

## Adaptive Management Team

### Literature Review of Resident Fish and Invertebrates

Species		Exposure			Effect		Assessment and Citation
Common	% TDG	Duration	Depth	Temperature	Lethal	Sublethal	
Bluegill, fall Chinook, rainbow trout	100, 120 & 135%	16-22 hr	0 & 30'	17°C	Time to death		Resistance to TDG = bluegill > fall Chinook > rainbow trout. At 120% ~14% trout died, all Chinook and bluegills survived showed few external signs. (Abernethy <i>et al</i> , 2001)
Rainbow trout	144, 122, 116, 114, & 110%	LT <sub>50</sub>	0.25 & 0-1.0 m	10°C	Time to death		LT <sub>50</sub> = 5.1 hr at 140%, 55 hr at 122%, 9 dy to 42% mort at 116%. All survive at 114 & 110%. (Antcliffe <i>et al</i> , 2002 and 2003)
American shad	101, 111, 118, 124, & 128%	4 hr	15 cm			13 behavioral indicators observed	Behavioral tests (Bachman, <i>et al</i> , 1991) No GBT signs after 4 hr at 128%. No effect of TDG on behavior
Northern Squawfish (aka Pikeminnow)	100 -126 %	12 dy	0.25 m	Field tests, variable			32% died within 12 dy at 117% , 20 hr at 126%. Food consumption decreased between 100-126%. Field samples showed fish not seriously affected at 117 – 141%. Fish were below 3m depth. (Bentley, <i>et al</i> , 1981)
Suckers (3 spp), Northern. Pikeminnow, walleye	Low TDG	16-156 dy	Variable See Assess.	Field tests, variable			Median depths pikeminnow-2.0 m, bridgelip sucker-2.8 m, walleye-3.7 m, longnose sucker-5.2 m, largescale sucker-6.8 m. (Beeman <i>et al</i> , 2003a)
Suckers (3 spp), Northern. Pikeminnow, walleye	125 – 130%		Variable See Assess.	Field tests, variable			8000+ resident fish examined for GBD signs. Depths recorded above. Time to LT <sub>50</sub> were 2x long at 125 as at 130%. Sensitivities at 125 & 130% were pikeminnow/lrg scale sucker.\>longns sucker>redside shiner>walleye. Walleye growth greater during year of high gas. Other spp growth unaffected. (Beeman <i>et al</i> , 2003b)

