

Appendix XI Botanical Resources

Appendix XI Tables

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Purpose of Appendix

This appendix is designed to provide information about habitat, status, distribution, and habitat grouping for the Threatened, Proposed, and Sensitive (current and proposed) and Forest Watch species of plants that occur on the Wasatch Cache National Forest. The information is provided to enable managers to more efficiently direct the implementation of Botanical Resources goals, objectives, standards, and guidelines.

Discussion

These lists are dynamic in nature and plants will be added to, or removed, depending on the viability of the species. Plants that are globally and locally stable, yet rare, are placed on a Forest Watch List. These plants will be considered in project level analysis and NEPA and in time, if needed, will have monitoring protocols established.

Global Ranking-Global ranking assess the rarity of plants throughout their distribution worldwide and is assigned by the Association for Biodiversity Information (Natural Heritage Program).

G1 – Less than 6 viable element occurrences (EO) OR less than 1000 individuals OR less than 2,000 acres globally.

G2 – 6-20 EOs OR 1000-3000 individuals OR 2,000-10,000 acres.

G3 – 21-100 Eos OR 3,000 – 10,000 individuals OR 10,000 – 50,000 acres.

G4 – Apparently secure; this rank is lower than G3 but factors or threats exist that cause concern.

G5 – Population or stand demonstrably secure to ineradicable due to being commonly found in the world.

Subspecies Level

Subspecies receive a T-rank attached to the G-rank. With the subspecies, the G-rank reflects the condition of the entire species; whereas, the T-rank reflects the global situation of just the subspecies.

State Ranking- Assess the rarity of plants within the state and is assigned by the state Natural Heritage Program.

S1 = Less than 6 EOs OR less than 100 individuals OR less than 2000 acres within the state.

S2 = 6-20 EOs OR 1000-3000 individuals OR 2000-10000 acres within the state.

S3 = 21-100 EOs OR 3000-10000 individuals OR 10000-50000 acres within the state.

S4 = Apparently secure within the State; this rank is clearly lower than S3 but factors exist to cause some concern (i.e., there is some threat, or somewhat narrow habitat. NO THREAT RANK.

S5 = Demonstrably secure to ineradicable in the State. NO THREAT RANK.

NOTES:

- Rank may be expressed as a range of values; hence S2S3 means the rank is somewhere between S2 and S3.

- Adding a question mark (?) to the rank, such as in S2?, represents more certainty than S2S3, but less than S2.

Global Distribution-

Global Distribution = Disjunct, Local Endemic (< 100 square miles), Regional Endemic (distribution 100-10,000 square miles), Sparsely Distributed (isolated populations), Peripheral (on the edge of its range), Widespread, Circumboreal, Circumpolar.

Table XI - 1. Federal and State Status, Endemism, Global distribution of the Plant Species at Risk on the Wasatch-Cache National Forest.

Species	Common Name	Global	State	Endemism	Global Distribution	Status
<i>Angelica wheeleri</i> Wats.	Wheeler's angelica	G2	S2	Utah	Regional Endemic	Recommended Sensitive
<i>Arabis glabra</i> (L.) Bernh. var <i>furcatipilis</i> Hopkins	Hopkin's tower-mustard	G5T2?	S1	Northeastern Utah, western CA	Sparsely Distributed	Recommended Sensitive
<i>Artemisia norvegica</i> var. <i>piceetorum</i> (A. <i>arctica</i> Less. ssp. <i>Arctica</i>) Welsh & Goodrich	Spruce wormwood	G5T1Q	S1	UT, AK, CAL, CO.	Regional endemic	Recommended Sensitive
<i>Astragalus jejunus</i> var. <i>jejunus</i> Wats.	Starvling milkvetch	G3T3	S1	Western US?	Regional Endemic	Sensitive
<i>Botrychium lineare</i>	Dainty moonwort	G1	S1	North America	Sparsely Distributed	Proposed
<i>Corydalis caseana</i> ssp <i>brachycarpa</i> (Rydb.) Ownbey	Wasatch fitweed	G5T2	S2	Central Wasatch Mtns.	Regional Endemic	Recommended Sensitive
<i>Cymopterus lapidosus</i> (Jones) Jones	Echo spring-parsley	G3	S1	Western Summit Co. and southwest WY	Local endemic	Recommended Sensitive
<i>Cypripedium calceolus</i> var <i>parviflorum</i> L. (<i>Cypripedium parviflorum</i> – Salisb.)	Lady's slipper	G5	S1	Utah, British Columbia to Washington , New York and Louisiana, Eurasia	Widespread	Recommended Sensitive
<i>Cypripedium fasciculatum</i> Kellogg ex Wats.	Clustered lady's slipper, brownie lady's slipper	G4	S1	Ut, Id, Wy & CO west to WA, OR & CAL	Sparsely Distributed	Sensitive
<i>Dodecatheon dentatum</i> var. <i>utahense</i>	Utah shooting star, Wasatch shooting star	G4T1	S1	SLC Co., UT	Local Endemic	Recommended Sensitive
<i>Draba brachystylis</i>	Wasatch draba	G1G2	S1	Wasatch Mtns. Charleston Mtns. NV	Regional Endemic	Recommended Sensitive
<i>Draba globosa</i> (D. <i>densifolia</i> var. <i>apiculata</i>)	Rockcress draba	G3	S2	Western US	Sparsely Distributed	Sensitive
<i>Draba maguirei sensu lato</i>	Maguire's draba	G3	S3	Logan Canyon	Local Endemic	Sensitive
<i>Draba maguirei</i> var. <i>burkei</i>	Burke's draba	G3T2	S2	Northeastern Utah	Local Endemic	Sensitive
<i>Erigeron arenarioides</i> (D.C. Eaton) Gray	Wasatch daisy	G3?	S3?	Utah	Local Endemic	Recommended Sensitive
<i>Erigeron cronquistii</i> Maguire	Cronquist daisy	G2	S2	Cache County Utah	Local Endemic	Sensitive
<i>Erigeron garrettii</i> A. Nels	Garrett's daisy	G2	S2	Central Wasatch Mtns	Local Endemic	Recommended Sensitive
<i>Eriogonum brevicaulis</i> var. <i>loganum</i> (A. Nels.) Welsh	Logan buckwheat	G2Q	S2	Logan Canyon	Local Endemic	Sensitive
<i>Ivesia utahensis</i> Wats.	Utah Ivesia	G2	S2	Utah	Local Endemic	Recommended Sensitive
<i>Jamesia americana</i> var. <i>macrocalyx</i> (Small) Engler	Wasatch Jamesia, Wasatch cliff-bush	G5T2	S2	Utah	Local Endemic	Sensitive
<i>Lepidium montanum</i> var. <i>alpinum</i> Wats.	alpine pepper plant, Wasatch pepper-wort	G5?T1	S1	Wasatch and Oquirrh Mtns.	Local Endemic	Recommended Sensitive
<i>Lesquerella garrettii</i> Payson	Garrett's bladderpod	G2	S2	Wasatch Mtns.	Local Endemic	Sensitive

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Species	Common Name	Global	State	Endemism	Global Distribution	Status
<i>Papaver radicum</i> ssp <i>kluanense</i> (<i>P. kluanense</i>)	Artic Poppy	G5T3 T4	S1	AK,CO, ID,MT,NM,UT,WY & Canada	Regional Endemic	Sensitive
<i>Penstemon compactus</i> (Keck) Crosswhite	Cache beardtongue	G2	S2	Logan Canyon	Local Endemic	Sensitive
<i>Penstemon platyphyllus</i> Rydb.	broad-leaf beardtongue,	G2G3	S2S3	Utah	Regional Endemic	Recommended Sensitive
<i>Potentilla cottamii</i> N. Holmgren	Cottam's cinquefoil,	G1	S1	Northeastern Utah, Southern Idaho	Sparsely Distributed	Sensitive
<i>Potentilla pensylvanica</i> var. <i>paucijuga</i> (Rydb.) Welsh & Johnston	Alpine cinquefoil, few-leaflet cinquefoil	G1	S1	Utah	Regional Endemic	Recommended Sensitive
<i>Primula maguirei</i> L.O. Williams	Maguire's primrose	G1	S1	Logan Canyon	Local Endemic	Threatened
<i>Spiranthes diluvialis</i> Sheviak	Ute ladies'-tresses	G2	S1	Western US	Sparsely Distributed	Threatened
<i>Thelesperma pubescens</i> Dorn	Uinta greenthread	G1	S1	Utah	Local Endemic	Sensitive
<i>Viola frank-smithii</i> N. Holmgren	Frank Smith Violet	G2	S2	Logan Canyon	Local Endemic	Sensitive

Global = Global ranking as assigned by Natural Heritage Program and Utah Native Plant Society. T = threatened, PT = proposed threatened, C = candidate, Q= question on taxonomy
State = Utah State ranking, Utah Conservation Data Center and Utah Native Plant Society Rare Species list 2000; * = Utah State ranking, Utah Natural Heritage Program, 2000.

Table XI-2. Wasatch-Cache NF Species at Risk Watch List

Species	Common Name	Global	State	Endemism	Global Distribution	Status
<i>Abies concolor</i> (Gord. & Glend.) Lindl.	White Fir	G5	S1(WY)	Utah (except Dagget & Rich Cty), OR, WY, Cal, AZ, NM & Mexico	Regional Endemic	Watch
<i>Arabis lasiocarpa</i> Rollins	Wasatch rock-cress, Toiyabe rock-cress	G3	S3	Wasatch Mountains	Local Endemic	Watch
<i>Aster sibericus</i> var. <i>meritus</i> L. (<i>Eurybia sibirica</i> (L.) Nesom)	Siberian aster	G5T5	S1	UT, AK, Yukon, OR, ID, WY Eurasia	Disjunct	Watch
<i>Astragalus flexuosus</i> var. <i>flexuosus</i> (Hook.) Rydb.	Bent milkvetch	G5T5	S1	Western and Central US	Widespread	Watch
<i>Astragalus robbinsii</i> (Oakes) Gray	Robbins' milkvetch	G5	S1	AK to Newfoundland, So to OR, NV, CO, and Vermont	Regional Endemic	Watch
<i>Botrychium crenulatum</i>	Dainty moonwort, crenulate moonwort	G3	S1	Western US	Disjunct	Watch
<i>Cirsium eatonii</i> var. <i>murdockii</i> Welsh	Murdock's thistle	G5T2T3	S2S3	CO, ID, NV, UT	Regional Endemic	Watch
<i>Cymopterus acaulis</i> var. <i>parvus</i> Goodrich	Small spring parsley	G5T2T3	S2S3	Western US	Regional Endemic	Watch
<i>Epipactis gigantea</i> Dougl. ex. Hook	Giant Helleborine	G4	S2S3	Western US	Sparsely Distributed	Watch
<i>Lathyrus lanszwertii</i> var. <i>Lanszwerti</i>	Nevada Sweetpea	G4G5T4	S1(WY)	Western US	Regional Endemic	Watch
<i>Lesquerella utahensis</i> Rydb.	Utah bladderpod	G3	S3	UTAH?	Local Endemic	Watch
<i>Musineon lineare</i> (Rydb.) Mathias	Rydberg's Musineon	G2	S2	Bear River Range	Regional Endemic	Watch
<i>Pedicularis parryi</i> ssp. <i>Mogollonica</i>	Mogollon Lousewort	G5T2T4 Q	S1(WY)	AZ, CO, NM, UT, Wy	Regional Endemic	Watch
<i>Penstemon uintahensis</i>	Uinta Beardtongue	G3	S3	Uinta Mountains	Regional Endemic	Watch
<i>Porterella carnosula</i> (H. & A.) Torr.	Western Porterella	G4	S1	Utah, OR to Wy, South to CA & AZ	Regional Endemic	Watch
<i>Potamogeton foliosus</i> var. <i>fibrillosus</i> (Fern.) Haynes & Reveal	fibrous-stipuled pond-weed	G5T2T4	S1	Western US	Regional Endemic	Watch
<i>Viola beckwithii</i> T. & G.	Beckwith's violet	G4	S2	Western US	Peripheral	Watch

Global = Global ranking as assigned by Natural Heritage Program and Utah Native Plant Society. T = threatened, PT = proposed threatened, C = candidate, Q = question on taxonomy
 State = Utah State ranking, Utah Conservation Data Center and Utah Native Plant Society Rare Species list 2000; * = Utah State ranking, Utah Natural Heritage Program, 2000. Those species that are listed as S1 in Wyoming are annotated with a (WY) next to the state ranking.

Table XI-3. Geographical Distribution and Habitat Groupings of the Plant Species At Risk on the Wasatch-Cache National Forest.

Species	Common Name	Management Area							Habitat							
		Stansburys	Bear Management Area	Cache Box Elder Mgmt. Area	N.Wasatch Ogedn Valley	Central Wasatch Mgmt. Area	Eastern Uintas Mgmt Area	Western Uintas Mgmt Area	Mountain Forest	Riparian Meadows/ Seeps	Rock Cliffs/ Crevices Talus/Scree	High elev. Grassland	Shrubland	Woodland	Alpine	Subalpine/Non Forest
<i>Abies concolor</i> (Gord. &Glend.) Lindl.	White Fir						X		X							
<i>Angelica wheeleri</i> Wats.	Wheeler's angelica									X						
<i>Arabis glabra</i> (L.) Bernh. var <i>furcatipilis</i> Hopkins	Hopkin's tower-mustard			X		X				X				X		
<i>Arabis lasiocarpa</i> Rollins	Wasatch rock-cress, Toiyabe rock-cress			X	X	X			X				X	X		
<i>Artemisia norvegica</i> var. <i>piceetorum</i> Welsh & Goodrich	Spruce wormwood						X	X	X						X	
<i>Aster sibericus</i> var. <i>meritus</i> L.	Siberian aster						X				X				X	
<i>Astragalus flexuosus</i> var. <i>flexuosus</i> (Hook.) Rydb.	Bent milkvetch							X	X				X	X		
<i>Astragalus jejunus</i> var. <i>jejunus</i> Wats.	starvling milkvetch		X										X			
<i>Astragalus robbinsii</i> (Oakes) Gray	Robbins' milkvetch							X		X			X	X		
<i>Botrychium crenulatum</i>	Dainty moonwort, crenualte moonwort							X					X	X		
<i>Botrychium lineare</i>	Slender Moonwort					*X				X						
<i>Cirsium eatonii</i> var. <i>murdockii</i> Welsh	Murdock's thistle						X				X					
<i>Corydalis caseana</i> ssp <i>brachycarpa</i> (Rydb.) Ownbey	Wasatch fitweed				X	X			X	X				X	X	
<i>Cymopterus acaulis</i> var. <i>parvus</i> Goodrich	small spring parsley	X											X			

Species	Common Name	Management Area							Habitat							
		Stansburys	Bear Management Area	Cache Box Elder Mgmt. Area	N.Wasatch Ogedn Valley	Central Wasatch Mgmt. Area	Eastern Uintas Mgmt Area	Western Uintas Mgmt Area	Mountain Forest	Riparian Meadows/ Seeps	Rock Cliffs/ Crevices Talus/Scree	High elev. Grassland	Shrubland	Woodland	Alpine	Subalpine/Non Forest
<i>Cymopterus lapidosus</i> (Jones) Jones	Echo spring-parsley						X	X					X			
<i>Cypripedium calceolus</i> ssp <i>parviflorum</i> L.	Lady's slipper					X				X						
<i>Cypripedium fasciculatum</i> Kellogg ex Wats.	clustered lady's slipper, brownie lady's slipper			X		X			X							
<i>Dodecatheon dentatum</i> var. <i>utahense</i>	Utah shooting star, Wasatch shooting star					X				X	X					
<i>Draba brachystylis</i>	Wasatch draba					X	X		X		X					
<i>Draba globosa</i> (<i>D. densifolia</i> var. <i>apiculata</i>)	rockcress draba					X	X	X			X				X	
<i>Draba maguirei</i> sensu lato	Maguire's draba			X					X		X				X	X
<i>Draba maguirei</i> var. <i>burkei</i>	Burke's draba			X	X						X				X	X
<i>Epipactis gigantea</i> Dougl. ex. Hook	Giant Helleborine			X						X						
<i>Erigeron arenarioides</i> (D.C. Eaton) Gray	Wasatch daisy				X	X					X					
<i>Erigeron cronquistii</i> Maguire	Cronquist daisy			X							X					
<i>Erigeron garrettii</i> A. Nels	Garrett's daisy					X					X				X	X
<i>Eriogonum brevicaule</i> var. <i>loganum</i> (A. Nels.) Welsh	Logan buckwheat		X	X					X		X		X	X	X	X
<i>Ivesia utahensis</i> Wats.	Utah Ivesia			X		X					X				X	
<i>Jamesia americana</i> var. <i>macrocalyx</i> (Small) Engler	Wasatch Jamesia, Wasatch cliff-bush					X					X					

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Species	Common Name	Management Area							Habitat						
		Stansburys	Bear Management Area	Cache Box Elder Mgmt. Area	N.Wasatch Ogedn Valley	Central Wasatch Mgmt. Area	Eastern Uintas Mgmt Area	Western Uintas Mgmt Area	Mountain Forest	Riparian Meadows/ Seeps	Rock Cliffs/ Crevices Talus/Scree	High elev. Grassland	Shrubland	Woodland	Alpine Subalpine/Non Forest
<i>Lathyrus lanszwertii</i> var. <i>Lanszwertii</i>	Nevada Sweetpea	X	X	X	X	X	X	X						X	
<i>Lepidium montanum</i> var. <i>alpinum</i> Wats.	alpine pepper plant, Wasatch pepper-wort					X					X				
<i>Lesquerella garrettii</i> Payson	Garrett's bladderpod					X					X				X
<i>Lesquerella utahensis</i> Rydb.	Utah bladderpod					X					X		X		X
<i>Musineon lineare</i>	Rydberg's Musineon			X							X				
<i>Papaver radicum</i> ssp <i>kluanense</i>	Alpine Poppy						X	X			X				X
<i>Pedicularis parryi</i> ssp. <i>Mogollonica</i>	Mogollon Lousewort						X		X				X	X	X
<i>Penstemon compactus</i> (Keck) Crosswhite	Cache beardtongue			X							X				X
<i>Penstemon platyphyllus</i> Rydb.	Broad-leaf Beardtongue,				X	X					X		X		
<i>Penstemon uintahensis</i>	Uinta Beardtongue						X	X			X				X
<i>Porterella carnosula</i> (H.&A.) Torr.	Western Porterella						X			X					
<i>Potamogeton foliosus</i> var <i>fibrillosus</i> (Fern.) Haynes & Reveal	Fibrous-stipuled pond-weed						X			X					
<i>Potentilla cottamii</i> N. Holmgren	Cottam's cinquefoil,	X									X				
<i>Potentilla pensylvanica</i> var. <i>paucijuga</i> (Rydb.) Welsh & Johnston	Alpine cinquefoil, few-leaflet cinquefoil							X				X			X
<i>Primula maguirei</i> L.O. Williams	Maguire's primrose			X							X			X	

Species	Common Name	Management Area							Habitat							
		Stansburys	Bear Management Area	Cache Box Elder Mgmt. Area	N.Wasatch Ogedn Valley	Central Wasatch Mgmt. Area	Eastern Uintas Mgmt Area	Western Uintas Mgmt Area	Mountain Forest	Riparian Meadows/ Seeps	Rock Cliffs/ Crevices Talus/Scree	High elev. Grassland	Shrubland	Woodland	Alpine	Subalpine/Non Forest
<i>*Spiranthes diluvialis</i> Sheviak	Ute ladies'-tresses									X						
<i>Thelesperma pubescens</i> Dorn	Uinta greenthread						X				X			X		
<i>Viola beckwithii</i> T. & G.	Beckwith's violet			X	X	X						X	X	X		
<i>Viola frank-smithii</i> N. Holmgren	Frank Smith Violet			X							X					

Star (*) indicates that the species is not found on the forest, or is found by historic specimen only.