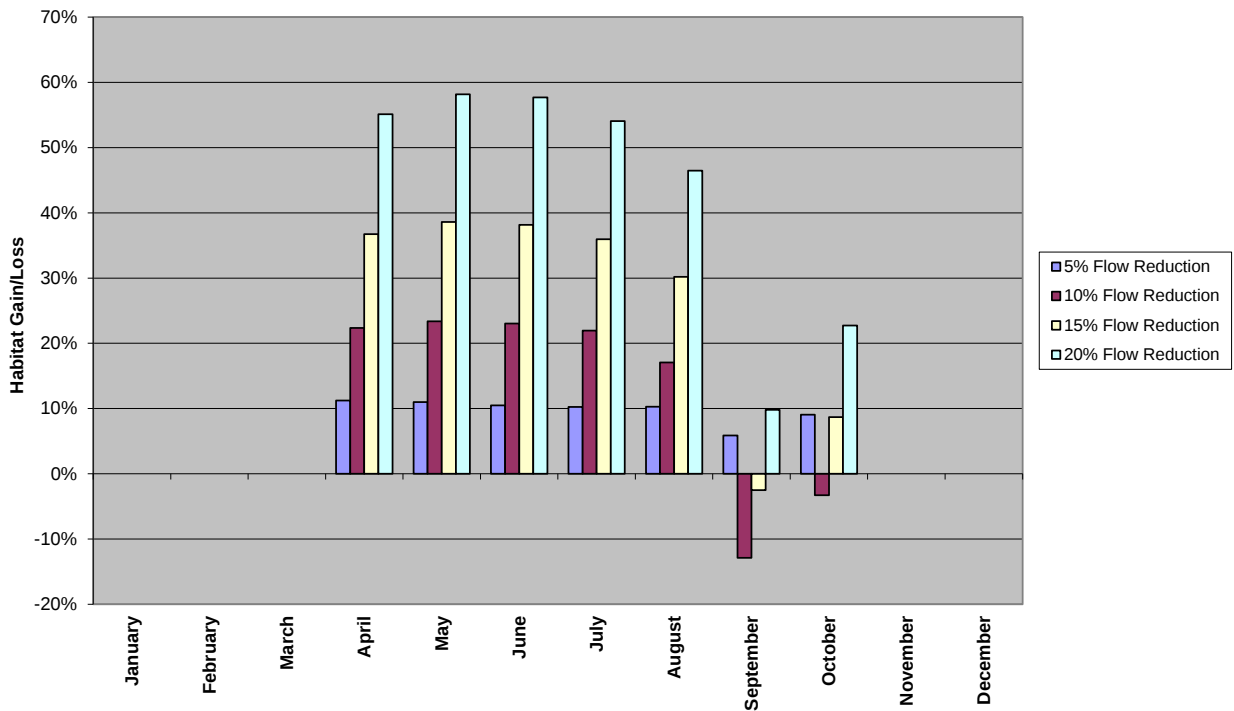
Bluegill Sunfish Spawning (1965-2014)
Medium Back Water (50%)
Rainbow River - PHABSIM1Site



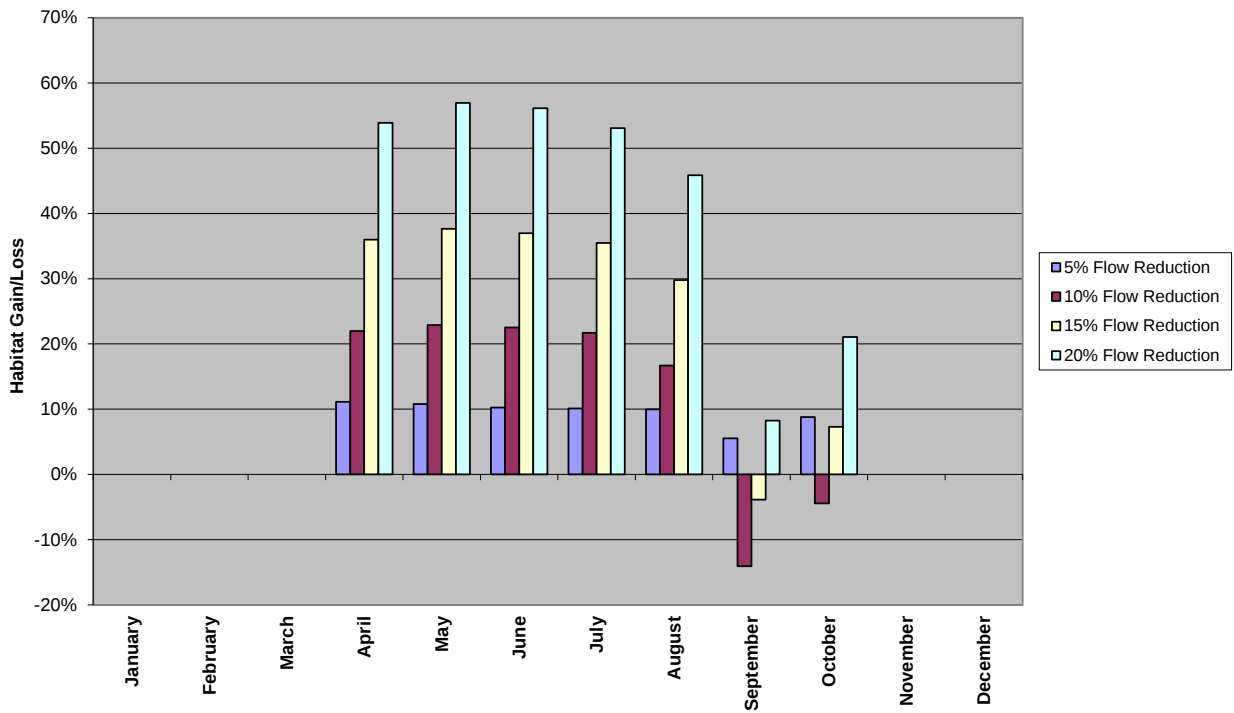
Bluegill Sunfish Spawning (1965-2014)
High Back Water (75%)
Rainbow River - PHABSIM1Site



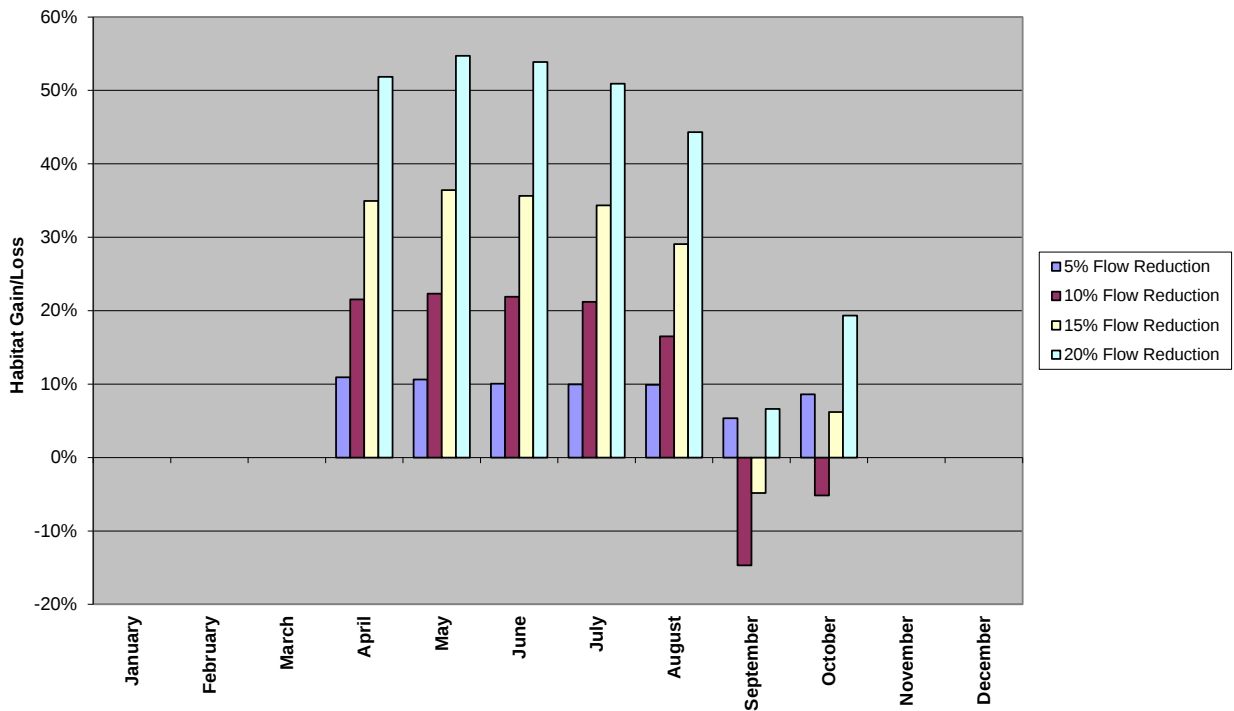
Bluegill Sunfish Fry (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM1 Site

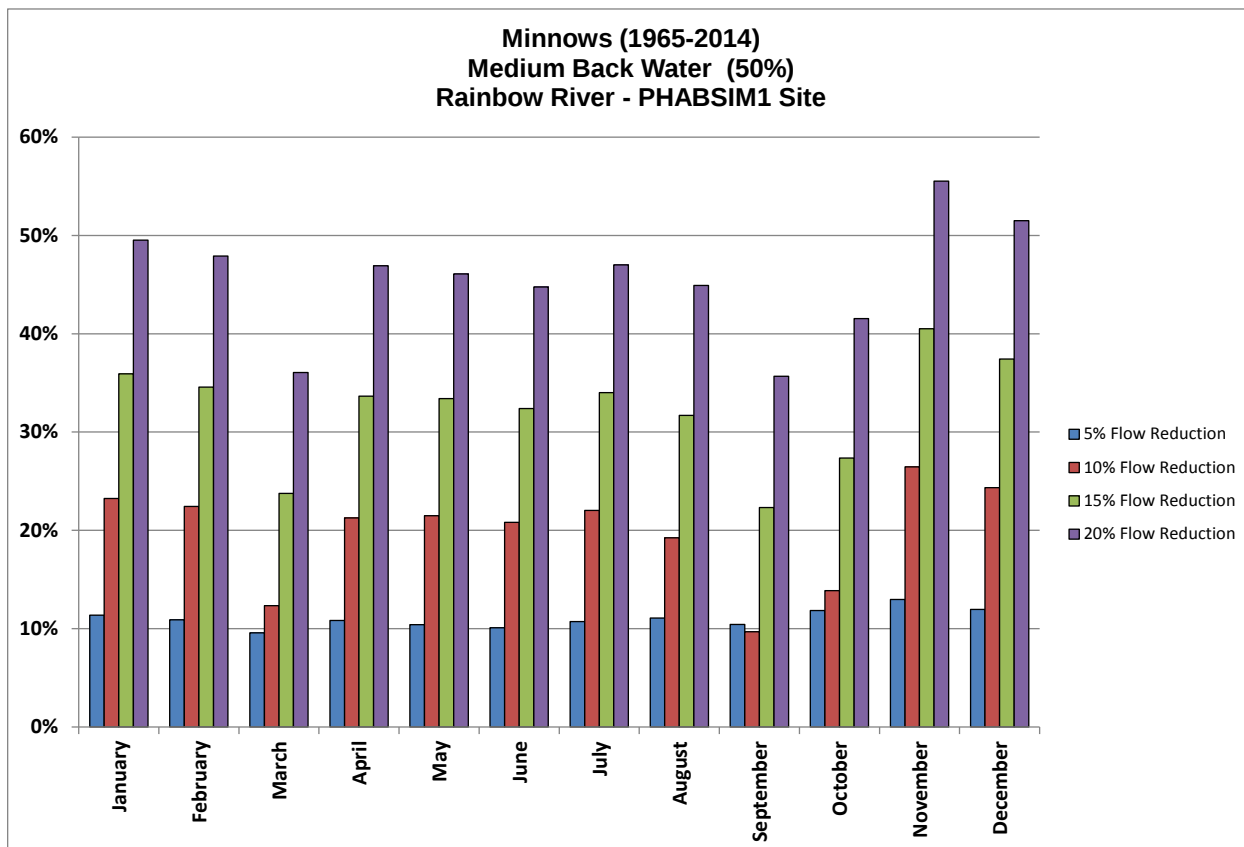
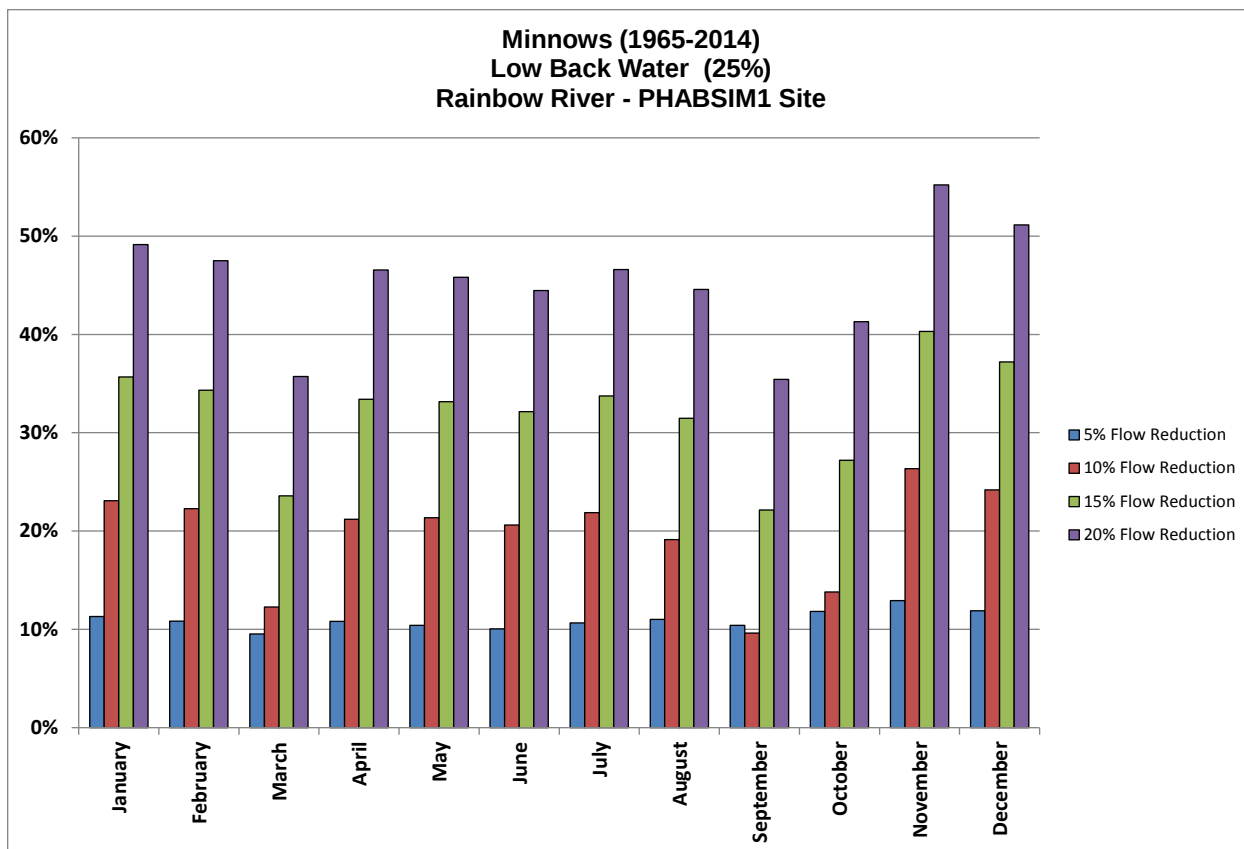


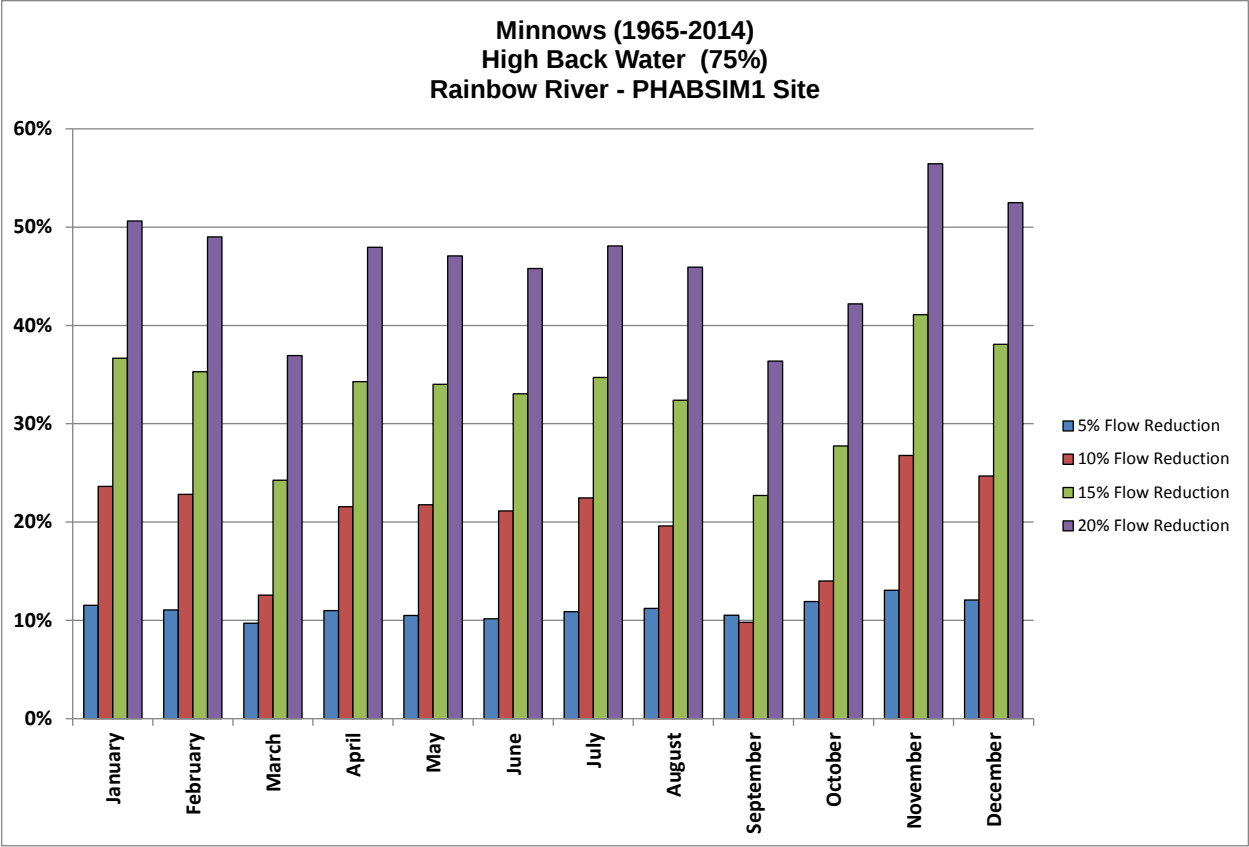
Bluegill Sunfish Fry (1965-2014)
Medium Back Water (50%)
Rainbow River - PHABSIM1 Site



Bluegill Sunfish Fry (1965-2014)
High Back Water (75%)
Rainbow River - PHABSIM1 Site



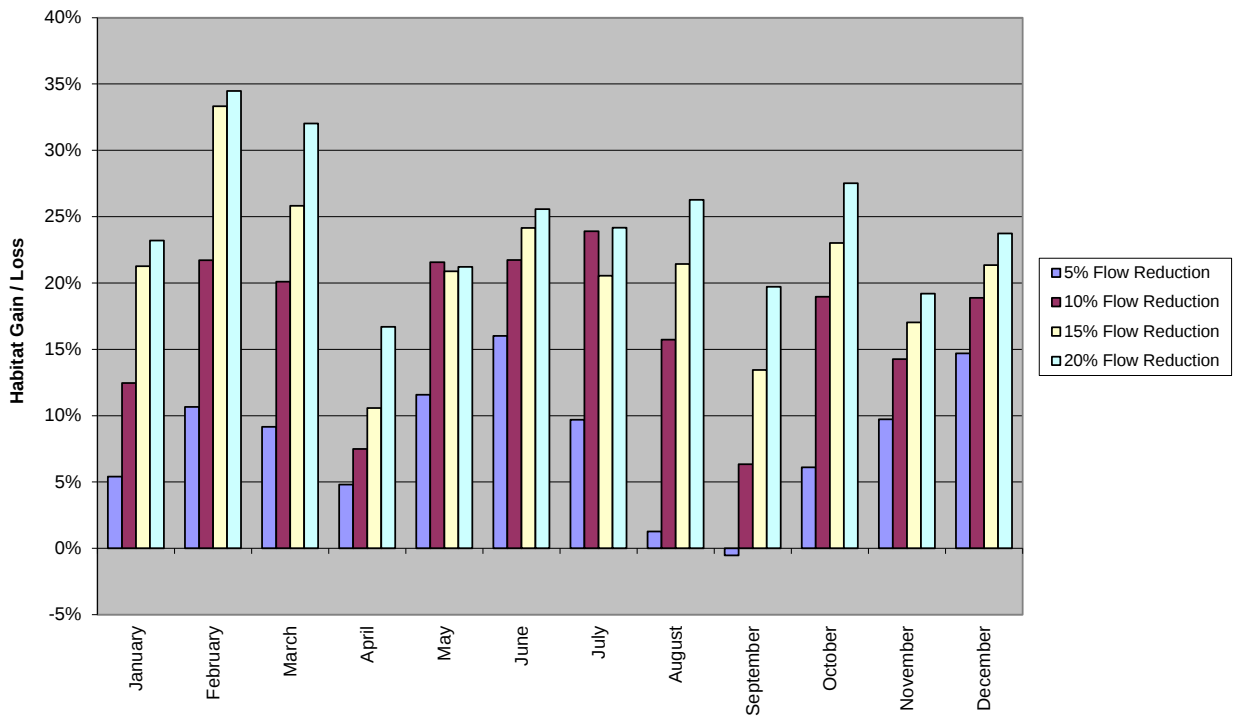




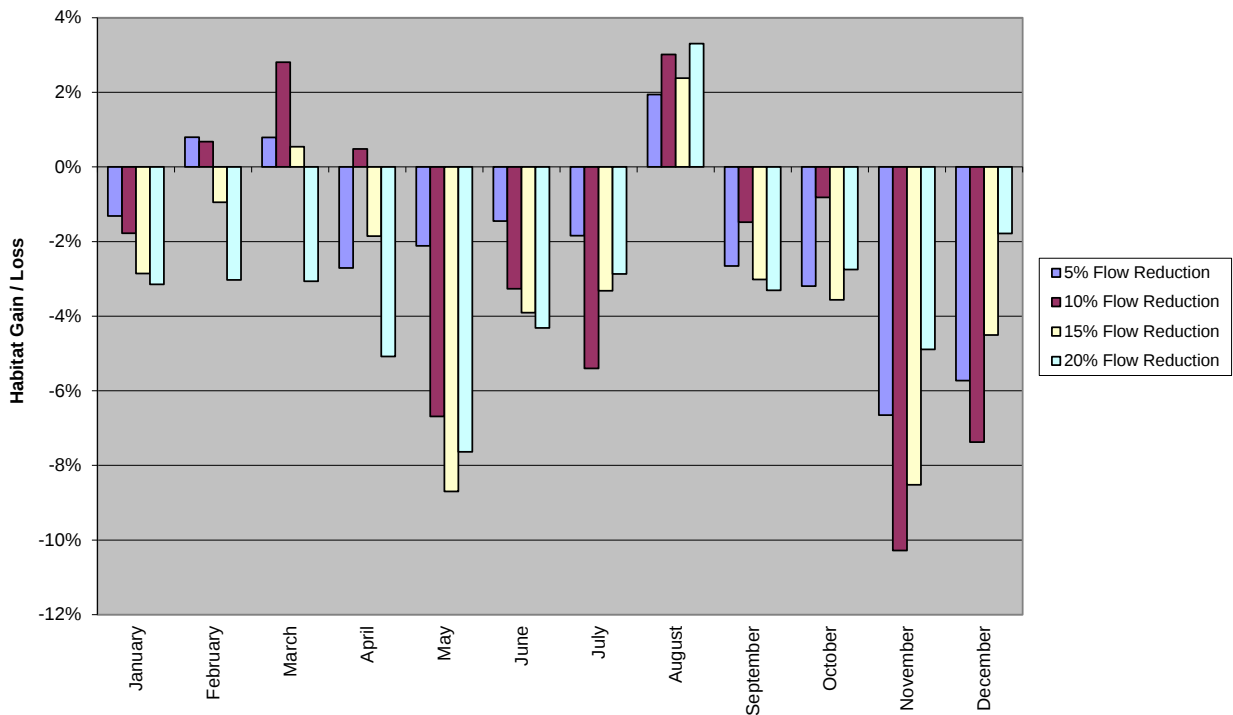
Section 3

Rainbow River System PHABSIM Modeling Results: Habitat Gain/Loss vs. 5, 10, 15, and 20% Flow Reduction Plots for PHABSIM 2

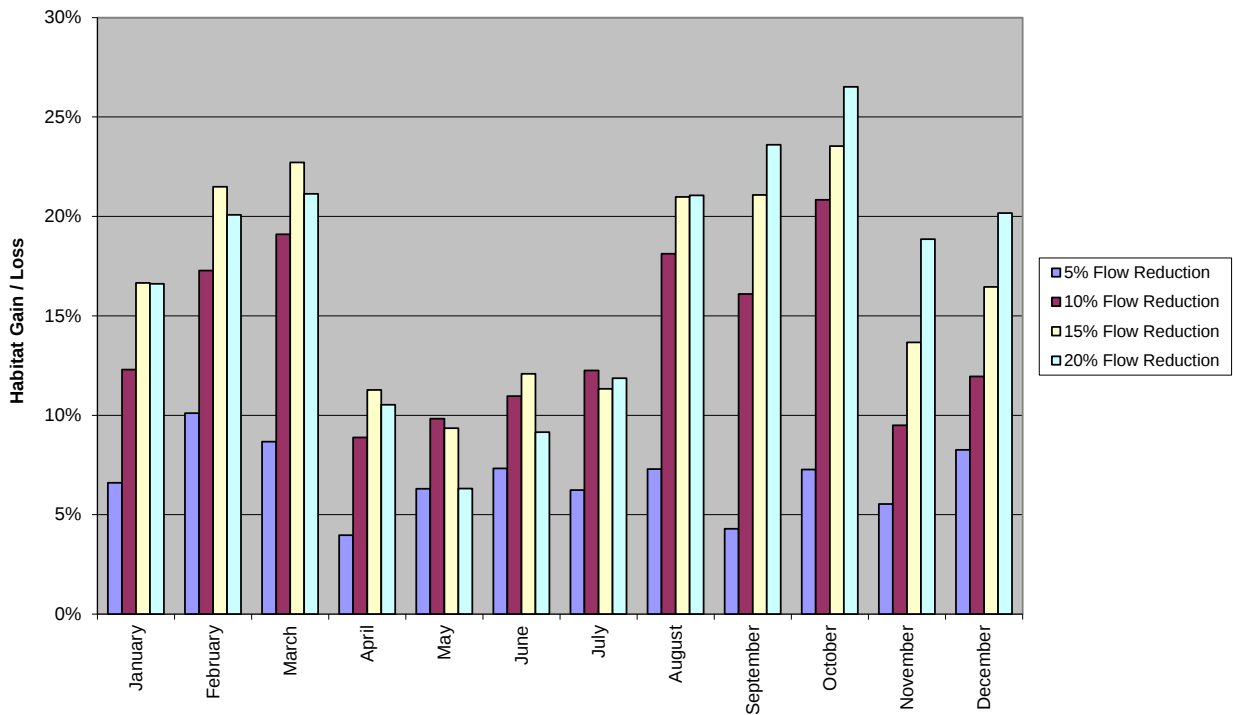
Shallow-Slow Fish Habitat Guild (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM2 Site



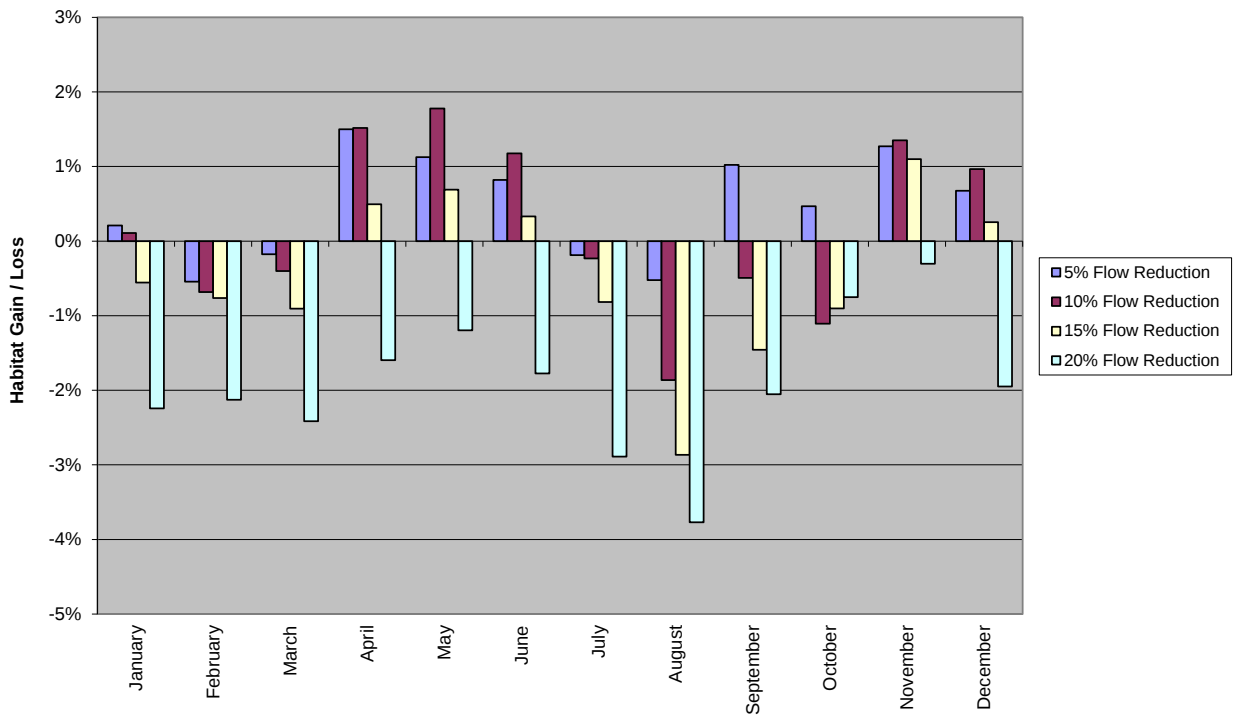
Shallow-Slow Fish Habitat Guild (1965-2014)
Medium Back Water (50%)
Rainbow River - PHABSIM2 Site



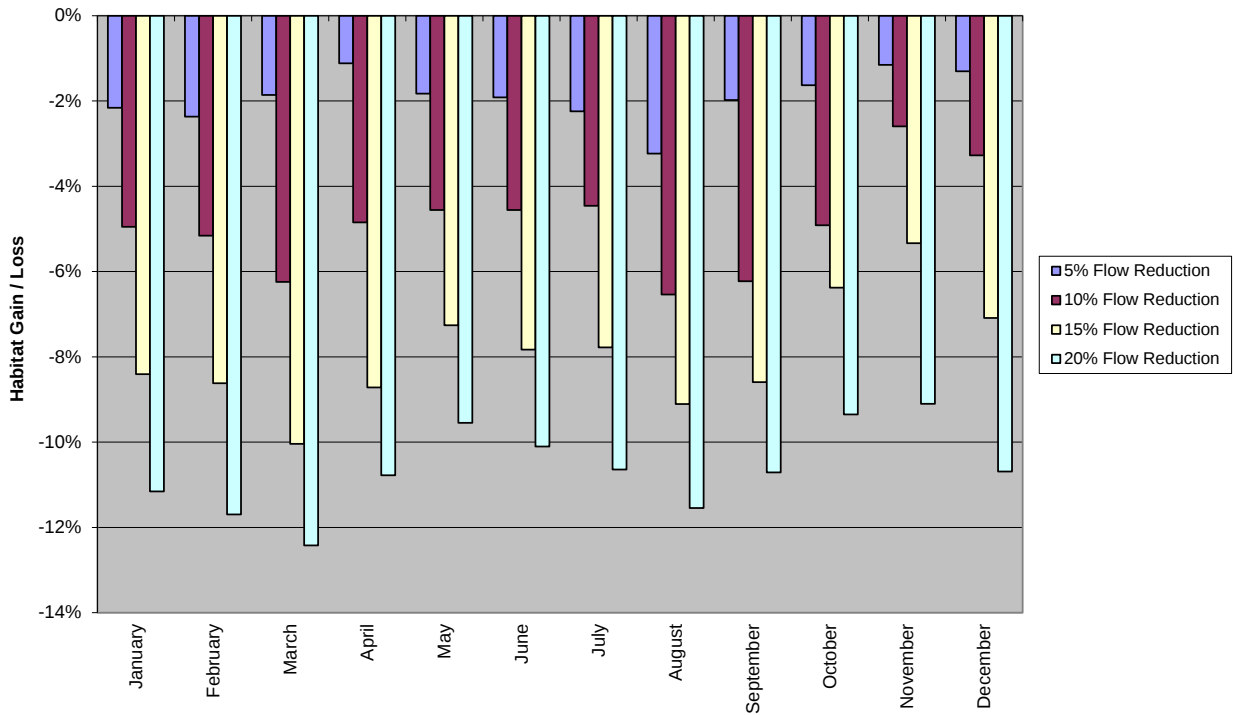
Shallow-Slow Fish Habitat Guild (1965-2014)
High Back Water (75%)
Rainbow River - PHABSIM2 Site



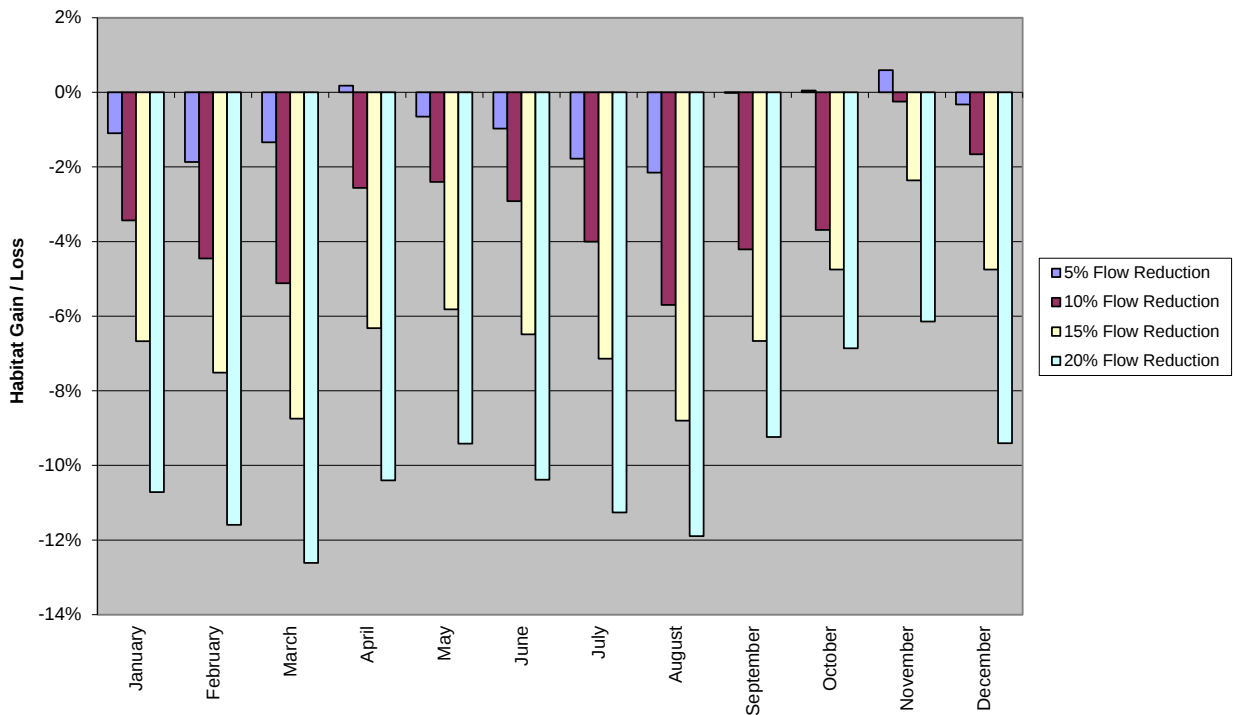
Shallow-Fast Fish Habitat Guild (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM2 Site



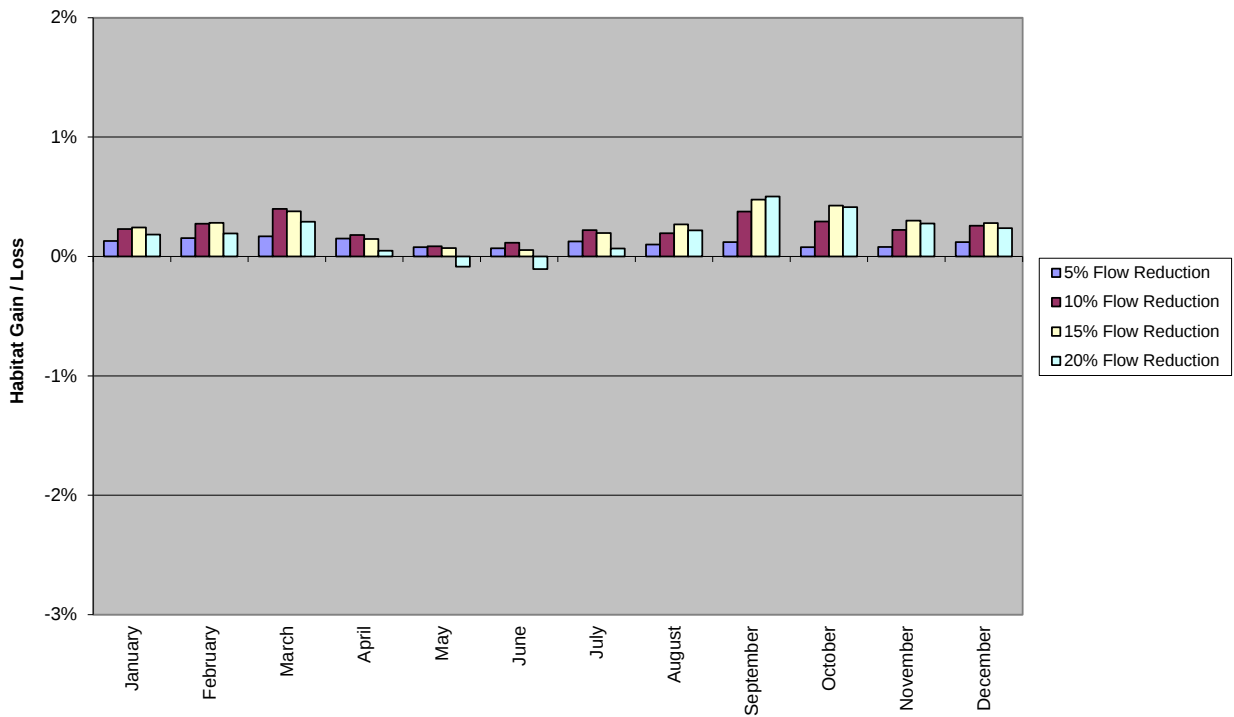
Shallow-Fast Fish Habitat Guild (1965-2014)
Medium Back Water (50%)
Rainbow River - PHABSIM2 Site



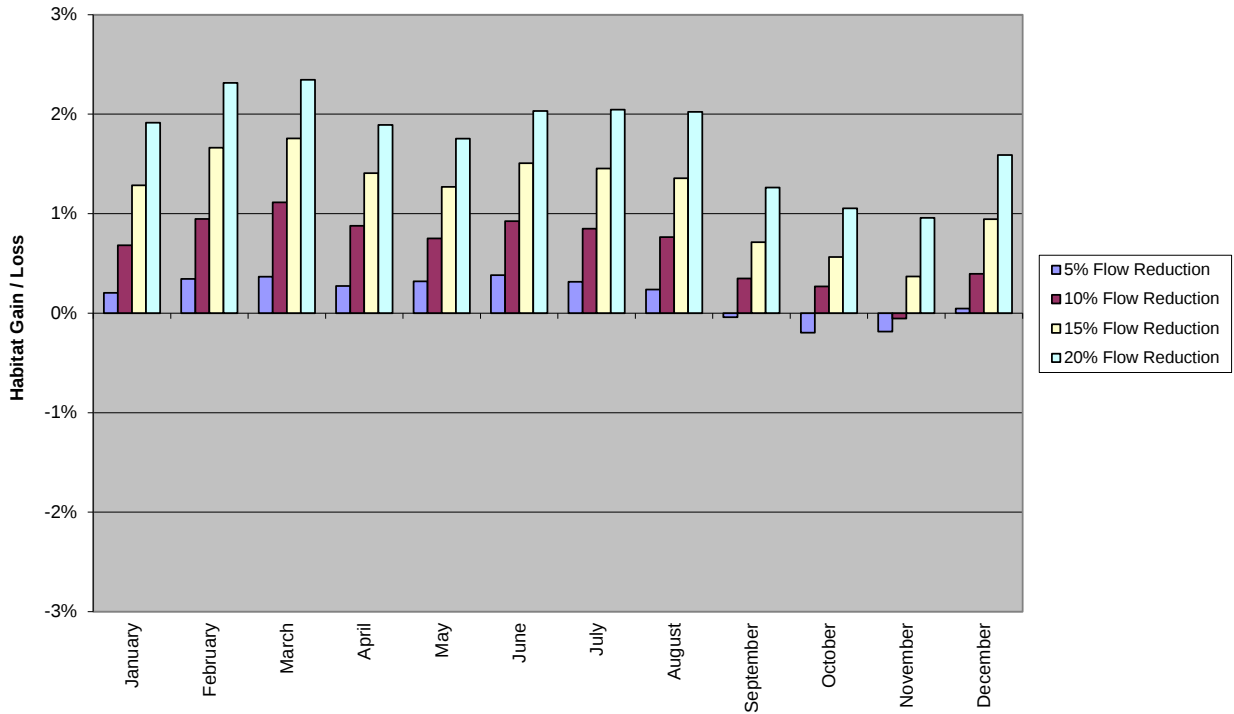
Shallow-Fast Fish Habitat Guild (1965-2014)
High Back Water (75%)
Rainbow River - PHABSIM2 Site



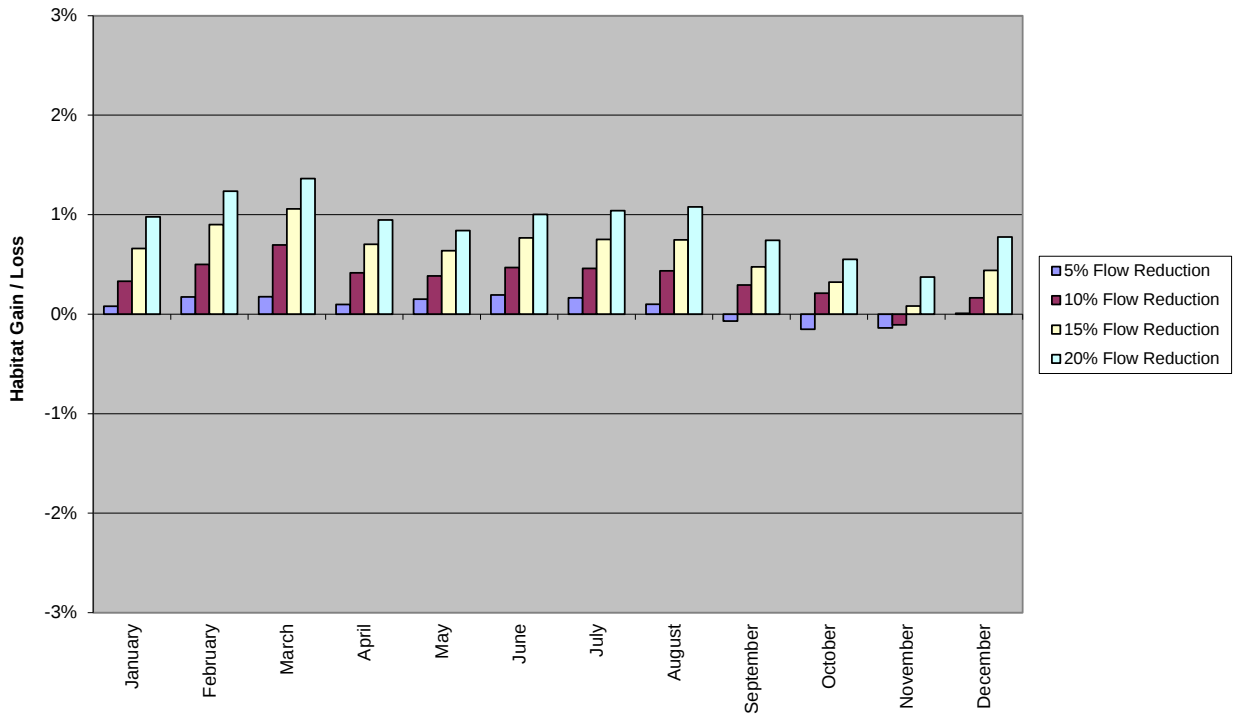
Deep-Slow Fish Habitat Guild (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM2 Site



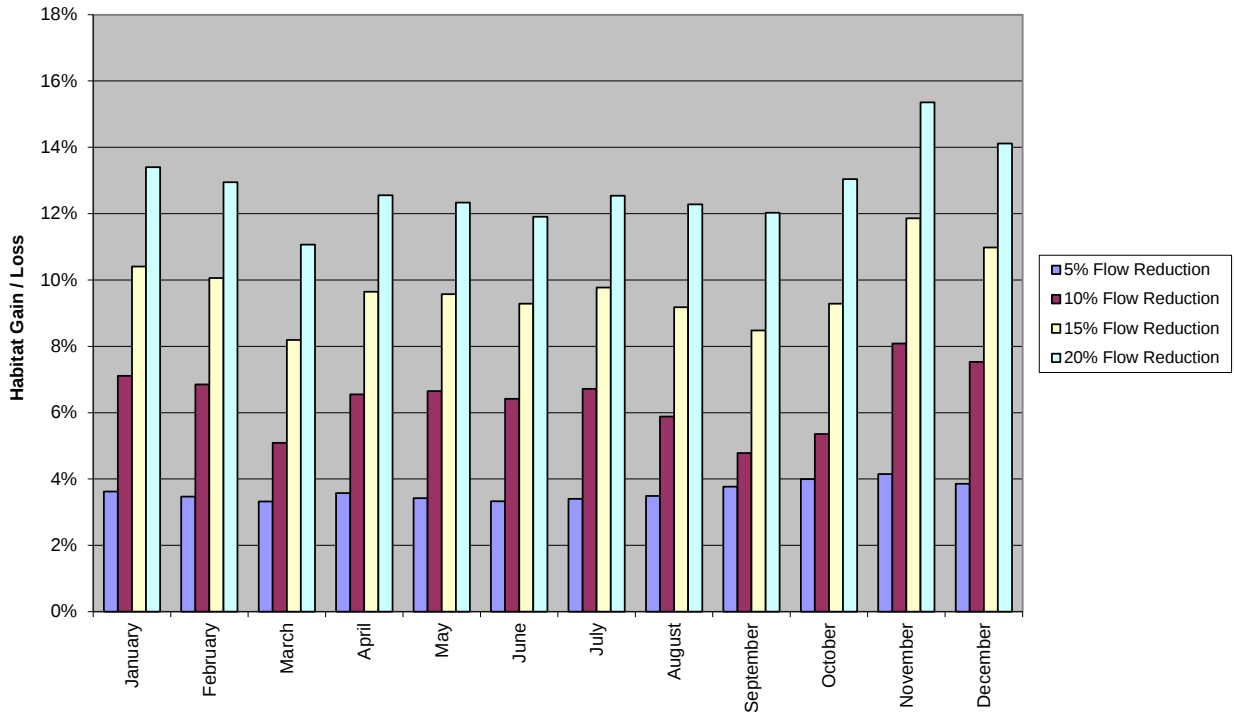
Deep-Slow Fish Habitat Guild (1965-2014)
Medium Back Water (50%)
Rainbow River - PHABSIM2 Site



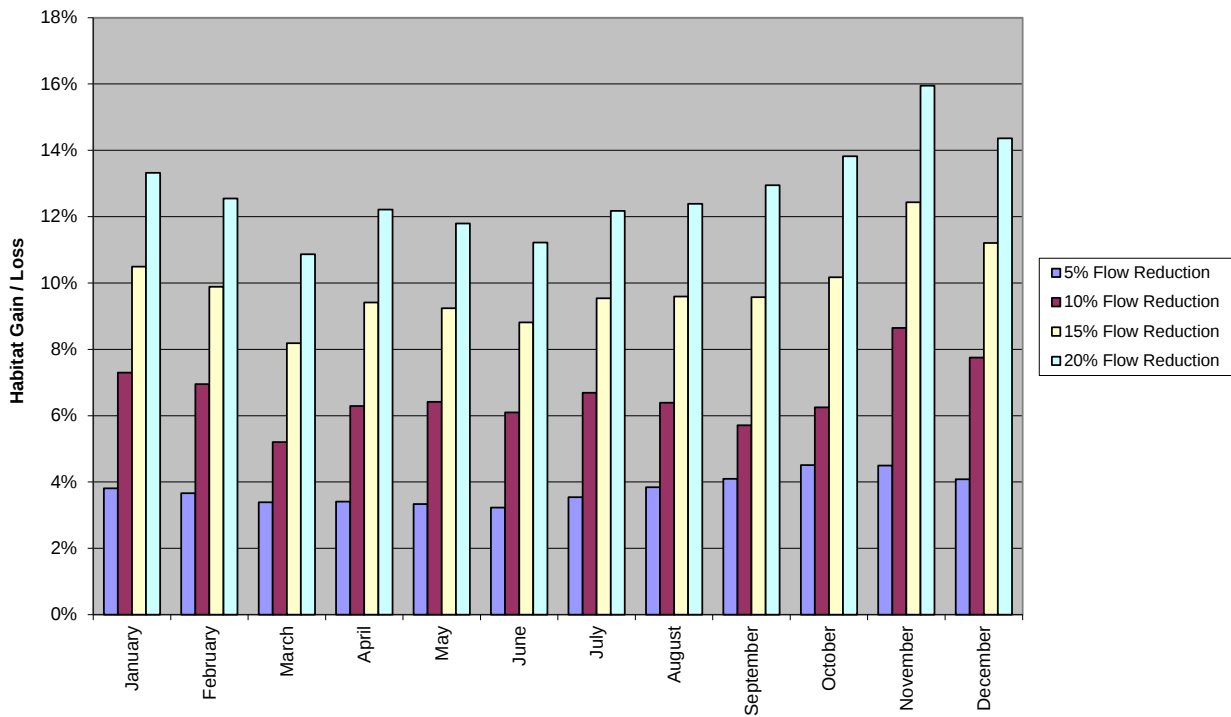
Deep-Slow Fish Habitat Guild (1965-2014)
High Back Water (75%)
Rainbow River - PHABSIM2 Site



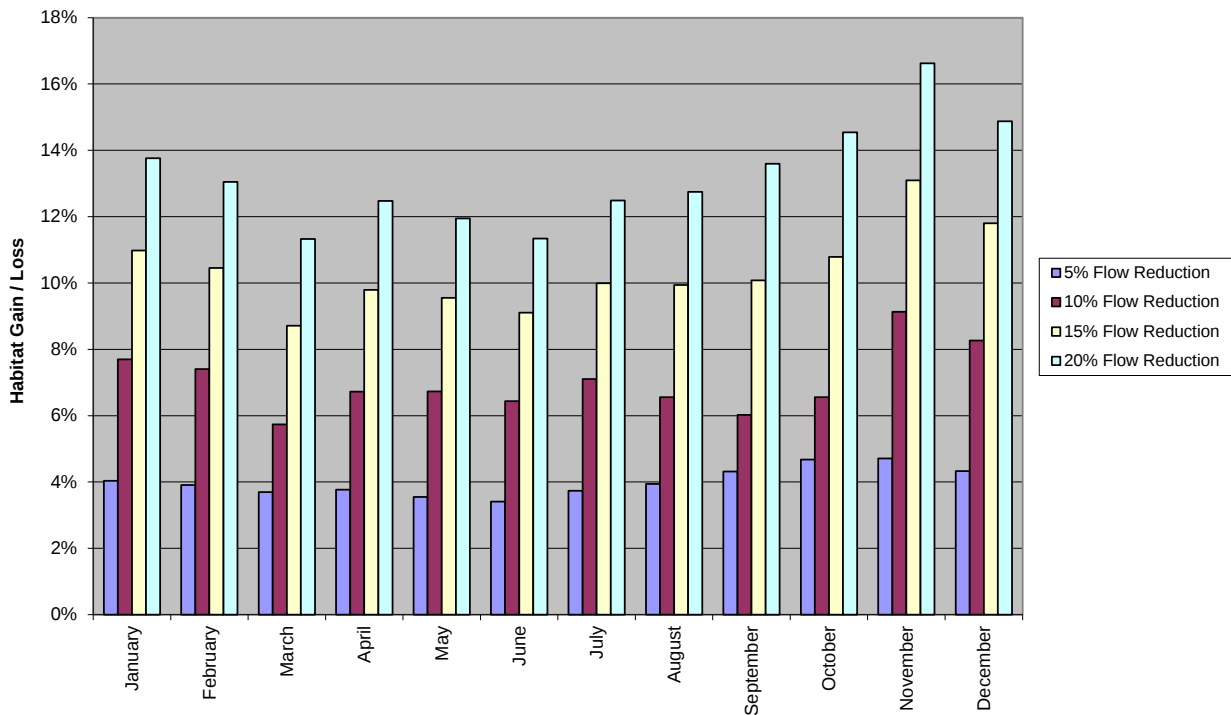
Deep-Fast Fish Habitat Guild (1964-2015)
Low Back Water (25%)
Rainbow River - PHABSIM2 Site



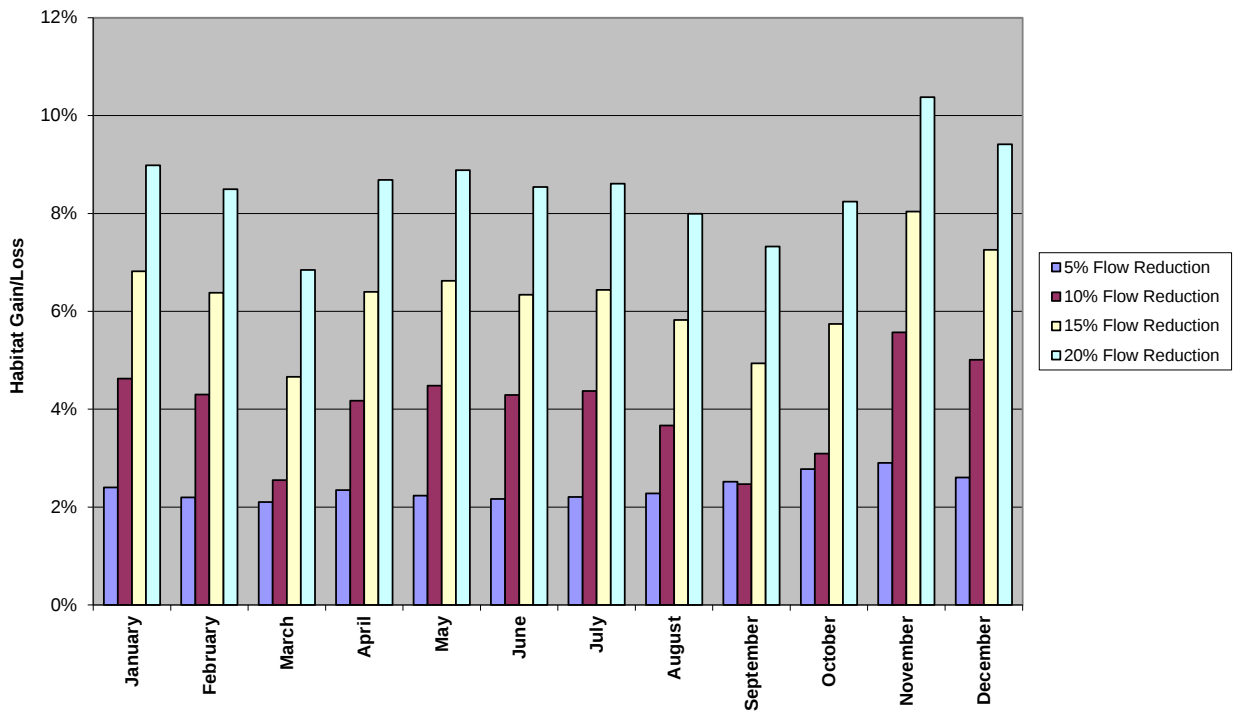
Deep-Fast Fish Habitat Guild (1964-2015)
Medium Back Water (50%)
Rainbow River - PHABSIM2 Site



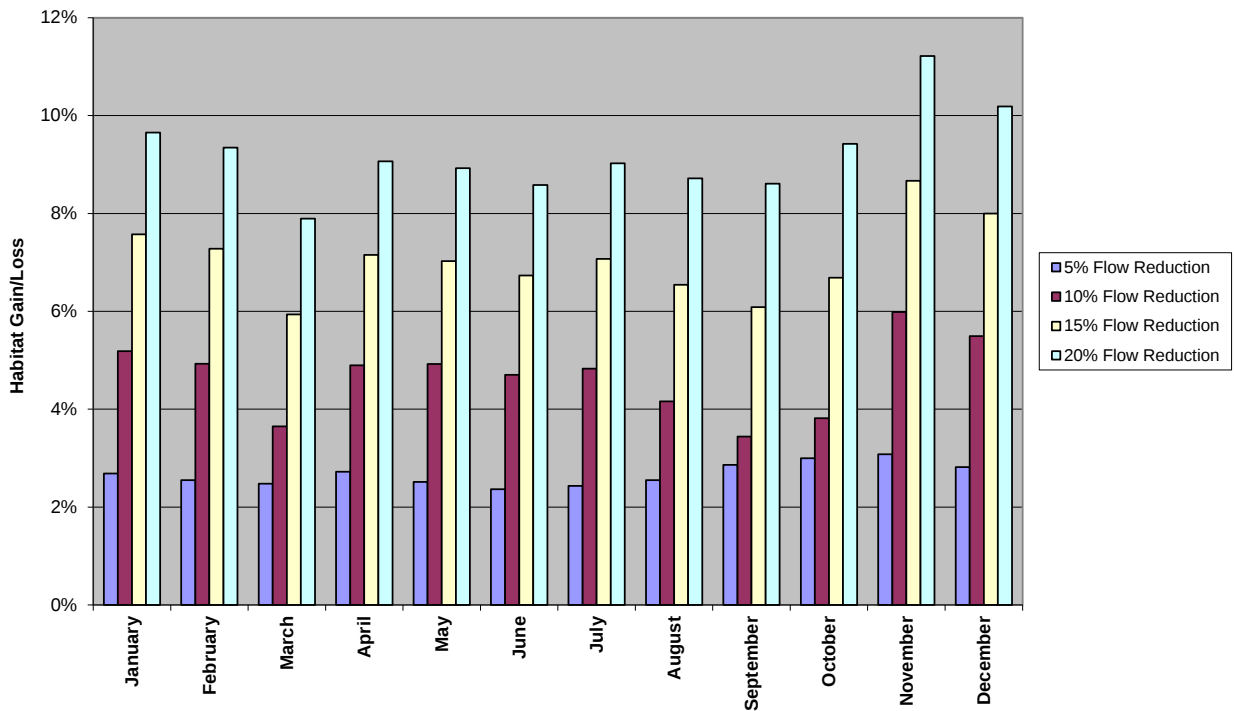
Deep-Fast Fish Habitat Guild (1964-2015)
High Back Water (75%)
Rainbow River - PHABSIM2 Site



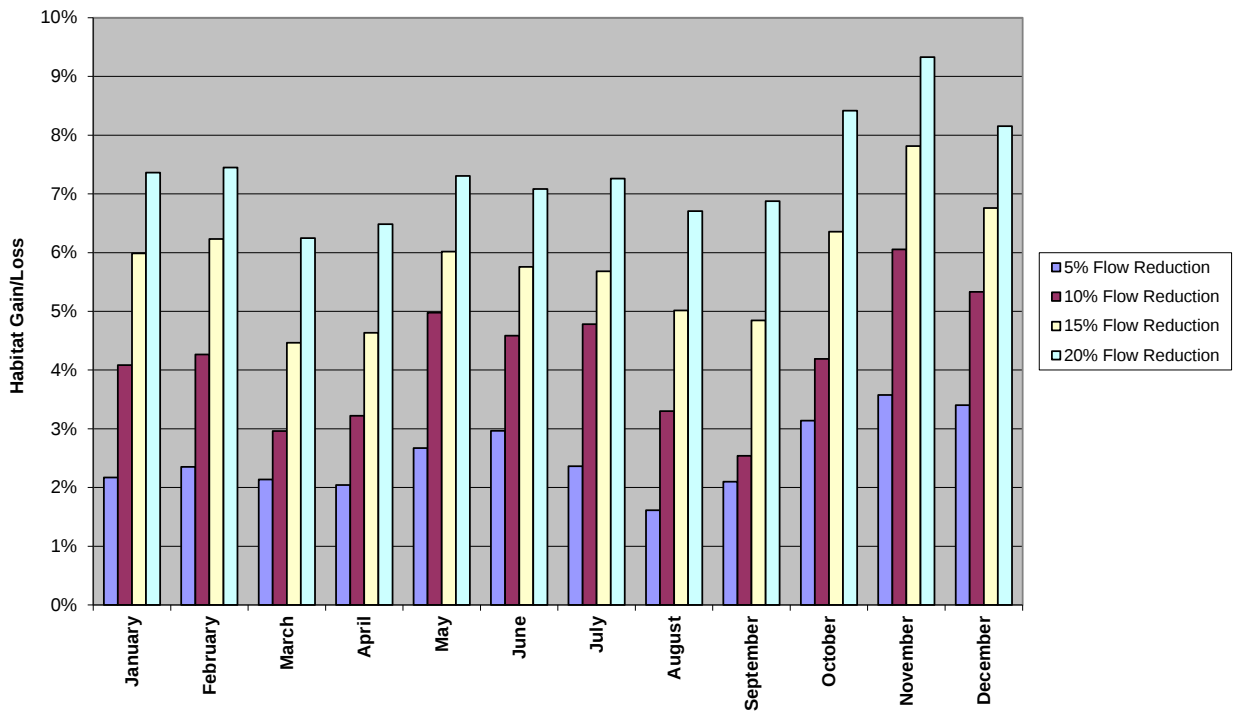
Spotted Sunfish Adults (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM2 Site



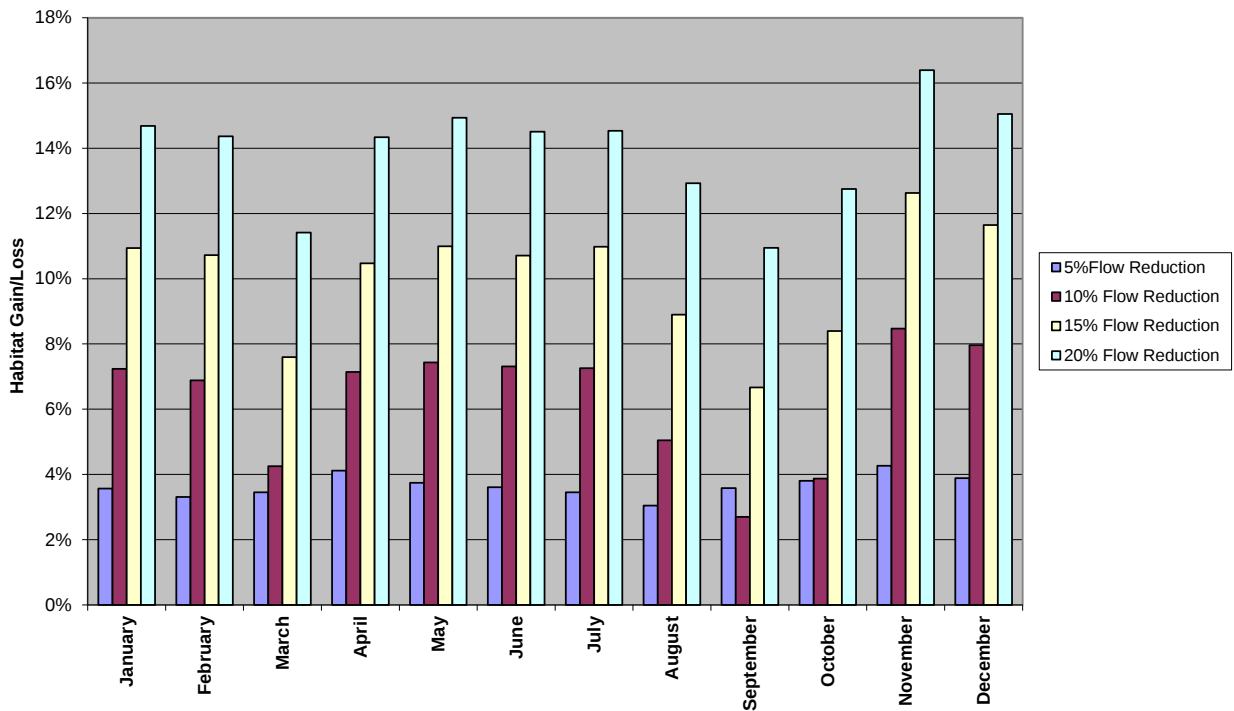
Spotted Sunfish Adults (1965-2014)
Medium Back Water (50%)
Rainbow River - PHABSIM2 Site



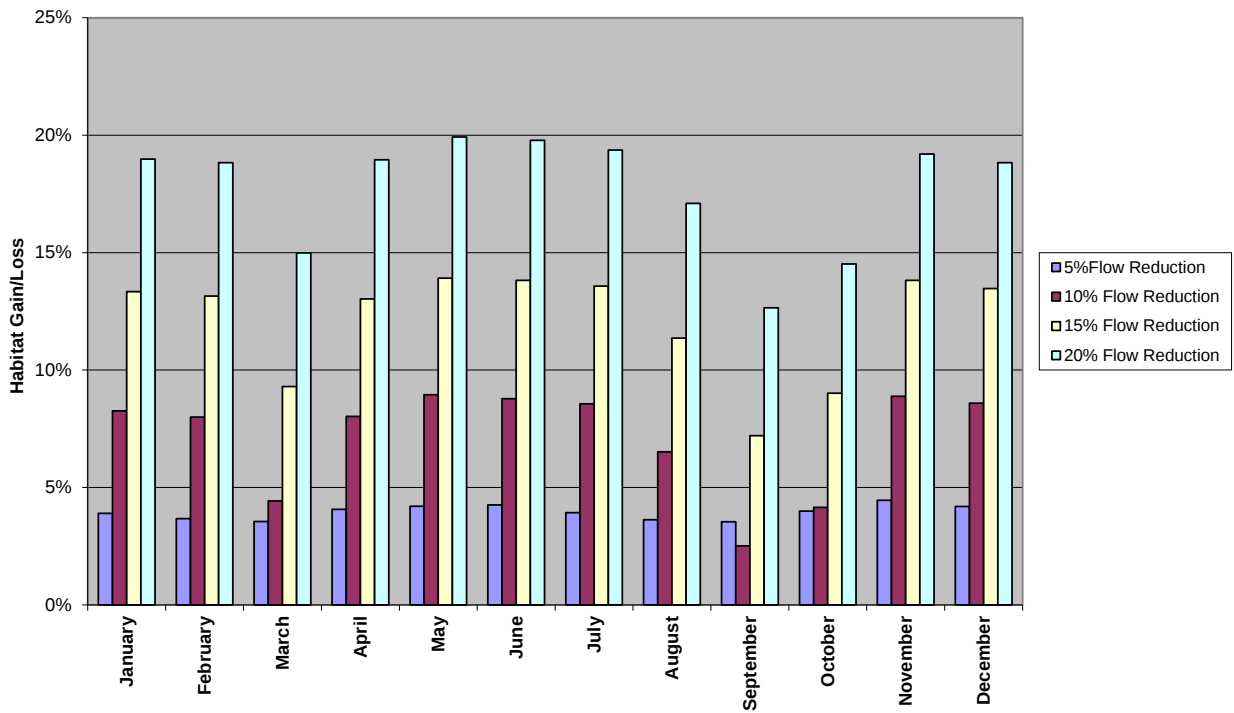
Spotted Sunfish Adults (1965-2014)
High Back Water (75%)
Rainbow River - PHABSIM2 Site



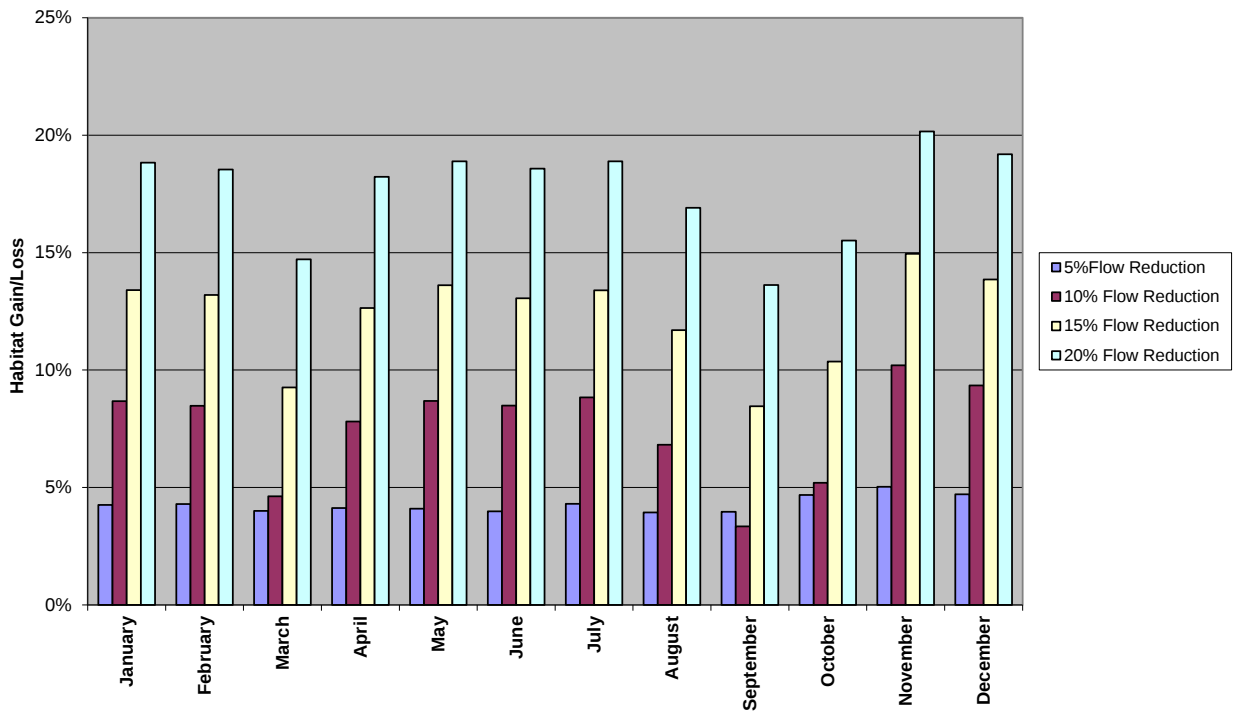
Juvenile Spotted Sunfish (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM2 Site



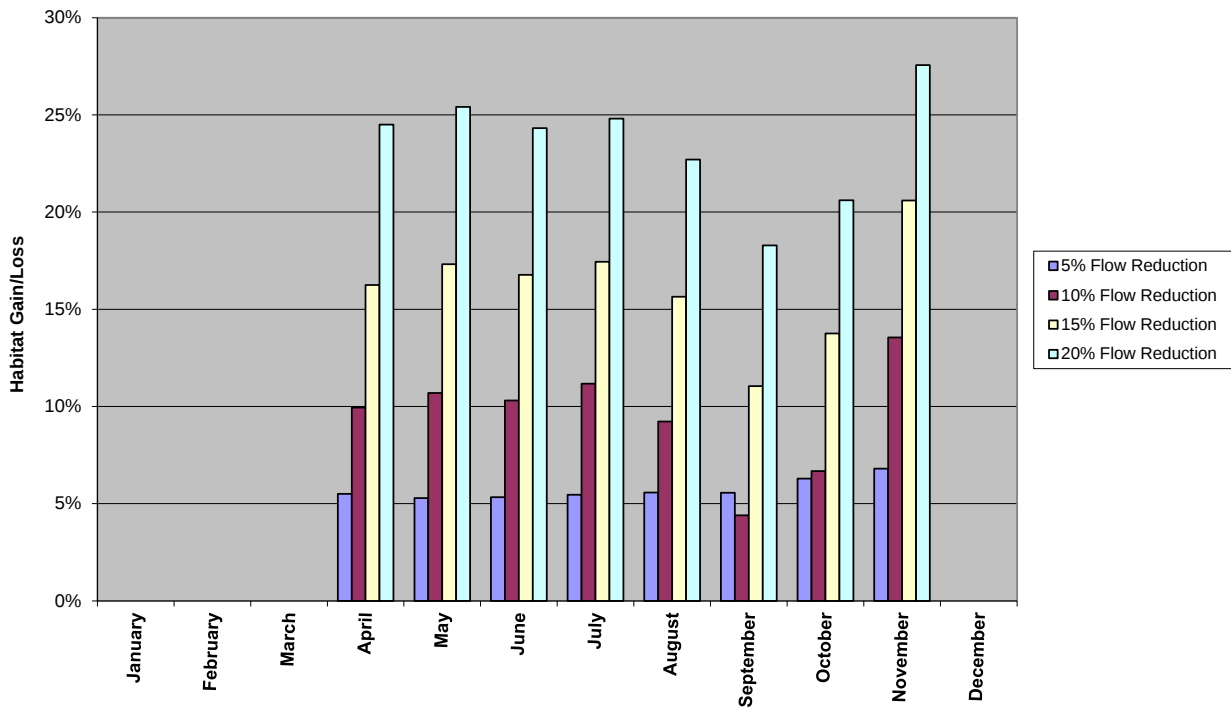
Juvenile Spotted Sunfish (1965-2014)
Medium Back Water (50%)
Rainbow River - PHABSIM2 Site



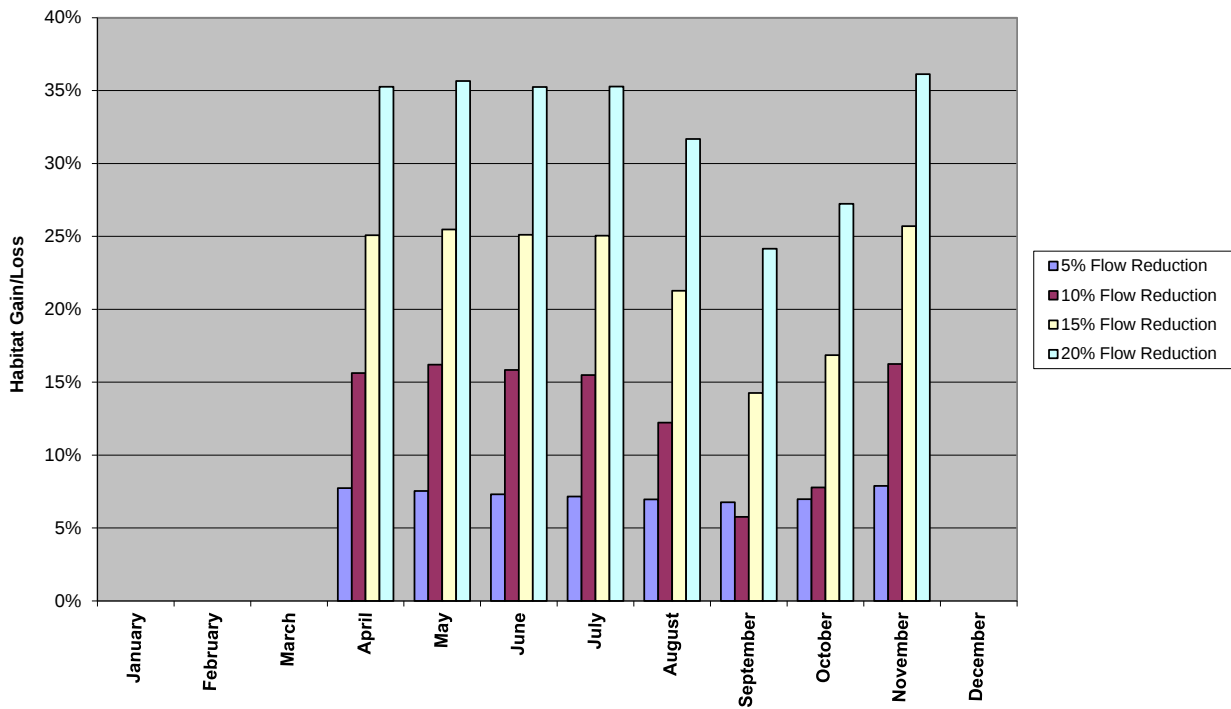
Juvenile Spotted Sunfish (1965-2014)
High Back Water (75%)
Rainbow River - PHABSIM2 Site



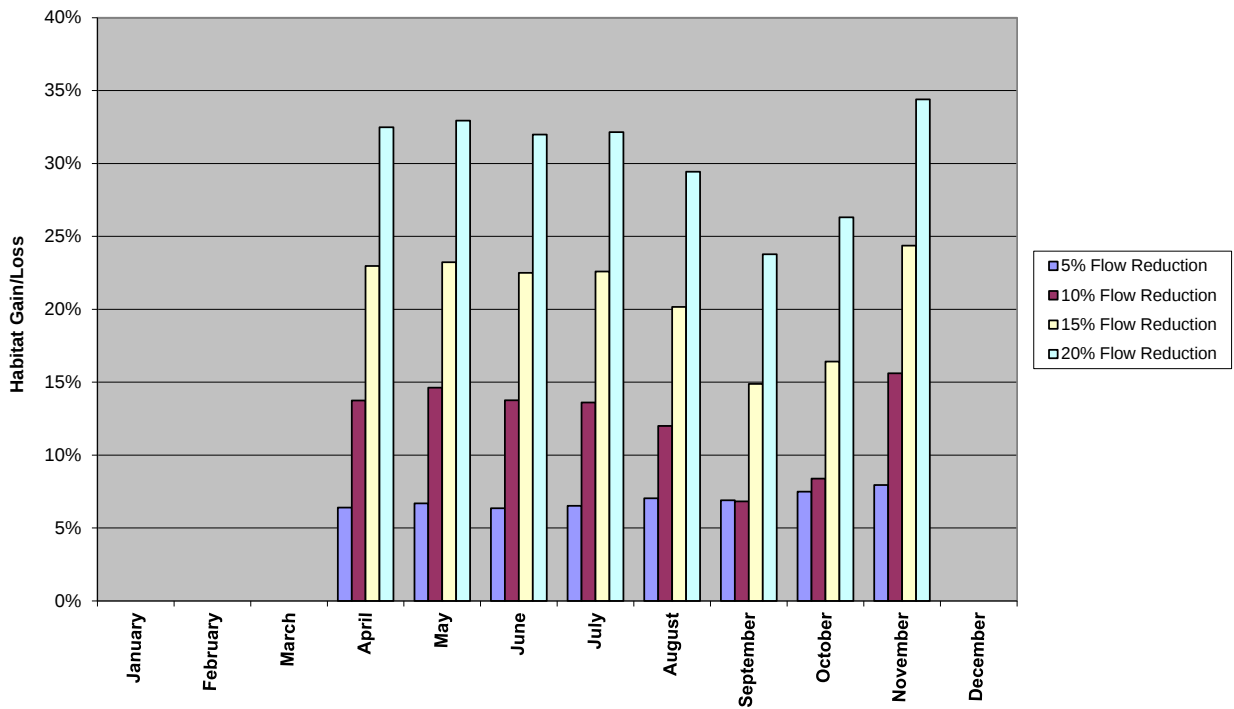
Spawning Spotted Sunfish (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM2 Site



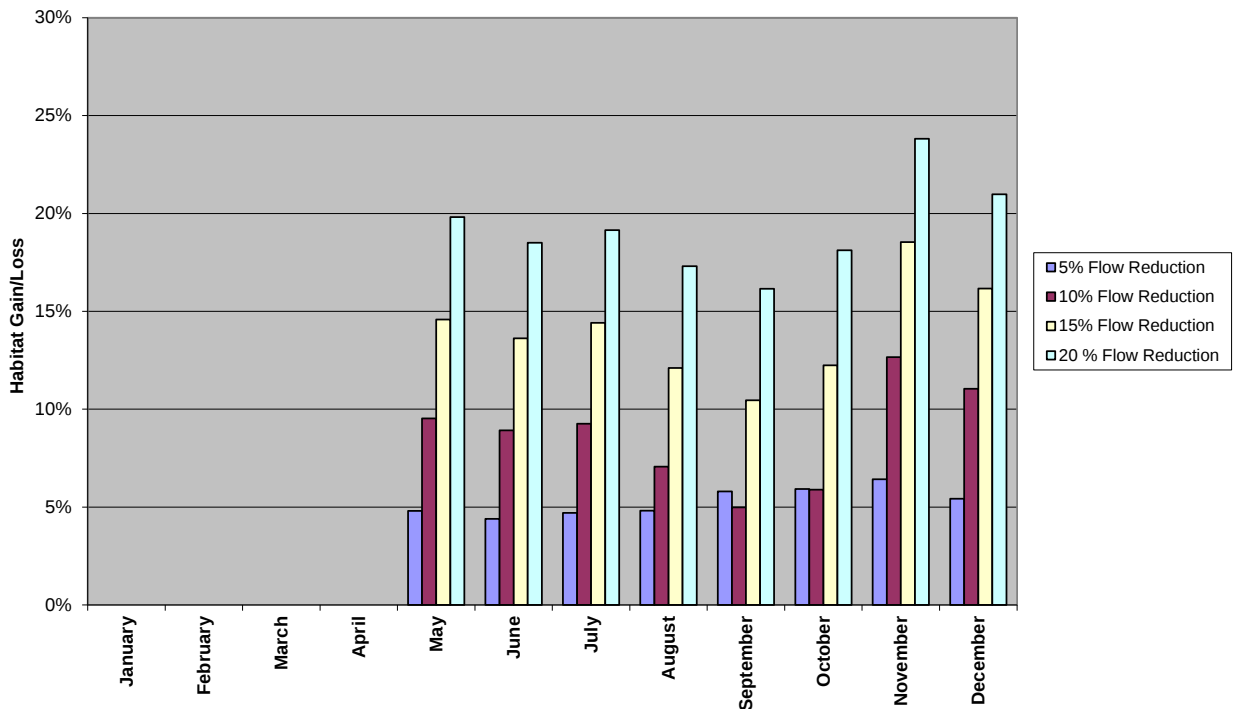
Spawning Spotted Sunfish (1965-2014)
Medium Back Water (50%)
Rainbow River - PHABSIM2 Site



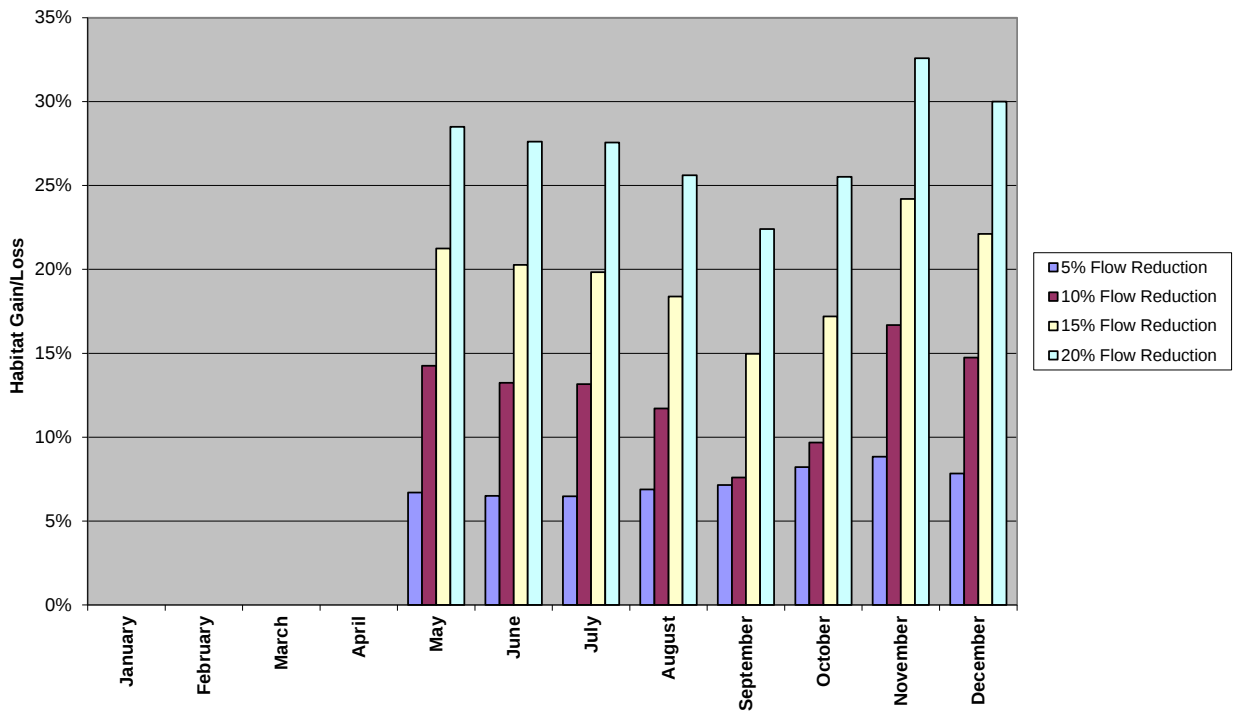
Spawning Spotted Sunfish (1965-2014)
High Back Water (75%)
Rainbow River - PHABSIM2 Site



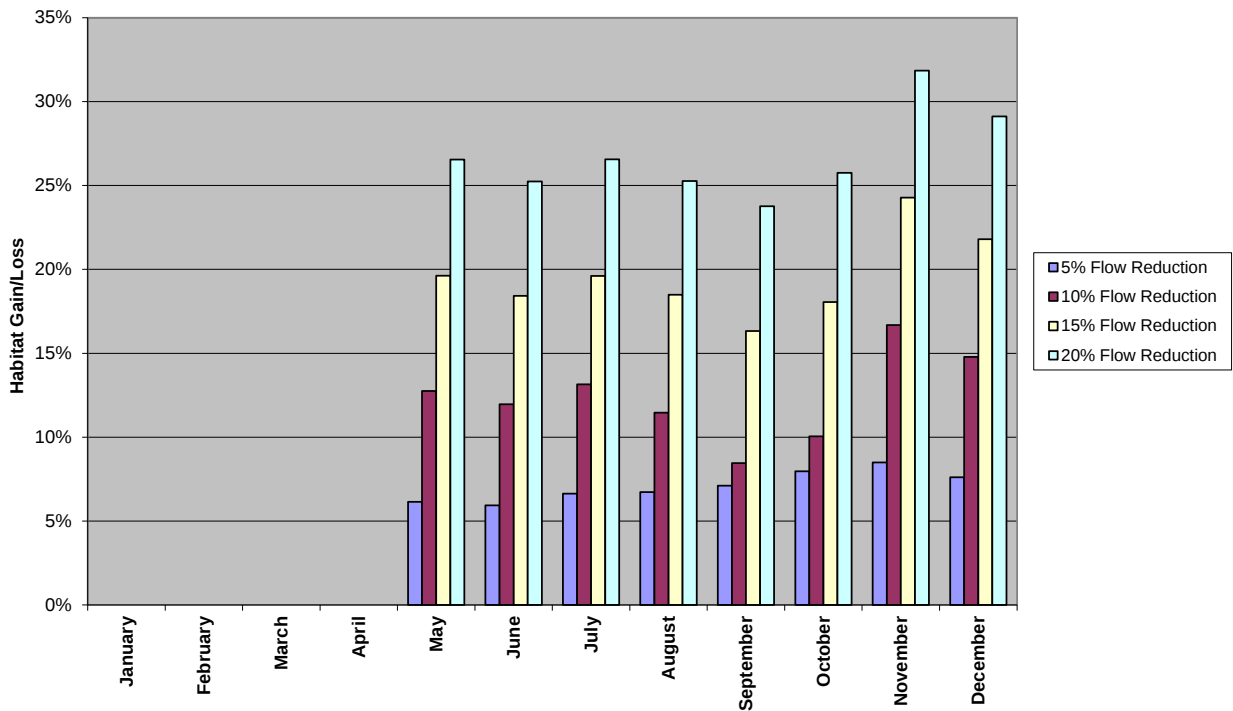
Spotted Sunfish Fry (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM2 Site



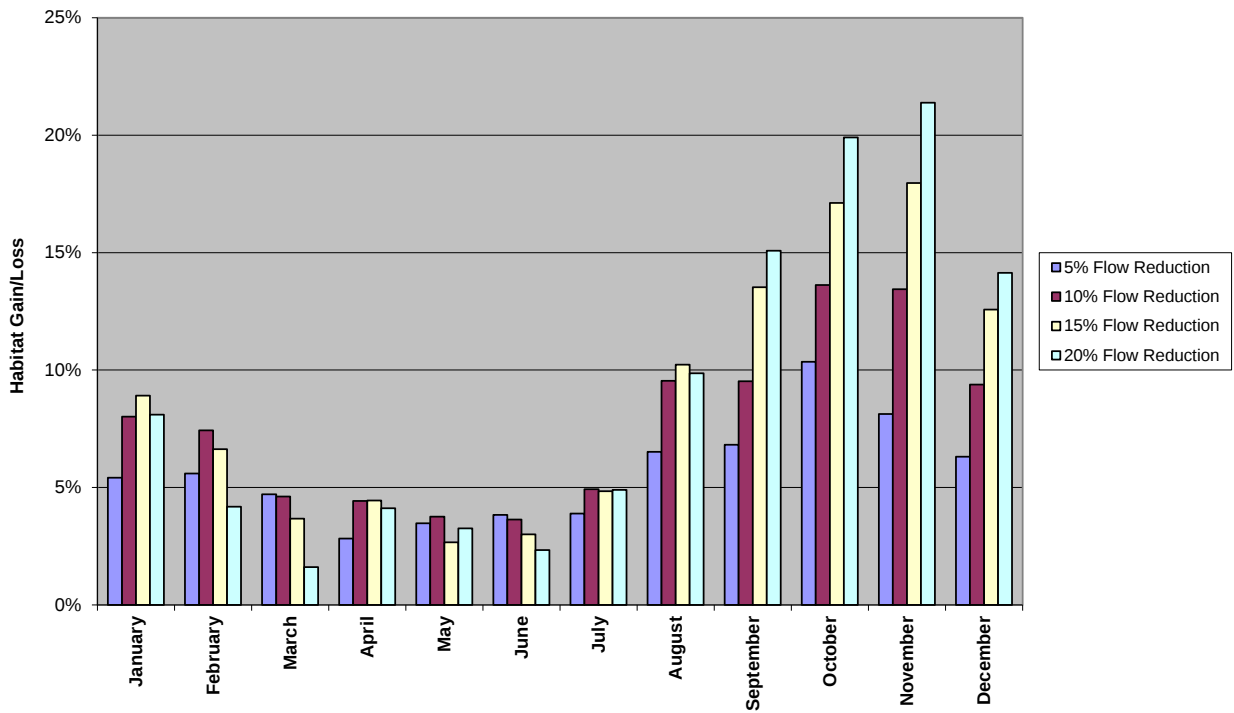
Spotted Sunfish Fry (1965-2014)
Medium Back Water (50%)
Rainbow River - PHABSIM2 Site



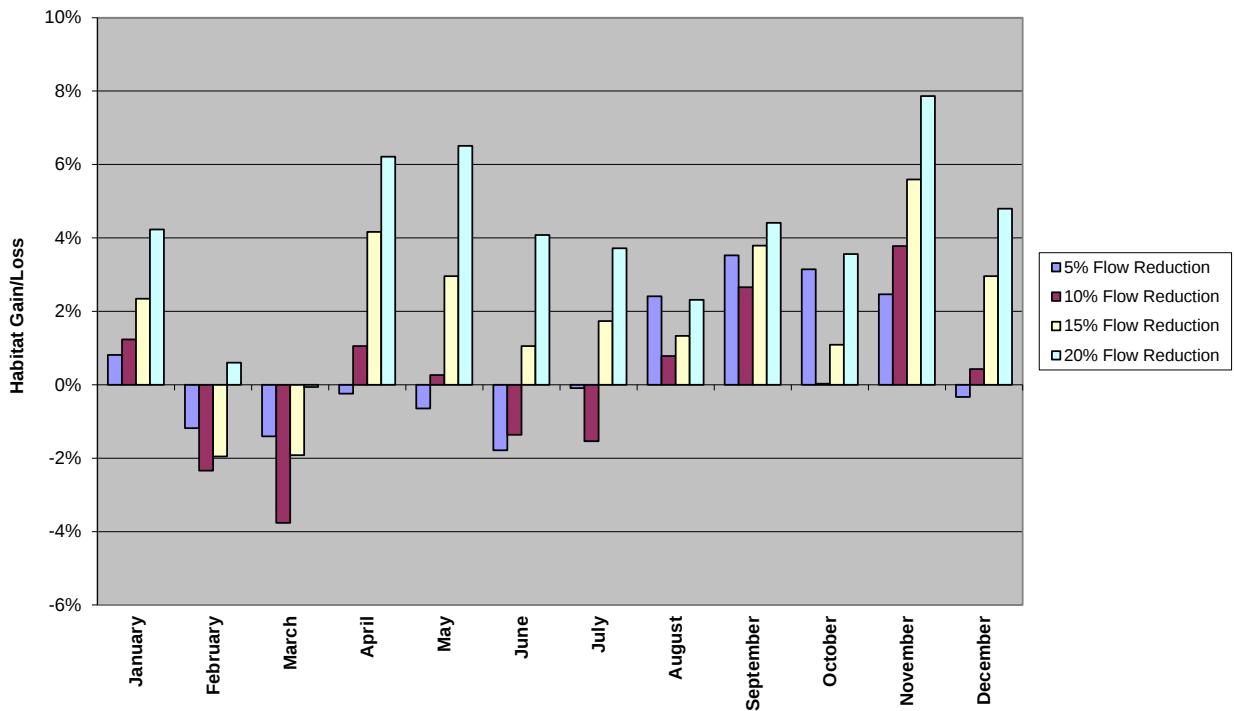
Spotted Sunfish Fry (1965-2014)
High Back Water (75%)
Rainbow River - PHABSIM2 Site



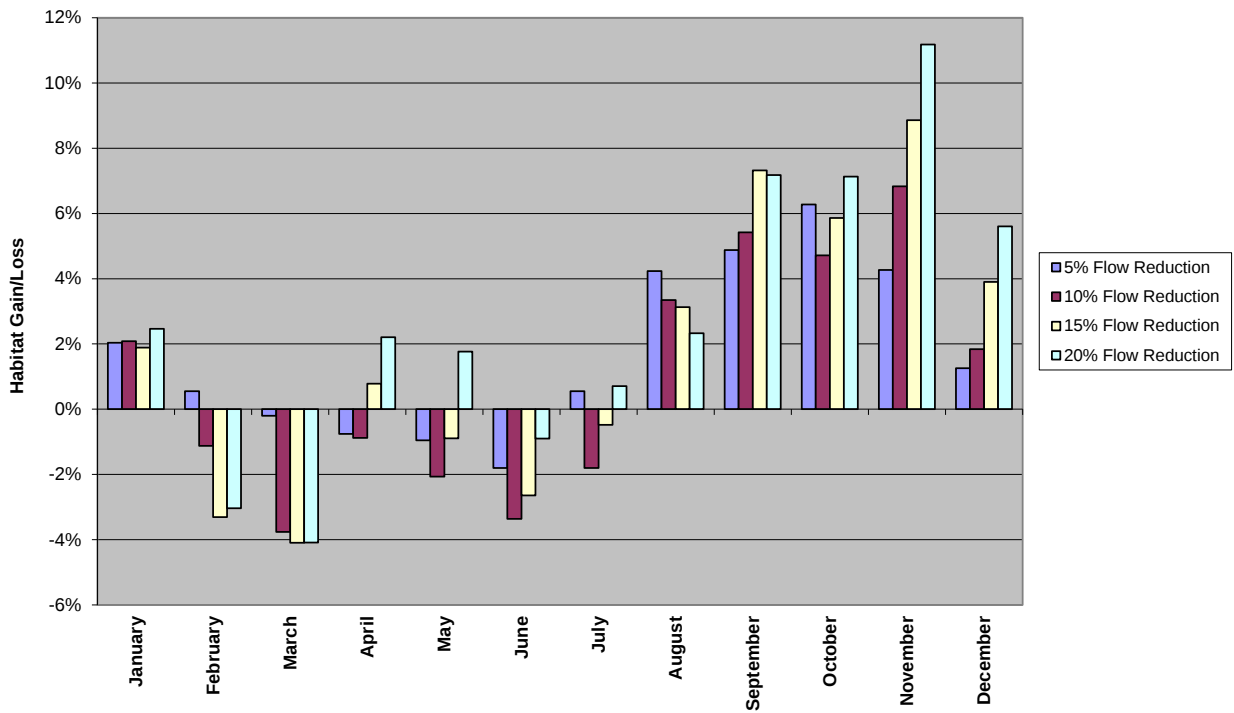
Benthic Macroinvertebrates (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM2 Site



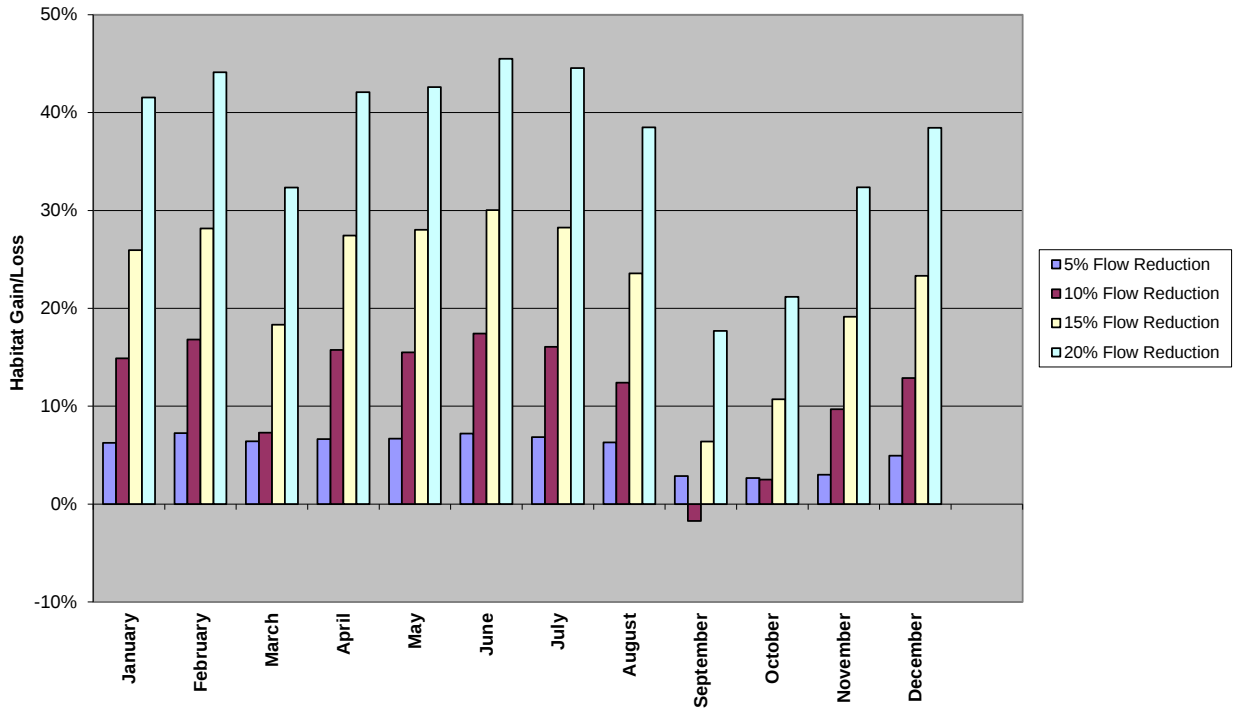
Benthic Macroinvertebrates (1965-2014)
Medium Back Water (50%)
Rainbow River - PHABSIM2 Site



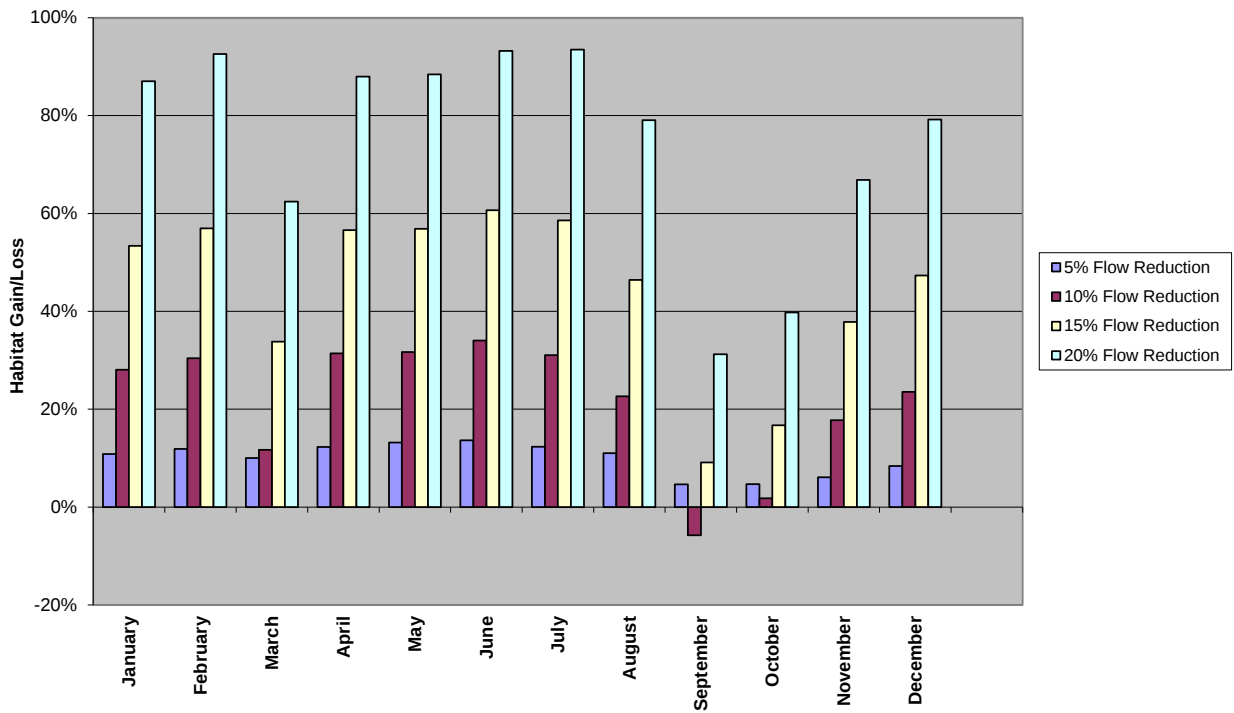
Benthic Macroinvertebrates (1965-2014)
High Back Water (75%)
Rainbow River - PHABSIM2 Site



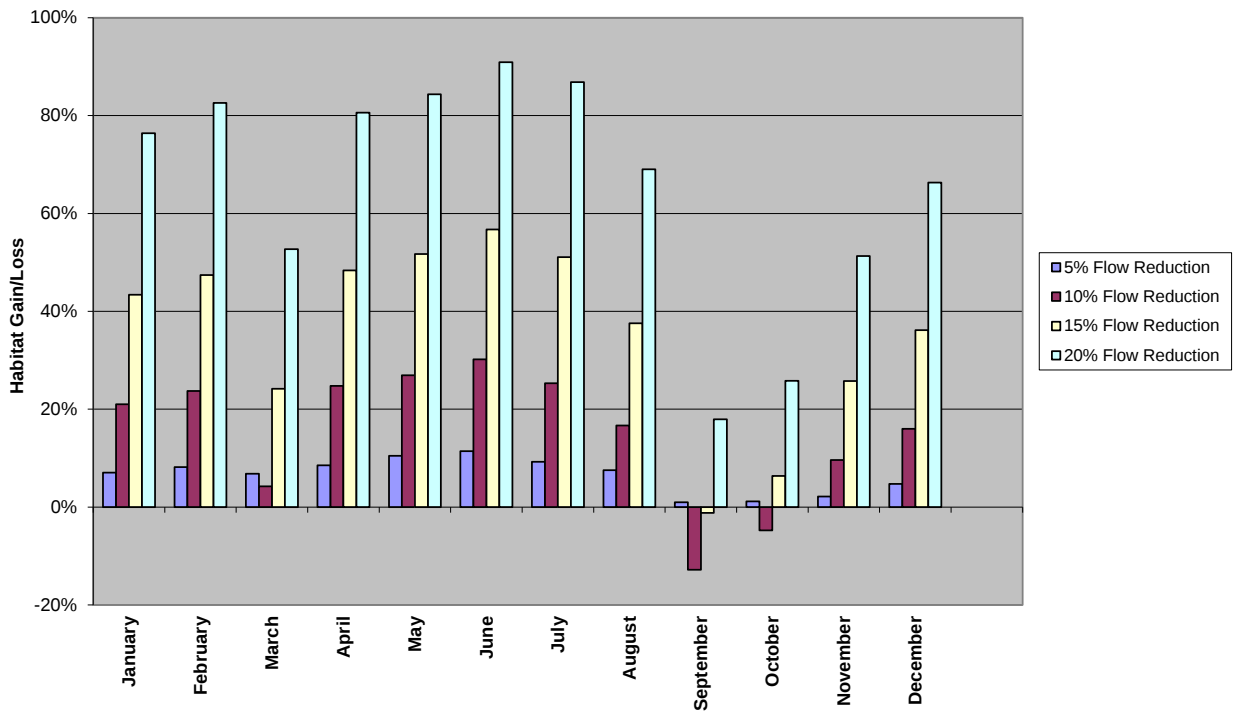
Largemouth Bass Adults (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM2 Site



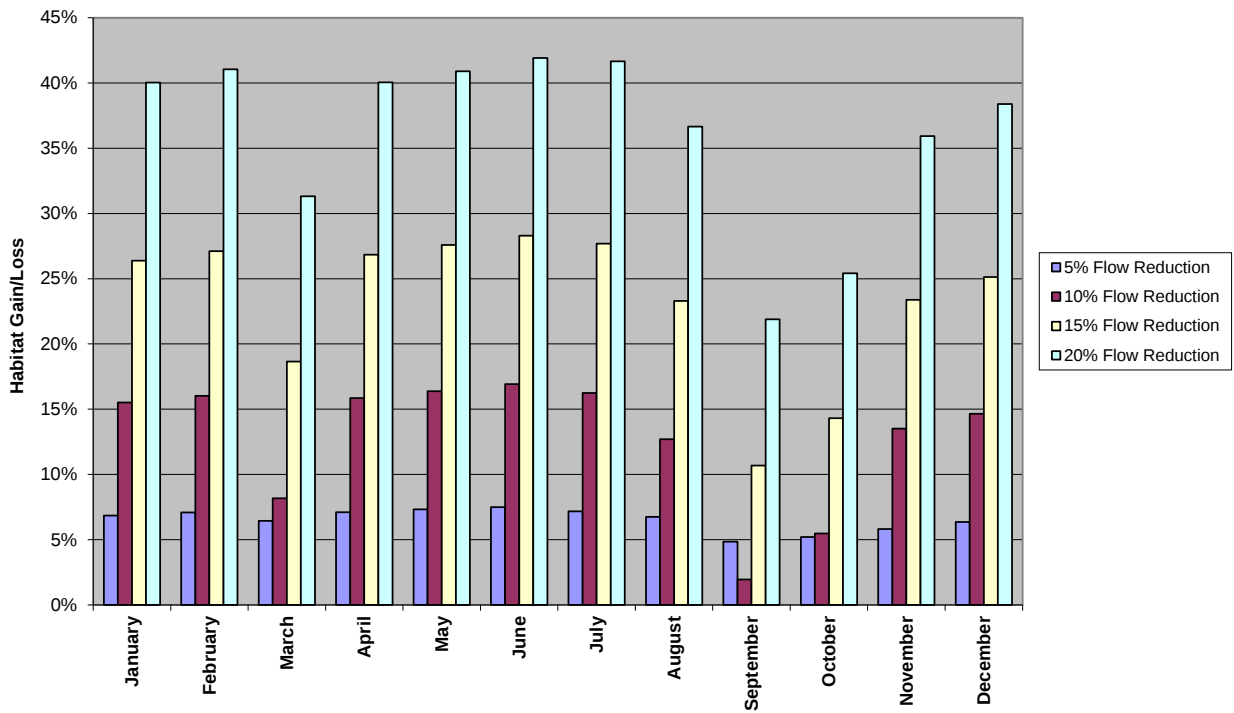
Largemouth Bass Adults (1965-2014)
Medium Back Water (50%)
Rainbow River - PHABSIM2 Site



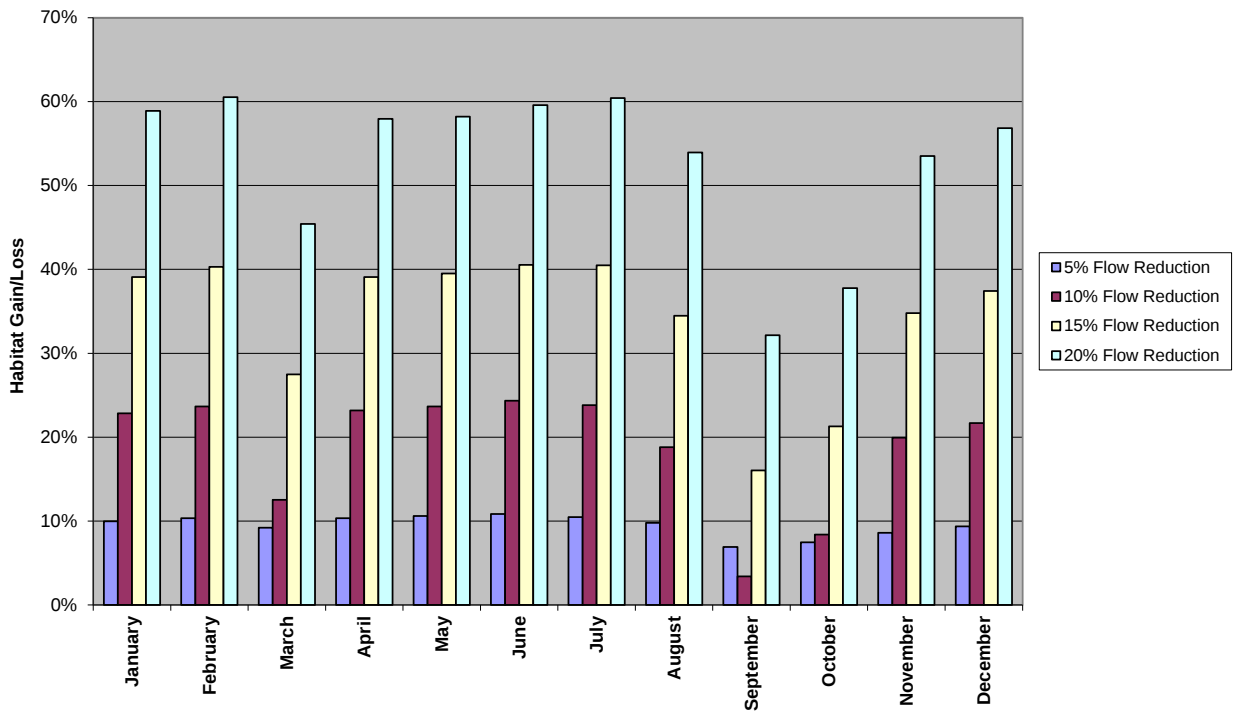
Largemouth Bass Adults (1965-2014)
High Back Water (75%)
Rainbow River - PHABSIM2 Site



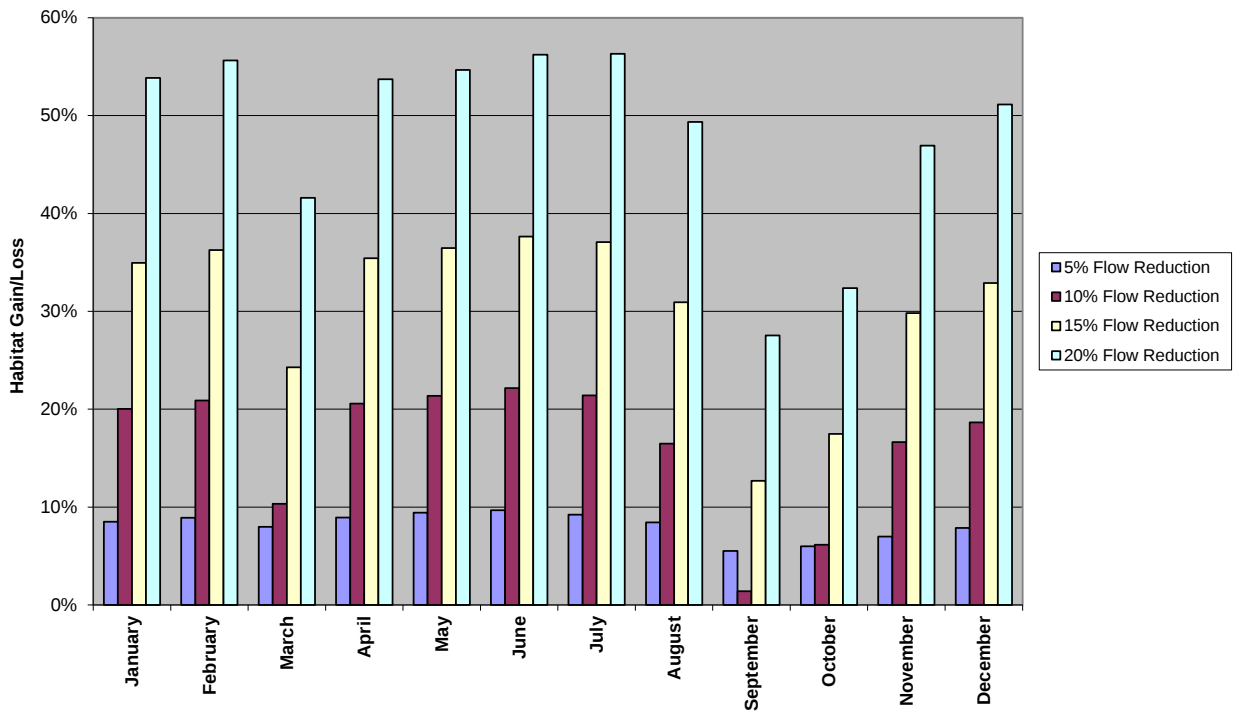
Largemouth Bass Juvenile (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM2 Site



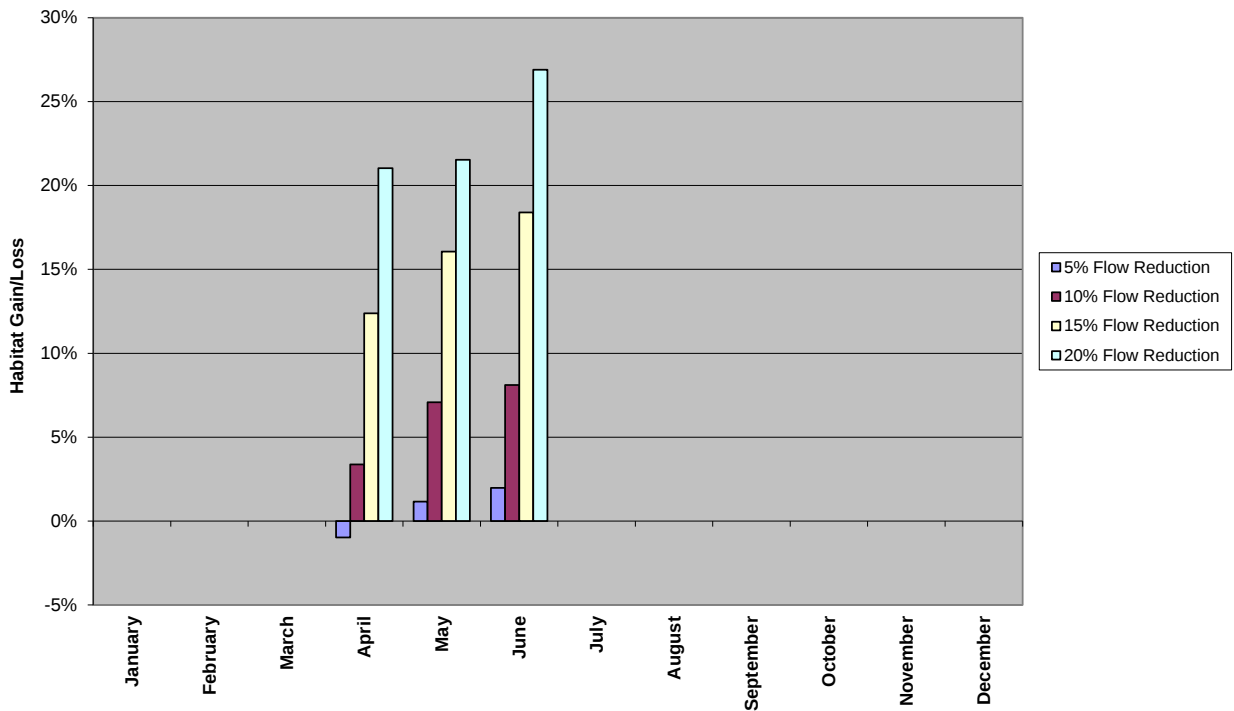
Largemouth Bass Juvenile (1965-2014)
Medium Back Water (50%)
Rainbow River - PHABSIM2 Site



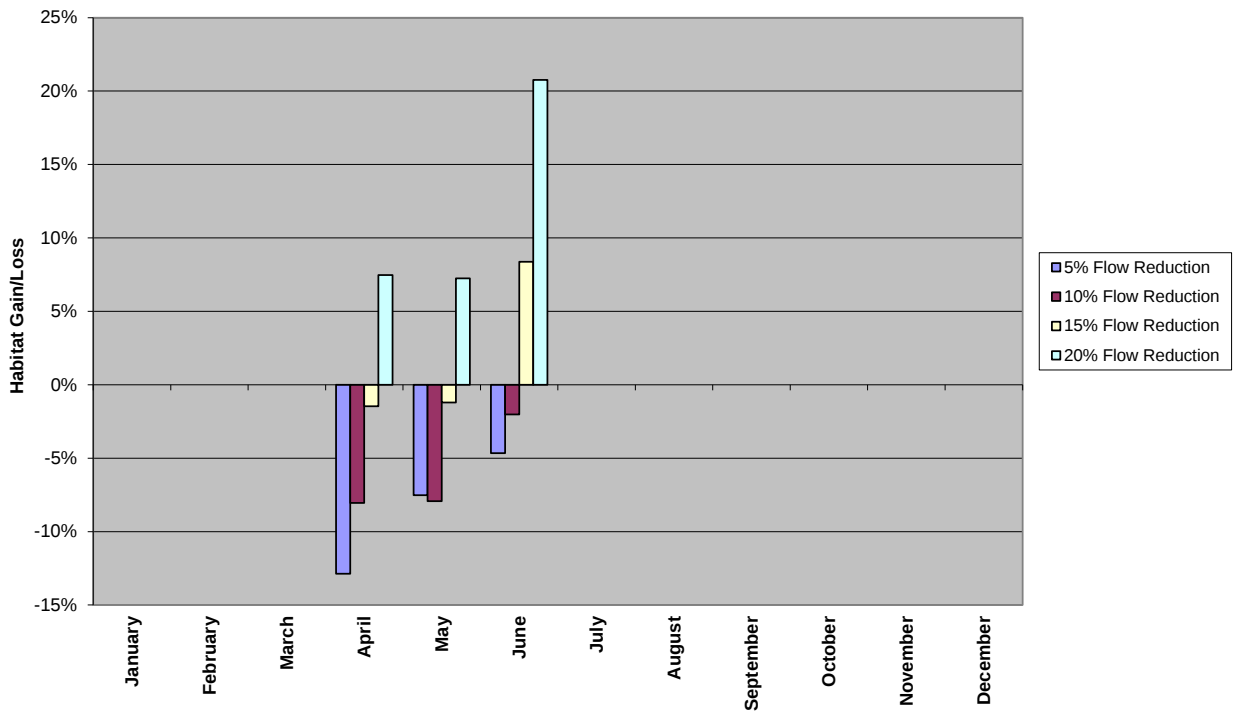
Largemouth Bass Juvenile (1965-2014)
High Back Water (75%)
Rainbow River - PHABSIM2 Site



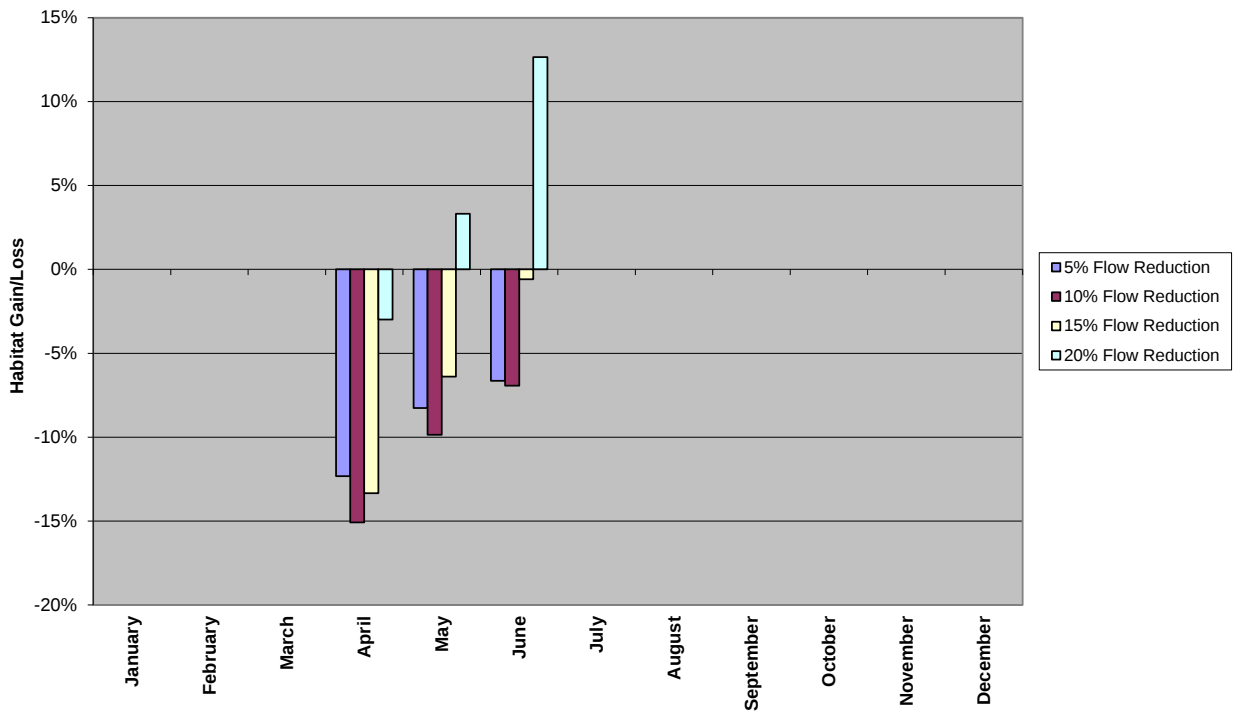
Largemouth Bass Spawning (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM2 Site



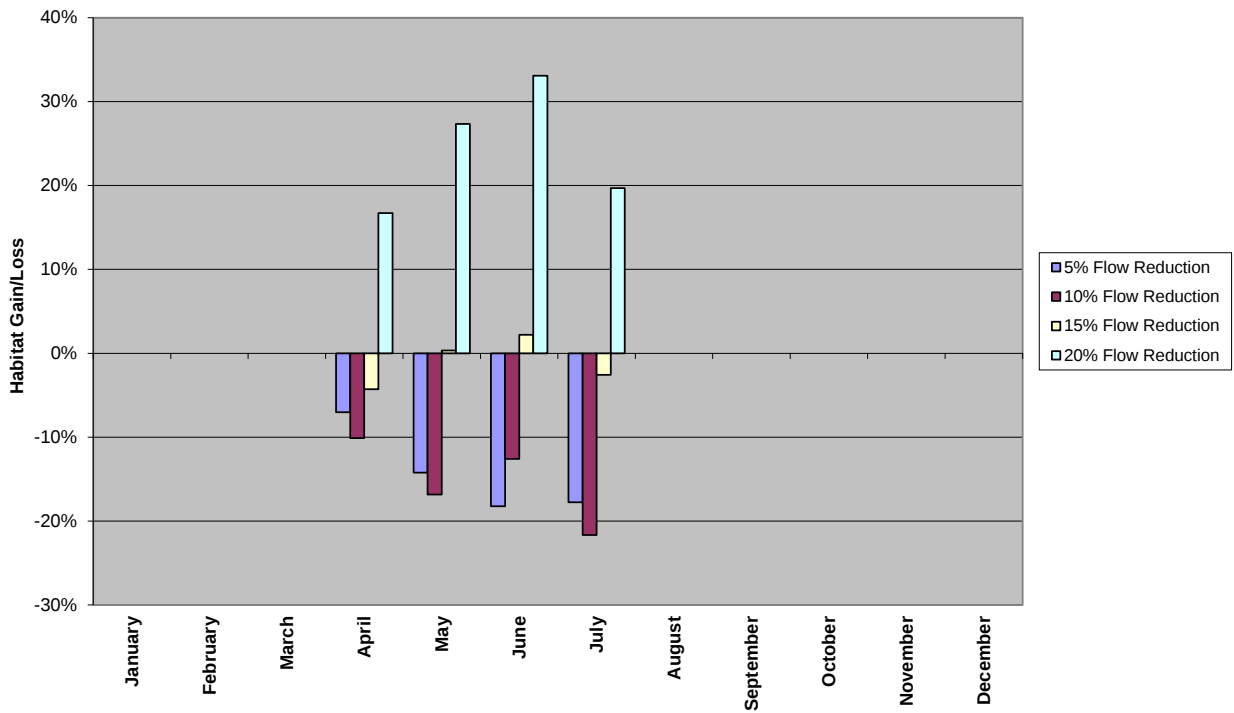
Largemouth Bass Spawning (1965-2014)
Medium Back Water (50%)
Rainbow River - PHABSIM2 Site



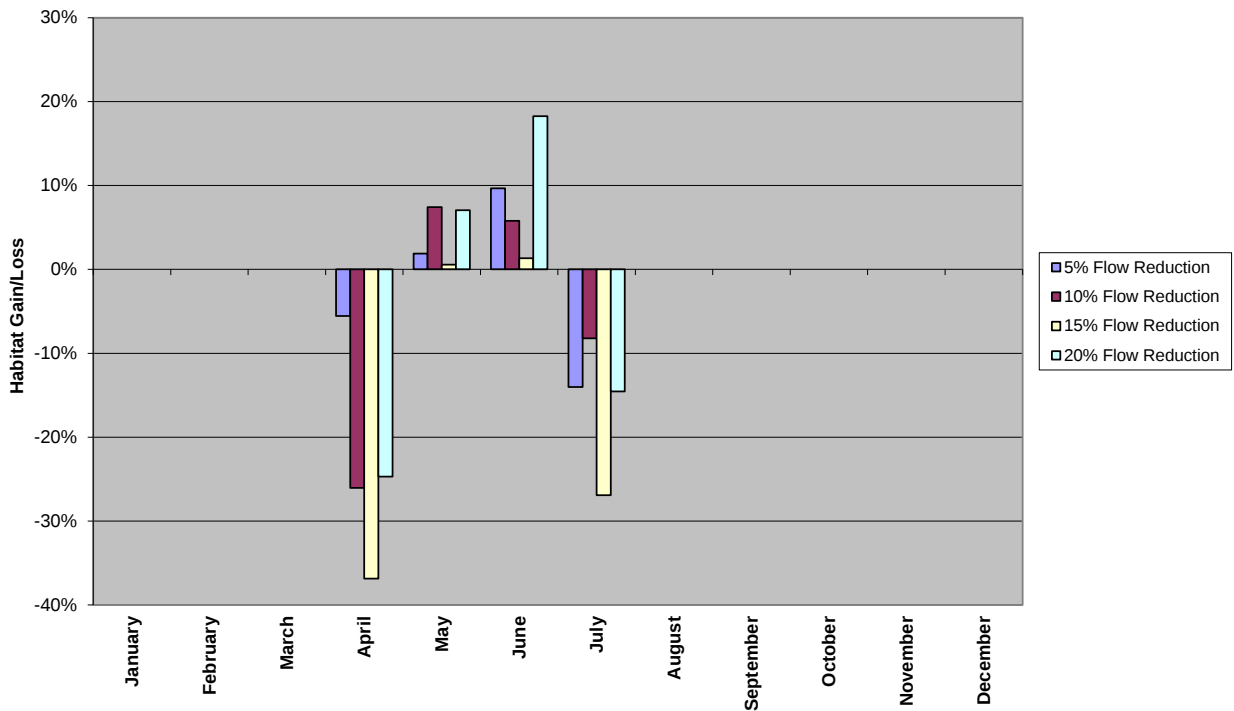
Largemouth Bass Spawning (1965-2014)
High Back Water (75%)
Rainbow River - PHABSIM2 Site



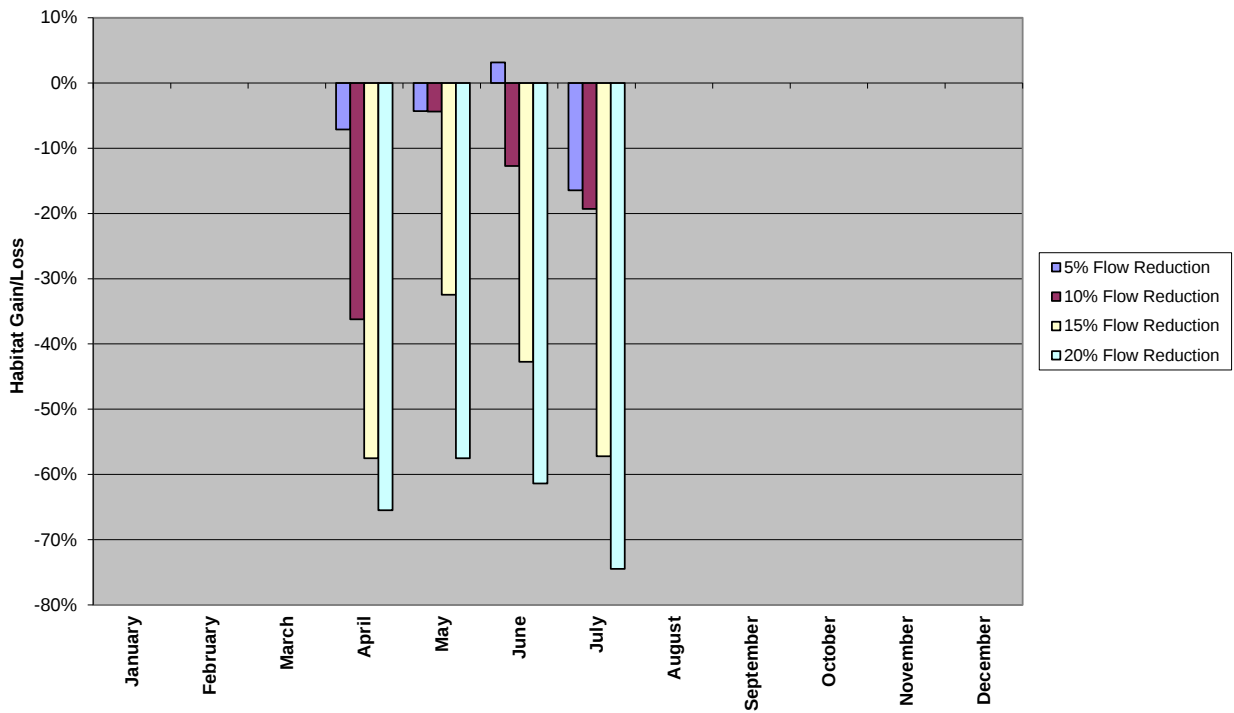
Largemouth Bass Fry (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM2 Site



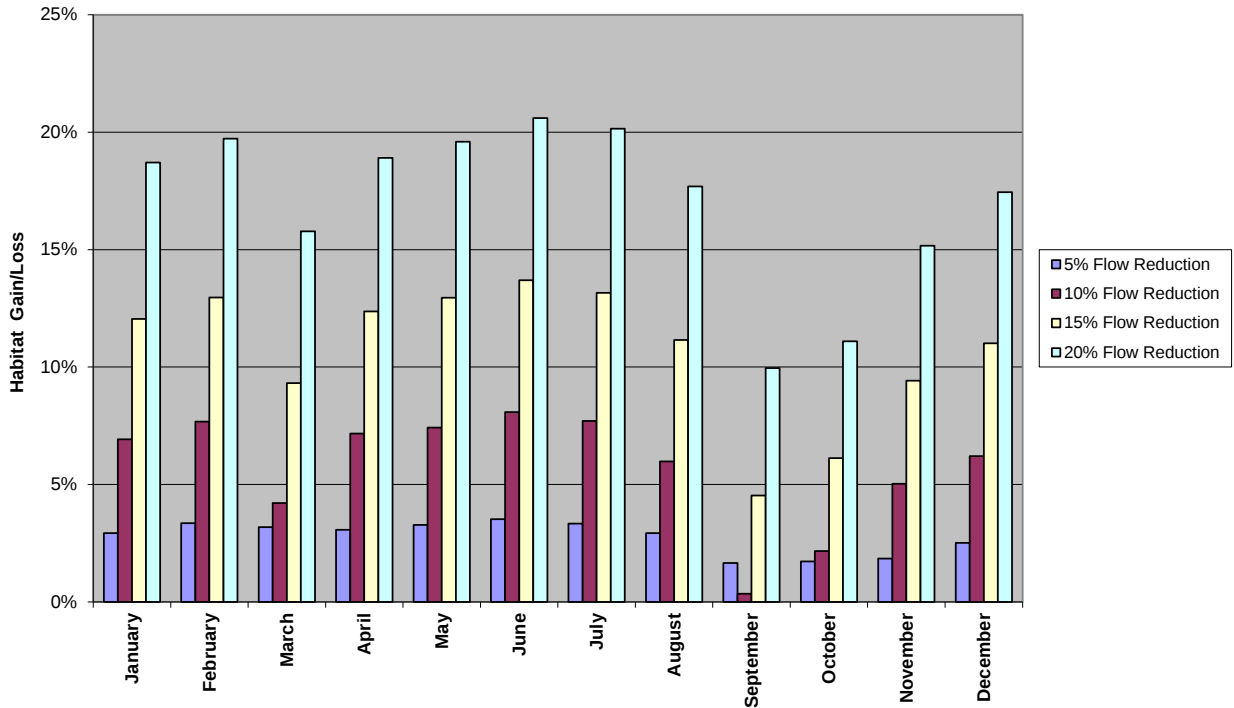
Largemouth Bass Fry (1965-2014)
Medium Back Water (50%)
Rainbow River - PHABSIM2 Site



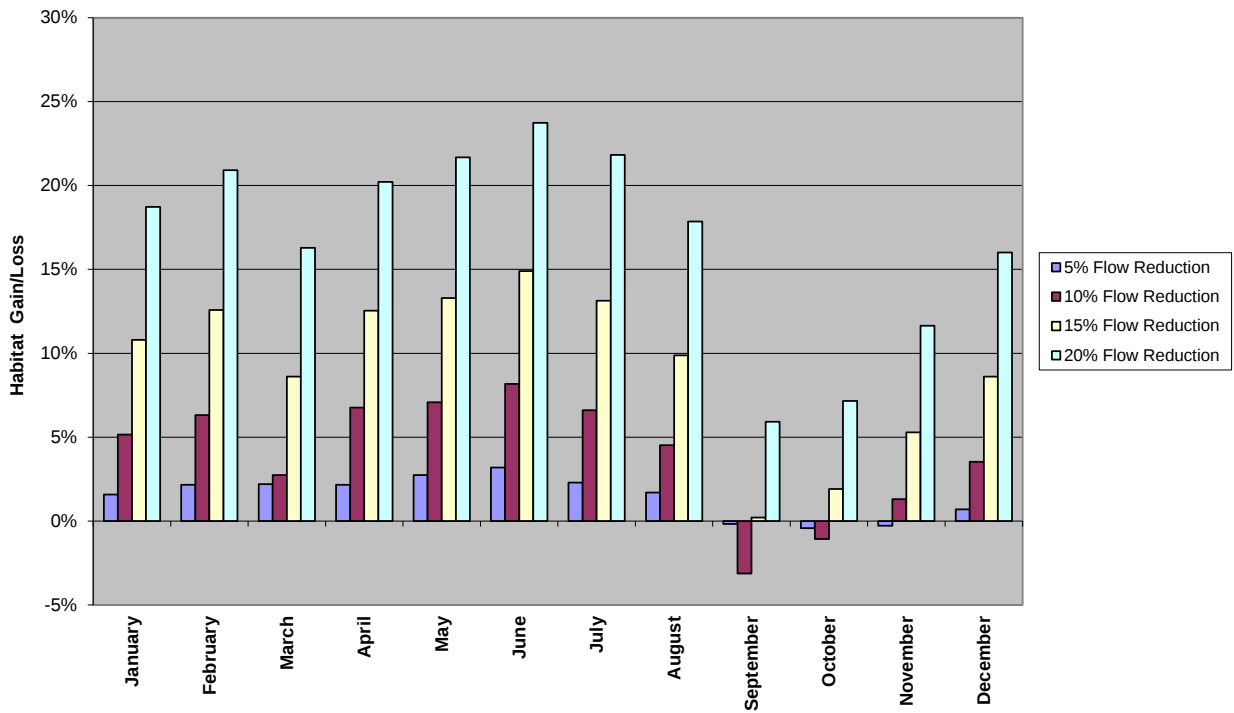
Largemouth Bass Fry (1965-2014)
High Back Water (75%)
Rainbow River - PHABSIM2 Site



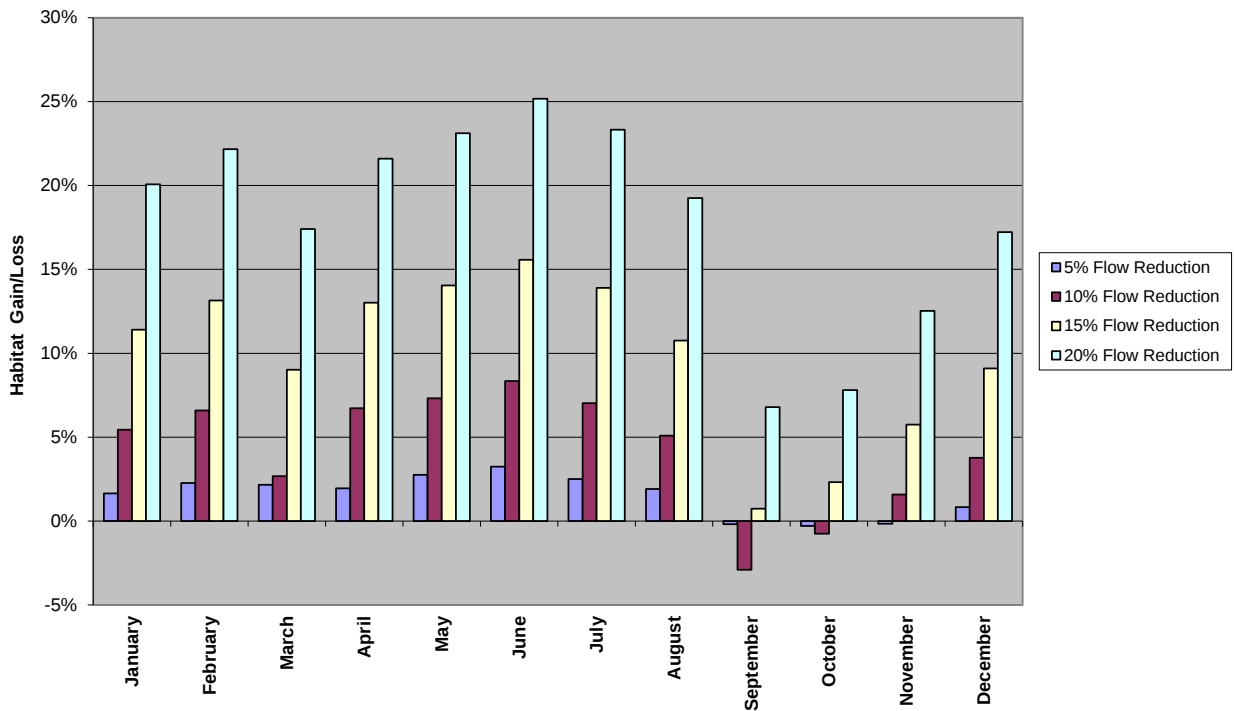
Bluegill Sunfish Adults (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM2 Site



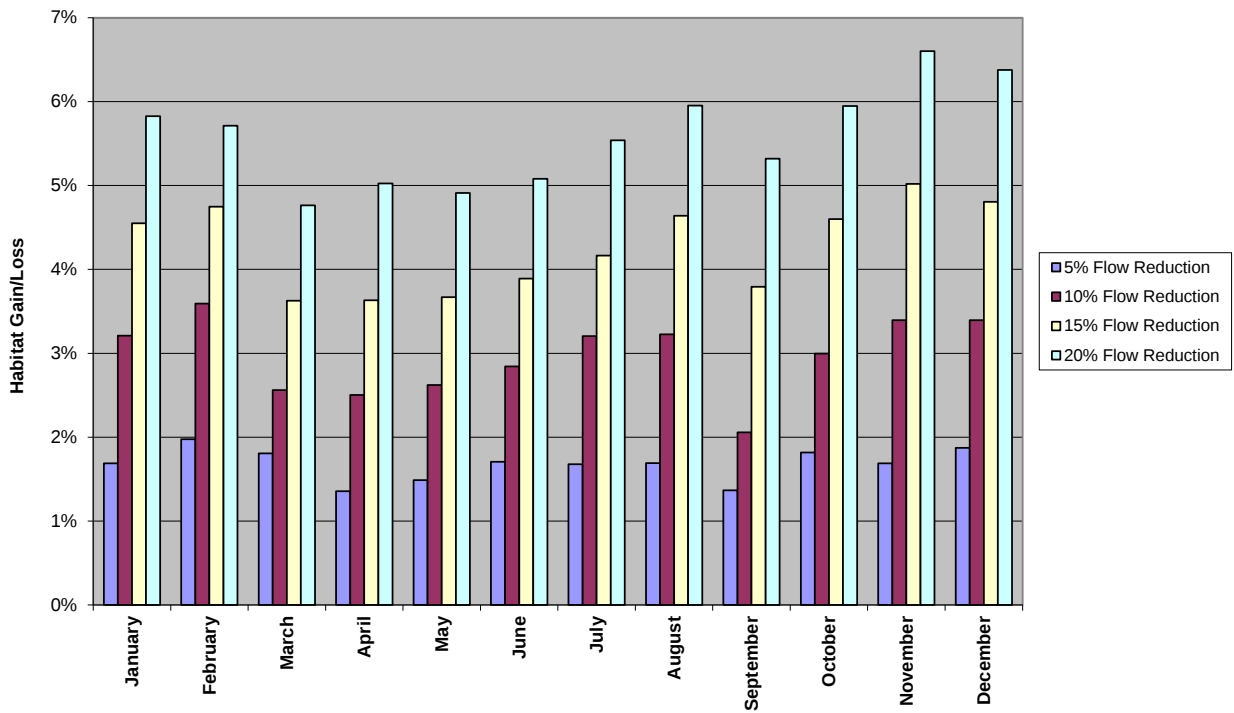
Bluegill Sunfish Adults (1965-2014)
Medium Back Water (50%)
Rainbow River - PHABSIM2 Site



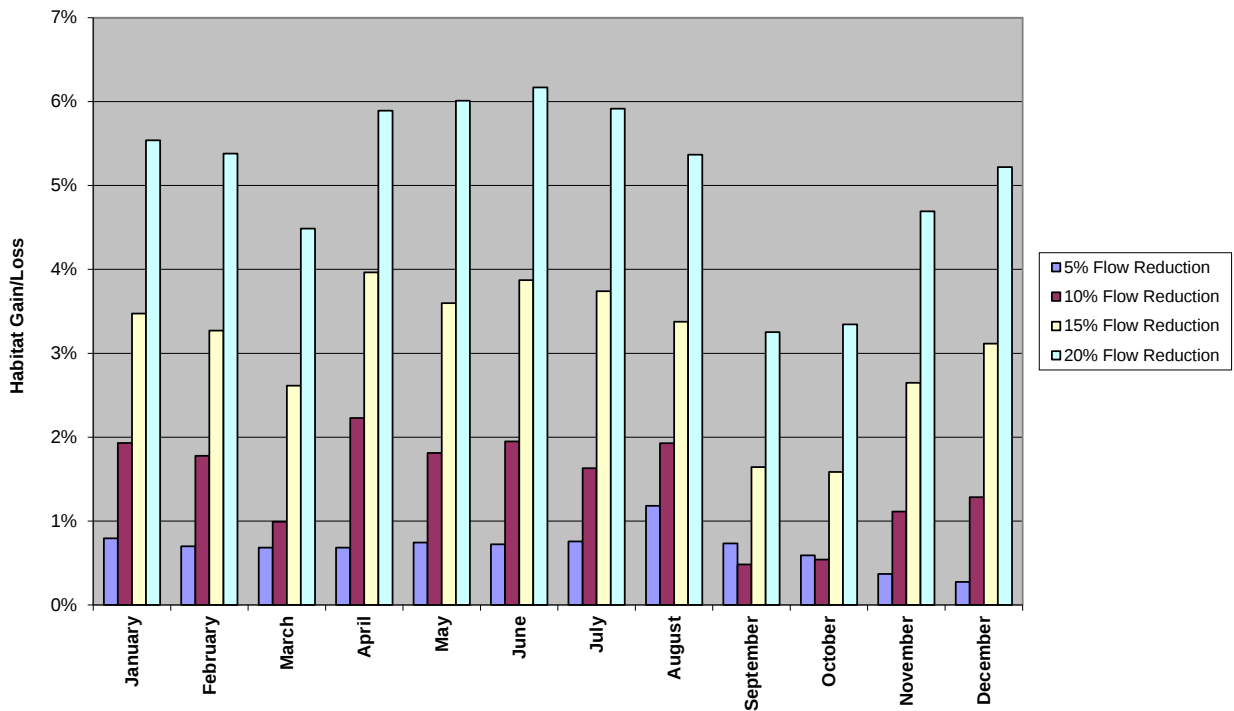
Bluegill Sunfish Adults (1965-2014)
High Back Water (75%)
Rainbow River - PHABSIM2 Site



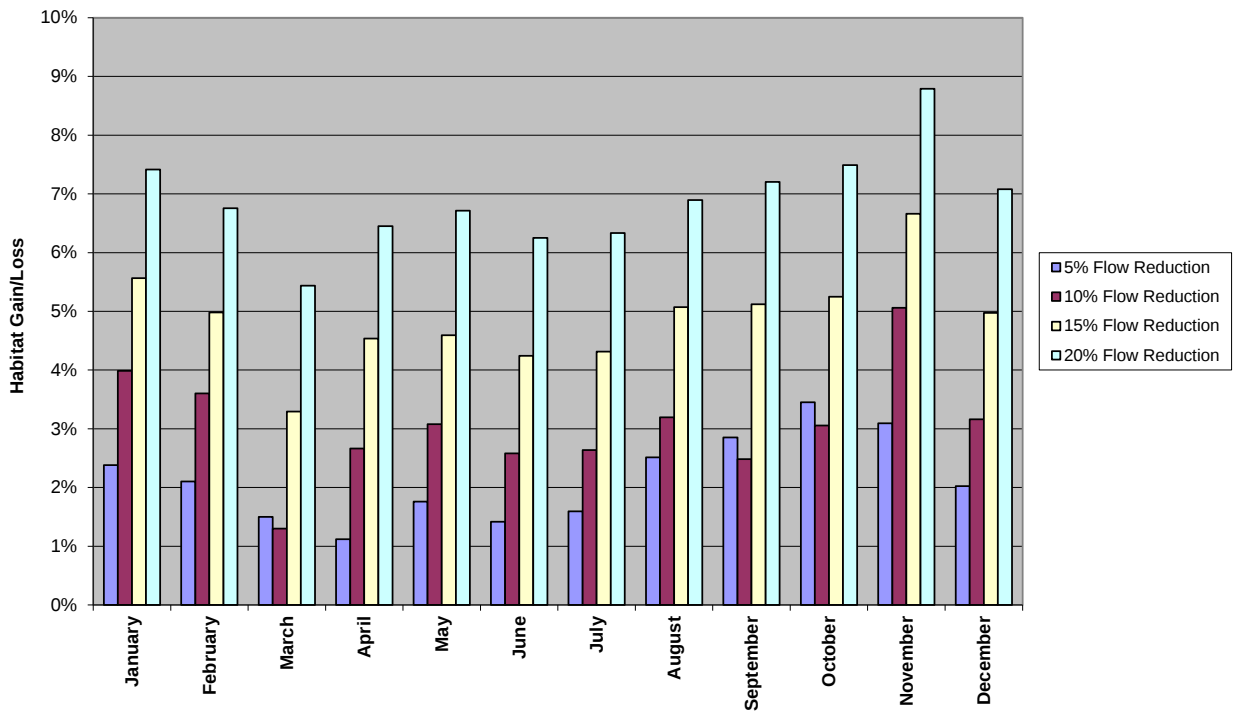
Bluegill Sunfish Juveniles (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM2 Site



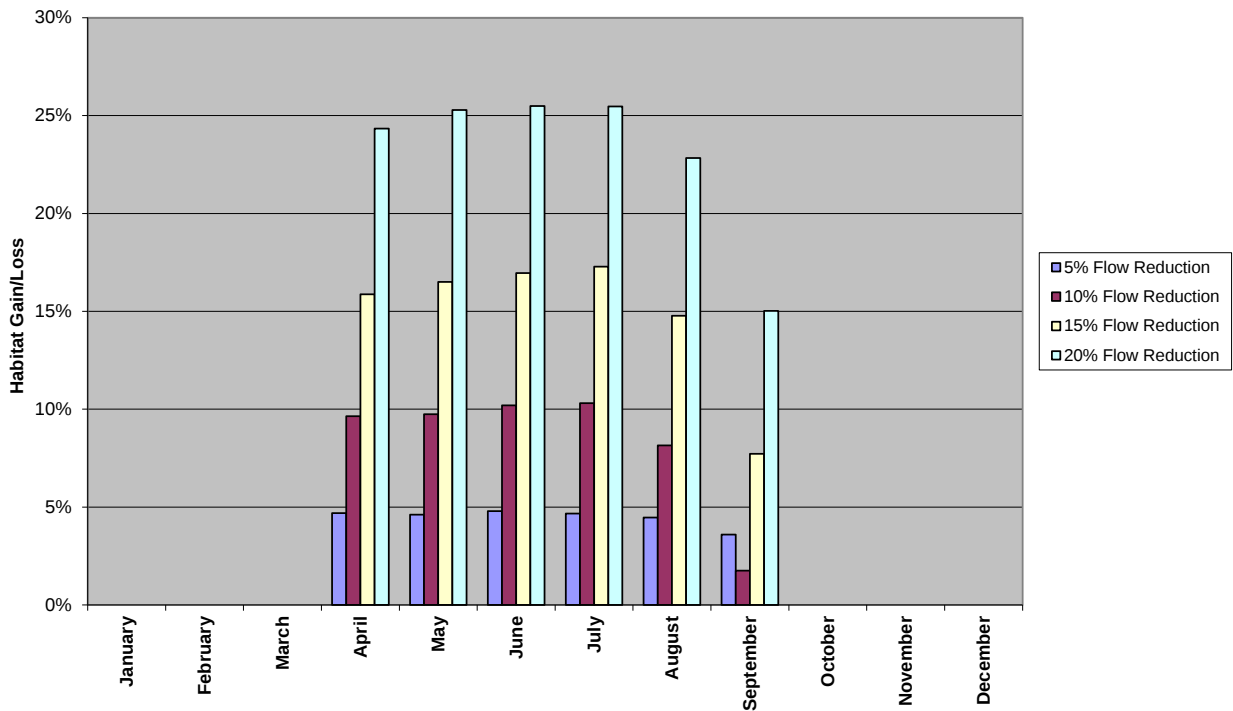
Bluegill Sunfish Juveniles (1965-2014)
Medium Back Water (50%)
Rainbow River - PHABSIM2 Site



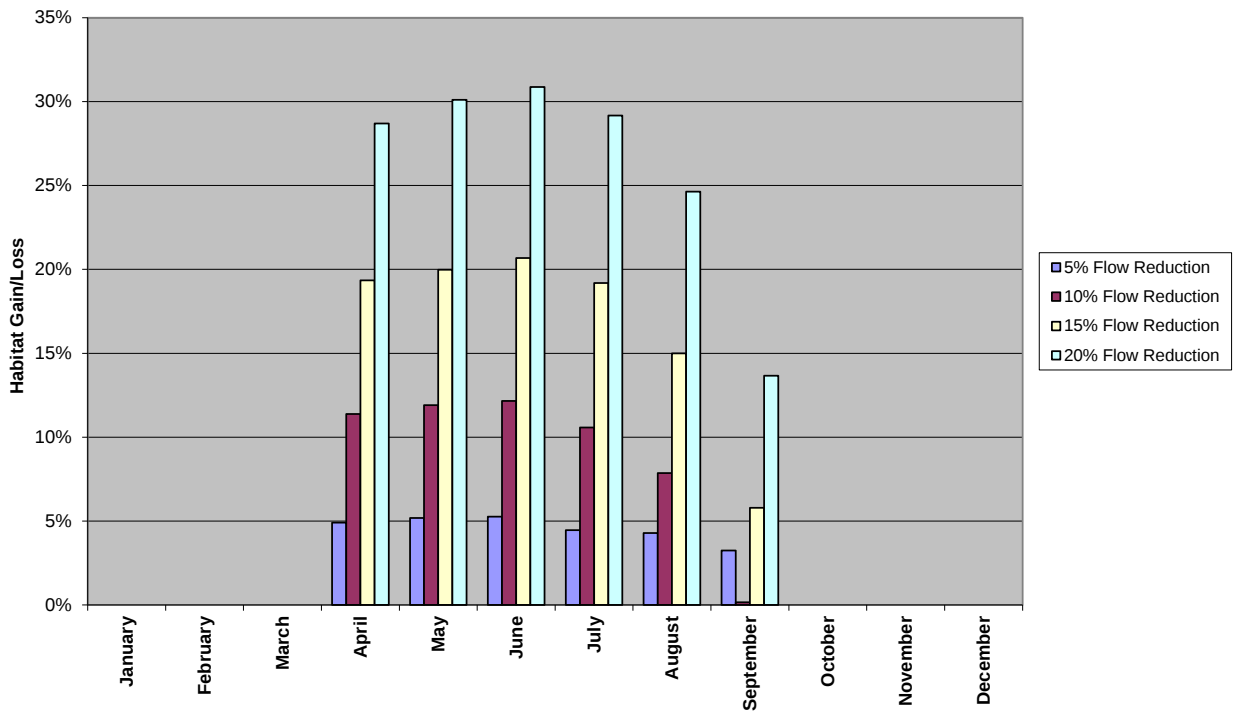
Bluegill Sunfish Juveniles (1965-2014)
High Back Water (75%)
Rainbow River - PHABSIM2 Site



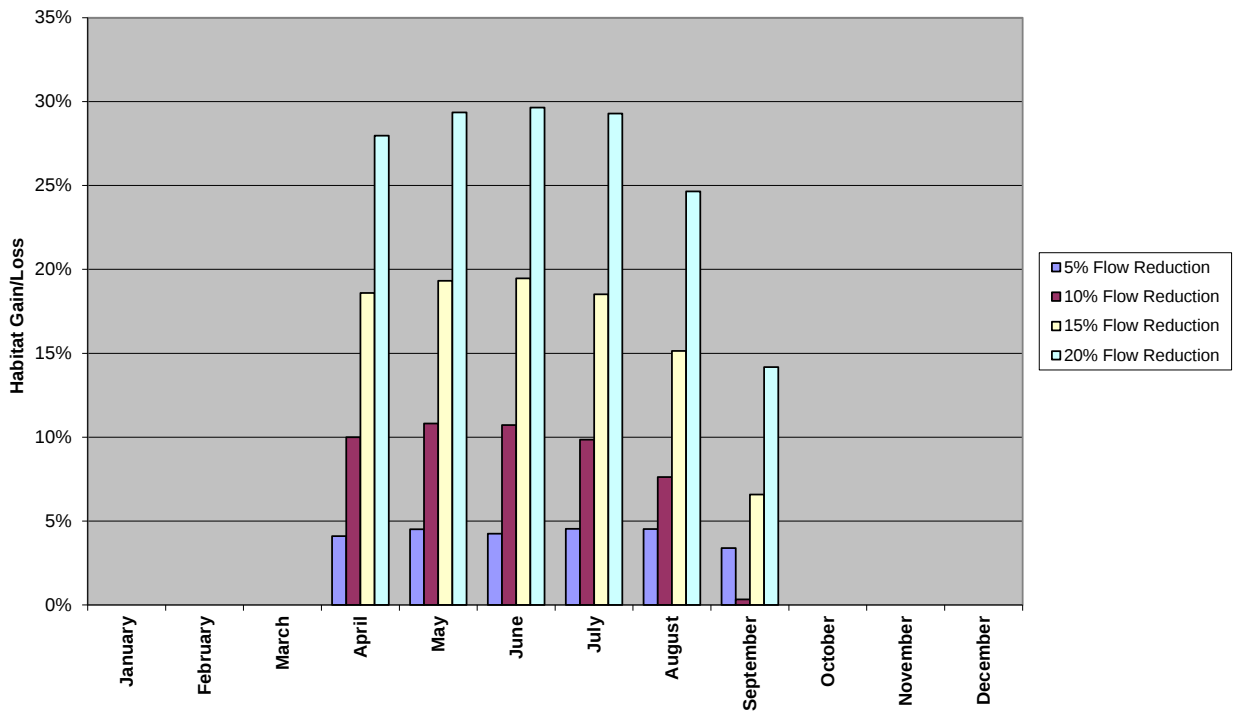
Bluegill Sunfish Spawning (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM2 Site



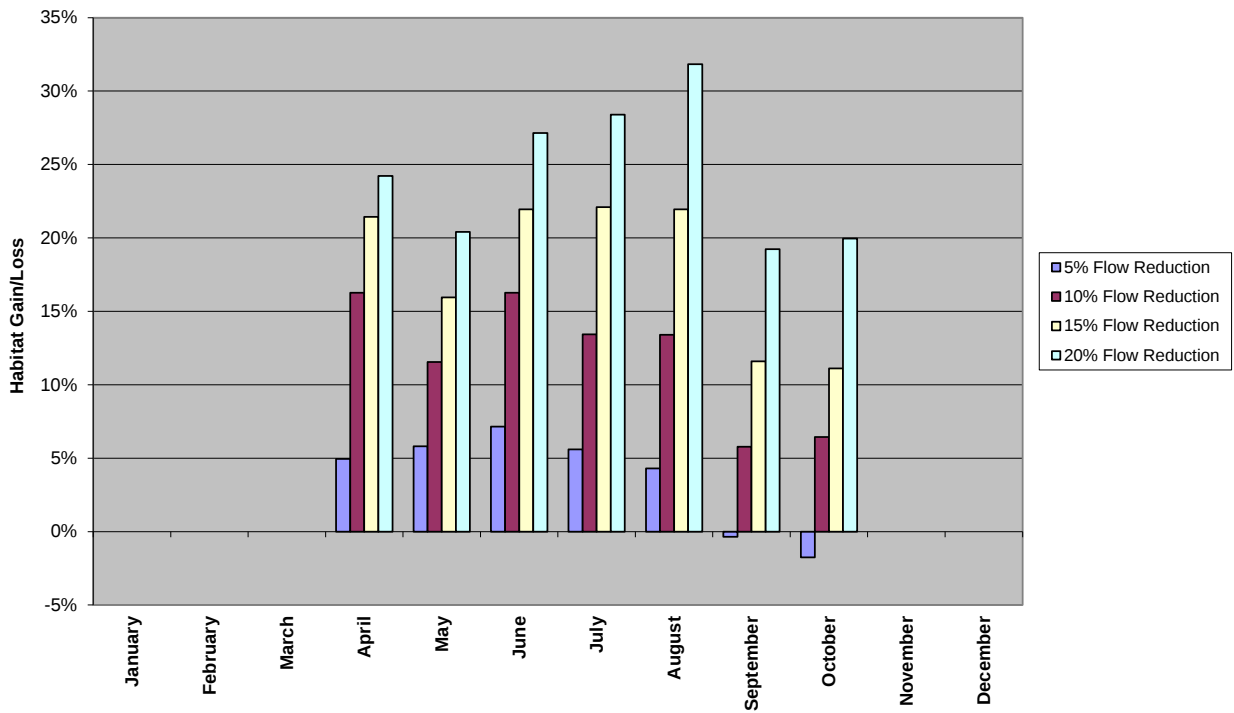
Bluegill Sunfish Spawning (1965-2014)
Medium Back Water (50%)
Rainbow River - PHABSIM2 Site



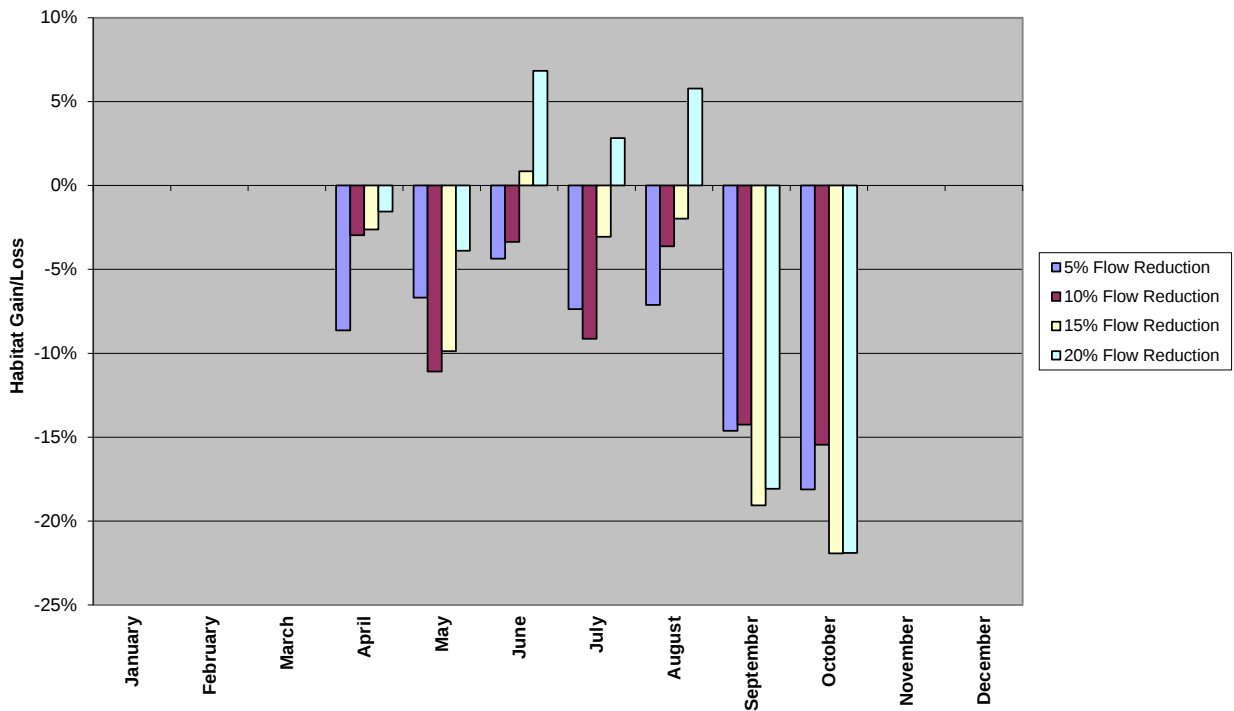
Bluegill Sunfish Spawning (1965-2014)
High Back Water (75%)
Rainbow River - PHABSIM2 Site



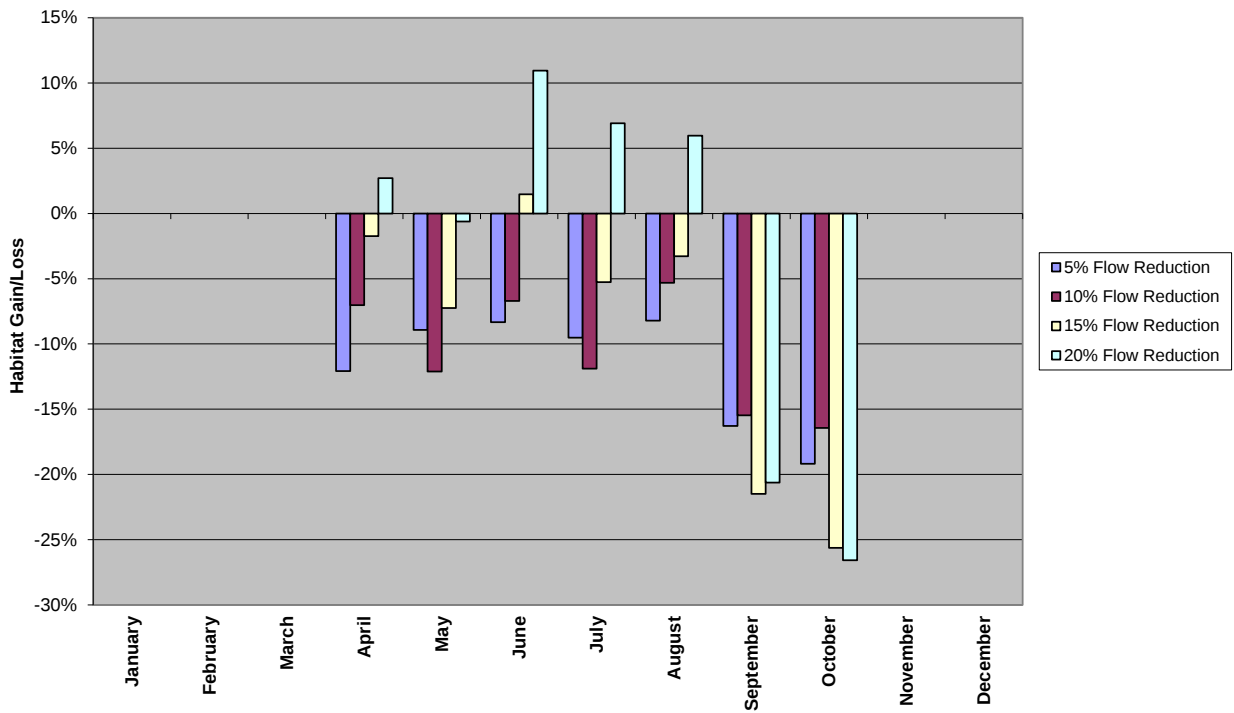
Bluegill Sunfish Fry (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM2 Site



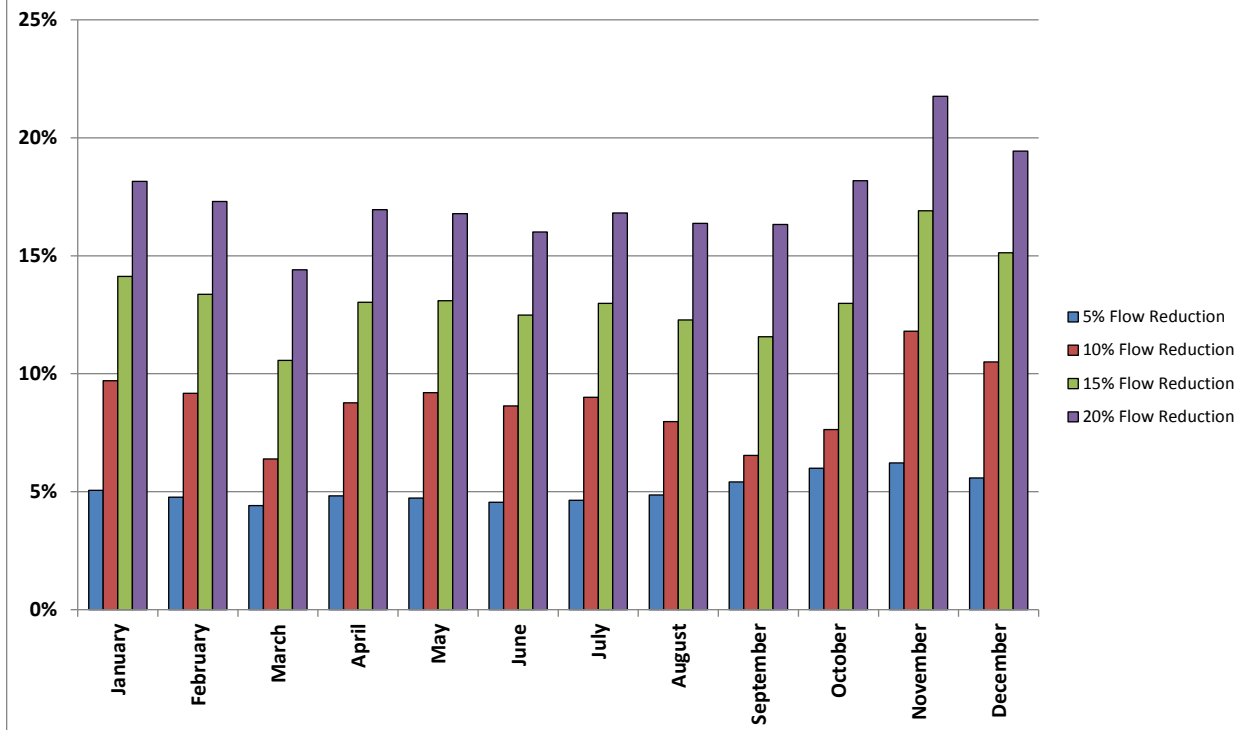
Bluegill Sunfish Fry (1965-2014)
Medium Back Water (50%)
Rainbow River - PHABSIM2 Site

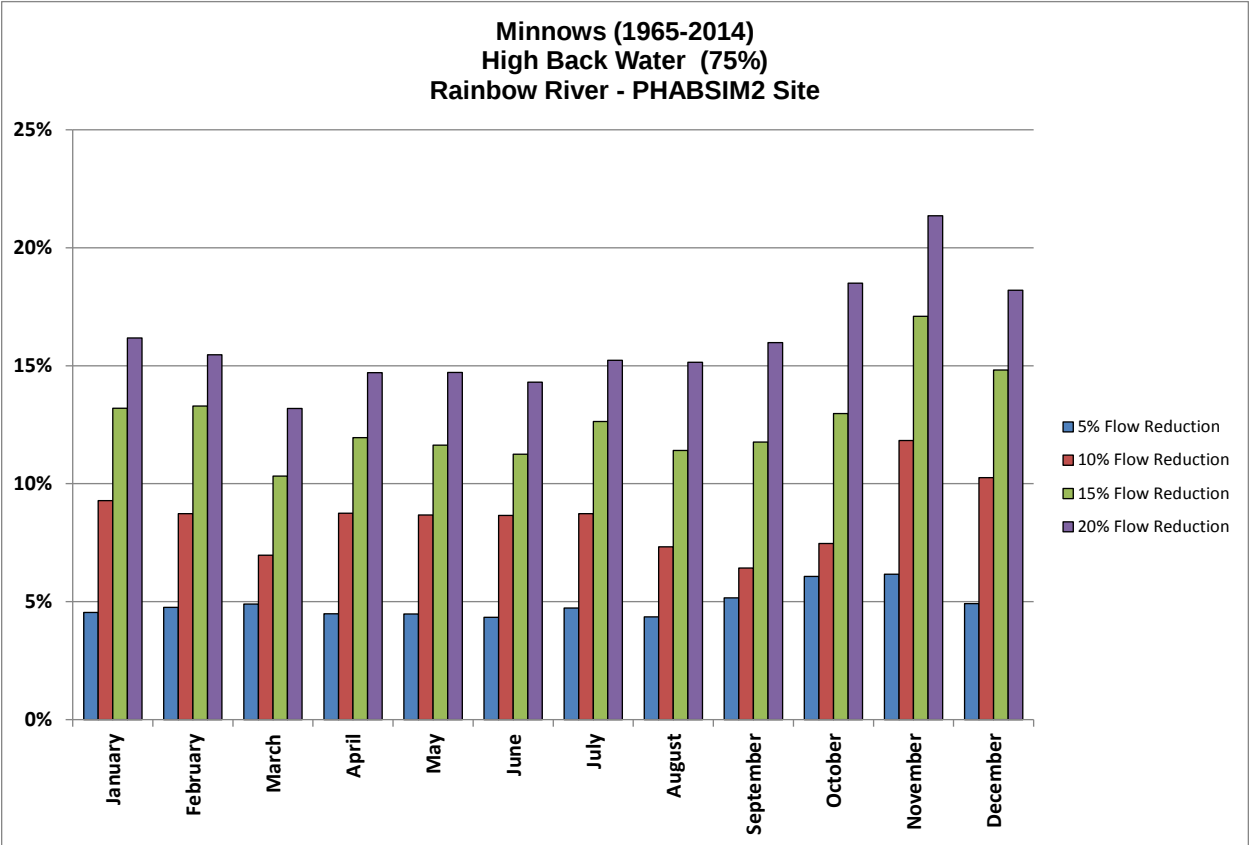
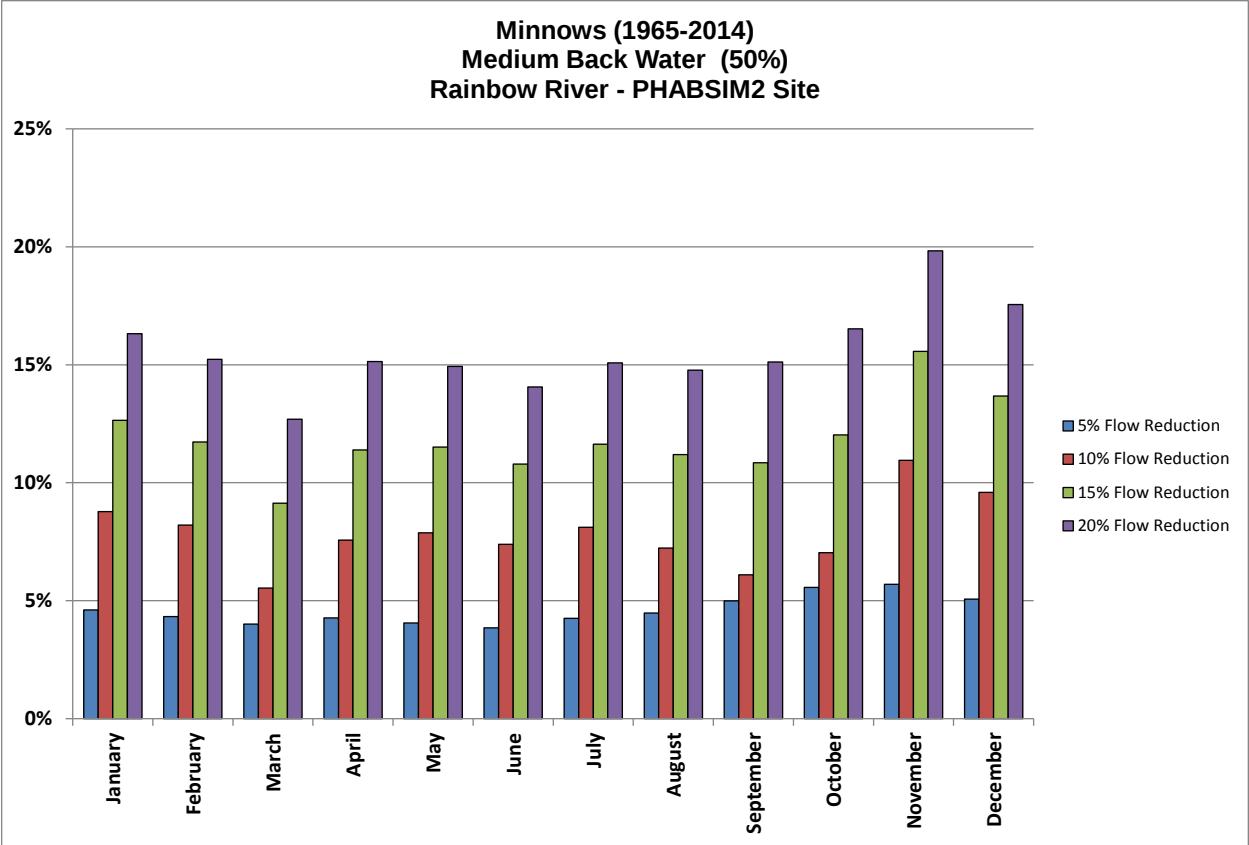


Bluegill Sunfish Fry (1965-2014)
High Back Water (75%)
Rainbow River - PHABSIM2 Site



Minnows (1965-2014)
Low Back Water (25%)
Rainbow River - PHABSIM2 Site

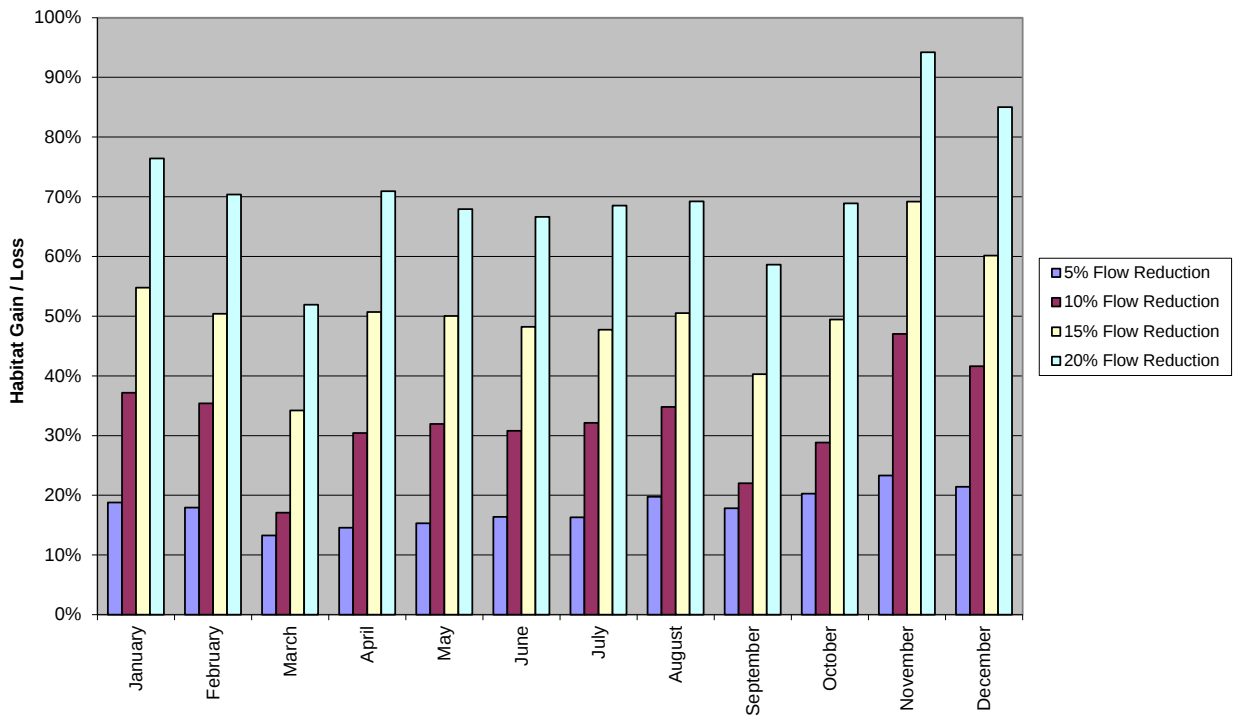




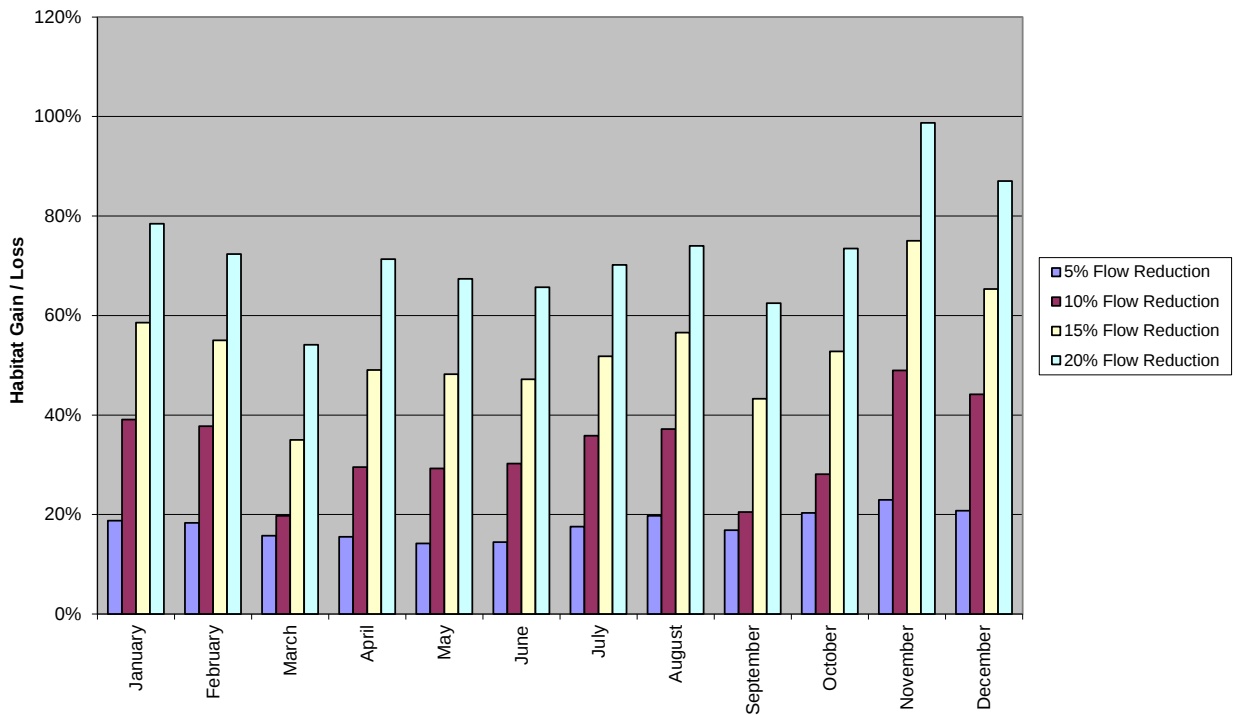
Section 3

Rainbow River System PHABSIM Modeling Results: Habitat Gain/Loss vs. 5, 10, 15, and 20% Flow Reduction Plots for Pool Site

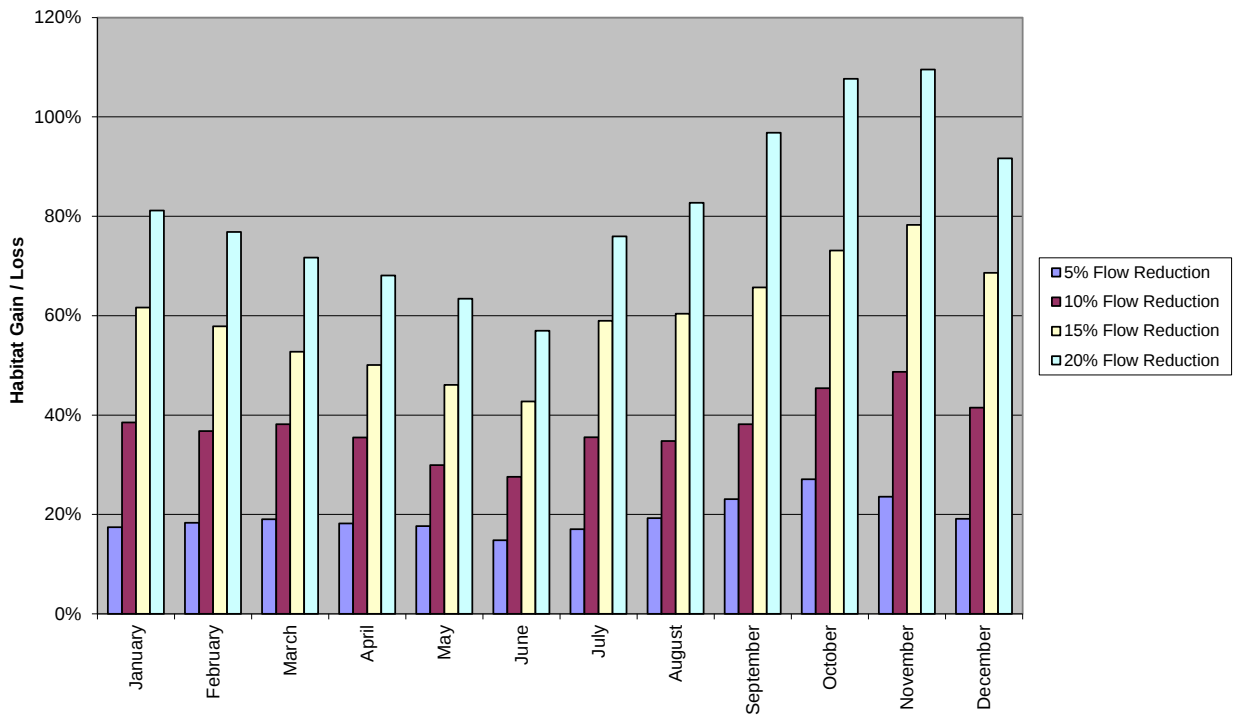
Shallow-Slow Fish Habitat Guild (1965-2014)
Low Back Water (25%)
Rainbow River - Pool Site



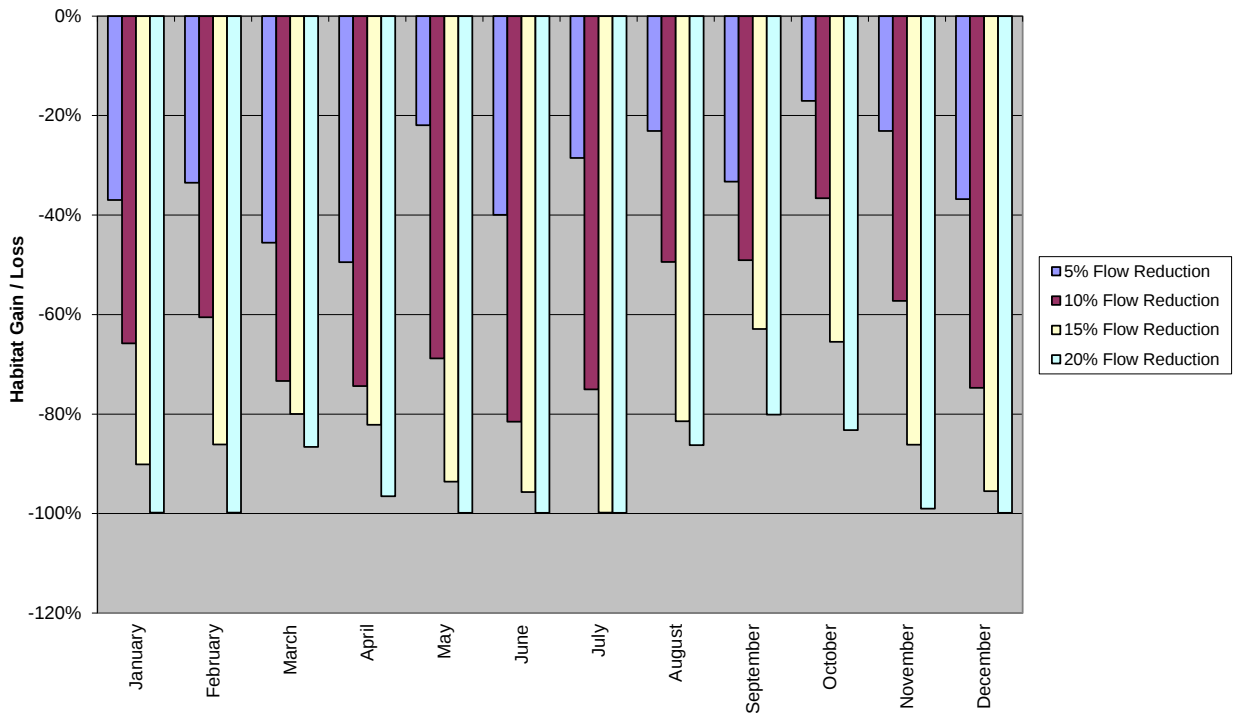
Shallow-Slow Fish Habitat Guild (1965-2014)
Medium Back Water (50%)
Rainbow River - Pool Site



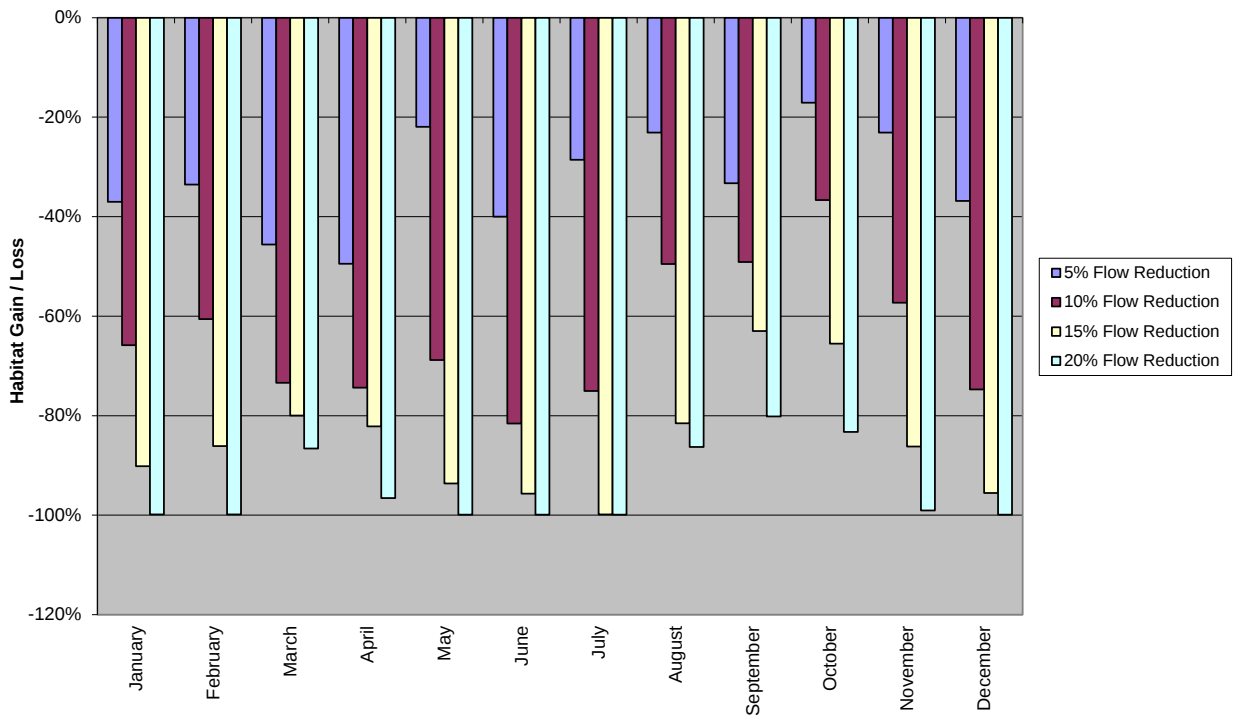
Shallow-Slow Fish Habitat Guild (1965-2014)
High Back Water (75%)
Rainbow River - Pool Site



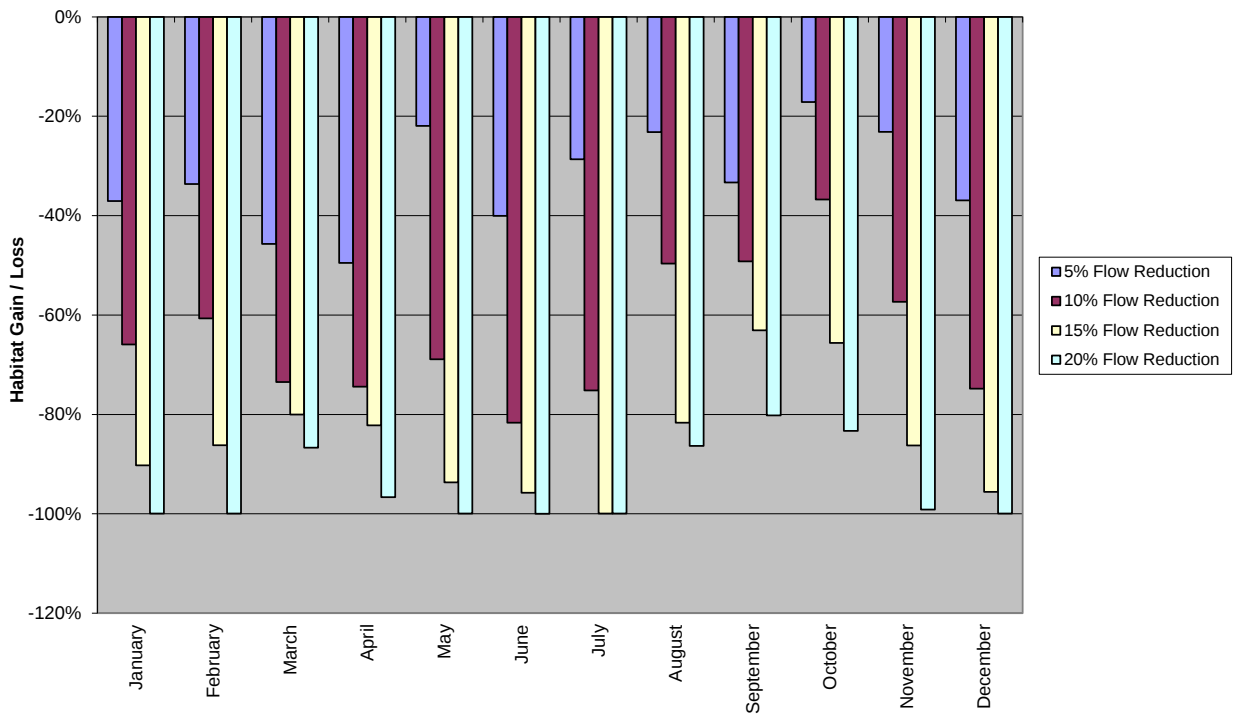
Shallow-Fast Fish Habitat Guild (1965-2014)
Low Back Water (25%)
Rainbow River - Pool Site



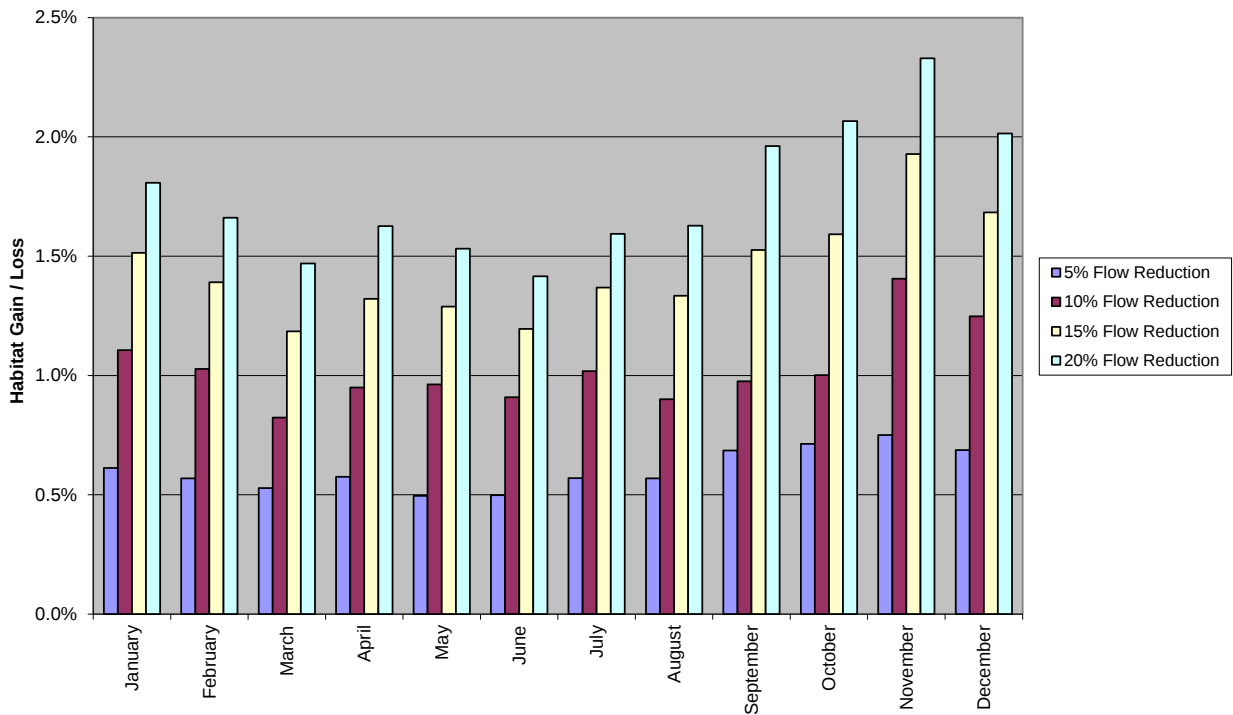
Shallow-Fast Fish Habitat Guild (1965-2014)
Medium Back Water (50%)
Rainbow River - Pool Site



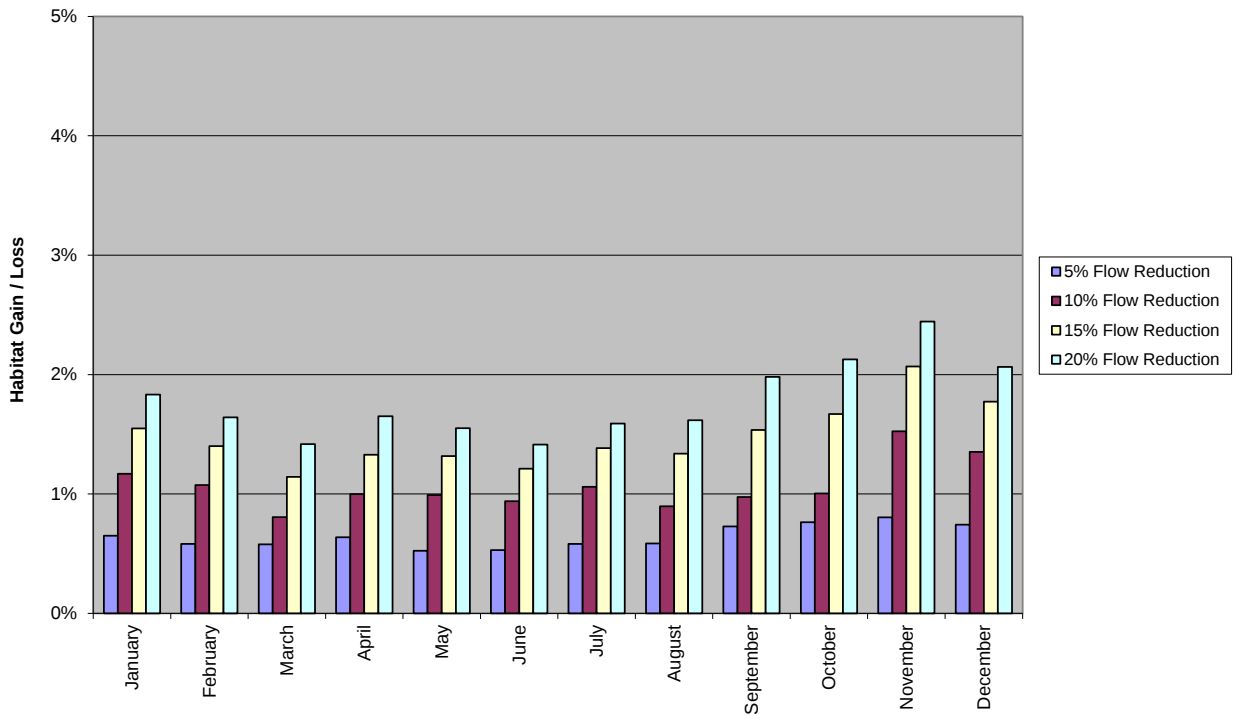
Shallow-Fast Fish Habitat Guild (1965-2014)
High Back Water (75%)
Rainbow River - Pool Site



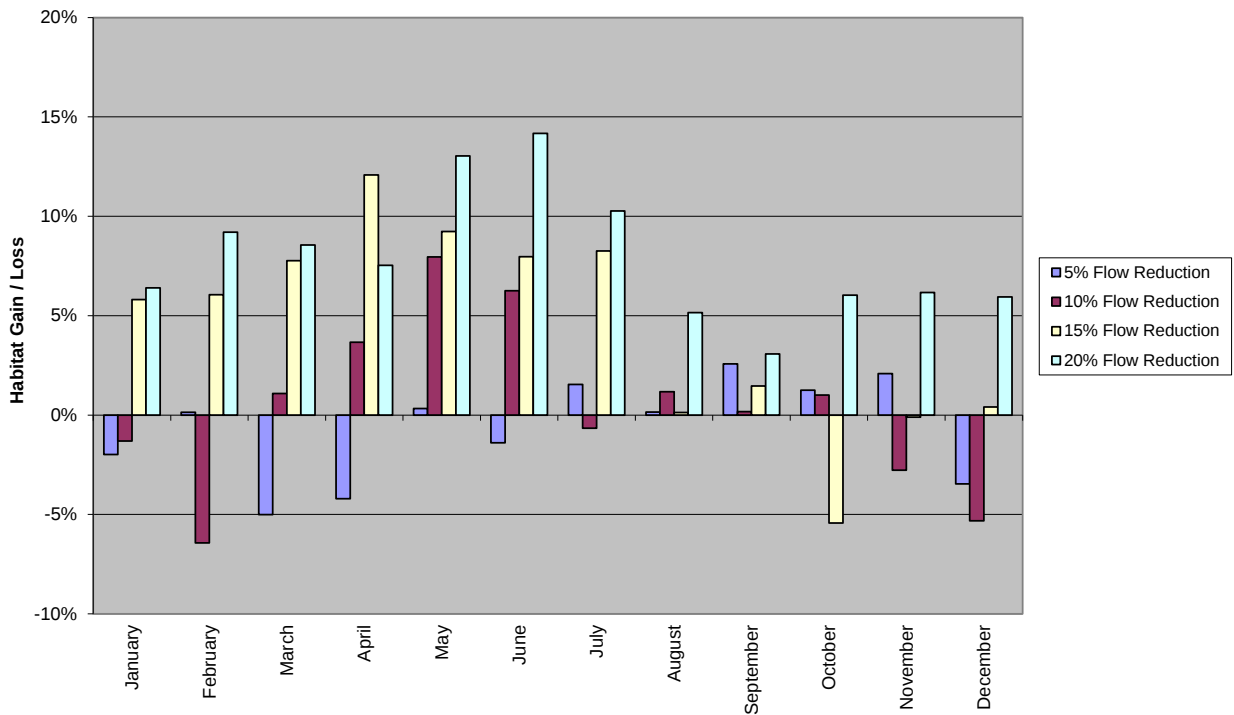
Deep-Slow Fish Habitat Guild (1965-2014)
Low Back Water (25%)
Rainbow River - Pool Site



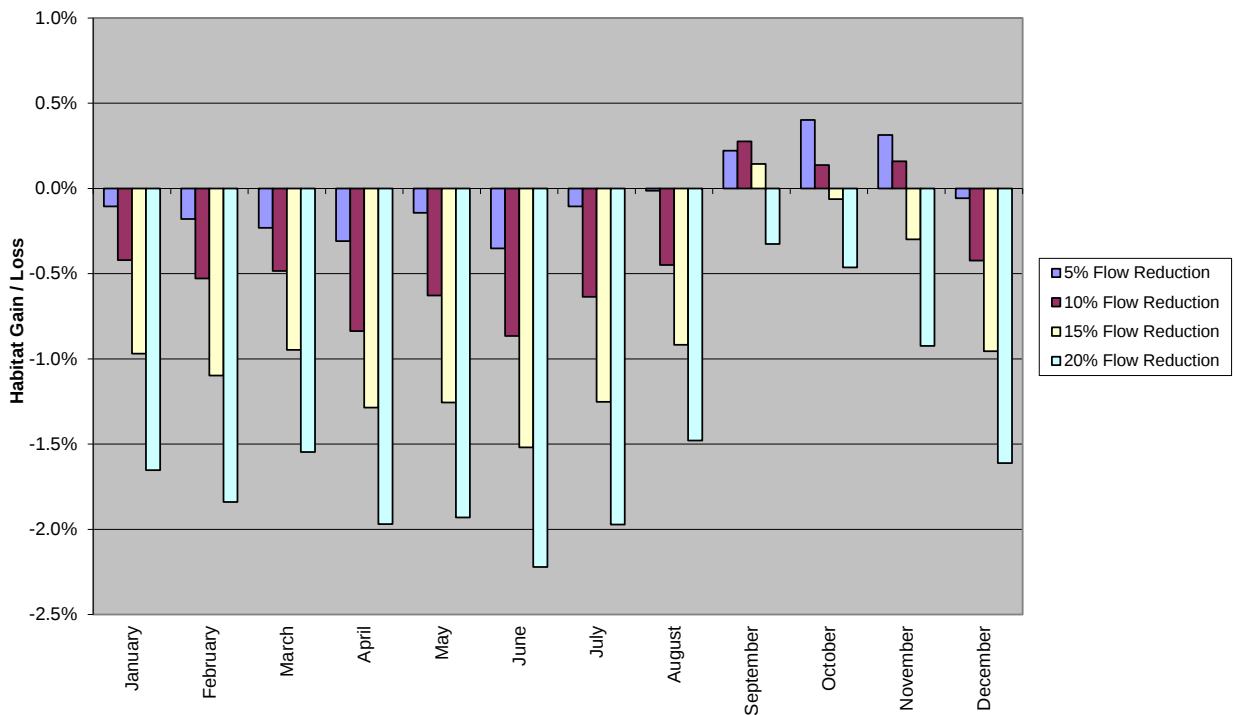
Deep-Slow Fish Habitat Guild (1965-2014)
Medium Back Water (50%)
Rainbow River - Pool Site



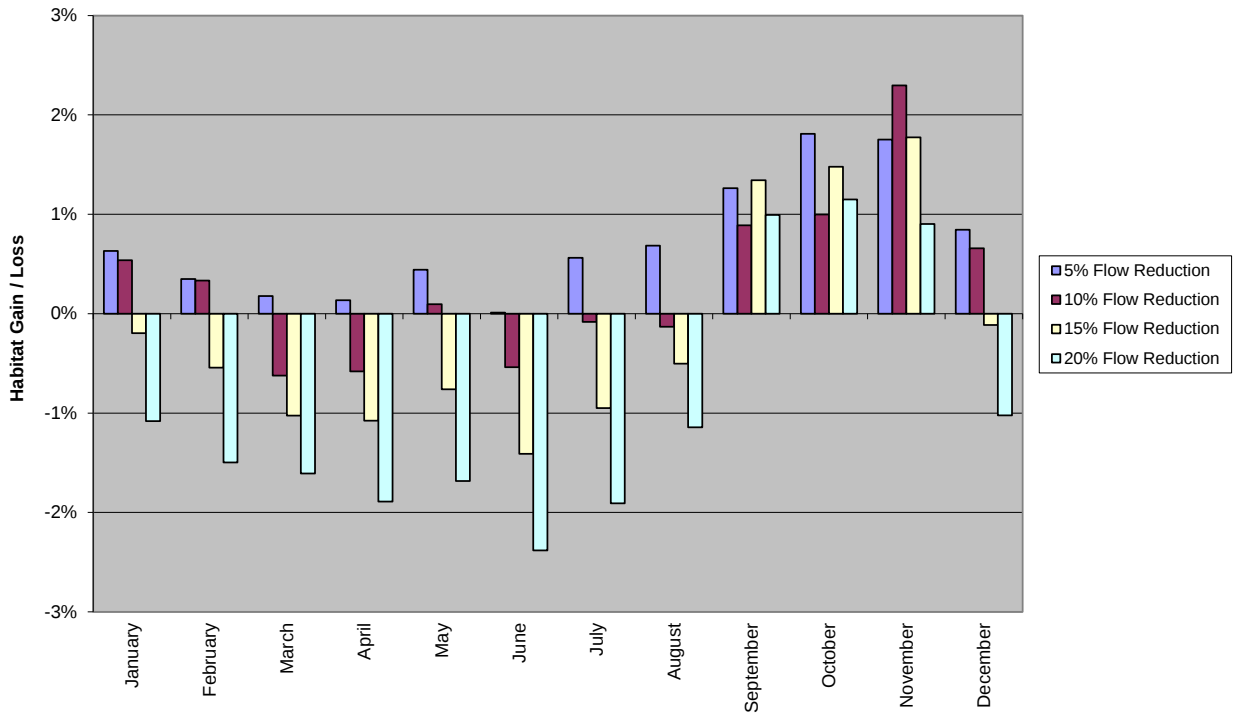
Deep-Slow Fish Habitat Guild (1965-2014)
High Back Water (75%)
Rainbow River - Pool Site



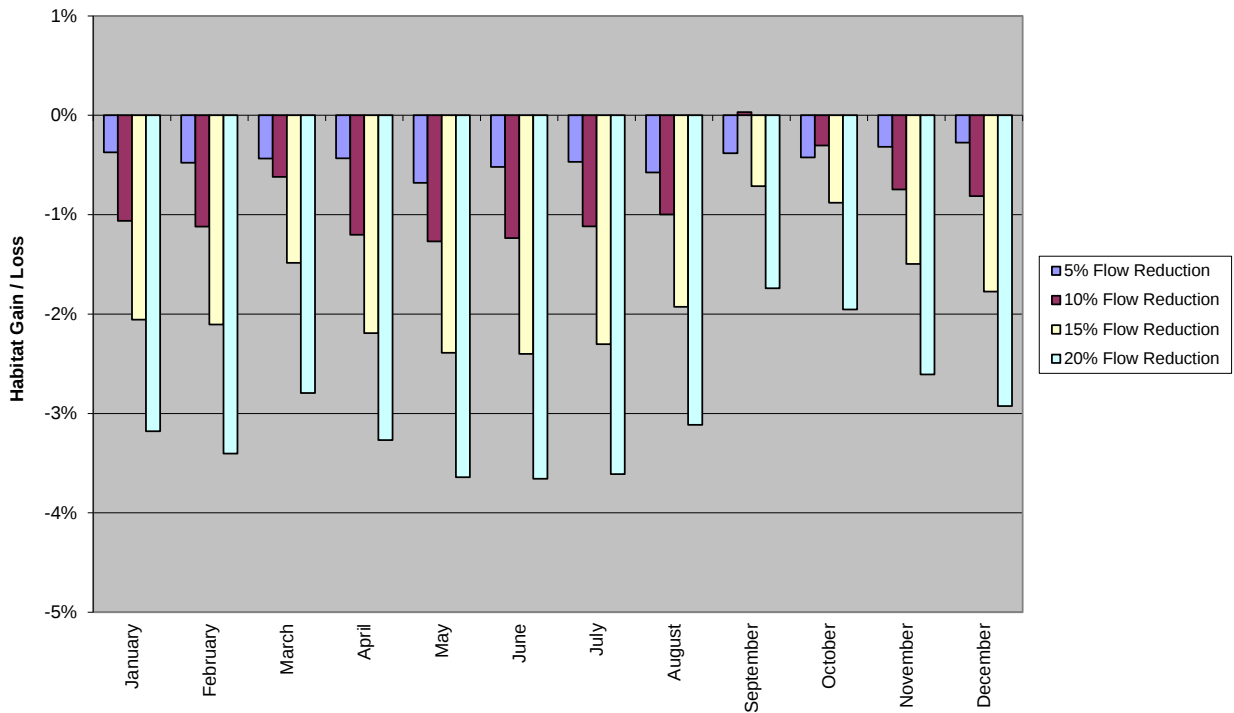
Deep-Fast Fish Habitat Guild (1965-2014)
Low Back Water (25%)
Rainbow River - Pool Site



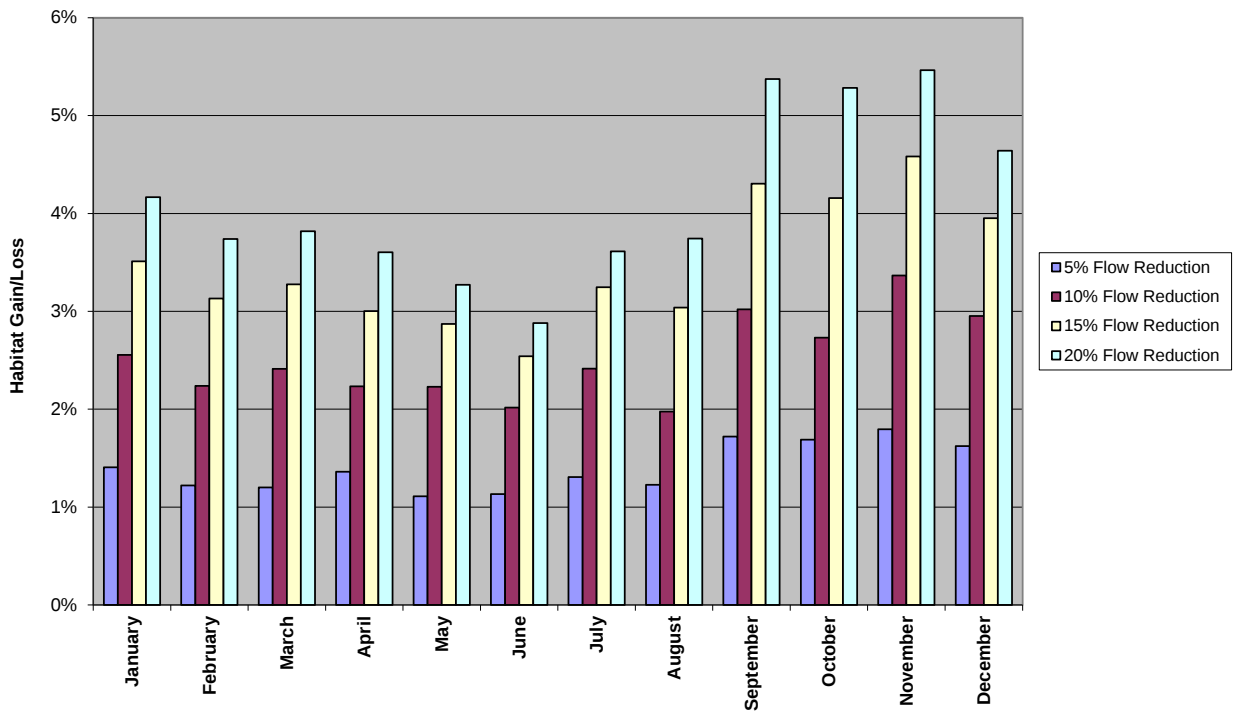
Deep-Fast Fish Habitat Guild (1965-2014)
Medium Back Water (50%)
Rainbow River - Pool Site



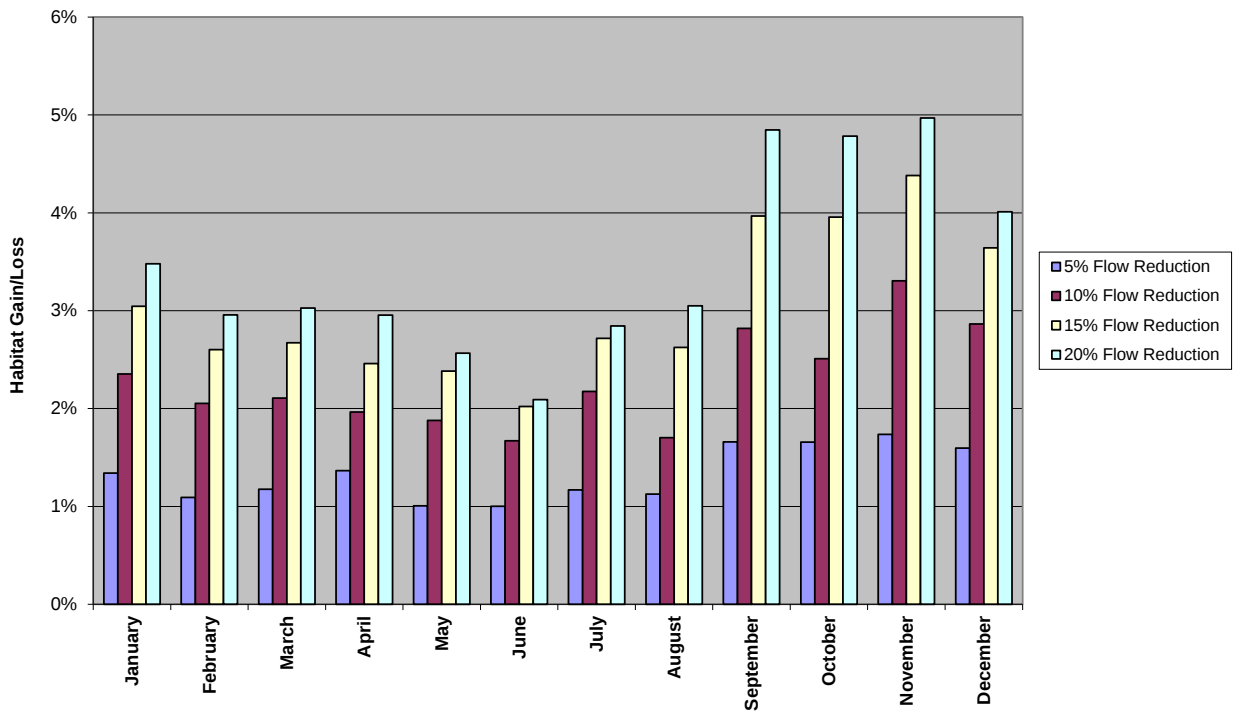
Deep-Fast Fish Habitat Guild (1965-2014)
High Back Water (75%)
Rainbow River - Pool Site



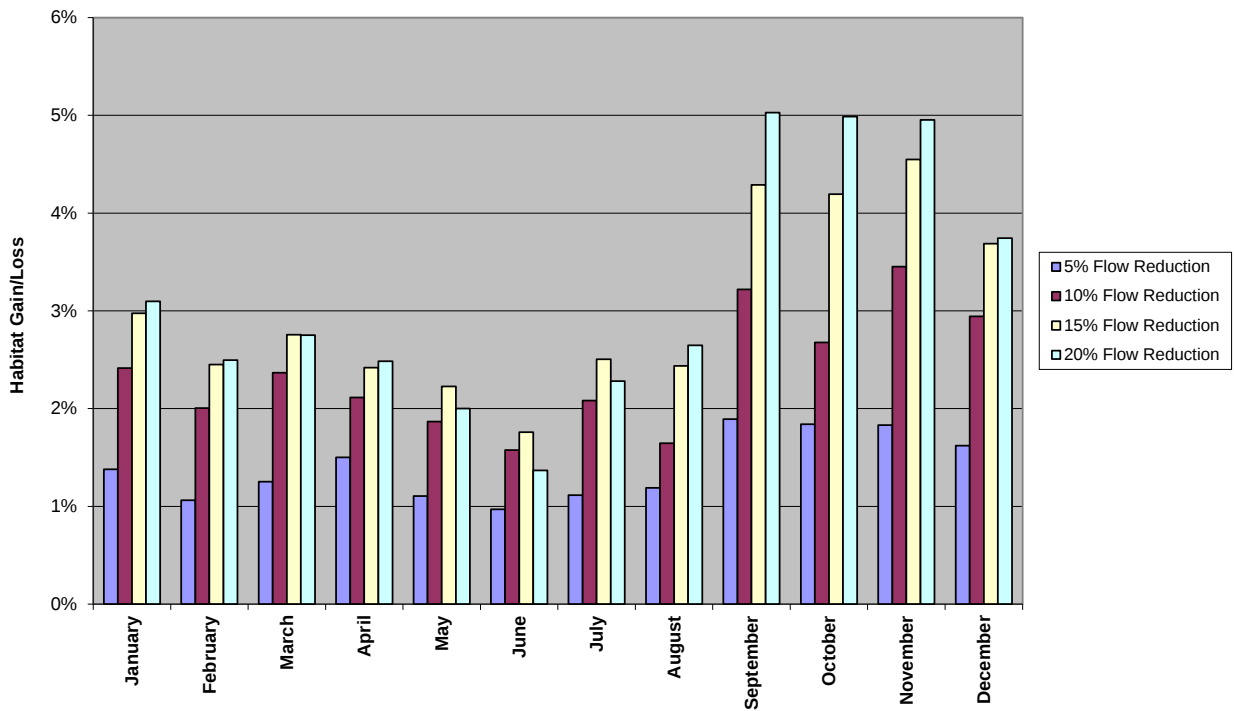
Spotted Sunfish Adults (1965-2014)
Low Back Water (25%)
Rainbow River - Pool Site



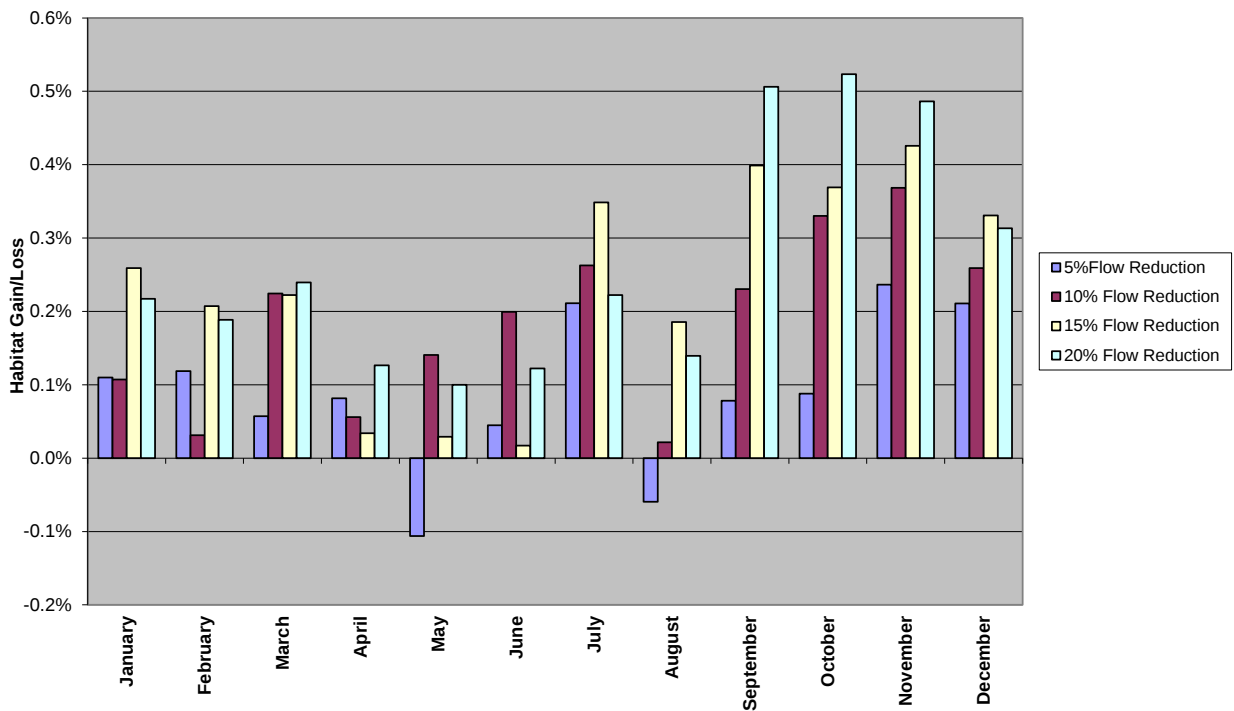
Spotted Sunfish Adults (1965-2014)
Medium Back Water (50%)
Rainbow River - Pool Site



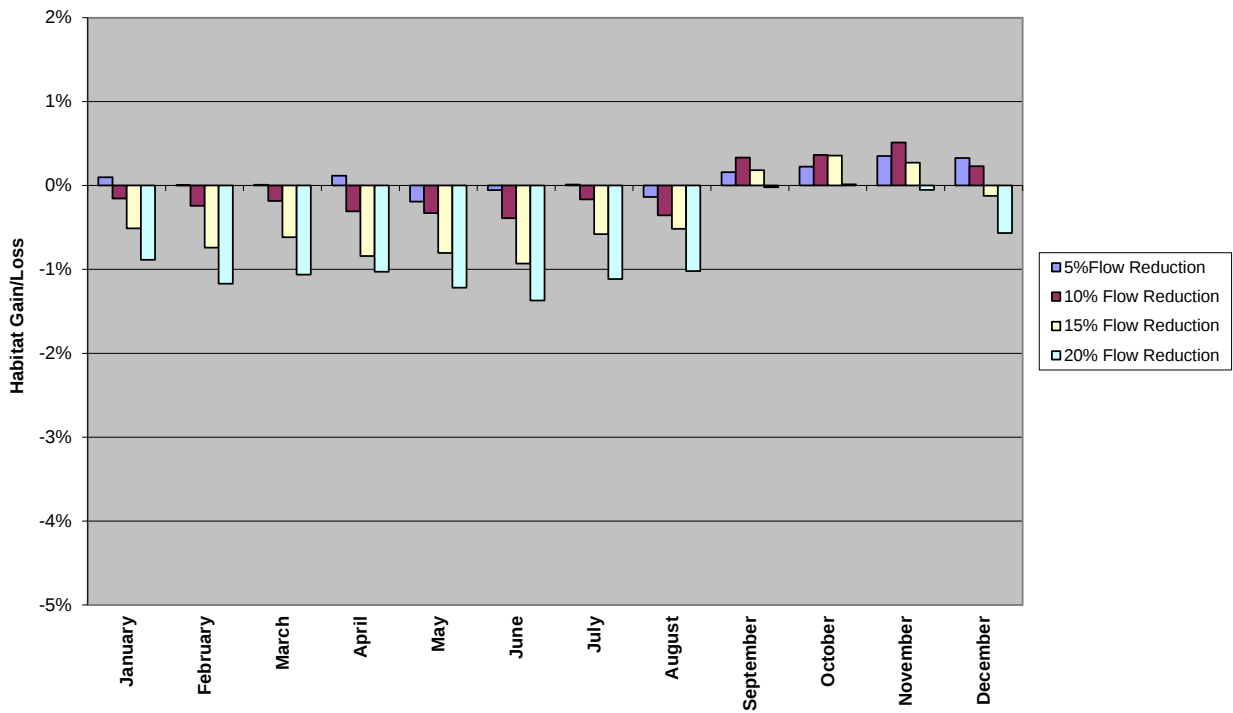
Spotted Sunfish Adults (1965-2014)
High Back Water (75%)
Rainbow River - Pool Site



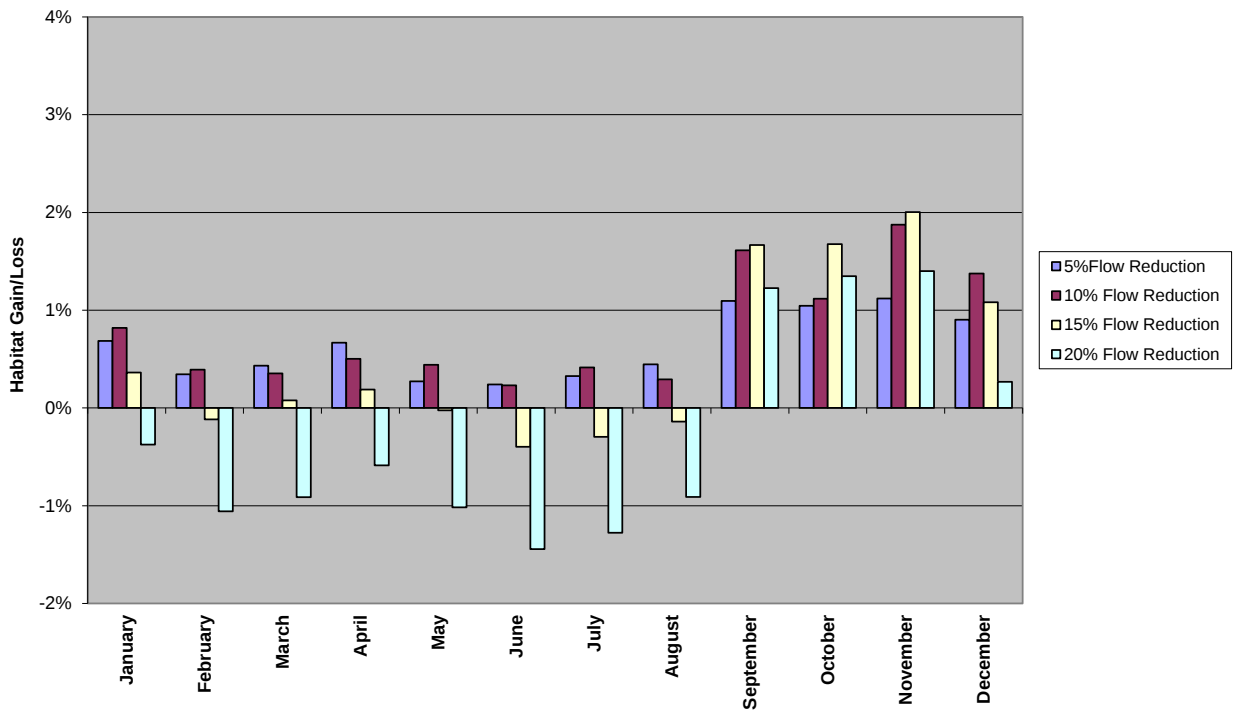
Juvenile Spotted Sunfish (1965-2014)
Low Back Water (25%)
Rainbow River - Pool Site



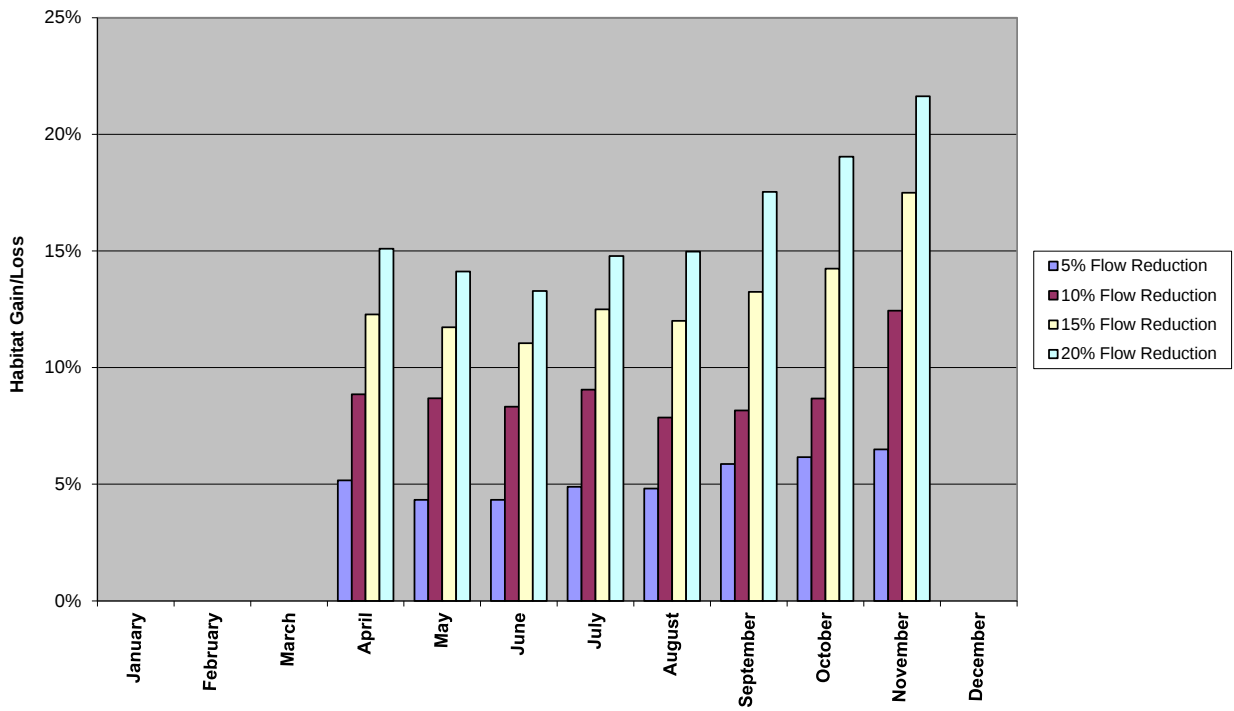
Juvenile Spotted Sunfish (1965-2014)
Medium Back Water (50%)
Rainbow River - Pool Site



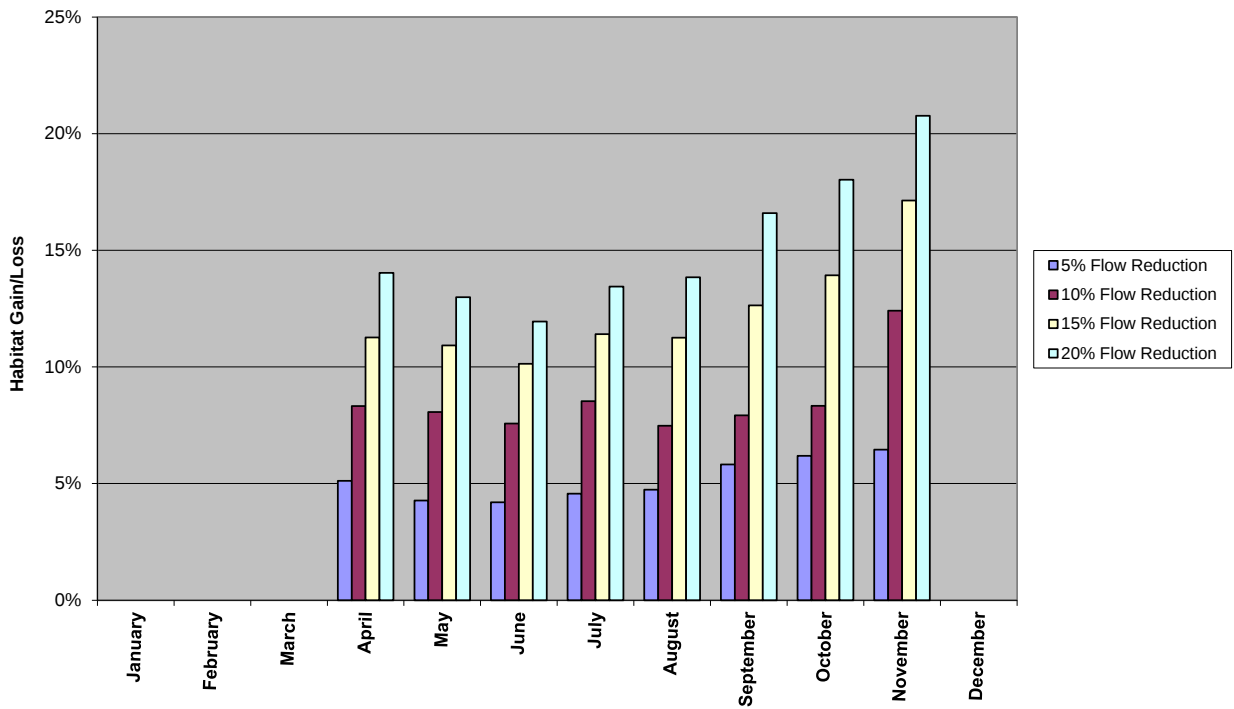
Juvenile Spotted Sunfish (1965-2014)
High Back Water (75%)
Rainbow River - Pool Site



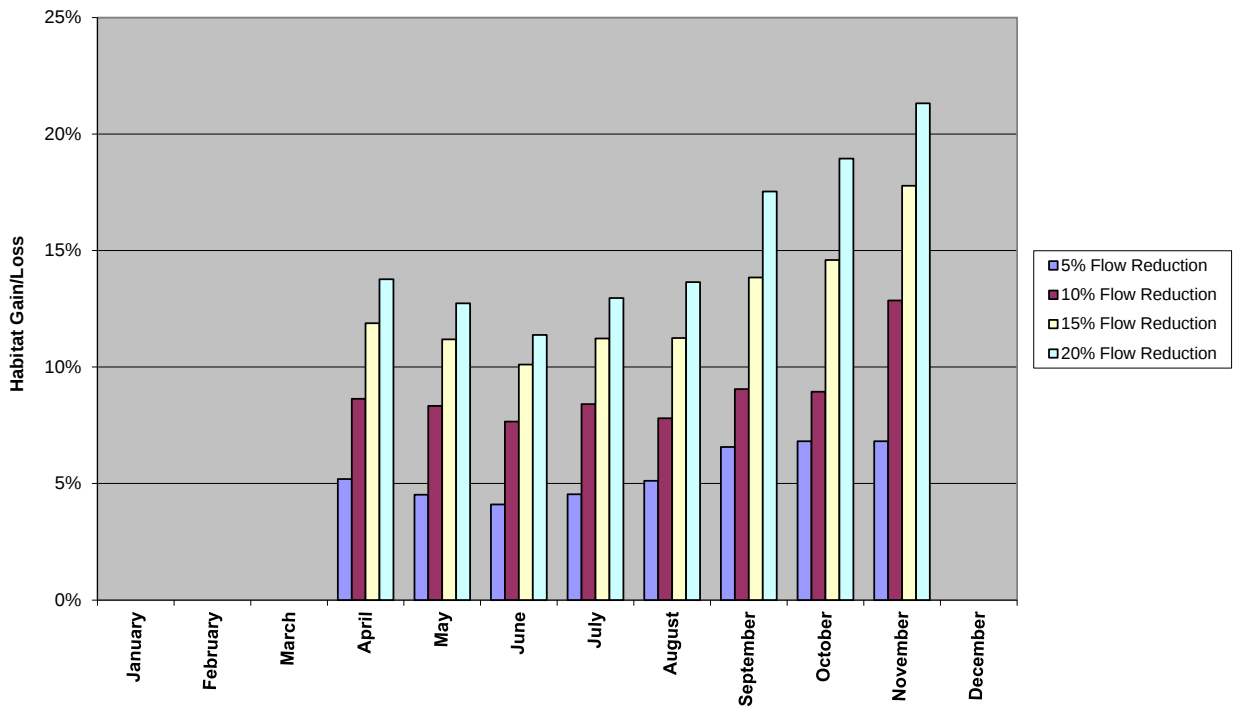
**Spawning Spotted Sunfish (1965-2014)
Low Back Water (25%)
Rainbow River - Pool Site**



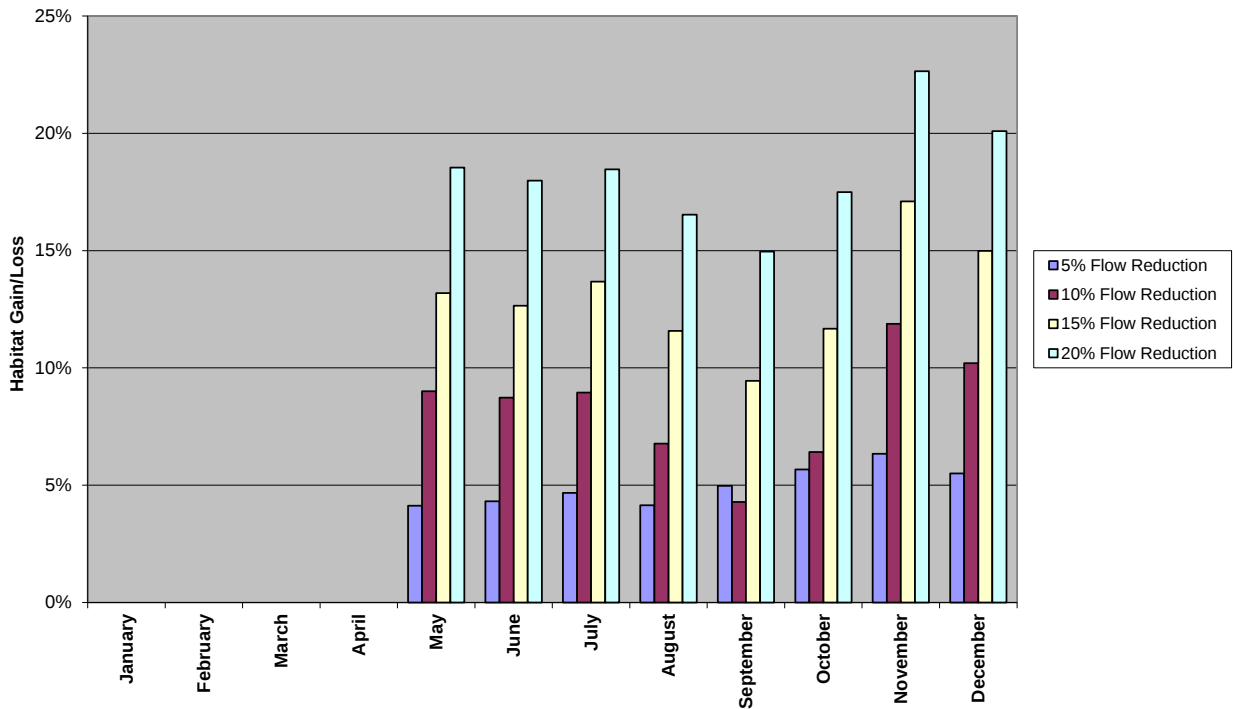
**Spawning Spotted Sunfish (1965-2014)
Medium Back Water (50%)
Rainbow River - Pool Site**



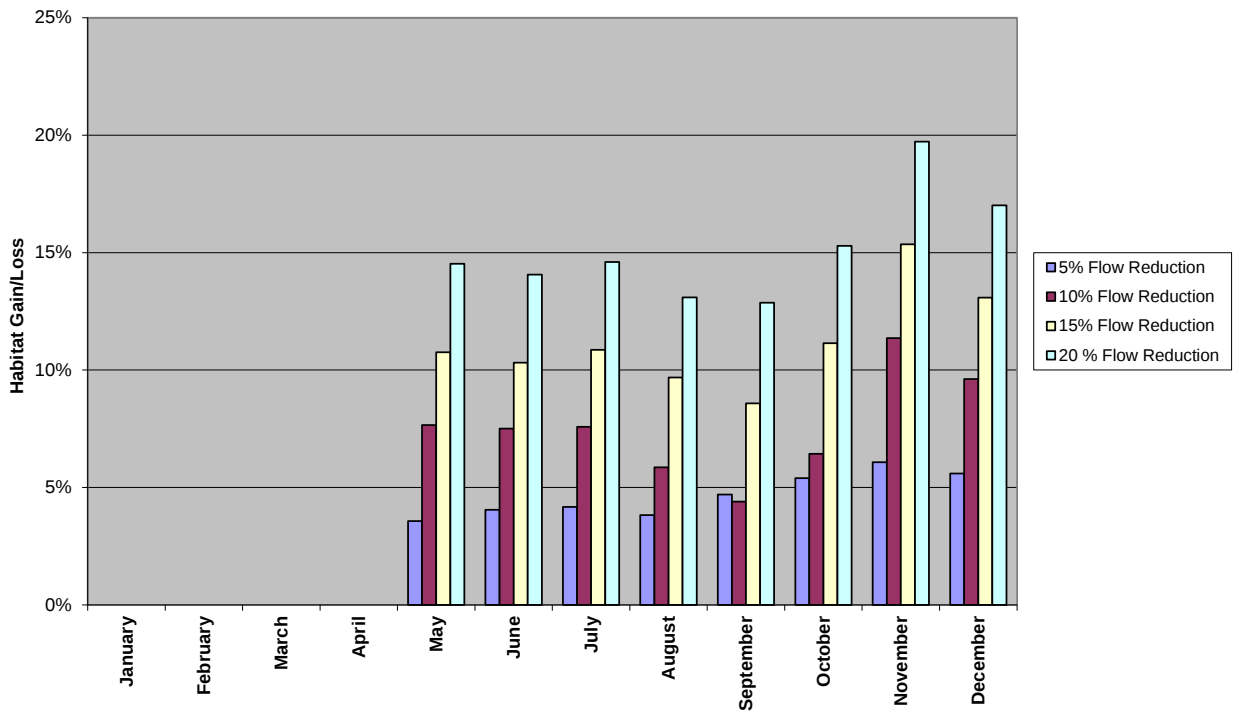
**Spawning Spotted Sunfish (1965-2014)
High Back Water (75%)
Rainbow River - Pool Site**



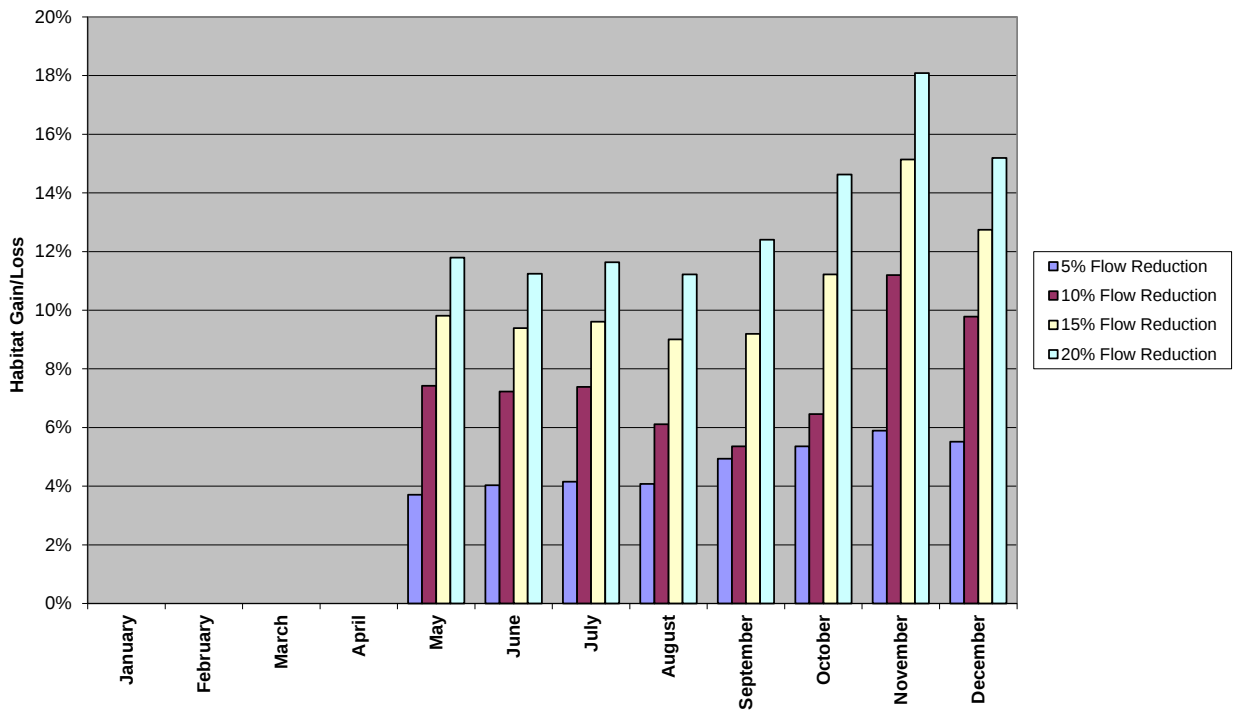
**Spotted Sunfish Fry (1965-2014)
Low Back Water (25%)
Rainbow River - Pool Site**



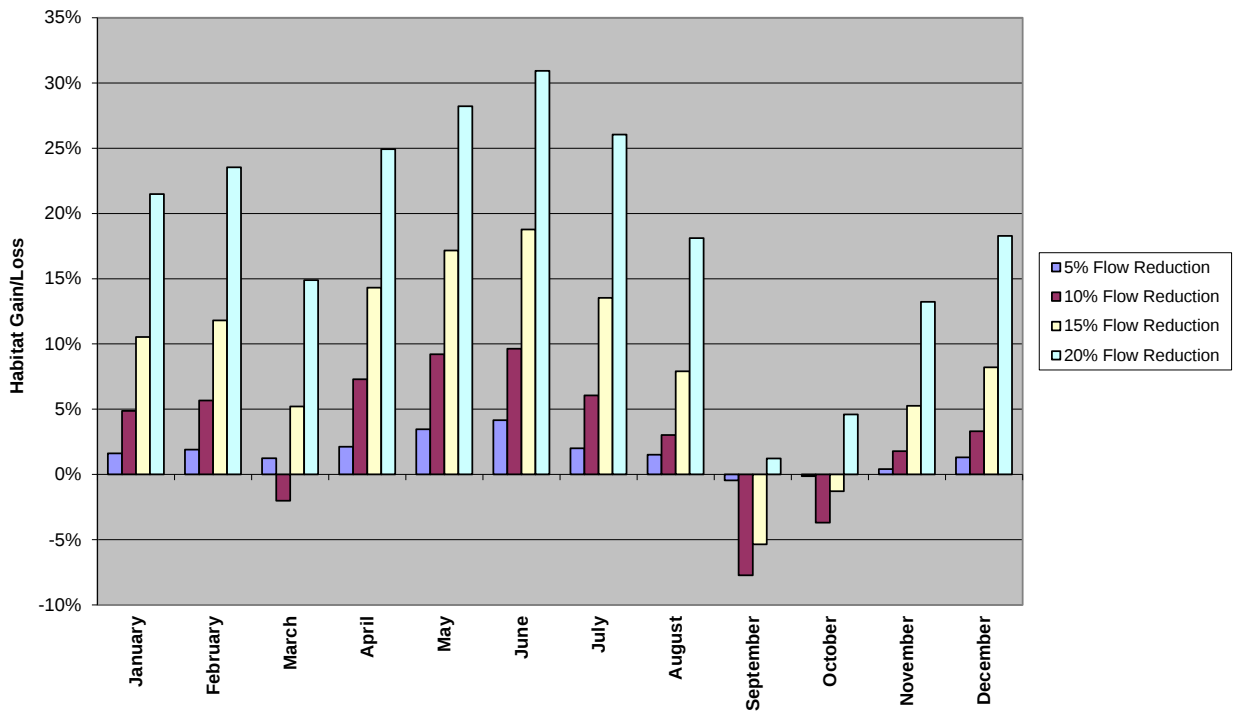
Spotted Sunfish Fry (1965-2014)
Medium Back Water (50%)
Rainbow River - Pool Site



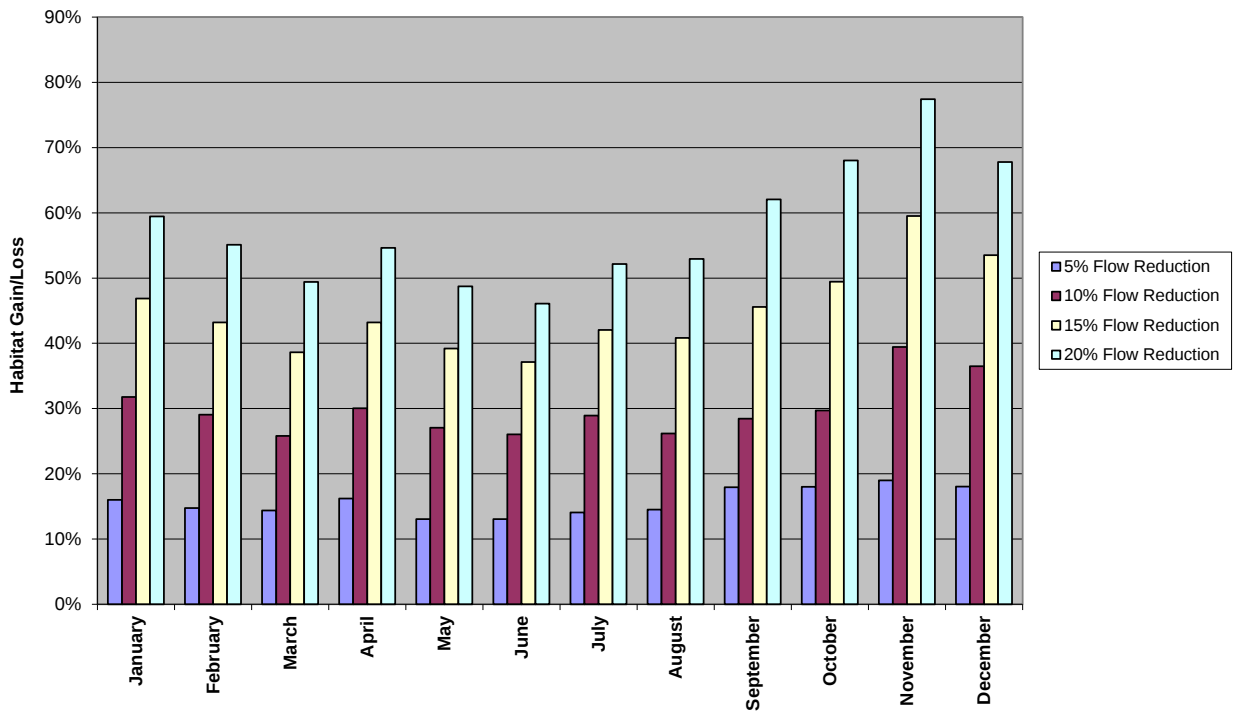
Spotted Sunfish Fry (1965-2014)
High Back Water (75%)
Rainbow River - Pool Site



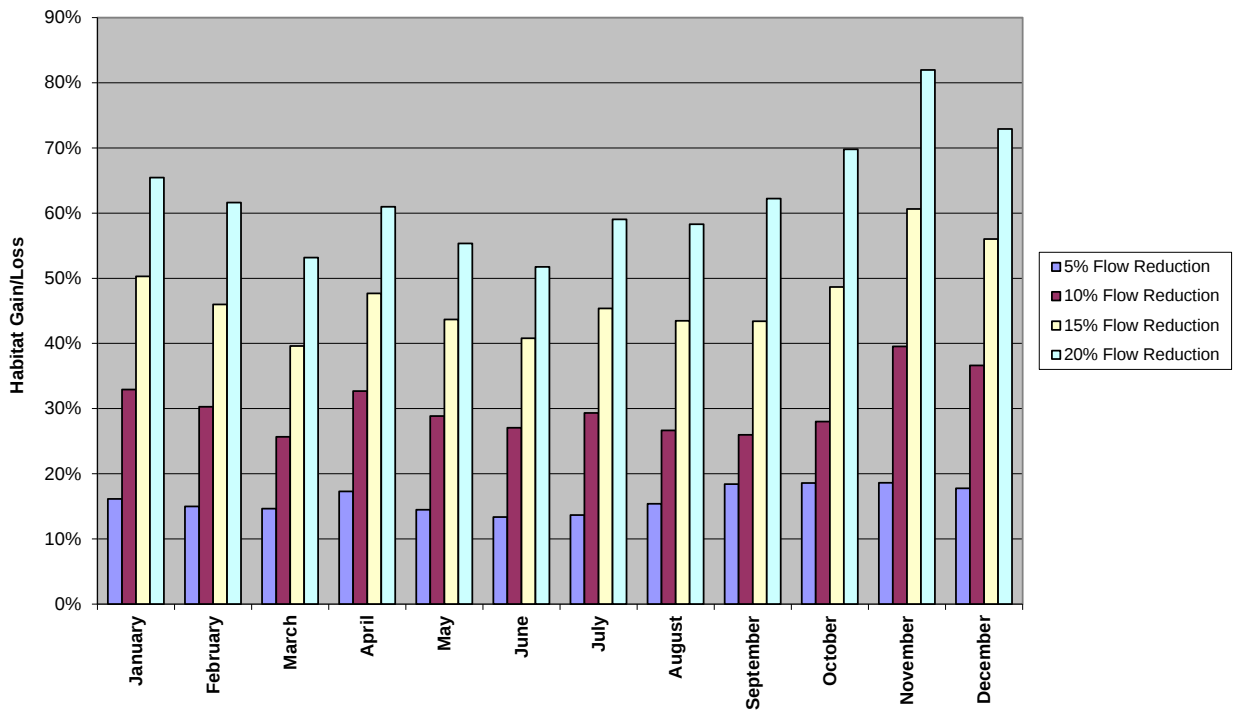
Benthic Macroinvertebrates (1965-2014)
Low Back Water (25%)
Rainbow River - Pool Site



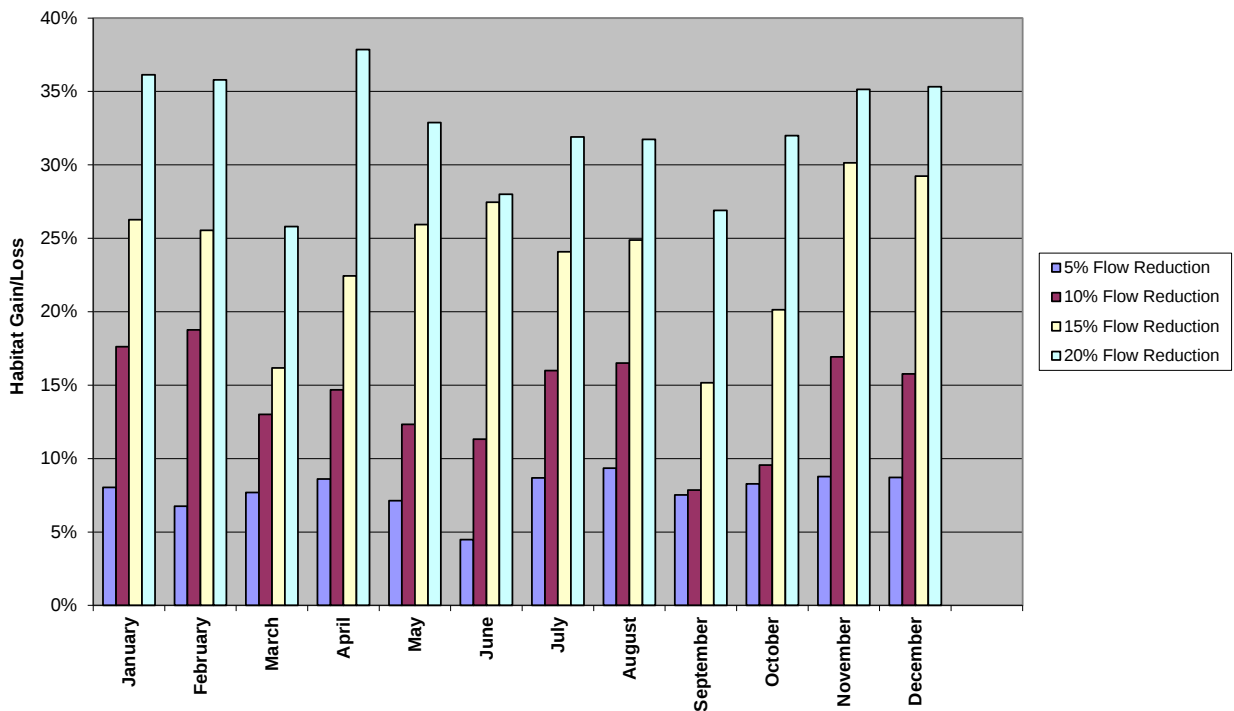
Benthic Macroinvertebrates (1965-2014)
Medium Back Water (50%)
Rainbow River - Pool Site



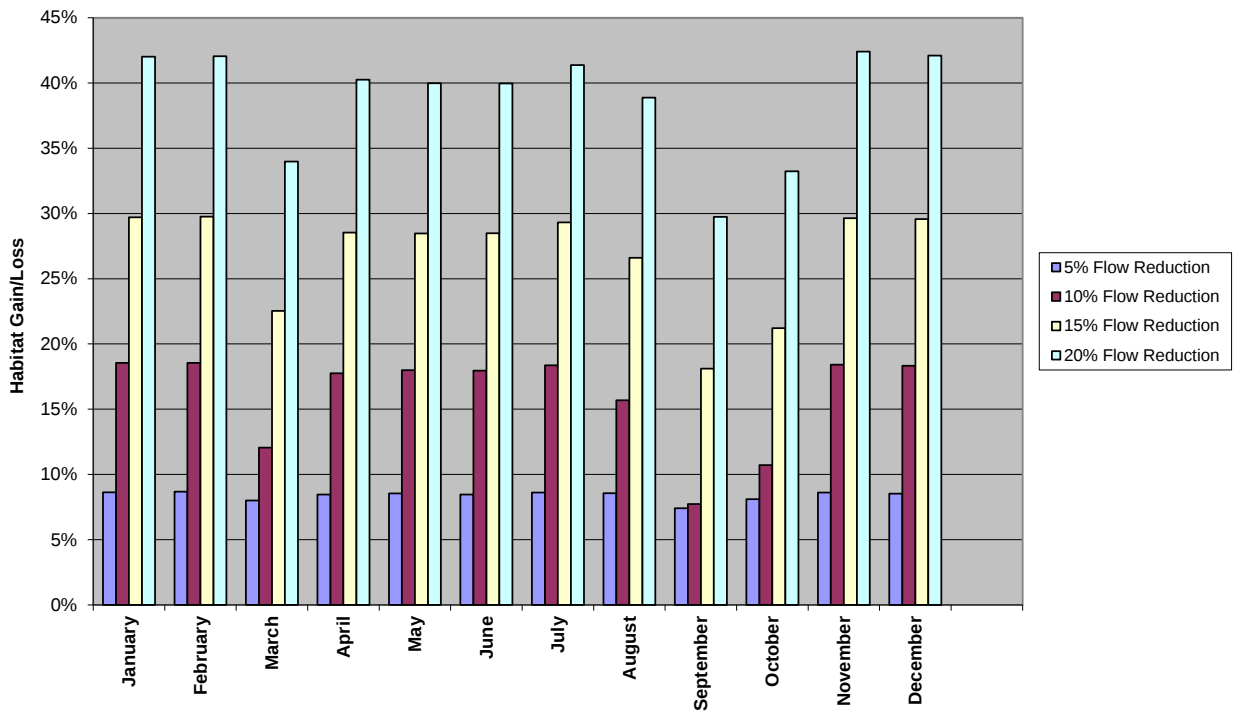
Benthic Macroinvertebrates (1965-2014)
High Back Water (75%)
Rainbow River - Pool Site



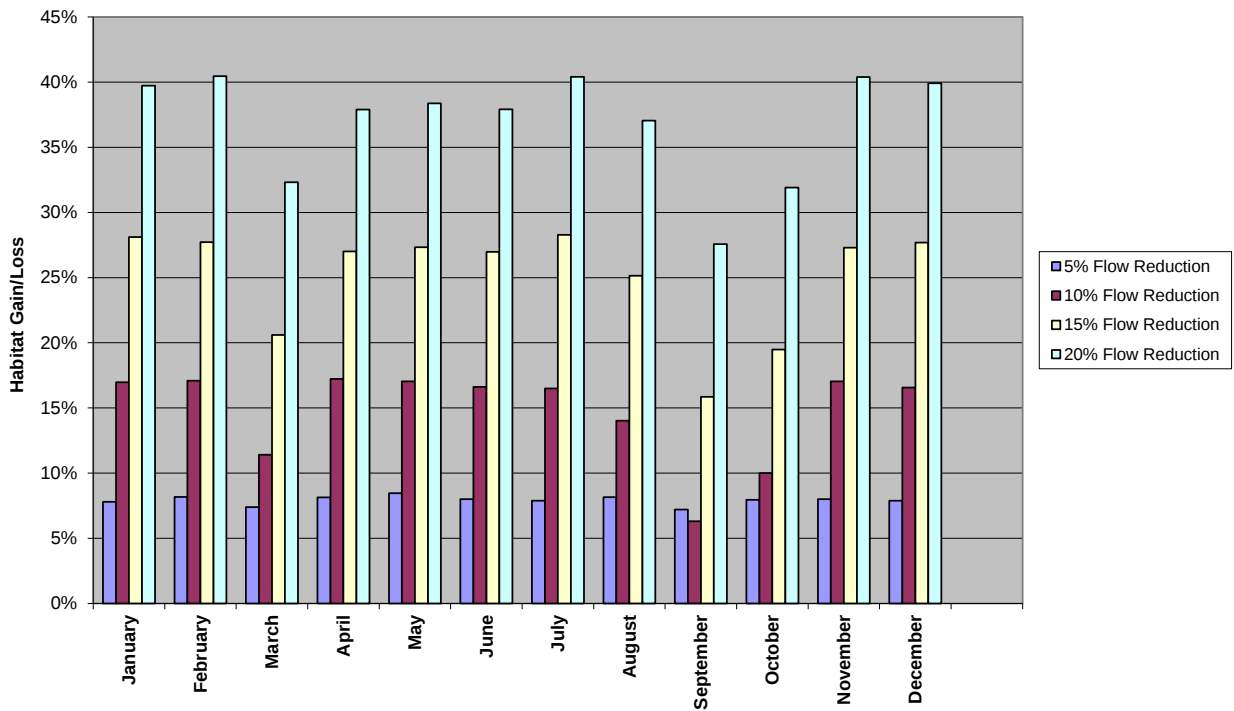
Largemouth Bass Adults (1965-2014)
Low Back Water (25%)
Rainbow River - Pool Site



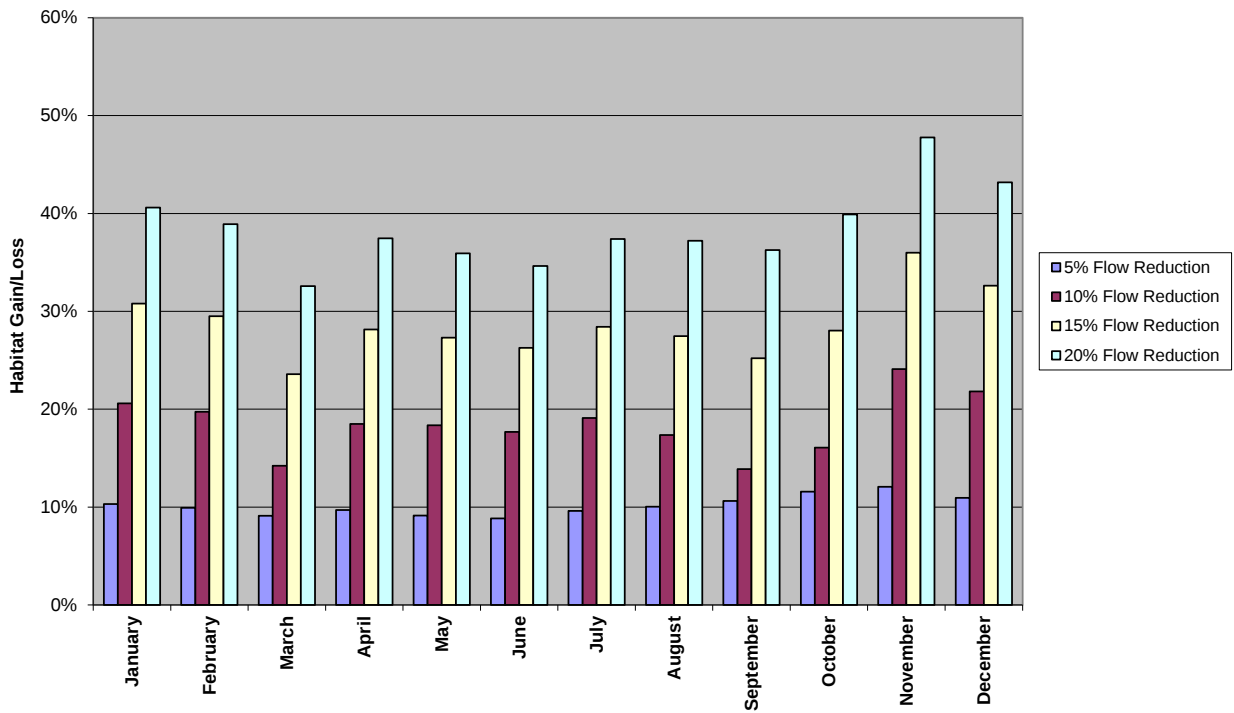
Largemouth Bass Adults (1965-2014)
Medium Back Water (50%)
Rainbow River - Pool Site



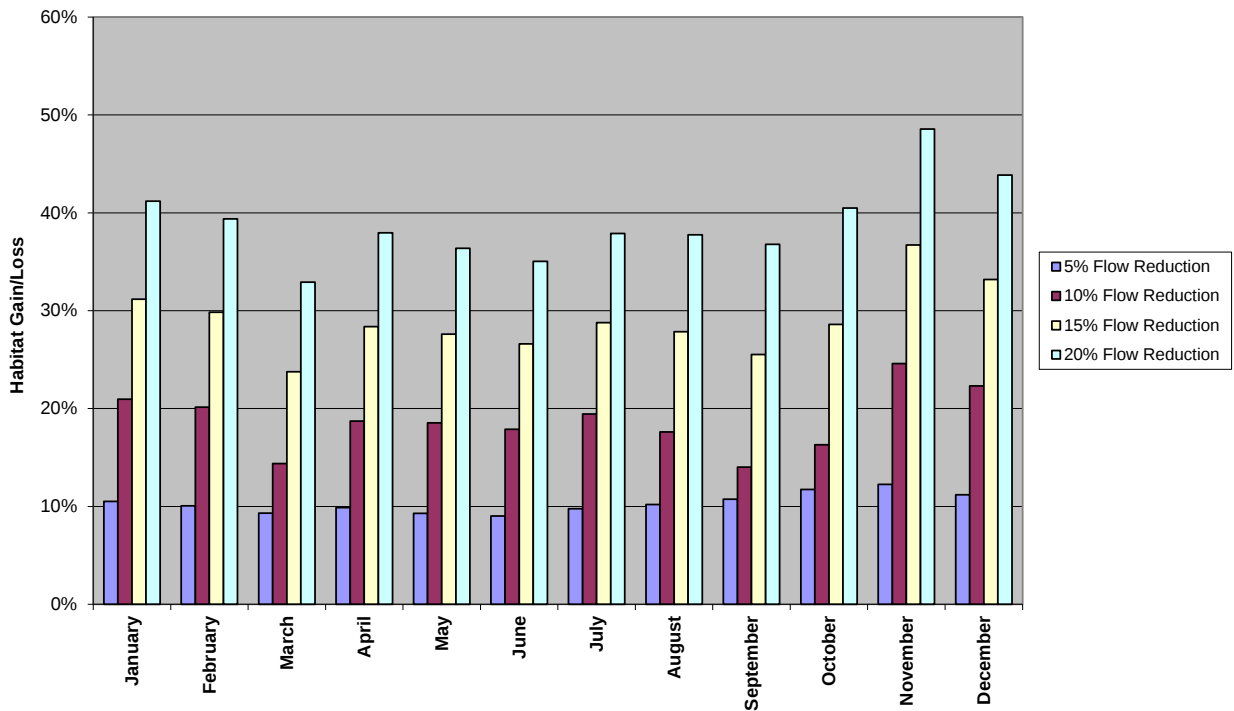
Largemouth Bass Adults (1965-2014)
High Back Water (75%)
Rainbow River - Pool Site



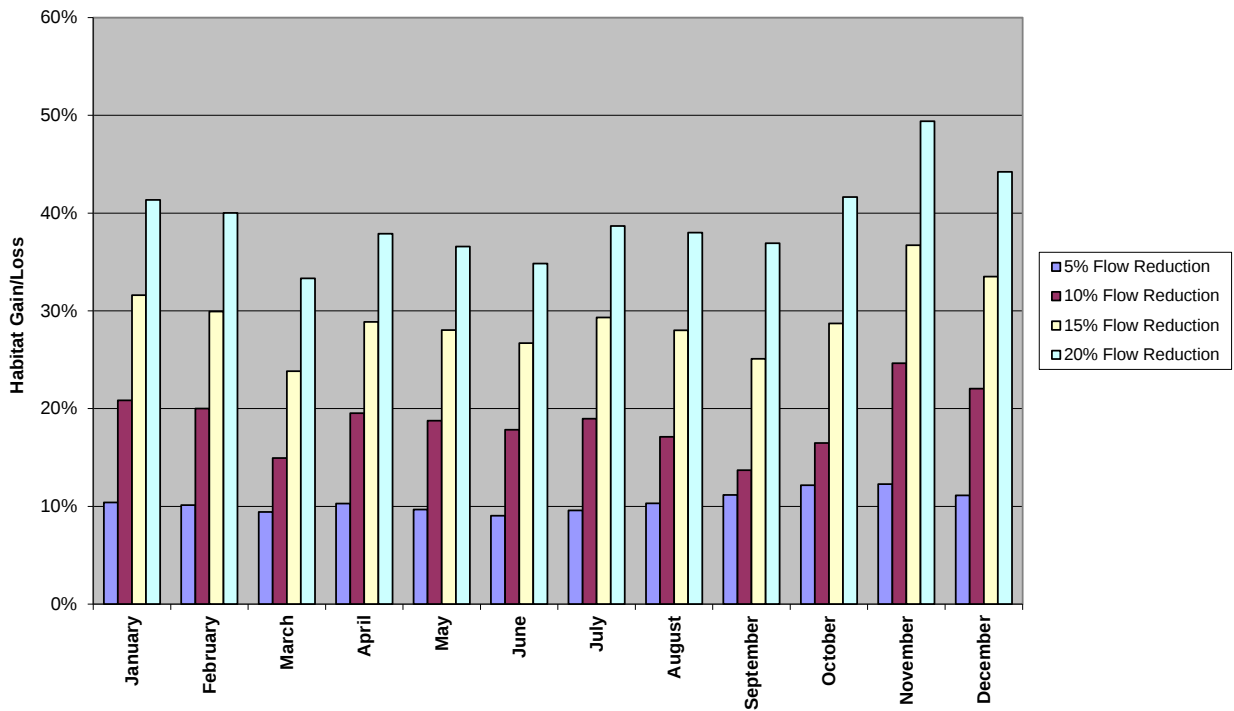
Largemouth Bass Juvenile (1965-2014)
Low Back Water (25%)
Rainbow River - Pool Site



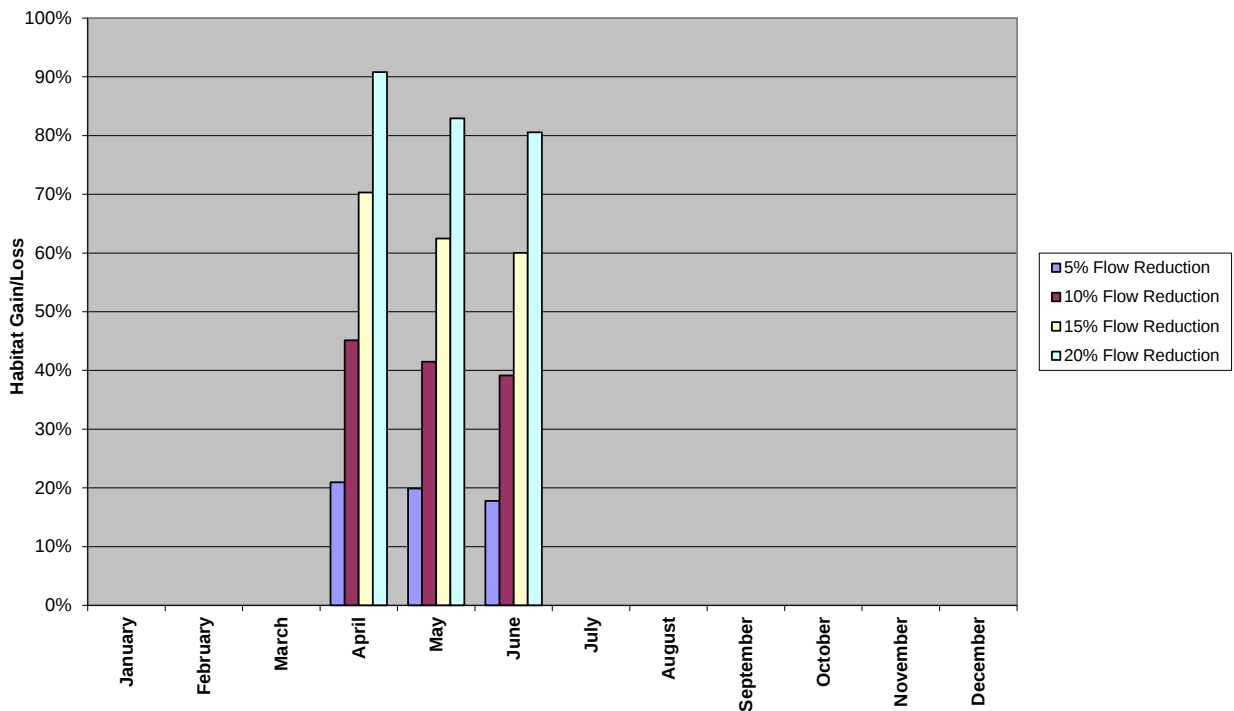
Largemouth Bass Juvenile (1965-2014)
Medium Back Water (50%)
Rainbow River - Pool Site



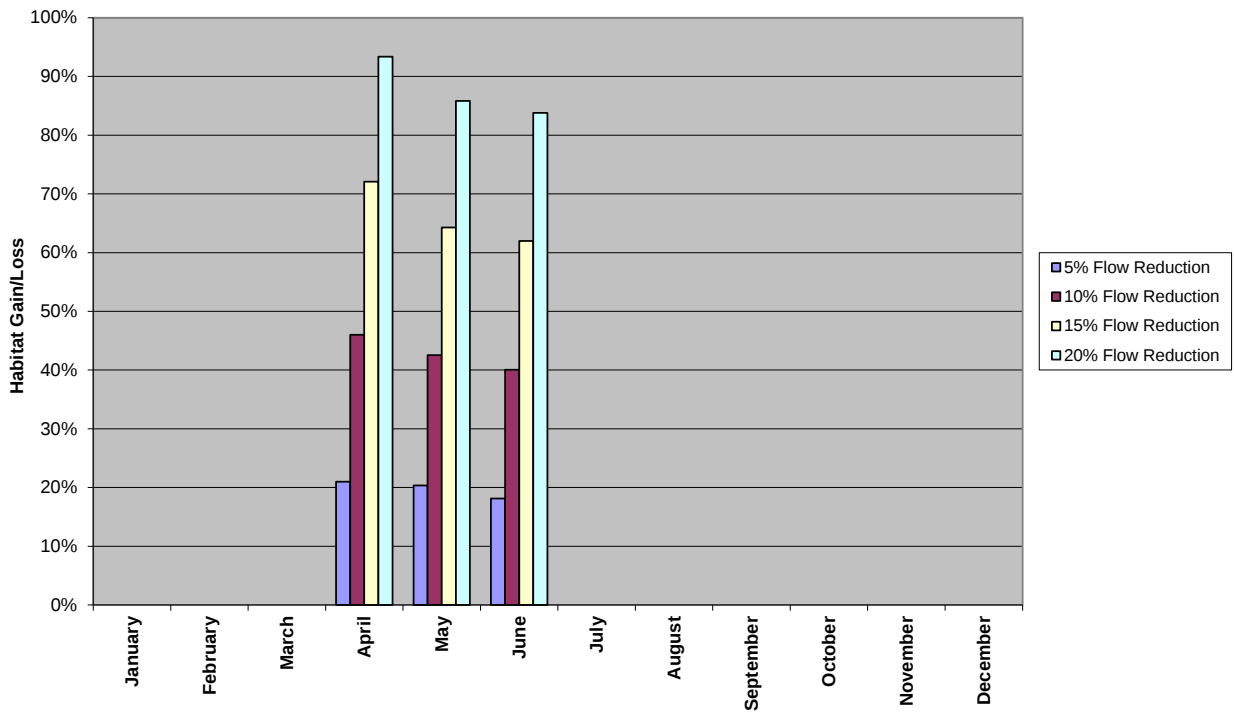
**Largemouth Bass Juvenile (1965-2014)
High Back Water (75%)
Rainbow River - Pool Site**



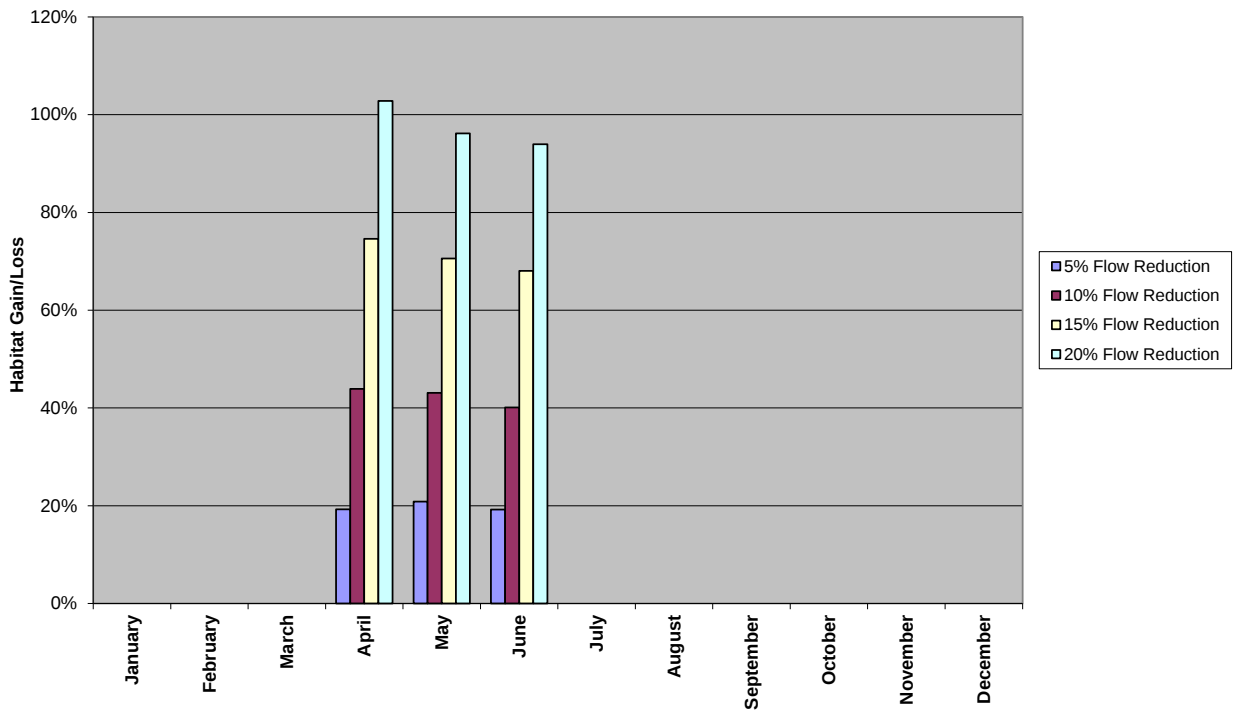
**Largemouth Bass Spawning (1965-2014)
Low Back Water (25%)
Rainbow River - Pool Site**



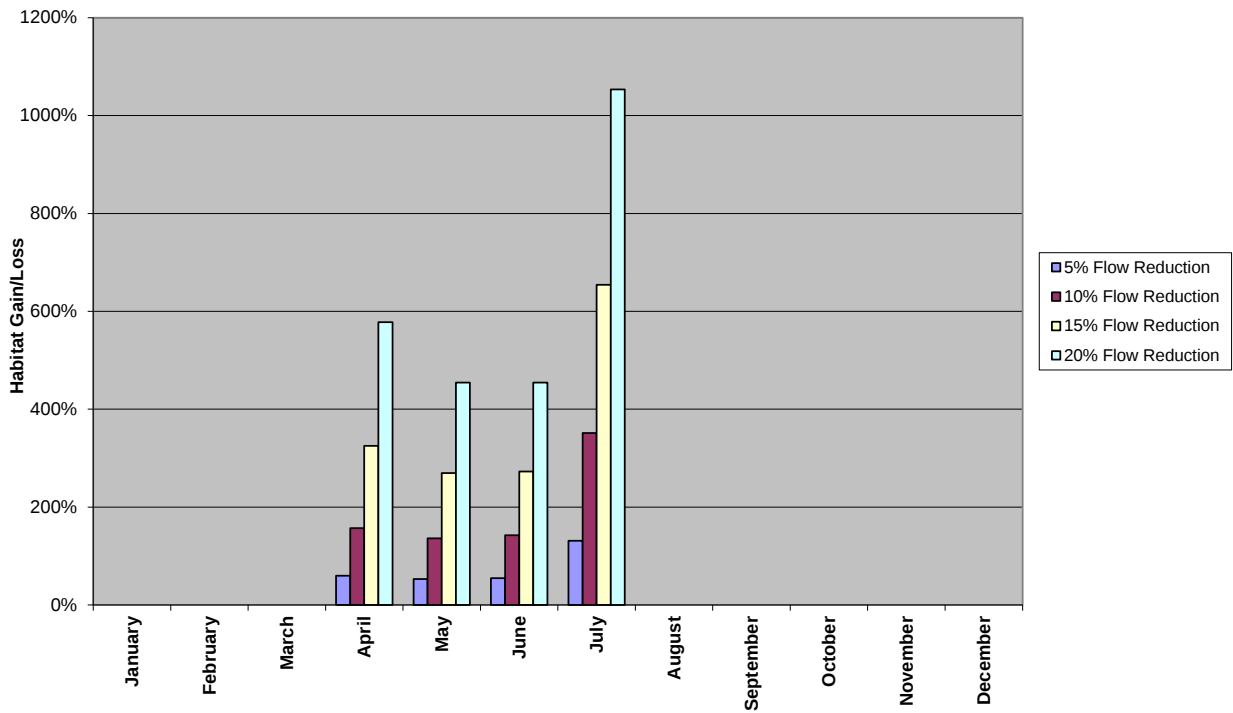
Largemouth Bass Spawning (1965-2014)
Medium Back Water (50%)
Rainbow River - Pool Site



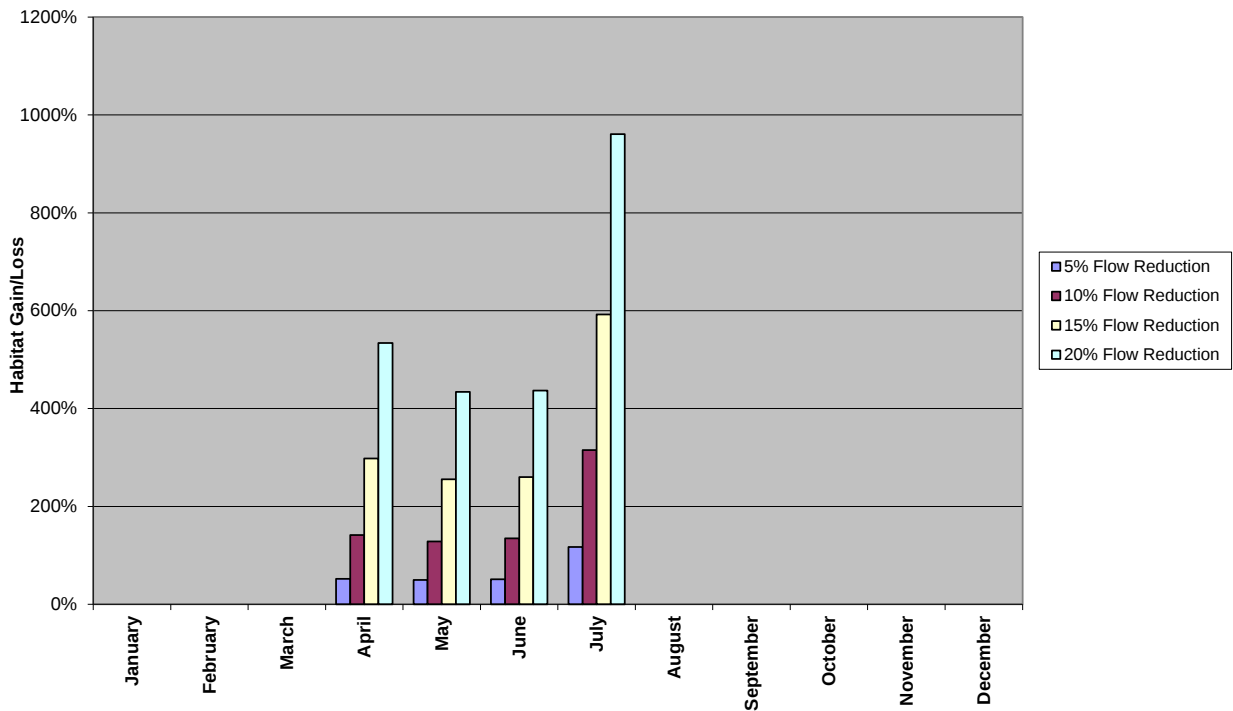
Largemouth Bass Spawning (1965-2014)
High Back Water (75%)
Rainbow River - Pool Site



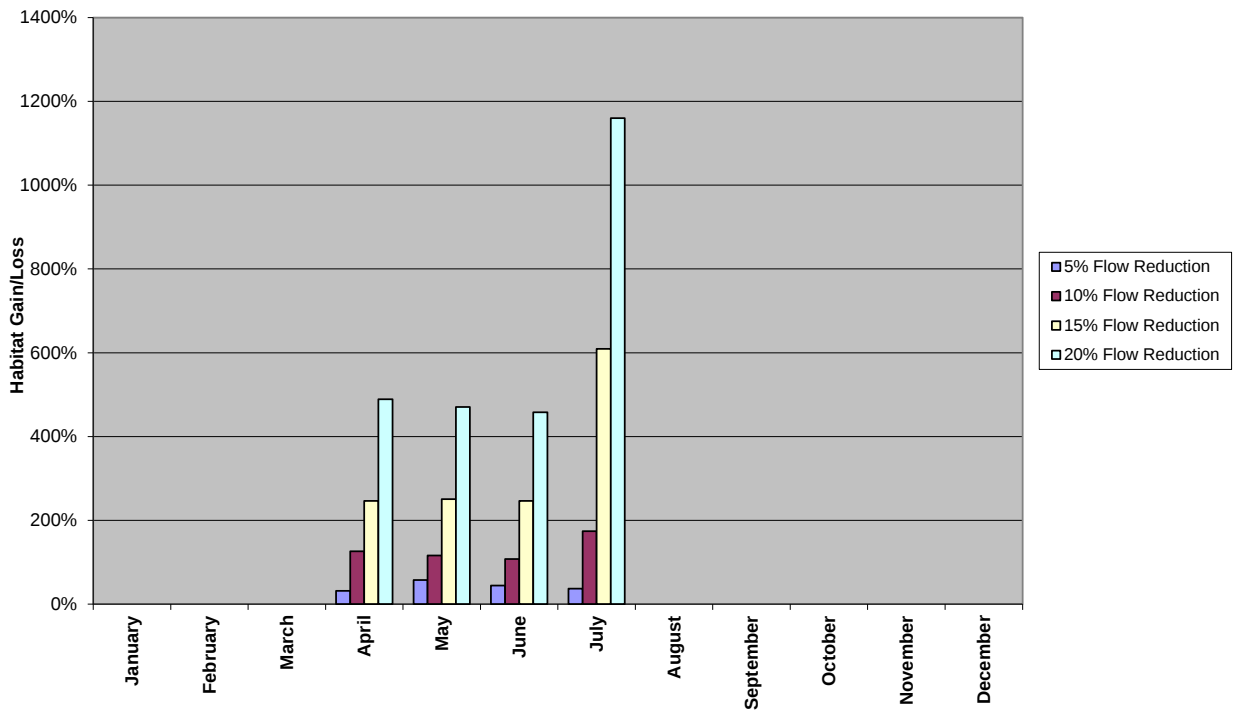
Largemouth Bass Fry (1965-2014)
Low Back Water (25%)
Rainbow River - Pool Site



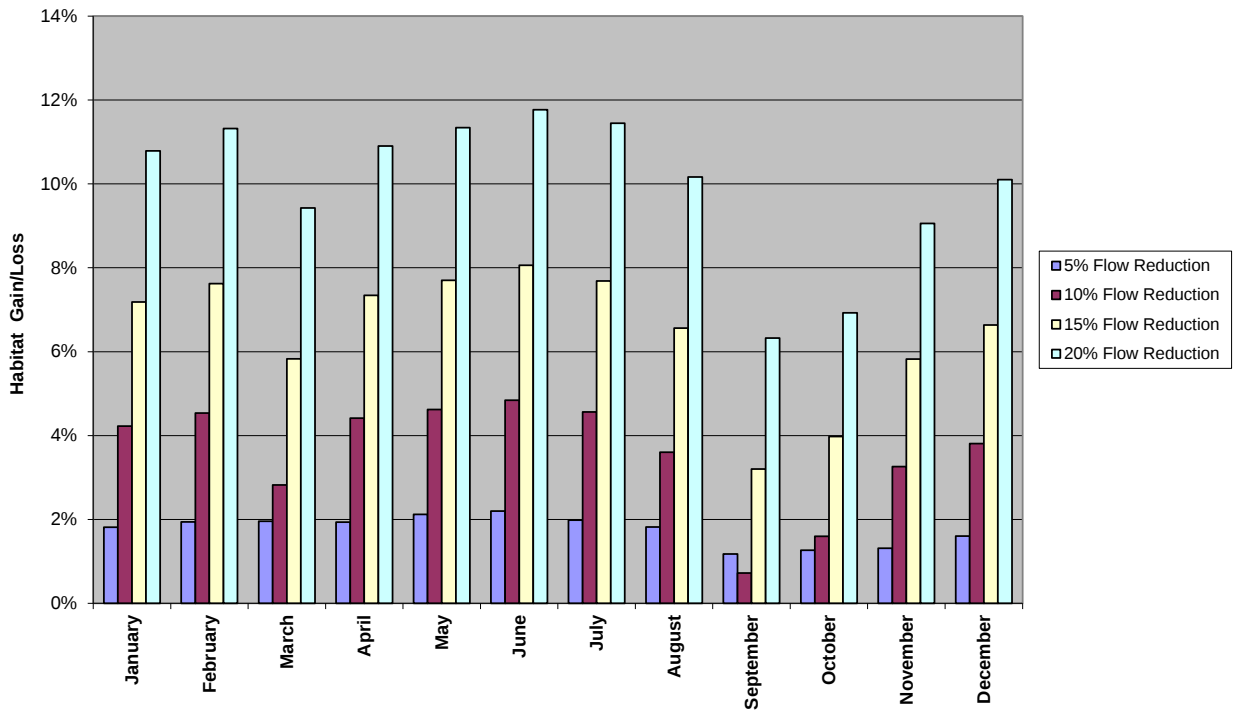
Largemouth Bass Fry (1965-2014)
Medium Back Water (50%)
Rainbow River - Pool Site



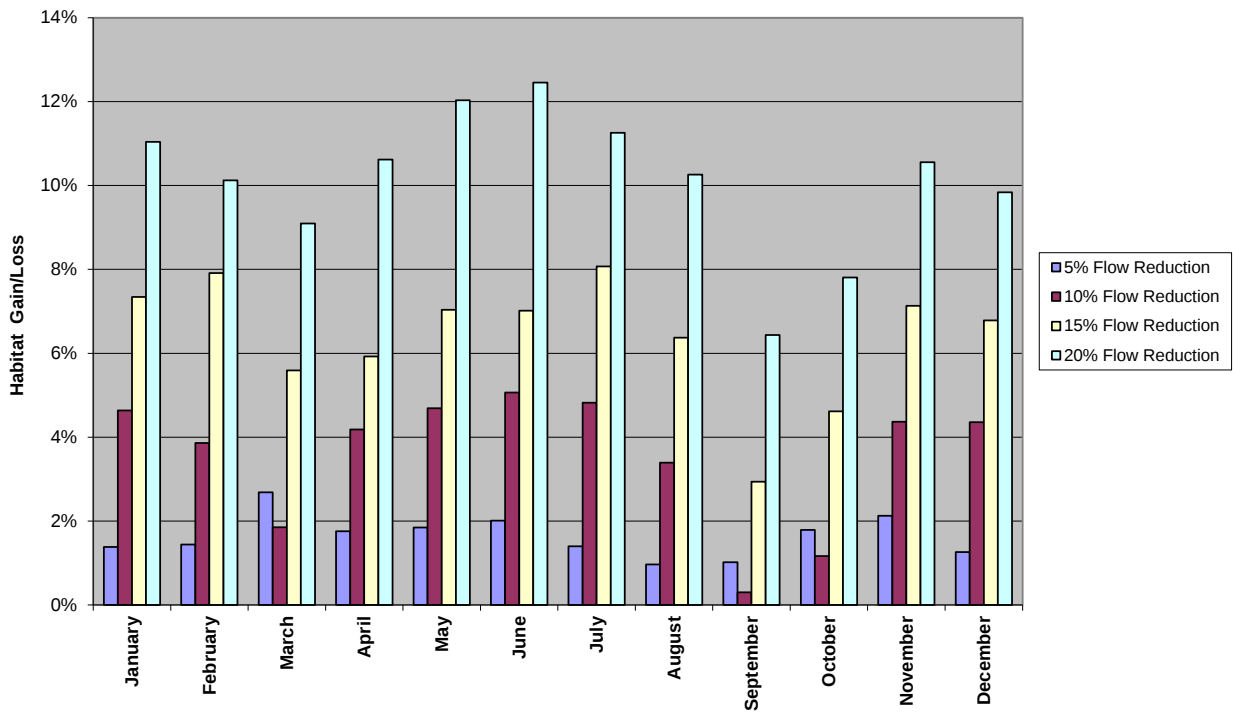
Largemouth Bass Fry (1965-2014)
High Back Water (75%)
Rainbow River - Pool Site



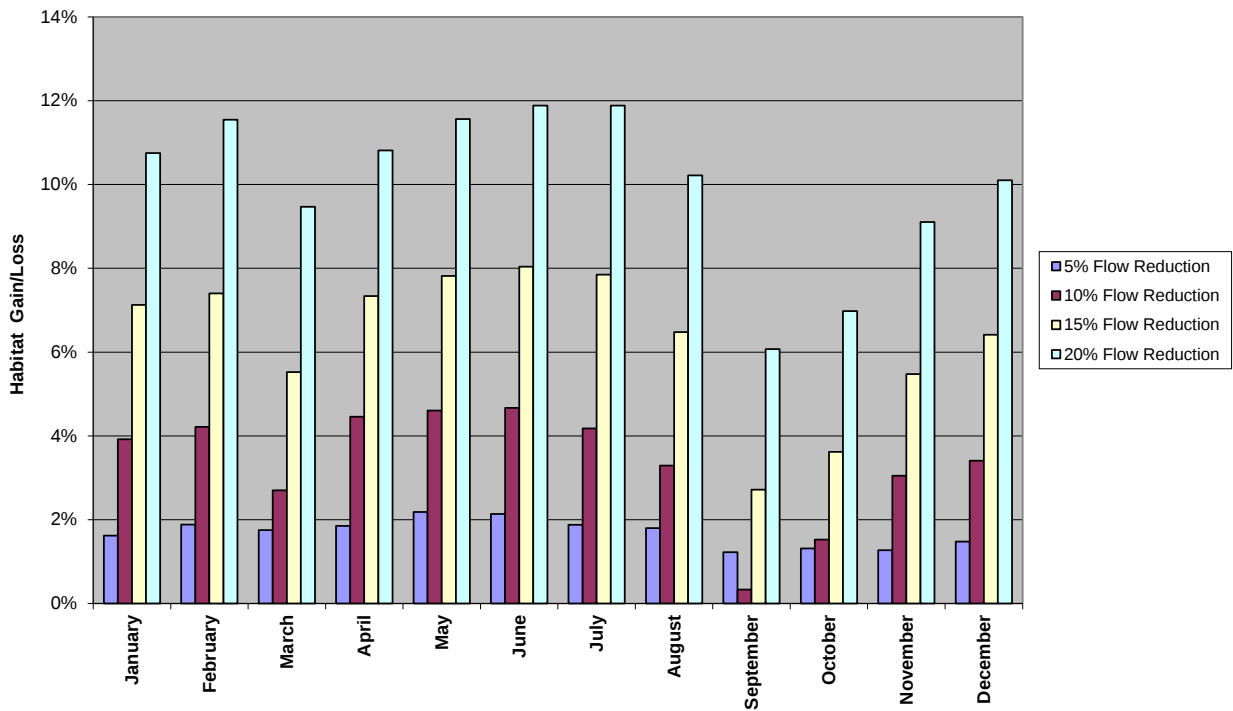
Bluegill Sunfish Adults (1965-2014)
Low Back Water (25%)
Rainbow River - Pool Site



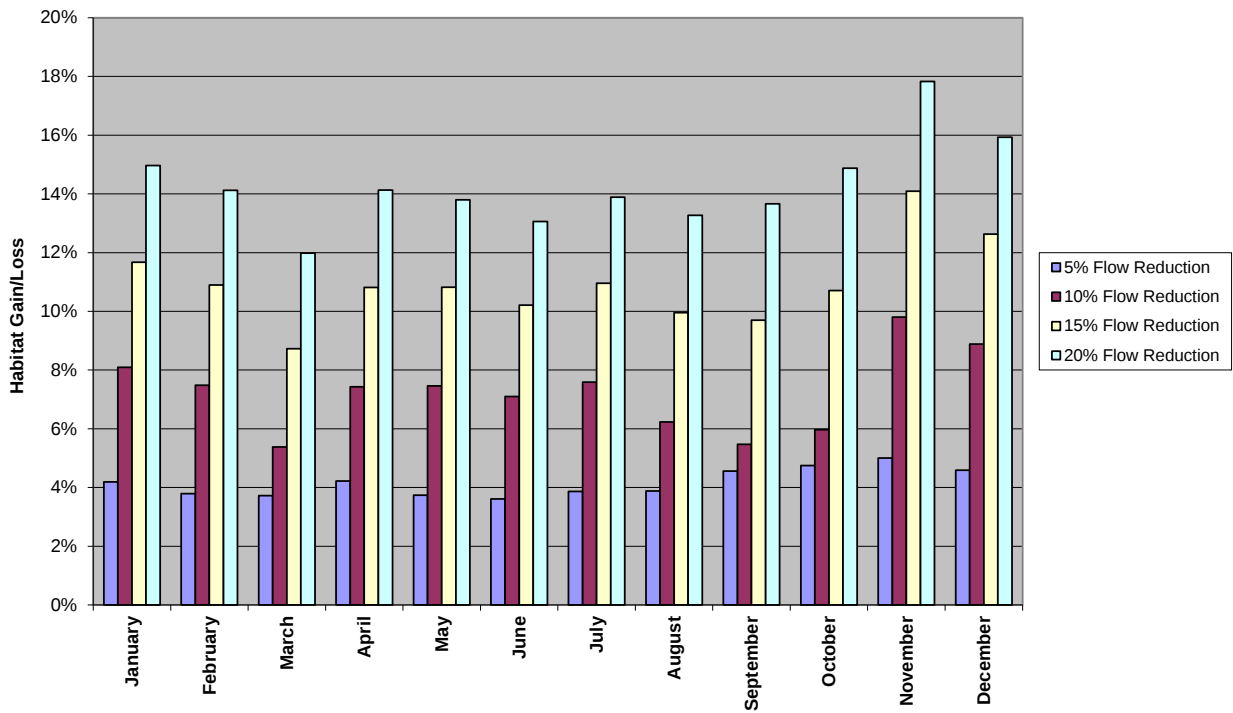
Bluegill Sunfish Adults (1965-2014)
Medium Back Water (50%)
Rainbow River - Pool Site



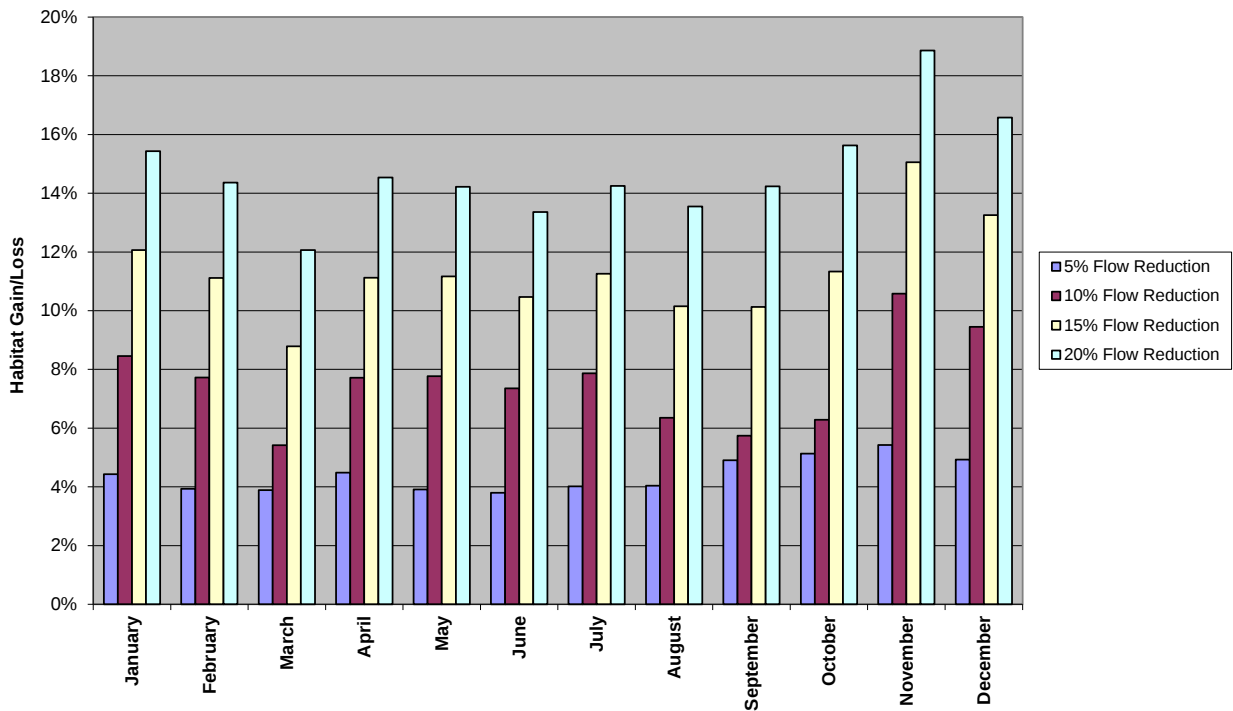
Bluegill Sunfish Adults (1965-2014)
High Back Water (75%)
Rainbow River - Pool Site



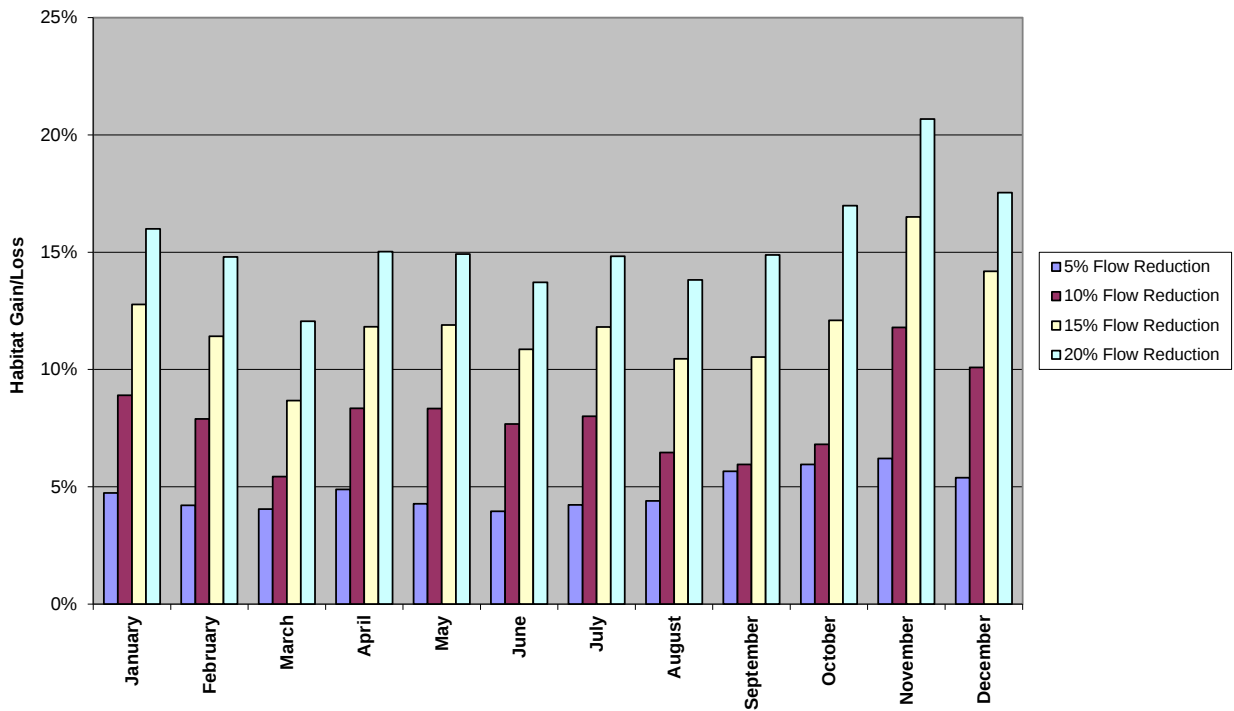
Bluegill Sunfish Juveniles (1965-2014)
Low Back Water (25%)
Rainbow River - Pool Site



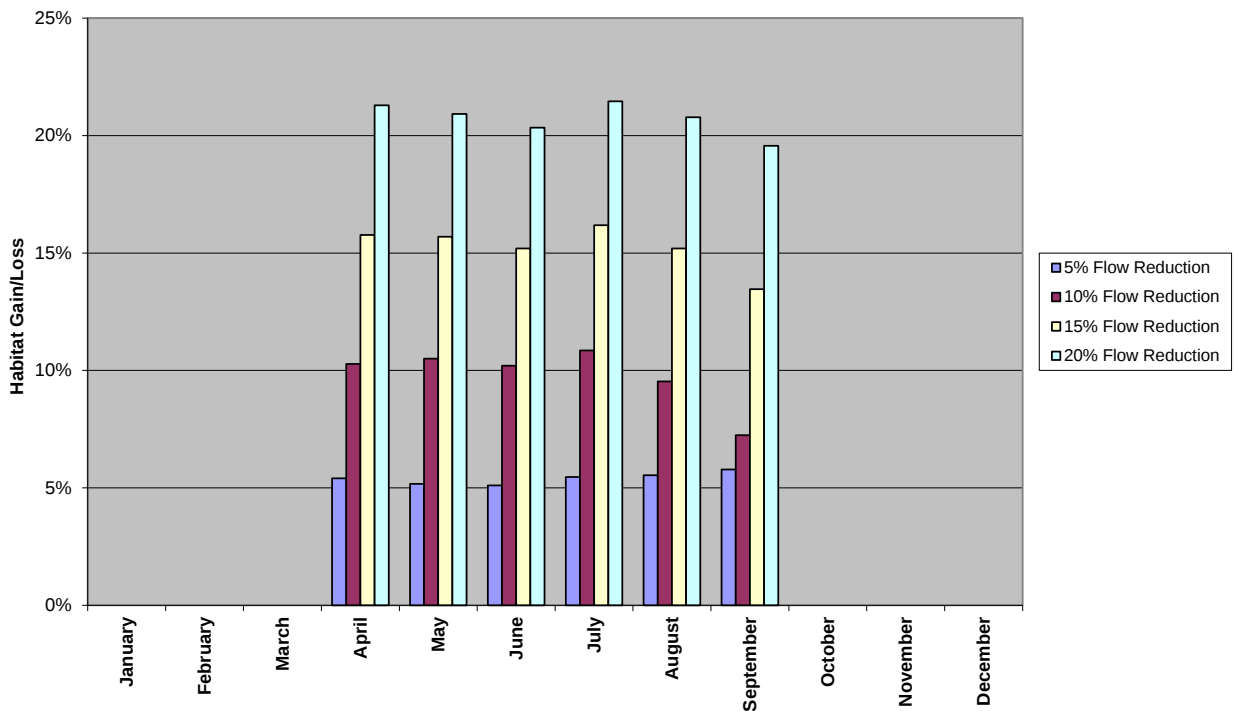
Bluegill Sunfish Juveniles (1965-2014)
Medium Back Water (50%)
Rainbow River - Pool Site



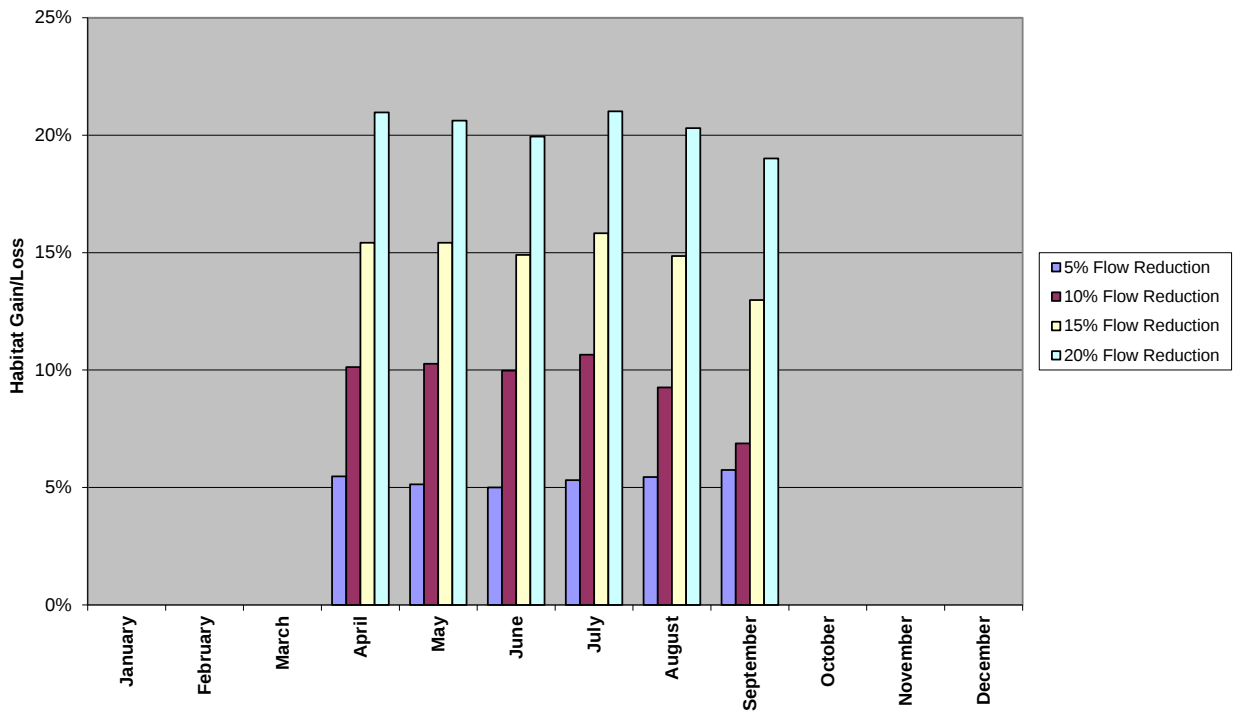
Bluegill Sunfish Juveniles (1965-2014)
High Back Water (75%)
Rainbow River - Pool Site



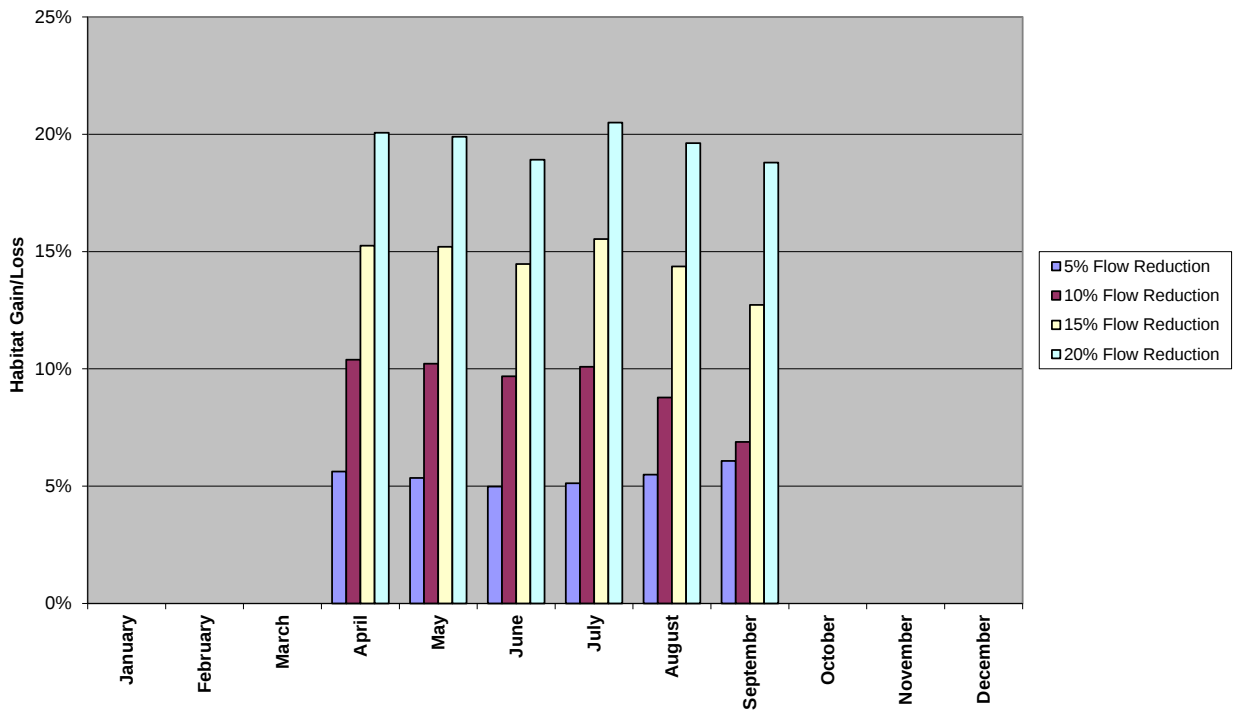
Bluegill Sunfish Spawning (1965-2014)
Low Back Water (25%)
Rainbow River - Pool Site



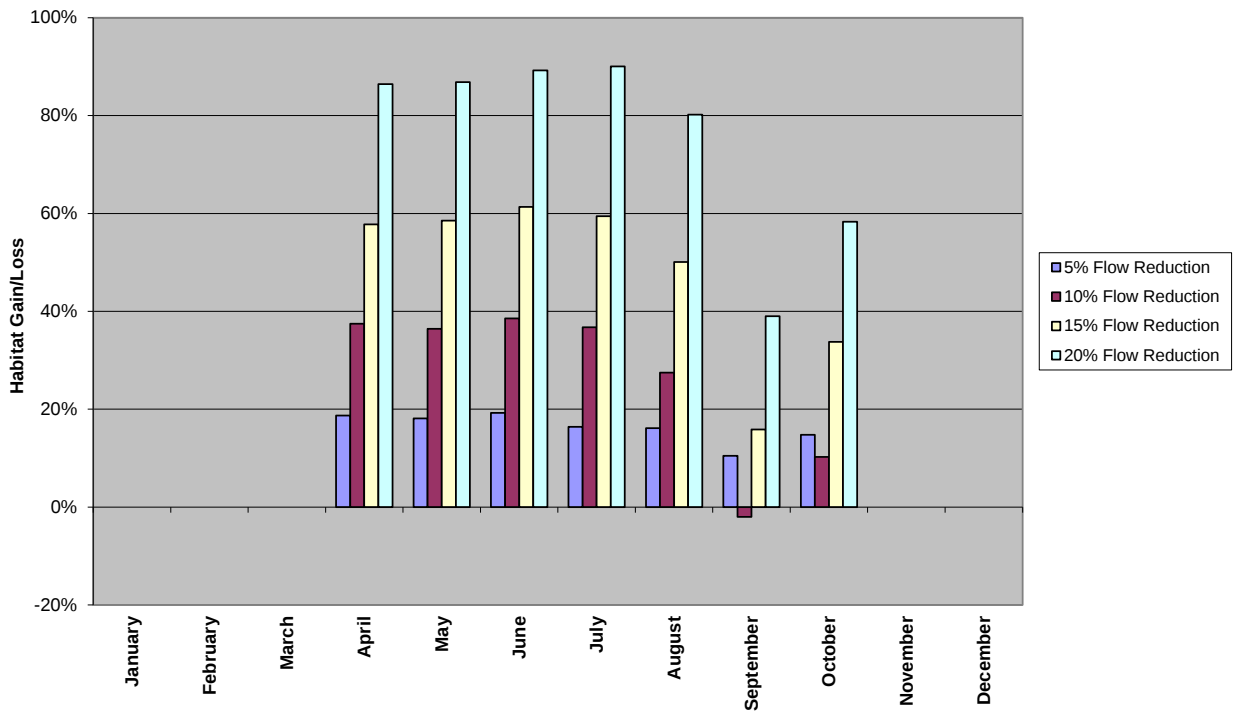
Bluegill Sunfish Spawning (1965-2014)
Medium Back Water (50%)
Rainbow River - Pool Site



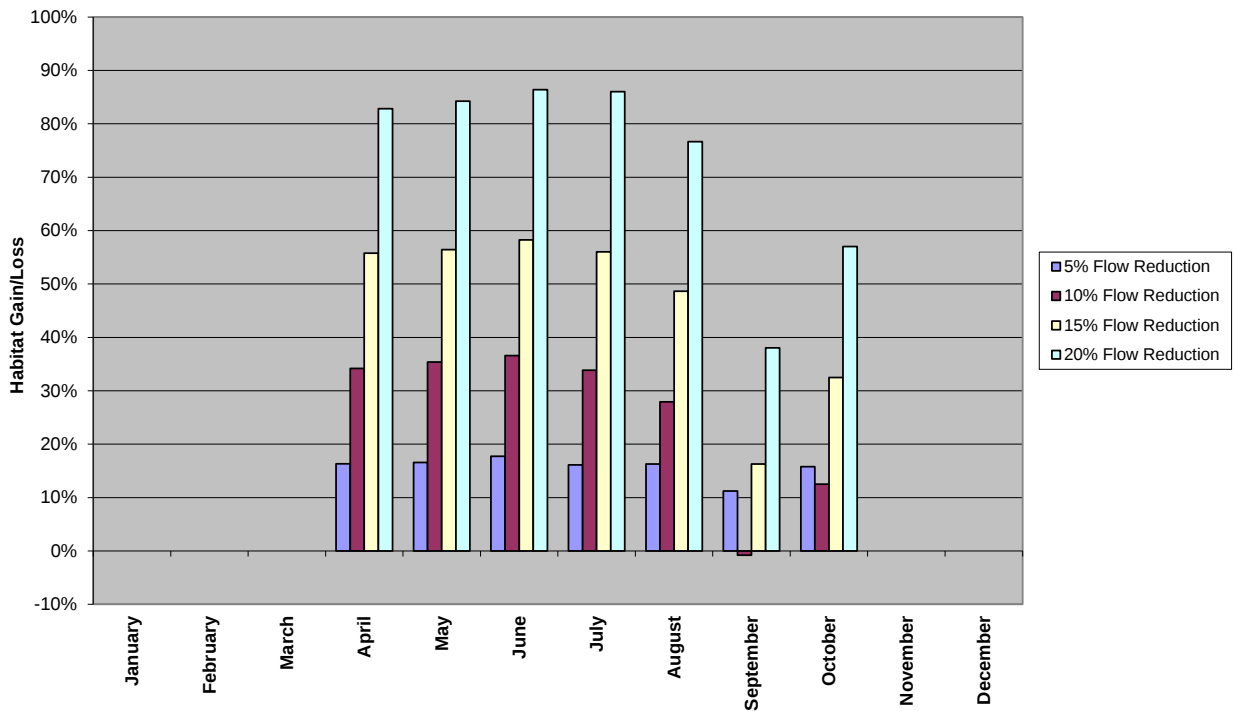
Bluegill Sunfish Spawning (1965-2014)
High Back Water (75%)
Rainbow River - Pool Site



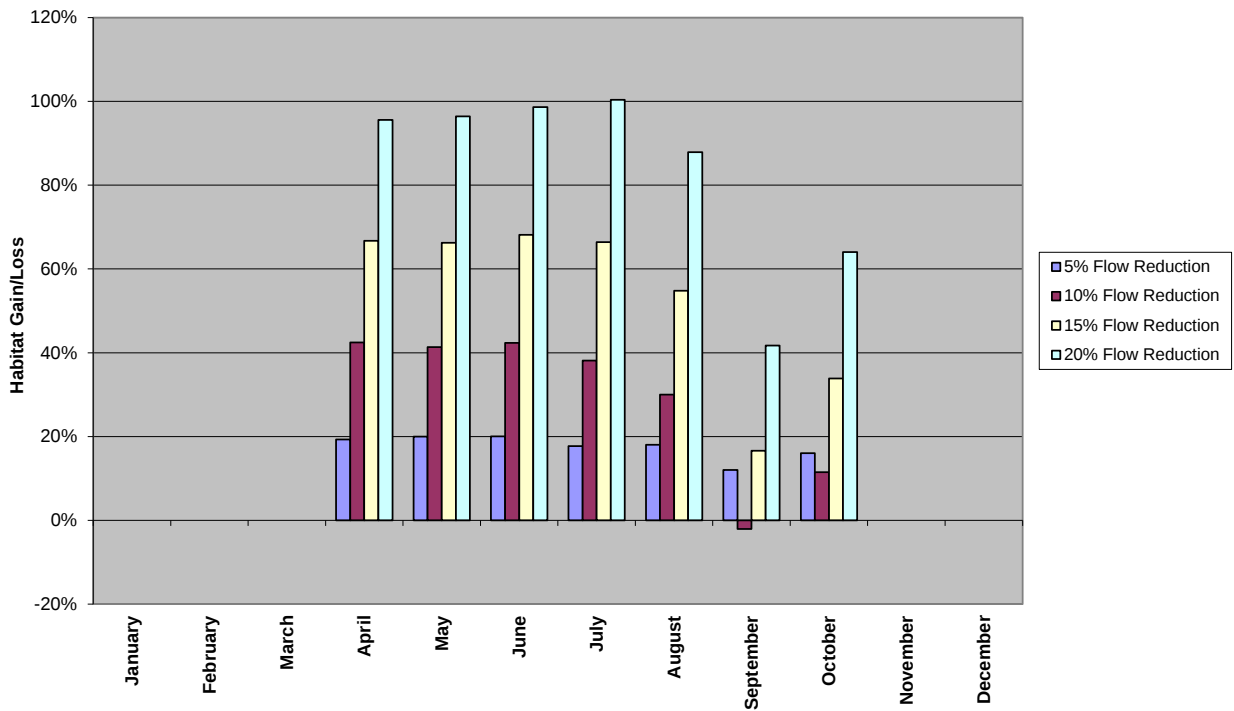
Bluegill Sunfish Fry (1965-2014)
Low Back Water (25%)
Rainbow River - Pool Site



Bluegill Sunfish Fry (1965-2014)
Medium Back Water (50%)
Rainbow River - Pool Site



Bluegill Sunfish Fry (1965-2014)
High Back Water (75%)
Rainbow River - Pool Site



Minnows (1965-2014)
Low Back Water (25%)
Rainbow River - Pool Site

