Bramblett and Fausch 1991); only a few river.

Food habits

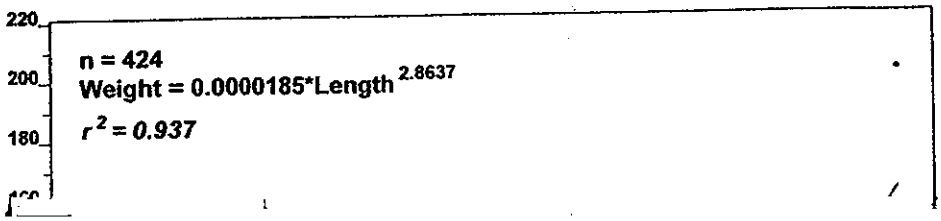
Stomach contents were removed, examined under a dissecting microscope, and individual organisms identified when practicable. Contents were then filtered, patted dry, and weighed with an analytical balance. Mean weight of contents was expressed

which length and weight were measured, mean length of females (181 mm TL) was significantly greater than of males (138 mm TL, t-test; $P<0.05$). No significant difference was found in the slopes of length-weight relations for males and females (t-test, $P>0.05$), so known males and females were

Statistical analyses

Linear regression methods were

to create one combined length-weight relation (Fig. 2).


220
200
180
n = 424
Weight = 0.0000185*Length 2.8637
r 2 = 0.937

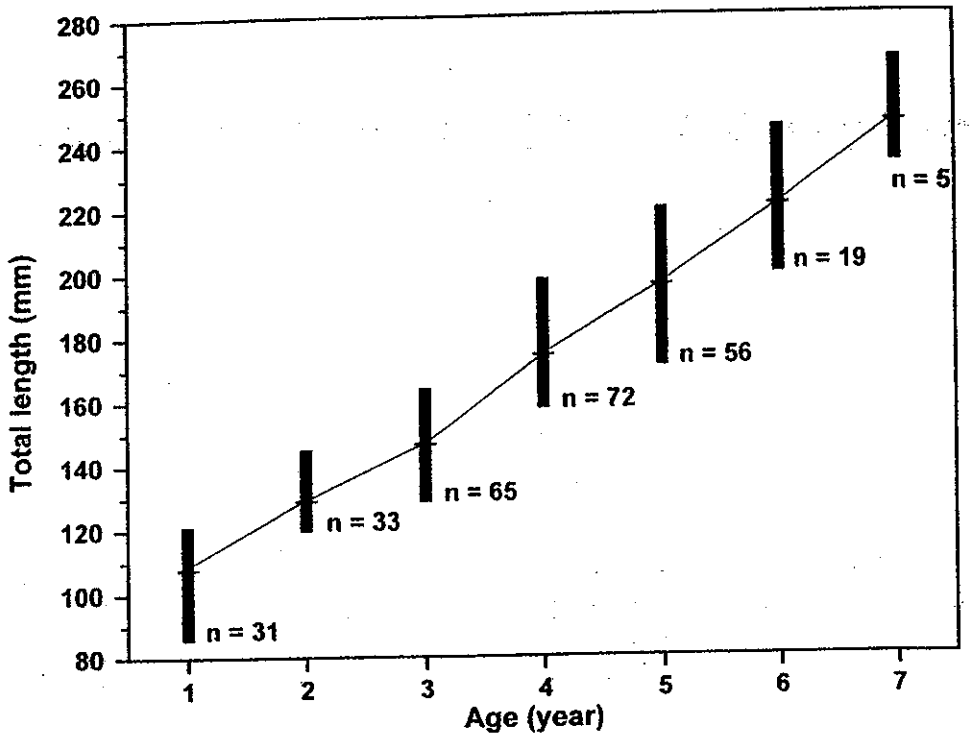


Figure 3. *Mean lengths and range of lengths by age, flathead chubs, Intake Diversion Canal.*

large eggs. Egg numbers were highest in a few fish aged 4 and 5. Mean total number of eggs per specimen (mean length 186 mm TL, mean weight 68.5 g) was 6,981, of which about 58 percent were large eggs. Large eggs were typically greater than 1 mm in diameter (mean, 1.11 mm) and small eggs typically less than 0.8 mm in diameter

examined contained identifiable organisms. Sixty-seven stomachs were empty. Identifiable organisms were insects in the orders Coleoptera, Hymenoptera, Orthoptera, and Trichoptera. Contents of all other stomachs were masticated beyond recognition, a mixture of organic debris and invertebrate parts. Stomach contents constituted an average of 0.26

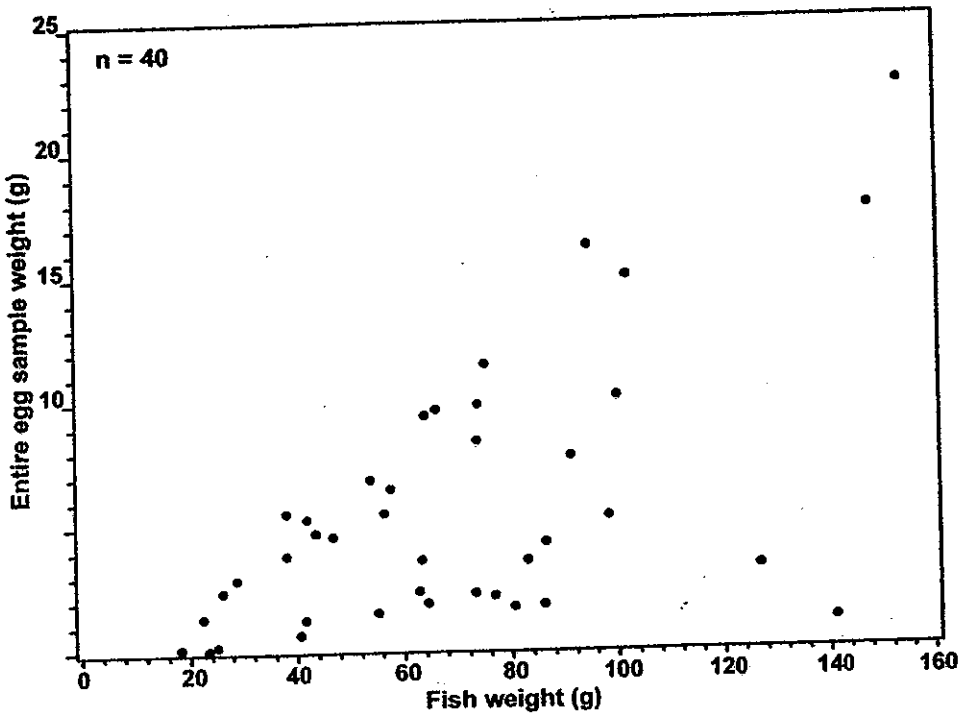


Figure 4. *Relation between flathead chub weight and weight of eggs, Intake Diversion Canal.*

TL. Mean length of our fish for which fecundity was estimated was 186 mm TL, and 15 fish were between 200 and 255 mm TL. Fecundity differences were not necessarily attributable to higher egg weight as a percentage of total body weight. Gould's (1985) fish had gonad weights that ranged from 2.3 to 5.9

reliable data on maturation schedules, individual chubs should be monitored over time. It is unclear if a relation exists between timing of spawning and Yellowstone River discharge although this identifies a need for future investigation.

The difficulty of identifying specific organisms in the diet of flathead chubs

and aquatic habitats in plains streams