



**Recent trends in the Lee's Ferry tailwater fishery,
with additional input on findings of whirling
disease, crayfish, and exotic species**

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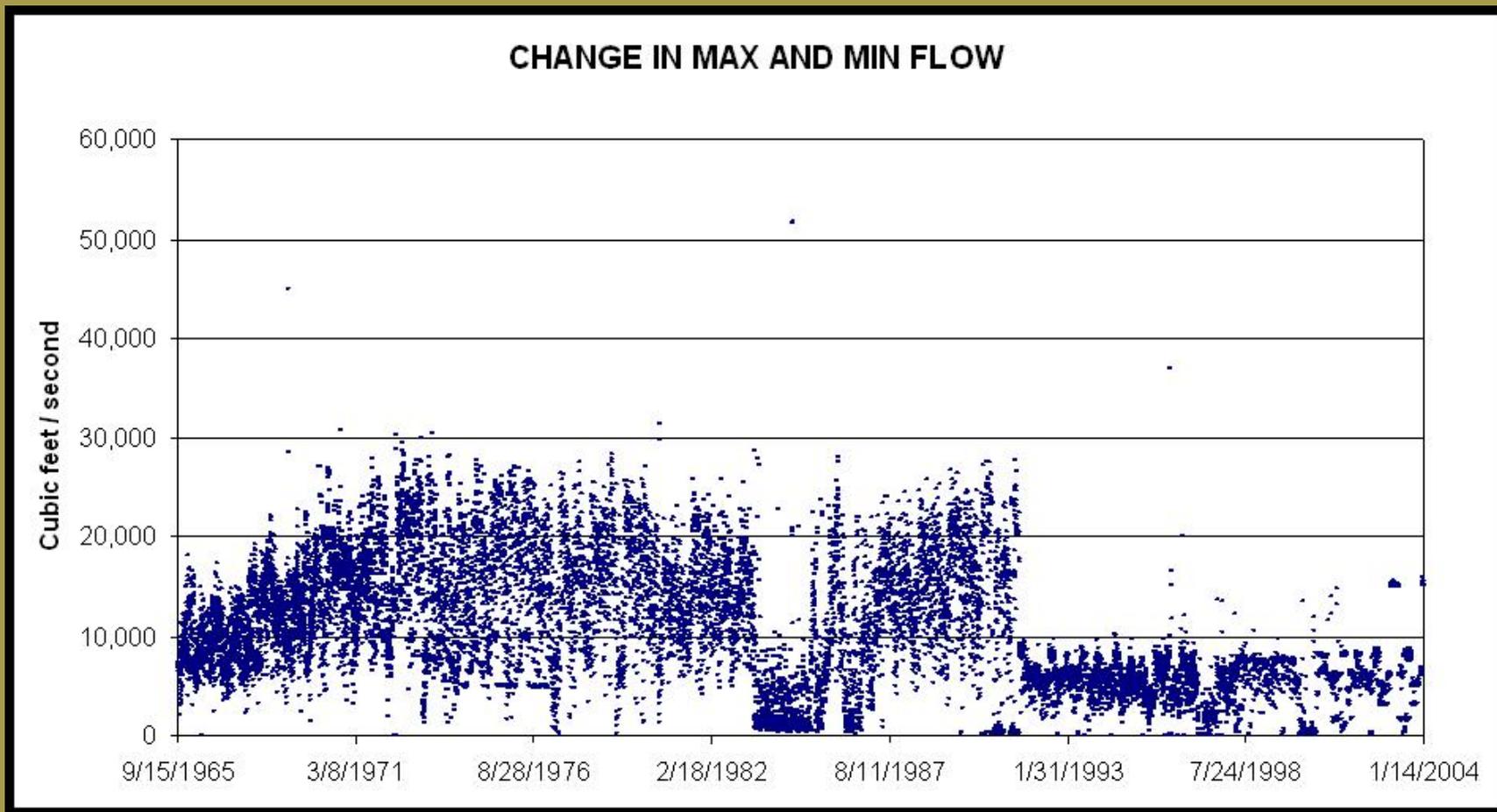
Project objectives and monitoring strategy

- **Monitor status and trends in RBT population for:**
 - Population abundance and CPUE
 - Population size structure
 - Growth rate
 - Length-weight relationship
 - Relative condition
 - Whirling disease (samples collected by AGFD & GCMRC since 1999)
- **Since 2002, 27 random and 9 fixed sites sampled 3 times/year**
 - Fish receive PIT-tags in fixed sites (beginning 2002)
 - Fish receive floy tags in random sites (beginning 2007)
- **MLFF-like flows began in 1991**



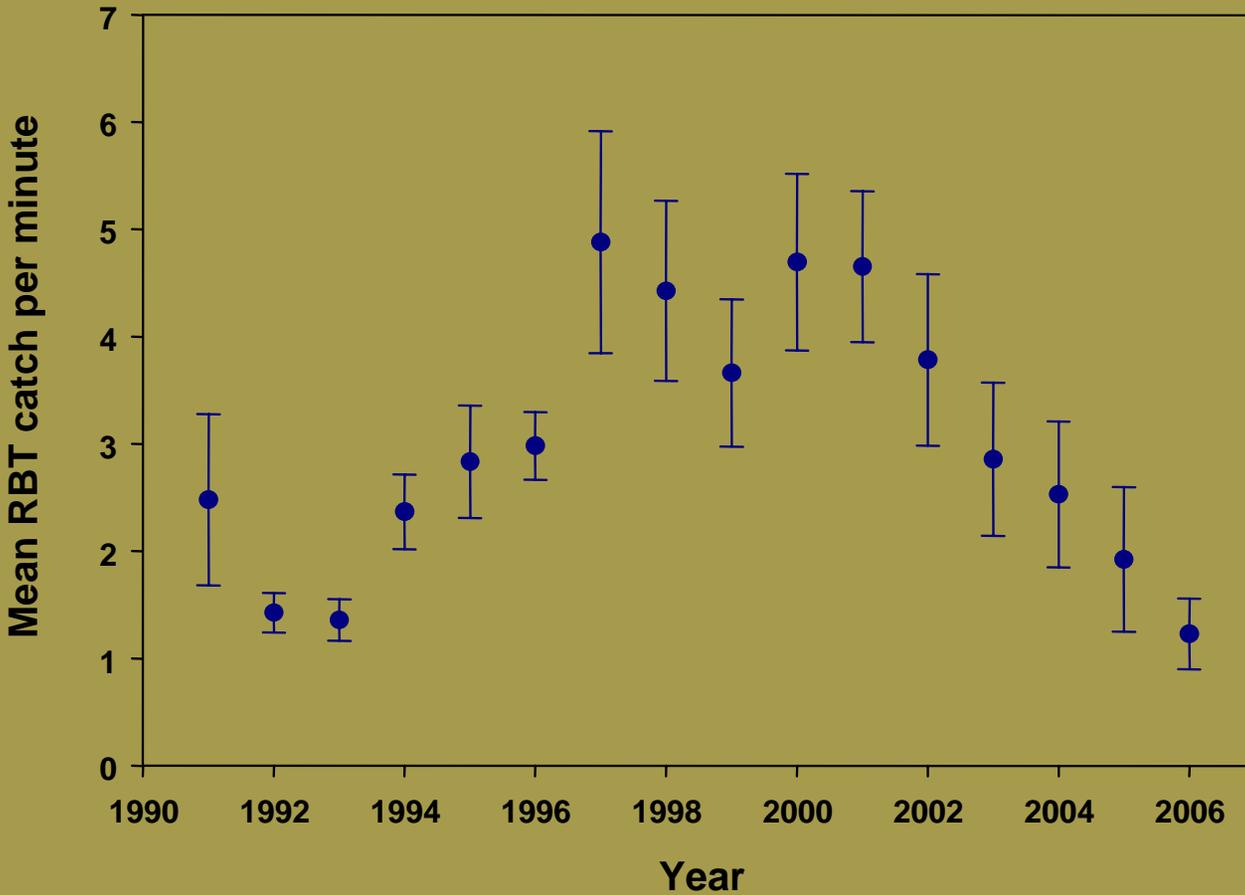


Flow regime



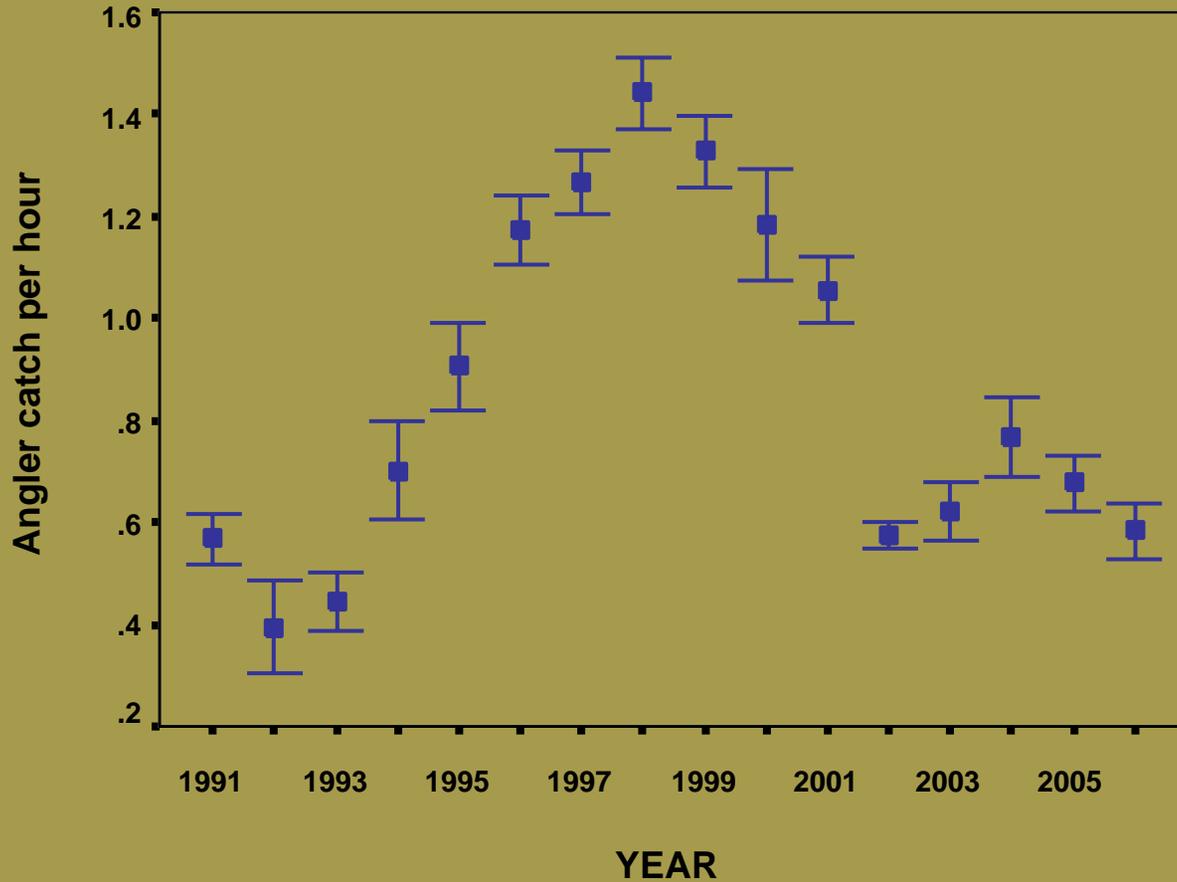


Relative abundance



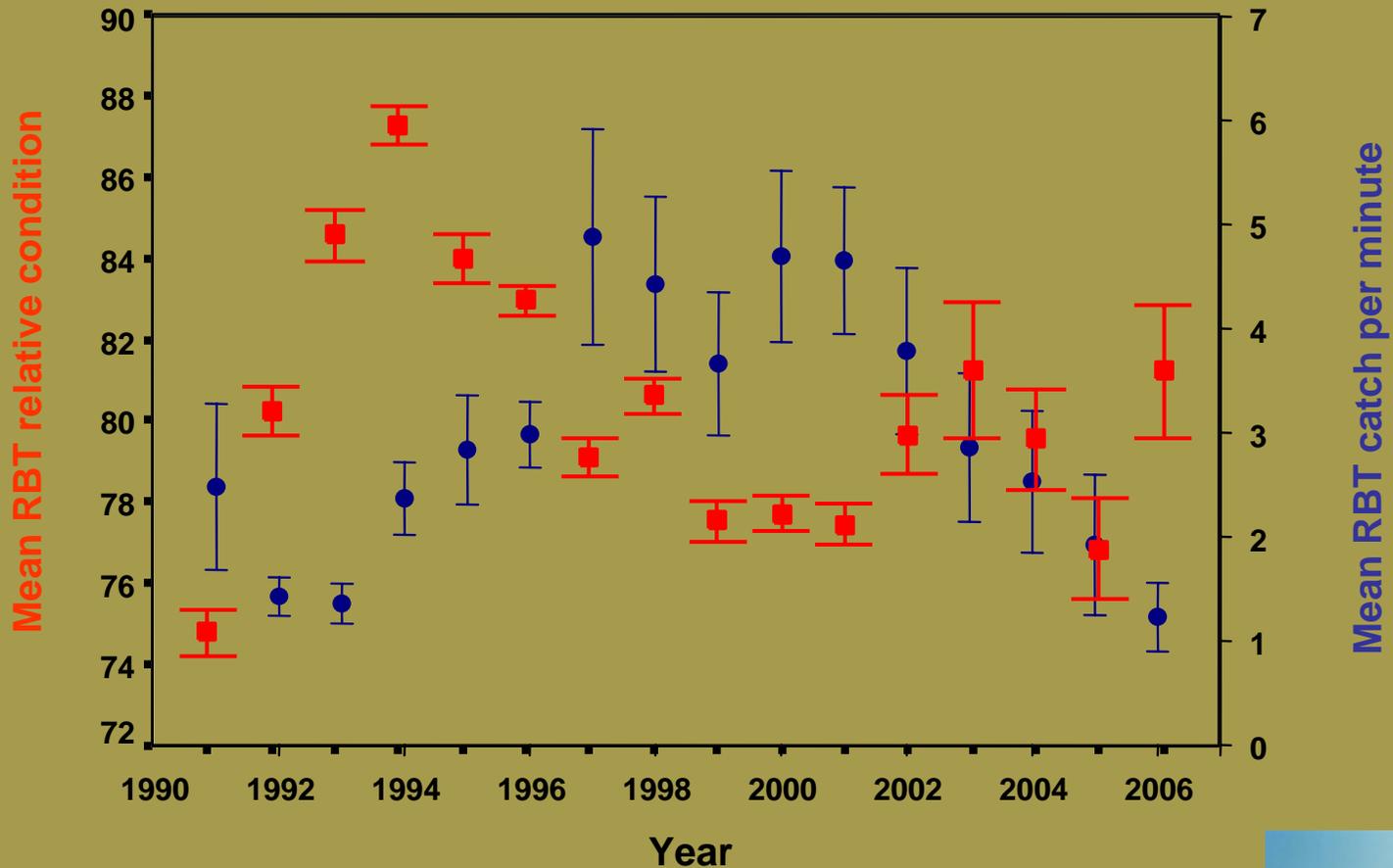


Angler creel survey





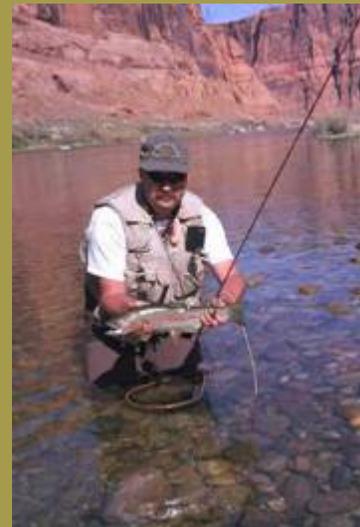
Relative condition





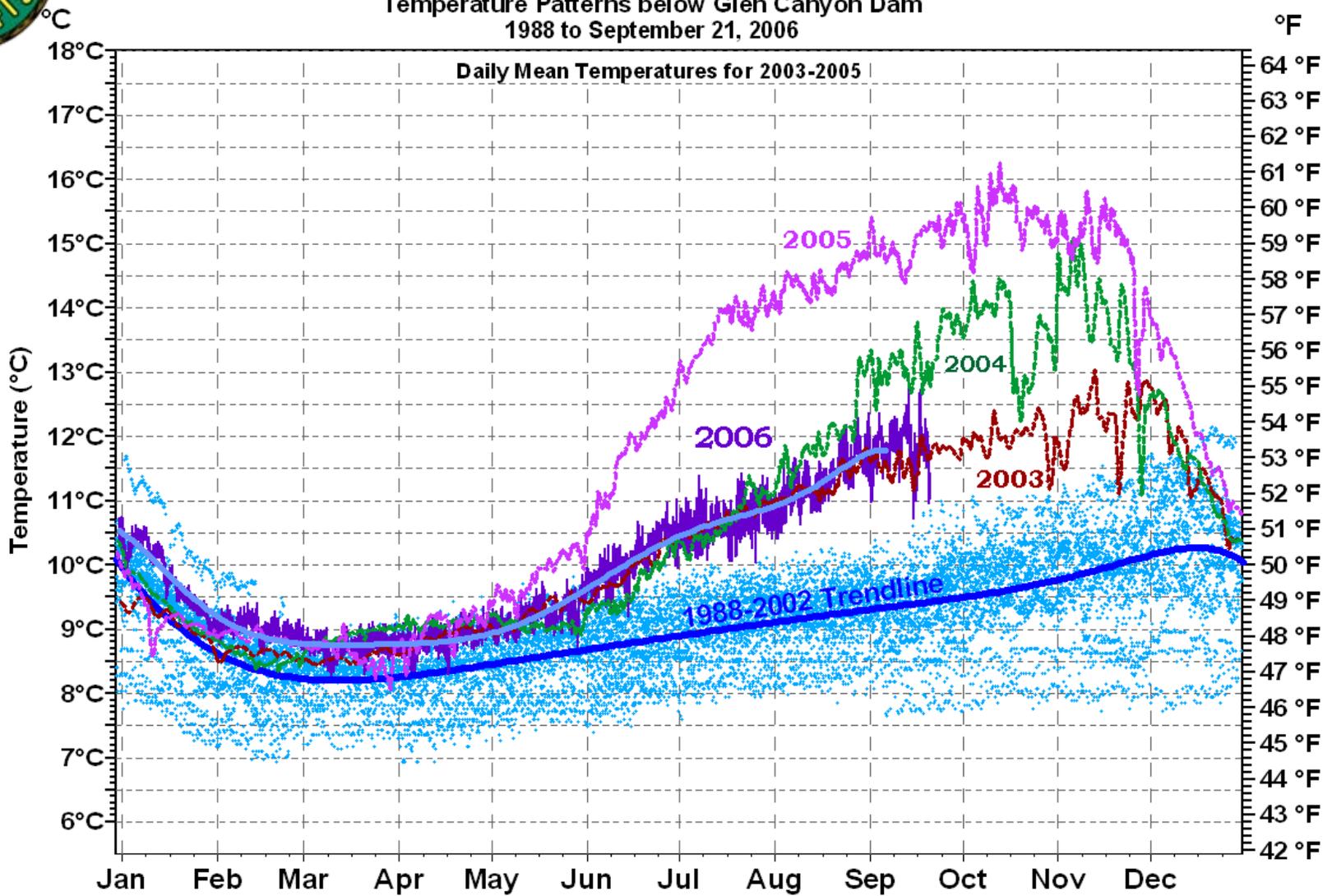
Summary

- Increase in trout abundance and condition soon after MLFF flow regime (early 90's)
 - Response to stable environment?
- Late 90's to current: decreases in abundance, angler catch rates
 - Potential changes in the foodbase?
 - Introduction of New Zealand mud snail
 - Increased temperature?
 - Low DO in 2005?





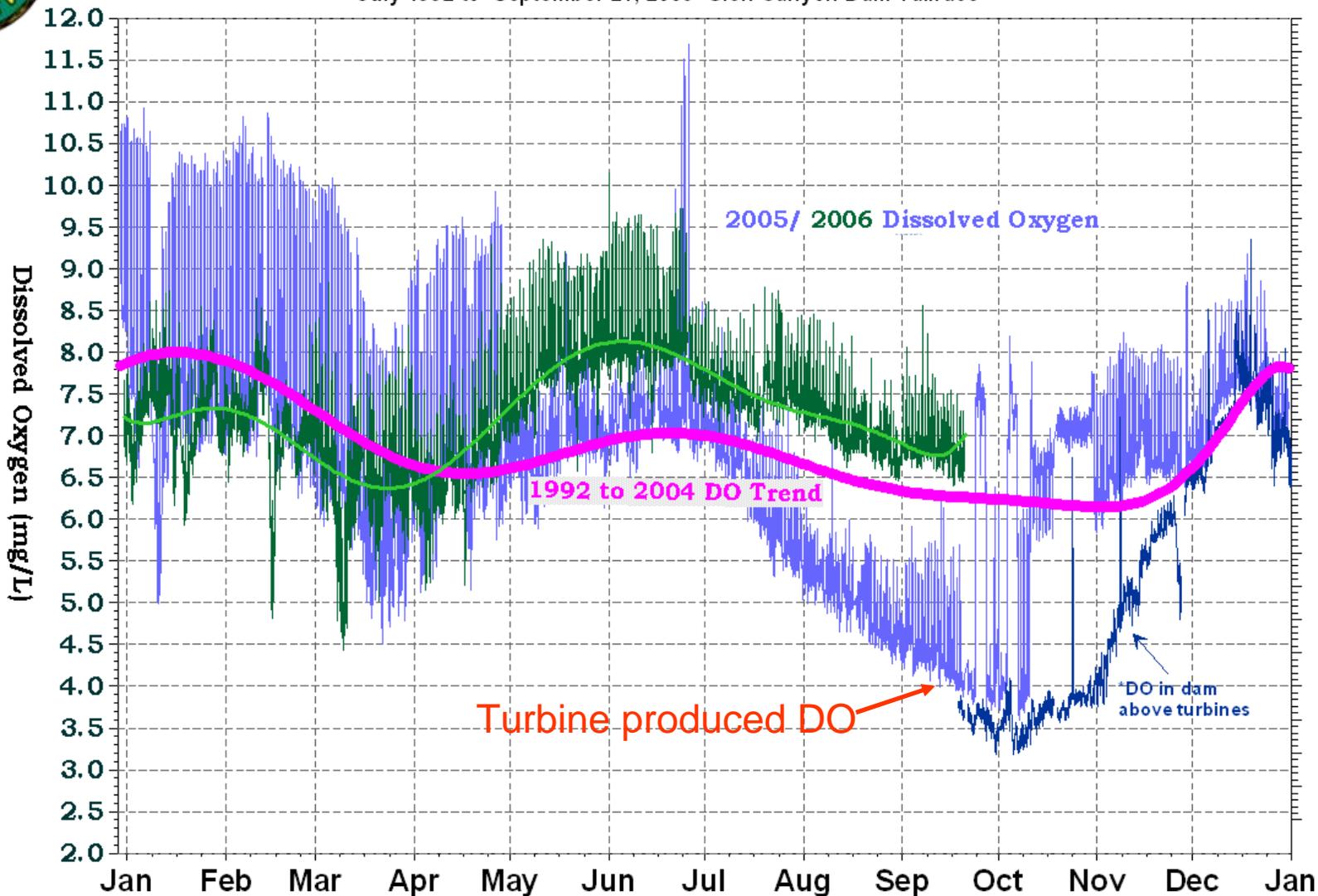
Temperature Patterns below Glen Canyon Dam 1988 to September 21, 2006



Slide courtesy of Susan Hueftle, USGS



Annual Dissolved Oxygen Patterns below Glen Canyon Dam July 1992 to September 21, 2006 Glen Canyon Dam Tailrace





Recent findings

- **Whirling disease**
 - Confirmed June 2007; First confirmed case in Arizona
 - Additional samples to be sent in October 2007
 - Other containment procedures are in works
- **Crayfish**
 - 3 specimens (spp. unknown) observed near dam
 - Sampling effort revealed no crayfish
- **Warm-water exotic species**
 - Sporadically found by researchers throughout Lee's Ferry
 - Additional sampling should reveal future prevalence
- **Mussels (*Dreissena* spp.)**
 - Recently found in Lake Powell (August 2007)





Conclusions

- **Reduced abundance has likely freed fishery from density-dependent issues**
 - Trout condition in 2006 similar to early 90's
 - Ongoing baseline foodbase/diet data
- **Future monitoring should reveal prevalence of disease and warm-water exotic species**
 - Disease monitoring will continue
 - AGFD + Korman shoreline electrofishing for sunfish, walleye, bass

