

INVENTORY FOR MACFARLANE'S FOUR-O-CLOCK (*MIRABILIS MACFARLANEI*) IN
THE LOWER SALMON RIVER AREA OF CRITICAL ENVIRONMENTAL CONCERN,
COEUR D'ALENE DISTRICT, BLM

by

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INTRODUCTION

Mirabilis macfarlanei (Macfarlane's four-o'clock) is a narrow endemic to the lower Salmon River canyon and Hells Canyon of Idaho and Oregon. Due to its rarity Macfarlane's four-o'clock is listed as Endangered under the Endangered Species Act. Several new populations were discovered as a result of recent surveys in Hells Canyon by the Conservation Data Center and in the Salmon River canyon by BLM botanists. These new discoveries and the increased protection and monitoring of previously known populations help significantly in meeting recovery goals for the species. Because of these actions the U.S. Fish and Wildlife Service is proposing to downlist Macfarlane's four-o'clock to Threatened. The role that additional surveys have had toward accomplishing recovery goals led to initiation of this inventory project. The lower Salmon River Canyon is a rugged, relatively inaccessible area that was identified as needing more survey work.

The study area includes the river corridor from the mouth of White Bird Creek, at about river mile 54, downstream to the confluence of the Salmon and Snake Rivers. The Coeur d'Alene District BLM manages a narrow strip of the river corridor as the Lower Salmon River Area of Critical Environmental Concern. Most of the land is private.

One occurrence of Macfarlane's four-o'clock, consisting of two small populations on adjacent ridges, is known from the study area. In addition to the possible occurrence of new Macfarlane's four-o'clock populations, suitable habitat for several other rare plants occurs in this portion of the Salmon River canyon, including *Mimulus washingtonensis* var. *ampliatius*, *Leptodactylon pungens* ssp. *hazeliae*, *Calochortus macrocarpus* var. *maculosus*, and *Thelypodium laciniatum* var. *streptanthoides*. Other rare plant species are known from the canyon, but occur at higher elevations and were not part of our list of target species.

During 1983, the U.S. Fish and Wildlife Service and the Bureau of Land Management conducted a reconnaissance survey for Macfarlane's four-o'clock using a helicopter. The helicopter survey from White Bird Creek to Wapshilla Creek did not locate any new populations. The BLM has also initiated a few localized, intensive surveys in the area during the past ten years. No new populations were found downriver from White Bird Creek, with the exception of the previously identified populations.

RESULTS AND CONCLUSIONS

From May 16 to 25, 1993, botanists from the Conservation Data Center (CDC) conducted the survey. Members of the CDC crew included Andrew Chang, Kevin James, Michelle Johnson, Juanita Lichthardt, Michael Mancuso, Bob Moseley, and Marilyn Olson. No new rare plant populations were found in the river corridor survey area. It should be noted, however, that this survey was specifically conducted for Macfarlane's four-o'clock. Ideally, other rare plant surveys should be conducted that are more habitat specific for other species.

Inventory routes traveled on foot are indicated on the maps that follow; searches done in vehicles along roads are not indicated. We covered 62 miles on foot along about 30 river miles of canyon. Due to the inaccessibility of some areas of the canyon, and the lack of suitable habitat in others, we did not inventory the entire canyon. I estimate that of the 54 miles of the lower Salmon River canyon in our study area, about 55% was intensively searched. Macfarlane's four-o'clock was in full flower during our inventory, so, while some portions of the canyon were ground-inventoried only on one side of the river, we were able to inventory suitable-appearing habitat on the opposite bank with binoculars. The maps show that only a portion of the canyon between Slide Rapids and the confluence with the Snake River was ground-searched; however, the entire segment was searched with binoculars from a jet boat.

It is possible that we missed a small population of Macfarlane's four-o'clock in the study area. The terrain is rugged, and, although we intensively searched most of the suitable-appearing habitat, we could have overlooked it. BLM personnel working in the Salmon River canyon should continue to be aware of the possibility that undiscovered populations may exist there.

MAPS

The following ten maps are copied portions of USGS 7.5' topographic quadrangles. Multiple copied maps from one quad overlap slightly.

White Bird 1982 (revision) quad
Map 1, Map 2, Map 3

Fenn 1963 quad
Map 4

Westlake 1967 quad
Map 5

Hoover Point 1967 quad
Map 6

Rattlesnake Ridge 1963 quad
Map 7, Map 8

Wapshilla Creek 1963 quad
Map 9

Deadhorse Ridge 1963 quad
Map 10