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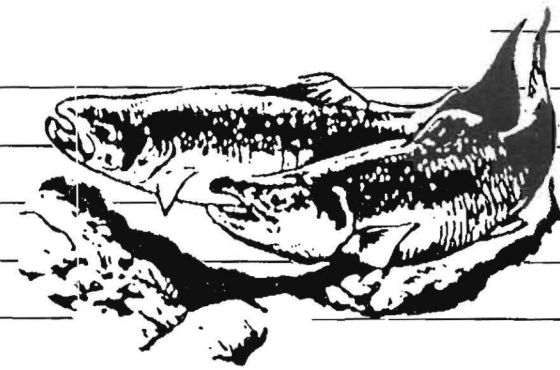

In Lake DeSmet, Wyoming, Fish are Rare in the Diet of the Eagle Lake Strain of Rainbow Trout

Rainbow trout (*Oncorhynchus mykiss*) native to Eagle Lake, Lassen County, California, prey heavily on minnows in summer and consequently grow to trophy sizes. Eagle Lake rainbow trout are being reared as a unique hatchery strain and have been introduced to many lakes and reservoirs because they are believed to be more piscivorous than other strains of rainbow trout.

We assessed the extent of fish consumption by rainbow trout from Eagle Lake in Lake DeSmet, Wyoming, where a substantial assemblage of forage fishes was present. The fish assemblage includes rainbow trout from Eagle Lake, brown trout (*Salmo trutta*), yellow perch (*Perca flavescens*), rock bass (*Ambloplites rupestris*), black crappies (*Pomoxis nigromaculatus*), common carp (*Cyprinus carpio*), white suckers (*Catostomus commersoni*), longnose suckers (*C. catostomus*), and emerald shiners (*Notropis atherinoides*). Also present, but in lower numbers, are mountain suckers (*Pantosteus platyrinchus*), creek chubs (*Semotilus atromaculatus*), and fathead minnows (*Pimephales promelas*). Abundant forage fishes are primarily emerald shiners and young-of-the-year yellow perch. Emerald shiners were introduced to provide forage for the rainbow trout from Eagle Lake in 1984.

The stomach contents of 200 rainbow trout collected during 1991 were assessed. Cladocerans composed the greatest number of food items, whereas insects composed the greatest biomass (Table). The abundance of cladocerans, insects, and other invertebrates in the stomachs did not vary with length of the fish. Fish were in only 1.5% of the stomachs but accounted for 14% of the total biomass of food items in the stomachs. Four fish were found (two young-of-the-year yellow perch and two unidentified fish). There was no indication of greater fish consumption with increasing length of rainbow trout.

The abundance of cladocerans, insects, and other invertebrates in the stomachs varied over the year (Table). Cladocerans were the only food items during January and February, whereas insects were found in March and April. Insects became increasingly important diet items during summer. Fish were in stomachs only in fall.

The diet of Eagle Lake rainbow trout in Lake DeSmet was similar to diets of rainbow trout from other lakes and reservoirs. In most lentic systems, zooplankton and insects are often the predominant prey items of rainbow trout.

In spite of an abundance of forage fishes, the Eagle Lake strain of rainbow trout did not consume

as many fish in Lake DeSmet as did the same strain of rainbow trout in Eagle Lake, California. This strain does not seem to have a predisposition to prey on fish but has a diet composition similar to other strains of rainbow trout in other lakes. The results of our investigation suggest the need for further study before Eagle Lake rainbow trout are introduced elsewhere for the specific purpose of increasing fish consumption by predatory fish or for growing large trout that prey on forage fishes.

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Table. Stomach contents of 200 rainbow trout (*Oncorhynchus mykiss*) from Eagle Lake, California, collected at 2-month intervals from Lake DeSmet, Wyoming, 1991. Sample size in parentheses.

Taxa in stomach	Sampling interval: January-February (52)	March-April (29)	May-June (26)	July-August (29)	September-October (30)	November-December (34)
			Number			
Cladocera	12,371	21,574	18,874	14,650	36,372	40,767
Insects		80	1,879	384	78	1,287
Fish					3	1
Other		3		1	3	4
			Biomass (g)			
Cladocera	0.3711	0.6472	0.5662	0.4395	1.0912	1.2230
Insects		0.1069	0.6907	2.5644	0.4467	0.2998
Fish					0.7752	0.6291
Other		0.0046	0.0086	0.0042	0.0126	0.0008