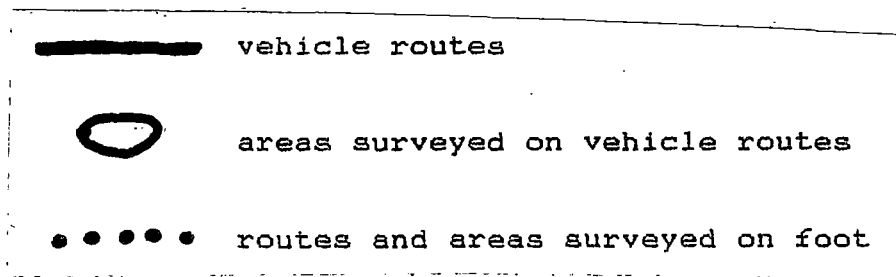


APPENDIX VII.
FIELD INVENTORY SURVEY ROUTES



29 May 1987
3165 University Station
Laramie, WY 82071

(307) 766-3441

Carol Taylor
US Fish and Wildlife Service
Endangered Species Field Office
Box 10023
Helena, MT 59626

Dear Carol:

In shipment are five copies each of the status report and recovery plan for Gaura neomexicana ssp. coloradensis (Colorado butterfly plant) as called for by Agreement No. 14-16-0006-84-955(R) between the US Fish and Wildlife Service (USFWS), the Air Force Regional Civil Engineer for Ballistic Missile Support, and F. E. Warren Air Force Base (WAFB) (90 CSG/CC). A copy of this agreement is enclosed. Changes recommended by the USFWS, Region 6, have been incorporated where not in conflict with recommendations of the Rocky Mountain Heritage Task Force of The Nature Conservancy nor with standard botanical usage. Significant changes are outlined in detail in a report accompanying this letter. Major additions include plot data analyses for the WAFB monitoring sites, and possible channels for Endangered Species Act protection of Colorado butterfly plant on private land.

Please contact me if you have any questions.

Sincerely,

Hollis Marriott
Wyoming Botanist

Revisions to
Gaura neomexicana ssp. coloradensis
Status Report and Recovery Plan (Technical Review Draft)
of December 15, 1986

Prepared by:

Hollis Marriott
Rocky Mountain Heritage Task Force
The Nature Conservancy
3165 University Station
Laramie, Wyoming 82071

for:

Region 6
US Fish and Wildlife Service
Denver, Colorado

June 15, 1987

CHANGES AND ADDITIONS TO THE STATUS REPORT, AND RESPONSES TO COMMENTS BY THE
US FISH AND WILDLIFE SERVICE:

Section

- I.2.B.1.b. The Nature Conservancy (TNC) Heritage ranking system is explained.
- I.3.A. A non-technical description of Colorado butterfly plant has been added.
- I.3.B. A discussion of local field characters not found in the literature prior to this study has been added.
- I.5.B.2. Areas covered during the 1984-1986 inventory are explained more clearly (see also III.16.E. and Appendix VII).
- I.7.B. Colorado populations have been added.
- I.7.D.6. Gaura neomexicana ssp. coloradensis population numbers on Warren Air Force Base (WAFB) prior to the 1986 Base inventory were discovered to be only estimates. There are no population trend data available other than those from monitoring site plots.
- I.7.D.7. The apparent decrease in Gaura neomexicana ssp. coloradensis populations on WAFB is discussed.
- I.7.E. The apparent decrease in Gaura neomexicana ssp. coloradensis populations on WAFB, and the possible influence of community succession are discussed.
- I.9.A.-D. Information on land use on WAFB has been updated.
- I.10.A. The detrimental effect of overgrazing on Gaura neomexicana ssp. coloradensis habitat is explained in more detail.
- I.10.B. Water development as a potential threat has been explained in greater detail.
- II.11. The apparent decrease in Gaura neomexicana ssp. coloradensis populations on WAFB, and the WAFB Management Plan are mentioned.
- II.12.A. Reasons for the Rocky Mountain Heritage Task Force (RMHTF) recommendation to the US Fish and Wildlife Service (USFWS) concerning listing of Gaura neomexicana ssp. coloradensis are presented. Included are possible channels for Endangered Species Act protection on private land.
- II.13.A. "Critical habitat boundaries" has been changed to "Critical habitat boundaries, as understood at this time," to point out that more biological data are needed before precise critical habitat boundaries can be established.

- II.14.B. The need for continued monitoring on WAFB is mentioned.
- II.15. A few additions to the list of Interested Parties have been made.
- III.16.C. The specimen marked by the USFWS as "not on map" is part of Occurrence No. 17, a map of which is included in Appendix I.
- III.16.E. Recent fieldwork is explained in more detail.

Common plant names have been included in the text of the report.

Several appendices have been added (numbers have been changed for binding purposes):

Appendix

- IV. Definition of element ranks, Natural Heritage Program, The Nature Conservancy
- V. Gaura neomexicana ssp. coloradensis monitoring studies, F. E. Warren Air Force Base, 1984 through 1986.
- VI. Site descriptions and ownership.
- VIII. Gaura neomexicana ssp. coloradensis inventory, F. E. Warren Air Force Base, 1986.

In Appendix I, Occurrence 09, a small population in the northwest corner of Section 10 has been added to the map. Occurrence 17 has been extended into the northwest corner of Section 34 on the map. A map of Colorado survey routes has been added to Appendix VIII.

CHANGES AND ADDITIONS TO THE RECOVERY PLAN, AND RESPONSES TO COMMENTS BY THE
US FISH AND WILDLIFE SERVICE:

Section

Part I.

History A clearer explanation of populations known prior to this study is given (page 1). No population data are available from the 1981 survey of sites on WAFB (page 1).

Description A non-technical description has been added (page 3).

Distribution A clearer explanation of survey routes is included (page 4).

Habitat and Biology Gaura neomexicana ssp. coloradensis population trends on WAFB, and the possible influence of community succession are discussed.

Threats Evidence that overgrazing is detrimental to Colorado butterfly plant habitat is included. The list of threats has been revised following recommendations made by the USFWS.

Part II.

Step-Down Outline

- 1.5 A section on possible Endangered Species Act (ESA) protection for Gaura neomexicana ssp. coloradensis on private land has been added.
- 2.2 Neither The Nature Conservancy nor the RMHTF is under contract to provide a Habitat Management Plan if a Gaura neomexicana ssp. coloradensis Research Natural Area is designated on WAFB.
- 2.4 "Widely dispersed" is explained in the corresponding section of the Narrative.
- 4.6 Possible research topics are included in the corresponding section of the Narrative.

Narrative

- 1.5 A section on possible ESA protection for Gaura neomexicana ssp. coloradensis on private land has been added.
2. The need for defining critical habitat is discussed in 2.4.
- 2.2 See Step-Down Outline 2.2 above.
- 2.4 The RMHTF is not under contract to establish precise boundaries

of critical habitat. To do so would require long-term monitoring as explained in 2.4.

2.5 Possible ESA protection for Gaura neomexicana ssp. coloradensis on private land is discussed in 1.5.

4.4. Overgrazing is discussed under Threats.

The appendix of photographs has been deleted. These are included in the text of the status report. One appendix has been added:

Appendix III. Recommended Conservation Sites



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1370 PENNSYLVANIA STREET, SUITE 190
DENVER, COLORADO 80203
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Hollis Marriott
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