

Trip Report: Eagle Creek, Arizona

July 9-11, 2014



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August 11, 2014

Summary. A fish survey was conducted on portions of Eagle Creek, Greenlee Co., Arizona, from July 8-11, 2014 to determine species composition, distribution, and relative abundance. Methods were backpack electroshocking, seining, and minnow trapping. An overall total of 735 individuals was contacted, representing five native and one non-native species.

Methods. Surveys were conducted at four sites in the upper portion of the Eagle Creek watershed (Fig. 1): Honeymoon Campground (HMC; 641080, 3704764; 1,660 m MSL), 1st road crossing downstream of HMC (640240, 3701361), 2nd road crossing downstream of HMC (640683, 3697751), and upstream of Sheep Wash (640436, 3685079; 1,550 m MSL).

Collections were made using a Smith-Root backpack shocker (SR 12-B), seines (1.2 x 1.2 m; 0.3 cm mesh), and minnow traps (collapsible "Promar," 0.3 m diameter, 0.6 and 0.9 m long, double throat, 0.3 cm mesh, baited with Aquamax[®] fish food or dog food). All available habitats were sampled (i.e., riffle, run, pool, and isolated backwater). Nominal electroshocker settings were I-5 at 300 VDC and output was 0.5 +/- 0.2 amps. Seines were deployed in a fixed position and used to capture fish displaced downstream by electrofishing or by mechanically disturbing the substrate. Minnow traps were set and fished overnight in pools near Honeymoon Campground (9 traps), and near Sheep Wash (11 traps). All fish captured were identified to species, counted, and released near their capture site.

Results and Discussion. An overall total of 735 individuals representing five native and one non-native fish species was collected (Table 1). Speckled dace *Rhinichthys osculus* was the most abundant species (49% of total catch), followed by longfin dace *Agosia chrysogaster* (28%), and desert sucker *Pantosteus clarki* (22%). Sonora sucker *Catostomus insignis*, roundtail chub *Gila robusta*, and non-native smallmouth bass *Micropterus dolomieu* each contributed less than one percent of the total catch. Native fishes collectively comprised 99.9% of the total catch; a single smallmouth bass captured downstream of Sheep Wash represented the entirety of non-native fish catch.

Most sites were relatively shallow and clear with water less than 1 m deep and were effectively sampled by backpack electrofishing. Clarity was reduced at Sheep Wash likely due to suspended sediments from monsoon runoff and water depth exceeded 1.5 m in runs and pools. Backpack electrofishing was only partially effective at the site due to these conditions. Non-native northern crayfish *Orconectes virilis* was present at all sampling locations and a Sonora mud turtle *Kinosternon sonoriense* was captured in a minnow trap and returned unharmed to Eagle Creek at Sheep Wash.

The Wallow Fire in 2011 virtually eliminated fish from the sampled portion of Eagle Creek upstream of Sheep Wash, but most native species have since recolonized those reaches. In 2014, desert sucker and speckled dace were abundant at all four sample sites, and longfin dace was common at three of four sites. Sonora sucker continues to be uncommon with three individuals captured at the 2nd crossing downstream of Honeymoon campground.

Acknowledgements. Appropriate collecting permits were issued by US Fish and Wildlife Service and Arizona Game and Fish Department.

Table 1. Fishes captured from Eagle Creek, Greenlee Co., Arizona, July 8-11, 2014. Data represent number of individuals, total number and proportion (as percent) for each species across sites, and total catch for each site for all methods combined. See Figure 1 for site locations. Non-native species indicated by an asterisk (*)

Species	Honeymoon	1st Crossing downstream Honeymoon	2nd Crossing downstream Honeymoon	Sheep Wash	Catch Totals	Percent Total
Longfin dace	13	88	102	0	203	27.6
Roundtail chub	0	0	0	5	5	0.7
Speckled dace	89	129	101	44	363	49.4
Desert sucker	29	66	26	39	160	21.8
Sonora sucker	0	0	3	0	3	0.4
Smallmouth bass*	0	0	0	1	1	0.1
Total fish	131	283	232	89	735	100
Total species	3	3	4	4	6	

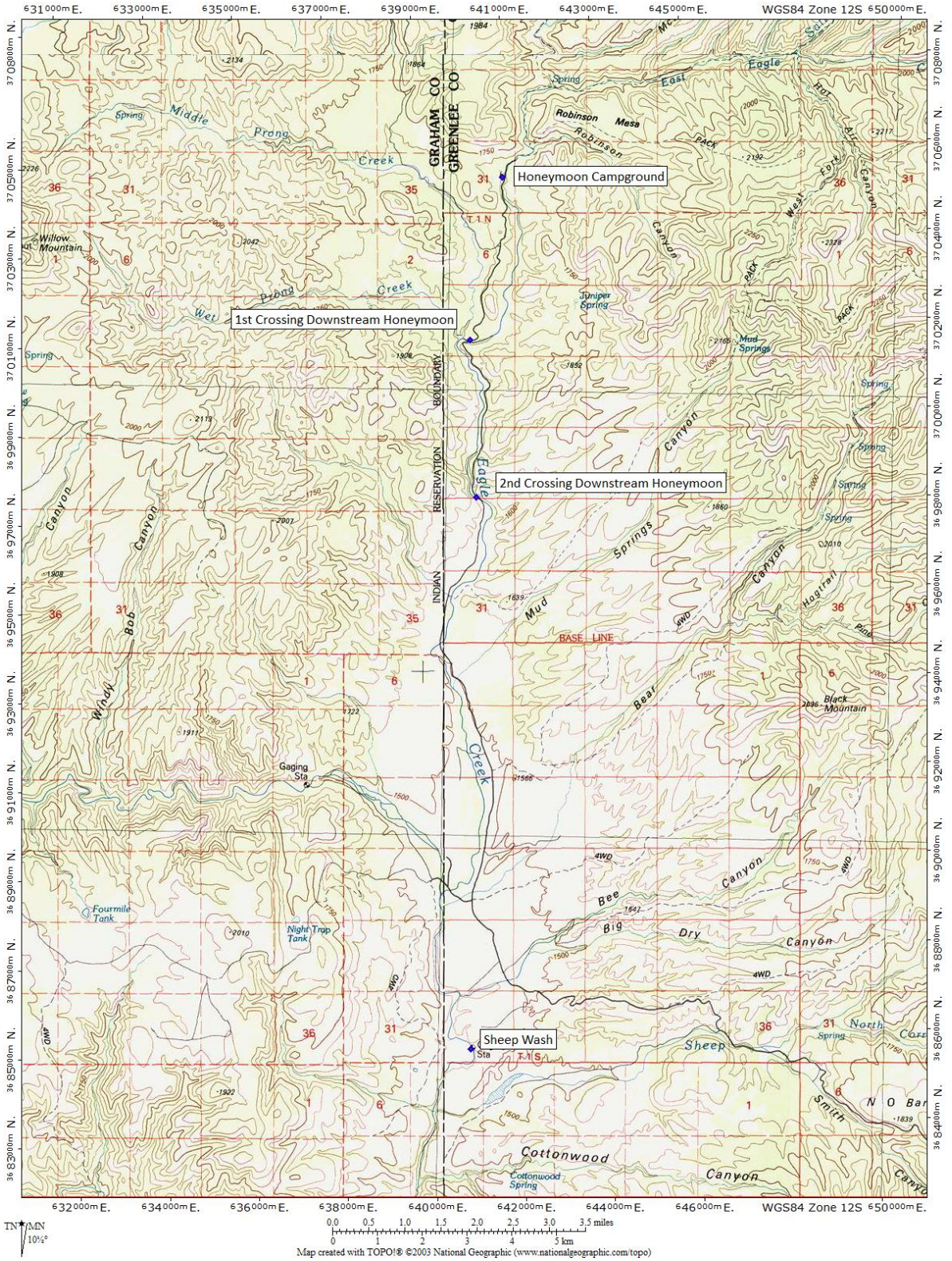


Figure 1. Four sites sampled on Eagle Creek, Greenlee County, Arizona on July 8-11, 2014.