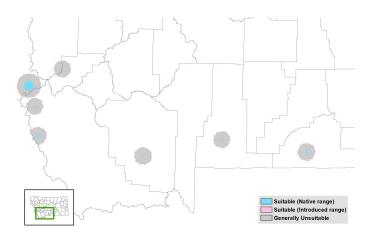
# *Erigeron formosissimus* (Beautiful Fleabane) Predicted Suitable Habitat Modeling

Distribution Status: Present State Rank: <u>S1S3</u> (Species of Concern) Global Rank: <u>G5</u>

### Modeling Overview

Data Source Last Updated: January 29, 2021 Model Produced On: September 17, 2021



## **Deductive Modeling**

### Modeling Process, Outputs, and Suggested Uses

This is a simple rule-based model using species occurrences delineated for vascular and non-vascular plant species. These species could not be modeled with inductive methods, either due to limited observations or spatial extent or because an inductive model had poor performance. Species occurrences are discretely mapped polygons where the species has been documented. Plant species occurrence polygons are delineated by the MTNHP Botanist, and can be generated in two ways: 1) Polygons are hand-mapped and scaled to aggregate neighboring observation points and their adjacent habitat, while trying to exclude barriers, reduce known unoccupied habitat, and ignore management boundaries, or 2) Circular polygons are automatically generated by buffering the single observation point by its location uncertainty distance. For compatibility with other predictive distribution models the Montana Natural Heritage Program produces, we have intersected these species occurrences with a uniform grid of hexagons that have been used for planning efforts across the western United States (e.g. Western Association of Fish and Wildlife Agencies - Crucial Habitat Assessment Tool). Each hexagon is one square mile in area and approximately one kilometer in length on each side. Any hexagon that intersected a species occurrence was classified as suitable habitat. Model outputs are not evaluated and we suggest they be used to generate potential lists of species that may occupy lands within each hexagon for the purposes of landscape-level planning. Model outputs should not be used in place of on-the-ground surveys for species and wildlife and land management agency biologists should be consulted about the value of using model output to guide habitat management decisions for regional planning efforts or local projects. See Suggested Contacts for State and Federal Natural Resource Agencies attached to this document.

**Suggested Citation:** Montana Natural Heritage Program. 2021.*Erigeron formosissimus* (Beautiful Fleabane) predicted suitable habitat models developed on September 17, 2021. Montana Natural Heritage Program, Helena, MT. 5 pp.

Montana Field Guide Species Account: <u>http://fieldguide.mt.gov/speciesDetail.aspx?elcode=PDAST3M1K0</u>

# **Deductive Model Map Output**

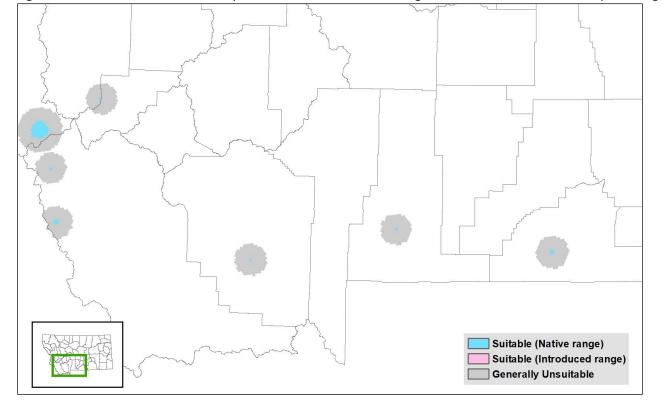


Figure 1. Deductive habitat suitability model summarized into hexagons at a scale of 259 hectares per hexagon.

## **Suggested Contacts for Natural Resource Agencies**

As required by Montana statute (MCA 90-15), the Montana Natural Heritage Program works with state, federal, tribal, nongovernmental organizations, and private partners to ensure that the latest animal and plant distribution and status information is incorporated into our databases so that it can be used to inform a variety of planning processes and management decisions. In addition to the information you receive from us, we encourage you to contact state, federal, and tribal resource management agencies in the area where your project is located. They may have additional data or management guidelines relevant to your efforts. In particular, we encourage you to contact the Montana Department of Fish, Wildlife, and Parks for the latest data and management information regarding hunted and high profile management species and to use the U.S. Fish and Wildlife Service's Information Planning and Conservation (IPAC) website <a href="http://ecos.fws.gov/ipac/">http://ecos.fws.gov/ipac/</a> regarding U.S. Endangered Species Act listed Threatened, Endangered, or Candidate species.

For your convenience, we have compiled a list of relevant agency contacts and links below; check our website for updates.

Fish Species	Zachary Shattuck zshattuck@mt.gov (406) 444-1231				
	or				
	Eric Roberts eroberts@mt.gov (406) 444-5334				
American Bison					
Black-footed Ferret					
Black-tailed Prairie Dog					
Bald Eagle	Lauri Hanauska-Brown <u>LHanauska-Brown@mt.gov</u> (406) 444-5209				
Golden Eagle					
Common Loon					
Least Tern					
Piping Plover					
Whooping Crane					
Grizzly Bear					
Greater Sage Grouse					
Trumpeter Swan	John Vore jvore@mt.gov (406) 444-5209				
Big Game					
Upland Game Birds					
Furbearers					
Managed Terrestrial Game and	Smith Wells – MFWP Data Analyst smith.wells@mt.gov (406) 444-3759				
Nongame Animal Data					
Fisheries Data	Ryan Alger – MFWP Data Analyst <u>ryan.alger@mt.gov</u> (406) 444-5365				
Wildlife and Fisheries Scientific	http://fwp.mt.gov/doingBusiness/licenses/scientificWildlife/				
Collector's Permits	Kammi McClain for Wildlife Kammi.McClain@mt.gov (406) 444-2612				
	Kim Wedde for Fisheries kim.wedde@mt.gov (406) 444-5594				
Fish and Wildlife Recommendations	Renee Lemon <u>RLemon@mt.gov</u> (406) 444-3738				
for Subdivision Development	See also:				
	http://fwp.mt.gov/fishAndWildlife/livingWithWildlife/buildingWithWildlife/subdivisionRecommendations/				
Regional Contacts	Region 1 (Kalispell) (406) 752-5501				
	Region 2 (Missoula) (406) 542-5500				
	Region 3 (Bozeman) (406) 994-4042				
	Region 4 (Great Falls) (406) 454-5840				
	Region 5 (Billings) (406) 247-2940				
Parte G	<u>Region 6 (</u> Glasgow) (406) 228-3700				
Themas	<u>Region 7 (</u> Miles City) (406) 234-0900				

### Montana Fish, Wildlife, and Parks

### **United States Fish and Wildlife Service**

Information Planning and Conservation (IPAC) website: <u>http://ecos.fws.gov/ipac/</u> Montana Ecological Services Field Office: <u>http://www.fws.gov/montanafieldoffice/</u> (406) 449-5225 USFWS Information on Species Listed under the Endangered Species Act in Montana https://www.fws.gov/montanafieldoffice/Endangered Species/Species information.html

#### **Bureau of Land Management**

Montana Field Office Contacts:		
The second	Billings:	(406) 896-5013
HAVRE GLASGOW	Butte:	(406) 533-7600
CRIAT MALTA	Dillon:	(406) 683-8000
MISSOURA	Glasgow:	(406) 228-3750
THE AND A REAL	Havre:	(406) 262-2820
MILLES CUTV	Lewistown:	(406) 538-1900
EUNE	Malta:	(406) 654-5100
BILLINGS	Miles City:	(406) 233-2800
1	Missoula:	(406) 329-3914

#### United States Forest Service

Regional Office – Missoula, Montana Contacts					
Wildlife Program Leader	Tammy Fletcher	tammyfletcher@fs.fed.us	(406) 329-3588		
Wildlife Ecologist	Cara Staab	cstaab@fs.fed.us	(406) 329-3677		
Fish Program Leader	Scott Spaulding	scottspaulding@fs.fed.us	(406) 329-3287		
Fish Ecologist	Cameron Thomas	cathomas@fs.fed.us	(406) 329-3087		
TES Program	Lydia Allen	Irallen@fs.fed.us	(406) 329-3558		
Interagency Grizzly Bear Coordinator	Scott Jackson	sjackson03@fs.fed.us	(406) 329-3664		
Regional Botanist	Steve Shelly	<u>sshelly@fs.fed.us</u>	(406) 329-3041		
Invasive Species Program Manager	Michelle Cox	michelle.cox2@usda.gov	(406) 329-3669		

#### **Tribal Nations**



### Natural Heritage Programs and Conservation Data Centres in Surrounding States and Provinces

Alberta Conservation Information Management System

British Columbia Conservation Data Centre

Idaho Natural Heritage Program

North Dakota Natural Heritage Program

Saskatchewan Conservation Data Centre

South Dakota Natural Heritage Program

Wyoming Natural Diversity Database

#### **Invasive Species Management Contacts and Information**

Aquatic Invasive Species <u>Montana Fish, Wildlife, and Parks Aquatic Invasive Species staff</u> <u>Montana Department of Natural Resources and Conservation's Aquatic Invasive Species Grant Program</u> <u>Montana Invasive Species Council (MISC)</u> <u>Upper Columbia Conservation Commission (UC3)</u>

#### Noxious Weeds

Montana Weed Control Association Contacts Webpage Montana Biological Weed Control Coordination Project Montana Department of Agriculture - Noxious Weeds Montana Weed Control Association Montana Fish, Wildlife, and Parks - Noxious Weeds Montana State University Integrated Pest Management Extension Integrated Noxious Weed Management after Wildfires

Model report version 3.1 – revised 11 June 2021