## Section 3.0 – MIX COMPONENT SEARCH QUERIES

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#### 3.0 MIX COMPONENT SEARCH QUERIES

#### 3.1 Introduction to MIX COMPONENT SEARCH

The **MIX COMPONENT SEARCH** module allows the planner to access a form-driven database query tool that facilitates 1) searches for component species or whole mixtures that match selected mixture or individual plant record parameters by which the planner wants a search constrained; and 2) searches for pre-set guideline seed mixtures within the **eVegGuide** that are currently available for use in revegetation planning using a known **Mix ID**. The **MIX COMPONENT SEARCH** is much more oriented toward directly accessing and examining individual species within pre-set mixtures, including the ability to search for species within mixtures using parameters that constrain searches to data elements such as percent composition, ease of establishment, and other mixture component parameters.

**MIX COMPONENT SEARCH** can be used to display all component species within a pre-set mixture, including the usual links to other sources of biological, ecological, taxonomic, and commercial availability information pertaining to that species – as described above under section 2.1 under **PLANT SEARCH**.

When querying the **eVegGuide** database for seed mixture information, first access the **DATA** tab at the top of the introductory screen (Figure 1). Once within the **DATA** window, click on **MIX COMPONENT SEARCH**.



Figure 1. eVegGuide introductory screen, indicating MIX COMPONENT SEARCH option.

#### 3.2 Navigating the MIX COMPONENT SEARCH Window

The blank **MIX COMPONENT SEARCH** window then appears (Figure 2). Any data field (one or more) within this window can serve as search parameters to query the **eVegGuide** database for mixtures or component species in which you may be interested. These can be used in any combination to constrain the search, as under **PLANT SEARCH**.

¥ Search	► Results	▶ Detail		HELP
SEARCH	Enter criteria below to search	or Mix records		
Mix ID	Plant ID Percent			
Scientific Nam	ne	Common Name	Footnotes	
Resident any	Growth Plant Ty any any any	pe Bloom	Ease	

Figure 2. Blank MIX COMPONENT SEARCH screen, showing all searchable data fields.

Some data entry boxes have <u>drop-down selection lists</u> (e.g., Resident Status, Growth Cycle, and Plant Type), which are denoted in default mode within the field as "any" (see the red boxes in Figure 3). Click on each of these fields to see the available selection list of parameters.

<b>v</b> Search	► Results	▶ Detail	HELP
SEARCH	Enter criteria below to search	or Mix records	
Mix ID	Plant ID Percent		
Scientific Nam	le	Common Name     Footnotes	
Resident any	Growth Plant Ty ✓ any ✓ any	Bloom Ease	

Figure 3. Blank MIX COMPONENT SEARCH screen, with <u>drop-down selection list</u> searchable fields highlighted by red boxes.

Other fields (i.e. those not showing "any" as a selection) require <u>actual data entry</u> (e.g., Mix ID, Plant ID, Percent (for a component species within a mixture), Scientific Name, Common Name, Footnotes, Bloom period, and Ease of establishment) as the searchable parameter (see the green boxes in Figure 4).

<b>v</b> Search	► Results	► Detail		HELP
SEARCH	Enter criteria below to search	for Mix records		
Mix ID	Plant ID Percent			
Scientific Nan	ne	Common Name	Footnotes	
Resident any	Growth Plant ✓ any ✓ any	Vpe	Ease	

Figure 4. Blank MIX COMPONENT SEARCH screen, with <u>actual data entry</u> searchable fields highlighted by green boxes.

Descriptions for actual data entry fields, to guide your search, include -

**Mix ID** – an internal tracking number assigned to a pre-set guideline mixture when it was initially added to the **eVegGuide**. This can be used as a search term if the mixture internal ID is known.

**Plant ID** – an internal tracking number assigned to a component species when it was initially added to the **eVegGuide**. This can be used as a search term if the species internal ID is known.

**Percent** – an integer representing the percentage of a component species within a mixture. It is used as a search term for any component species exhibiting that percentage composition in any seed mixture (global search) or a specified mixture.

**Scientific Name** – scientific name of the species desired, in accordance with USDA PLANTS database approved nomenclature.

**Common Name** – common name of the species desired, in accordance with USDA PLANTS database approved nomenclature.

**Footnotes** – identification number of the footnote(s) (if any) applicable to an individual species. Multiple footnotes are separated by commas (e.g., 11,22,35). , for which you wish the species search to be confined. Refer to the **FOOTNOTE SEARCH under the DATA tab** for complete footnote descriptions (with active links to supporting literature, as applicable).

**Bloom** – peak bloom period for a species, described as a range of calendar months. For example, a bloom period of 3-5 corresponds to March (3) through May (5). Bloom periods may range across calendar years (e.g., 10-5), and are determined from Calflora, CNPS and NRCS observances for the species.

**Ease** – ease of establishment and/or subsequent maintenance, with '3' = easy to establish; '2' = moderately easy to establish; and '1' = slightly difficult to establish. Refer to the **HELP** page for basis and complete descriptions of the ease ratings.

#### 3.3 Targeted Mixture Search by Mix ID

If the **Mix ID** is known – from when the mixture was first formulated and entered into the **eVegGuide**, or from a **PLANT SEARCH** search for mixtures (see <u>Figure 29 in Section 2.5</u>) – this ID number can then be entered in the **Mix ID** data field (Figure 5). For this example, enter **Mix ID** number '<u>1803</u>'. Then click on the **SEARCH** box at the top-left of the window.

Results of this search are displayed in Figure 6, showing all component species within mixture <u>1803</u>, with their corresponding percentage composition ('**Percent**' column heading). As with all other tables displaying results of a search, columns can be sorted in ascending order by clicking on any column heading shown in **bold**, **blue** font. For this results table in **MIX COMPONENT SEARCH**, the '**Percent**' column cannot be used for sorting because the data in this column is automatically sorted in ascending order.

V Search	► Results	▶ Detail		HELP
SEARCH	Enter criteria below to search	for Mix records		
1803	Plant ID Percent			
Scientific Nan	ne	Common Name	Footnotes	
Resident any	Growth Plant Ty ✓ any ✓ any	pe Bloom Ea	ase	

Figure 5. Initiating a mixture search from the blank MIX COMPONENT SEARCH screen using the Mix ID as the only search term.

▶!	Search		<b>▼</b> Results	▶ Detail							HELP				
10	results	Click	on 🍳 to view a record												
	Mix ID	Percent Scientific Name		Percent Scientific Name		Percent Scientific Nam			Common Name	Resident	Growth	Plant Type	Ease	Notes	
•	1803	25.0	Clarkia amoena		Farewell to spring	native	Annual	Forb	2						
•	1803	23.0	Gilia capitata		Blue Field Gilia	native	Annual	Forb	2	29 35					
•	1803	10.0	Nemophila menziesii		Baby blue eyes	native	Annual	Forb	2	29 35					
•	1803	9.5	Eriophyllum confertiflorum		Yellow yarrow	native	Perennial	Shrub	2	35					
•	1803	8.0	Eschscholzia californica		California poppy	native	Perennial	Forb	3	29					
•	1803	8.0	Achillea millefolium		Common yarrow	native	Perennial	Forb	3	29 13					
•	1803	7.0	Phacelia californica		Rock phacelia	native	Perennial	Forb	2	26 29					
•	1803	6.0	Grindelia camporum		Great Valley gumweed	native	Perennial	Forb	3	29 12					
•	1803	2.0	Helianthus annuus		common sunflower	native	Perennial	Forb	2	29 13 30	D				
•	1803	1.5	Lupinus densiflorus var. dens	iflorus	chick lupine	native	Annual	Legume	3	35 37 36	2				

Figure 6. Results of mixture search from the MIX COMPONENT SEARCH screen using Mix ID '1803' as the only search term. Data summarizes all components.

In results tables generated in the MIX COMPONENT SEARCH module (per the example above in Figure 6), active link footnotes applicable to each species are displayed under the 'Notes' column. Clicking on any of these individual footnote numbers (shown in blue font) links to footnote descriptions with associated active links. Refer to the FOOTNOTE SEARCH under the DATA tab for complete footnote descriptions (with active links to supporting literature and other reference materials, as applicable).

To examine further data pertaining to any of the component species within the selected mixture, click on the blue dot ( $^{\circ}$ ) to view the <u>mix component record</u> for the component species of interest. In this example, click on the blue dot ( $^{\circ}$ ) for the first listed species – "<u>Clarkia amoena</u>" – as displayed under the **Scientific Name** column heading in Figure 6.

The resulting window (Figure 7) displays a <u>mix component record</u> for that component species. This abbreviated plant record summary displays several parameters associated with that species – namely, the **Plant ID** assigned to this species within the **eVegGuide** (in this example,

	► Se	arch		<b>▼</b> Results	▼ Detail							Н	ELP	
	10 re	sults	Click	on <sup>o</sup> to view a record	VIEWIN	VIEWING mix component record # 720						х		
		Mix ID	Percent	Scientific Name										
(	•	1803	25.0 Clarkia amoena		1803		1010	25.0						
T	•	1803	23.0	Gilia capitata										
	•	1803	10.0	Nemophila menziesii	Clarkia	amoena			Farewell to	ne spring		Foot	notes	
	•	1803	9.5	Eriophyllum confertiflorum	Resider	it	Growth	Plant Typ	ie .	Bloom		Ease		
	•	1803	8.0	Eschscholzia californica	native	~	Annual N	Forb	~	6-8		2		
	•	1803	8.0	Achillea millefolium	Drill 0.7		Broadcast 1.4	Plant	Details	Mix Details	5			
	•	1803	7.0	Phacelia californica		поск рі	Iduella	nauve	rerenniai	TOD	2	20 23		
	•	1803	6.0	Grindelia camporum		Great V	alley gumweed	native	Perennial	Forb	3	29 12		
	•	1803	2.0	Helianthus annuus		commo	n sunflower	native	Perennial	Forb	2	29 13 30		
	•	1803	1.5	Lupinus densiflorus var. dens	iflorus	chick lu	pine	native	Annual	Legume	3	35 37 36 2		

Figure 7. Illustration of selecting one specific component species (in this example, "*Clarkia amoena*") from the full mixture listing of component species, with resultant mix component record window.

'1010'); its percentage composition in mixture '1803' (in this example, 25%); and selected biological parameters for the component species, including Resident status, Growth form, Plant Type, Bloom period, and Ease of establishment.

Additionally in the mix component record (Figure 7), the <u>stand-alone 100% seeding rate</u> (in PLS pounds per acre) for this species is displayed, as taken directly from the species' plant record. This is <u>not</u> to be confused with the <u>mixture seeding rate</u> (at 25% composition, in this mixture example) for this species, which is computed and displayed in the **PLANT OR SEED MIX REPORT** module (see Section 1.0). This latter module is where this mixture is selected for a final seeding recommendation report to be included in the client's conservation plan.

<u>Note</u> that when selecting a line-item species entry from a table of multiple line-item species results (as illustrated in Figure 7), the user does not have to 'X-out' or escape from this **Plant Record** summary window in order to select a new species from the original results table. Simply click on another blue dot (•) for the next species to be examined, and the existing **Plant-Practice Record** summary window will automatically change to reveal full descriptions for the newly selected species.

From the mix component record (as displayed in Figure 7), two additional options are available to further describe either the selected component species, or the pre-set guideline mixture as a whole. These options are **'Plant Details'** and **'Mix Details'**, respectively.

Clicking on **'Plant Details'** accesses the full plant record for the selected component species, displayed exactly as if it was accessed using **PLANT SEARCH** (as previously described in association with <u>Figure 8</u> under <u>Section 2.2</u>. Also as described previously, other links are available from this plant record, including Calflora and USDA-PLANTS databases, CNPLX (commercial availability database), Calscape, CalPhotos, PlantID.net, Jepson eFlora, efloras.org, etc.

Clicking on **'Mix Details'** accesses a summary record for the selected mixture as a whole (in this example, for mixture '1803') (Figure 8). Parameters displayed for this mixture include the full **'Mix Name'** and **'Mix Description'**, providing further detail for the intended application of

► Search	▼ Results	▼ Detail	HELP
1 result Scientific I	Click on <sup>O</sup> to view a record Name Common	VIEWING plant record # 1803	103 X
0	Pollinator perennials/ annuals f	ID Mix Name 1803 Pollinator perer	ennials/ annuals for MLRA 14, 15, 19, 20
		Description Pollinator Nativ	tive forbs Habitat for Southern, Coastal areas
		Plant Type Mix V	Growth Cycle Resident Status Annual / Perennial V native V
		Materials Seeds ✓	Bloom period may vary from the values shown here depending upon local environmental variables.
	⇔	Mix Detail Mix Com	mponent Editor Plant Practice Editor

Figure 8. Display of the mixture summary record, accessed by clicking on 'Mix Details' in the Mix Component Record window (Figure 7).

this mixture in terms of, as examples, land use and management, applicable MLRA(s), species varietal recommendations, special seeding rates, and/or other descriptive information that identifies and distinguishes this specific mixture.

Additional parameters are displayed in this mixture summary record (Figure 8), describing the overall or composite rating of the whole mixture for **Growth Cycle** (in this example for mixture 1803, a combination of annual and perennial species); **Resident Status** (in this example, native species only); **Pollinator Habitat** (in this example, the mixture as a whole is rated as beneficial to pollinators); and **Ease of Establishment** (in this example, the mixture as a whole is rated as '2' or moderately easy to establish). **Plant Type** (Mix) and **Materials** (Seeds) are defaults for a pre-set mixture.

As previously described in <u>Section 2.5</u> under the **PLANT SEARCH** module, clicking on **'Mix Detail**' in this latter mixture record window then displays the <u>full species composition</u> for the selected mixture – in this example, pre-set guideline mixture <u>1803</u> (Figure 9).

√IEWING pla	ant record #	<sup>#</sup> 1803							
ID 1803	ID Mix Name           1803         Pollinator perennials/ annuals for MLRA 14, 15, 19, 20           Description           Pollinator Native forbs Habitat for Southern, Coastal areas								
Plant Type Mix	•	Growth Cycle ✓ Annual / Perennial ✓	Resident Stat	tus V		*			
				Bloom period ma upon local enviro	y vary from the nmental variabl	values shown es.	here dependi	ng	
Materials Seeds		Pollinator Habitat	Ease (3: easie	est)					
Mix Deta     10 plants.     Plant ID	ail <u>Mix</u> Percent	Component Editor	Plant Practic		Resident	Growth	Туре	East	
<ul> <li>Mix Deta</li> <li>10 plants.</li> <li>Plant ID</li> <li>1010</li> </ul>	ail <u>Mix</u> Percent 25.0	Component Editor ( Scientific Name Clarkia amoena	Plant Practic	Common Name	Resident	Growth	Type Forb	East 2	
Mix Deta 10 plants. Plant ID 1010 362	Mix           Percent           25.0           23.0	Component Editor Scientific Name Clarkia amoena Gilia capitata	Plant Practice	Common Name Farewell to spring Blue Field Gilia	Resident native native	Growth Annual Annual	Type Forb Forb	East 2 2	
Mix Deta 10 plants. Plant ID 1010 362 496	Mix           Percent           25.0           23.0           10.0	Component Editor Scientific Name Clarkia amoena Gilia capitata Nemophila menziesii	Plant Practic	Common Name Farewell to spring Blue Field Gilia Baby blue eyes	Resident native native native	Growth Annual Annual Annual	Type Forb Forb	East 2 2 2 2	
<ul> <li>Mix Deta</li> <li>10 plants.</li> <li>Plant ID</li> <li>1010</li> <li>362</li> <li>496</li> <li>1041</li> </ul>	Mix           Percent           25.0           23.0           10.0           9.5	Component Editor Scientific Name Clarkia amoena Gilia capitata Nemophila menziesii Eriophyllum confertiflorum	Plant Practic	Common Name Farewell to spring Blue Field Gilia Baby blue eyes Yellow yarrow	Resident       native       native       native       native	Growth Annual Annual Annual Perennial	Type       Forb       Forb       Forb       Shrub	Ease 2 2 2 2 2 2 2	
<ul> <li>Mix Deta</li> <li>10 plants.</li> <li>Plant ID</li> <li>1010</li> <li>362</li> <li>496</li> <li>1041</li> <li>327</li> </ul>	Mix Percent 25.0 23.0 10.0 9.5 8.0	Component Editor Scientific Name Clarkia amoena Gilia capitata Nemophila menziesii Eriophyllum confertiflorum Eschscholzia californica	Plant Practic	Common Name Common Name Farewell to spring Blue Field Gilia Baby blue eyes Yellow yarrow California poppy	Resident       native       native       native       native       native       native	Growth Annual Annual Annual Perennial Perennial	Forb       Forb       Forb       Shrub       Forb	Ease 2 2 2 2 2 2 3	
Mix Deta 10 plants. Plant ID 1010 362 496 1041 327 83	Mix Percent 25.0 23.0 10.0 9.5 8.0 8.0	Component Editor Scientific Name Clarkia amoena Gilia capitata Nemophila menziesii Eriophyllum confertiflorum Eschscholzia californica Achillea millefolium	Plant Practic	Common Name Farewell to spring Blue Field Gilia Baby blue eyes Yellow yarrow California poppy Common yarrow	Resident       native       native       native       native       native       native       native       native	Growth Annual Annual Annual Perennial Perennial	Type       Forb       Forb       Shrub       Forb       Forb	East 2 2 2 2 2 2 2 3 3 3	
<ul> <li>Mix Deta</li> <li>10 plants.</li> <li>Plant ID</li> <li>1010</li> <li>362</li> <li>496</li> <li>1041</li> <li>327</li> <li>83</li> <li>510</li> </ul>	Mix Percent 25.0 23.0 10.0 9.5 8.0 8.0 7.0	Component Editor Scientific Name Clarkia amoena Gilia capitata Nemophila menziesii Eriophyllum confertiflorum Eschscholzia californica Achillea millefolium Phacelia californica	Plant Practic	Common Name Farewell to spring Blue Field Gilia Baby blue eyes Yellow yarrow California poppy Common yarrow Rock phacelia	Resident       native       native       native       native       native       native       native       native       native	Growth Annual Annual Annual Perennial Perennial Perennial	Type       Forb       Forb       Shrub       Forb       Forb       Shrub       Forb       Forb	East 2 2 2 2 2 2 3 3 3 2	
<ul> <li>Mix Deta</li> <li>10 plants.</li> <li>Plant ID</li> <li>1010</li> <li>362</li> <li>496</li> <li>1041</li> <li>327</li> <li>83</li> <li>510</li> <li>367</li> </ul>	Mix Percent 25.0 23.0 10.0 9.5 8.0 8.0 7.0 6.0	Component Editor Scientific Name Clarkia amoena Gilia capitata Nemophila menziesii Eriophyllum confertiflorum Eschscholzia californica Achillea millefolium Phacelia californica Grindelia camporum	Plant Practic	Common Name Farewell to spring Blue Field Gilia Baby blue eyes Yellow yarrow California poppy Common yarrow Rock phacelia Great Valley gumweed	Resident       native	Growth         Annual         Annual         Annual         Perennial         Perennial         Perennial         Perennial         Perennial         Perennial         Perennial	Type       Forb       Forb       Shrub       Forb       Forb       Forb       Forb       Forb       Forb       Forb	Ease 2 2 2 2 2 3 3 3 2 3 3 2 3	
Mix Deta 10 plants. Plant ID 1010 362 496 1041 327 83 510 367 899	Mix Percent 25.0 23.0 10.0 9.5 8.0 8.0 7.0 6.0 2.0	Component Editor Scientific Name Clarkia amoena Gilia capitata Nemophila menziesii Eriophyllum confertiflorum Eschscholzia californica Achillea millefolium Phacelia californica Grindelia camporum Helianthus annuus	Plant Practic	Common Name Farewell to spring Blue Field Gilia Baby blue eyes Yellow yarrow California poppy Common yarrow Rock phacelia Great Valley gumweed common sunflower	Resident       native       native	Growth Annual Annual Annual Perennial Perennial Perennial Perennial Perennial	Type       Forb       Forb       Shrub       Forb       Forb	Ease 2 2 2 2 2 3 3 3 2 3 3 2 3 2 2 3	

Figure 9. Results of using 'Mix Detail' to display the component species of the selected pre-set mixture, ID No. 1803.

As described earlier, the **PLANT-PRACTICE SEARCH** link in this latter mixture summary record provides the new listing of where this newly selected mixture is located. **Figure 10** displays these latter results, which indicate that this mixture is applicable to <u>conservation</u> <u>practice 327 (Conservation Cover)</u>; to practice purpose 2 – Upland Wildlife Habitat; and to sites within MLRA's 14, 15, 19, and 20.

)	Search	Ŧ	Results	► Detail	► Add a List	of Plant	S		HELP
4	results	Cli	ick on 🍳 t	o view a record					
	Key	MLRA	Practice	Purpose	Irrigated	Туре	Scientific Name	Common Name	Ease
•	tr9794	20	327	2 - Upland Wildland		Mix		Pollinator perennials/ annuals for MLRA 14, 15, 19, 20	2
•	tr9795	19	327	2 - Upland Wildland		Mix		Pollinator perennials/ annuals for MLRA 14, 15, 19, 20	2
•	tr9796	15	327	2 - Upland Wildland		Mix		Pollinator perennials/ annuals for MLRA 14, 15, 19, 20	2
•	tr9797	14	327	2 - Upland Wildland		Mix		Pollinator perennials/ annuals for MLRA 14, 15, 19, 20	2

Figure 10. Results of using **PLANT-PRACTICE SEARCH** to display the conservation practice, practice purpose (if applicable), and applicable MLRA(s) for the selected pre-set mixture, ID No. 1803.

The **PLANT-PRACTICE SEARCH** module will be fully described and demonstrated in Section 4 of this User's Manual.

#### 3.4 Targeted Mixture Search by Mix Name

The primary intent of the **MIX COMPONENT SEARCH** module is to facilitate searches for, and examination of, data for <u>component species</u> within pre-set guideline mixtures that are currently available within the **eVegGuide**. While a search for a particular mixture by **Mix ID** can be performed, this module does <u>not</u> allow for mixtures searches by **Mix Name** or **Mix Description**.

A search for a mixture by <u>mixture name</u> (if known in advance) must be conducted using **PLANT SEARCH**, as described in reference to <u>Figure 37 in Section 2.52</u>. When searching for a mixture by the mixture name, enter the specific mixture name in the **Common Name** data field of the blank species of interest in the appropriate data field of the blank mixture editor window (Figure 37). <u>Spelling must be exact</u>, but abbreviated phrases or key words within the full mixture name (if correctly spelled and punctuated) can also be used.

#### 3.5 Parameter-Constrained Search for Component Species in a Mixture

In contrast to searching for a single mixture using the **Mix ID** (in **MIX COMPONENT SEARCH** mode) or **Mixture Name** (in **PLANT SEARCH** mode), lists of component species that meet selected search criteria can be generated using a search constrained by selected mixture record parameters. As depicted in <u>Figure 2</u> above, the blank **Mixture Record** window displays all the searchable parameters by which a mixture component species search can be constrained. As previously noted, any data field (one or more) within this window can serve as search variable(s) to query the **eVegGuide** database for the mixture component species in which you may be interested.

Example searches are provided using biological / commercial parameters as search terms.

 First example – the planner wishes to find all mixtures available (and their associated site and land use applicability data) within the eVegGuide that contain '<u>Leymus cinereus</u>' (Basin wildrye). Enter this search term in the Scientific Name data field, and then click on SEARCH (Figure 11).

<b>v</b> Search	► Results	► Detail			HELP
SEARCH	Enter criteria below to search	n for Mix records			
MIXID	Plant ID Percent				
Scientific Na Leymus cine	ereus	Common Name		Footnotes	
Resident any	Growth Plant ✓ any ✓ any	ſype E	Bloom Ease		

Figure 11. Using a single-parameter search from the blank MIXTURE RECORD window. In this example, the search is for all pre-set guideline mixtures containing '*Leymus cinereus*' (Basin wildrye) as the lone search constraint.

The results of this search are depicted in Figure 12, displaying 7 mixtures that contain *'Leymus cinereus'* as a component species. Note that in each of these mixtures (with **Mix ID's** of 914, 917, 918, 1747, 1748, 1766, and 1767), the species composition within the respective mixture varies from 20 - 25%, depending upon the specific mixture.

Now that the **Mix ID's** are known for this subset of mixtures, the planner can then search for the full component species list and associated site applicability data [i.e., conservation practice, practice purpose, and MLRA(s)] for the displayed mixtures using the search procedures described above in <u>Section 2.3</u>.

► S	earch		Results	▶ Detail					HE	LP
7 re	sults	Click on	to view a record							
	Mix ID	Percent	Scientific Name	Common Name	Resident	Growth	Plant Type	Ease	Notes	
0	914	25.0	Leymus cinereus	Basin wildrye	native	Perennial	Grass	2	11 12	
•	917	25.0	Leymus cinereus	Basin wildrye	native	Perennial	Grass	2	11 12	
•	918	20.0	Leymus cinereus	Basin wildrye	native	Perennial	Grass	2	11 12	
•	1747	25.0	Leymus cinereus	Basin wildrye	native	Perennial	Grass	2	11 12	
•	1748	25.0	Leymus cinereus	Basin wildrye	native	Perennial	Grass	2	11 12	
•	1766	25.0	Leymus cinereus	Basin wildrye	native	Perennial	Grass	2	11 12	]
•	1767	25.0	Leymus cinereus	Basin wildrye	native	Perennial	Grass	2	11 12	

Figure 12. Results from the search for all pre-set guideline mixtures containing '*Leymus cinereus*' (Basin wildrye) as the lone search constraint.

A similar search could be conducted, querying for all mixtures that contain component species within the genus '*Leymus*' (Figure 13). Click on '**Search**' at the top-left of the **Mixture Record** summary window. This action returns to the blank data entry window, where '*Leymus* cinereus' can then be over-written with '*Leymus*' only in the **Scientific Name** data field. Then click on **SEARCH** (Figure 13).

(	Search	► Results	► Detail	HELP
	SEARCH	Enter criteria below to search fo	or Mix records	
	Mix ID	Plant ID Percent		
	Scientific Name		Common Name Footnotes	
	Resident any V	Growth Plant Typ any ✔ any	De     Bloom     Ease       Image: Comparison of the second seco	

Figure 13. A revised, wider search for all pre-set guideline mixtures containing species within the genus '*Leymus*'.

The results of this revised search are depicted in Figure 14, now displaying 11 mixtures that contain component species within the genus '*Leymus*'. Note that now two species are listed

(*Leymus cinereus* and *Leymus triticoides*), with each species' line item entry showing the **Mix ID** with which it is associated, and its corresponding mixture composition percentage.

As above, now that the **Mix ID's** are known for this subset of mixtures, the planner can then search for the full component species list and associated site applicability data [i.e., conservation practice, practice purpose, and MLRA(s)] for the displayed mixtures using the search procedures described above in <u>Section 2.3</u>.

▶!	Search		<b>W</b> Results	▶ Detail					HEL
11 results		Click	on 🍳 to view a record						
	Mix ID	Percent	Scientific Name	Common Name	Resident	Growth	Plant Type	Ease	Notes
•	914	25.0	Leymus cinereus	Basin wildrye	native	Perennial	Grass	2	11 12
•	917	25.0	Leymus cinereus	Basin wildrye	native	Perennial	Grass	2	11 12
•	918	20.0	Leymus cinereus	Basin wildrye	native	Perennial	Grass	2	11 12
•	1747	25.0	Leymus cinereus	Basin wildrye	native	Perennial	Grass	2	11 12
•	1748	25.0	Leymus cinereus	Basin wildrye	native	Perennial	Grass	2	11 12
0	1766	25.0	Leymus cinereus	Basin wildrye	native	Perennial	Grass	2	11 12
•	1767	25.0	Leymus cinereus	Basin wildrye	native	Perennial	Grass	2	11 12
•	49	28.0	Leymus triticoides	Creeping wildrye or Beardless wildrye	native	Perennial	Grass	3	5 32 13
•	59	20.0	Leymus triticoides	Creeping wildrye or Beardless wildrye	native	Perennial	Grass	3	5 32 13
0	929	50.0	Leymus triticoides	Creeping wildrye or Beardless wildrye	native	Perennial	Grass	3	5 32 13
•	1840	3.0	Leymus triticoides	Creeping wildrye or Beardless wildrye	native	Perennial	Grass	3	5 32 13

Figure 14. Results of a revised, wider search for all pre-set guideline mixtures containing species within the genus '*Leymus*'.

Second example – the planner wishes to locate and examine all component species contained within eVegGuide pre-set guideline mixtures that meet the following criteria: 1) <u>native</u>; 2) <u>shrub</u>; and 3) characterized by <u>Footnote 13</u> (i.e., very high salinity tolerance, EC's > 12 dS m<sup>-1</sup>) (Figure 15).

<b>v</b> Search	► Results	► Detail		HELP
SEARCH	Enter criteria below to search	for Mix records		
	Plant ID Percent			
Scientific Na	me	Common Name	13 Footnotes	
Resident	Growth any Shrub		Bloom Ease	

Figure 15. A revised multiple-parameter search from the MIXTURE RECORD window, incorporating three new parameters (Resident Status and Plant Type with drop-down selection lists, and Footnotes with actual data entry) to form the combined search constraints.

The search results (Figure 16) display over 20 line-item listings of component species (many are repeat species that occur across different mixtures and/or with different percentage composition) that meet the combination of stipulated search criteria above. As noted previously, all of the columns can be sorted by the <u>column heading</u> (shown in **bold**, **blue** font) when there are multiple line entries generated for a results window.

► 5	earch		<b>▼</b> Results	▶ Detail					HELP
22 ו	esults	Click	on <sup>o</sup> to view a record						
	Mix ID	Percent	Scientific Name	Common Name	Resident	Growth	Plant Type	Ease	Notes
•	1644	5.0	Allenrolfea occidentalis	lodine Bush	native	Perennial	Shrub	1	13
•	10	47.0	Atriplex canescens	Fourwing saltbush	native	Perennial	Shrub	3	29 35 13
•	14	30.0	Atriplex canescens	Fourwing saltbush	native	Perennial	Shrub	3	29 35 13
•	1644	25.0	Atriplex canescens	Fourwing saltbush	native	Perennial	Shrub	3	29 35 13
•	1702	35.0	Atriplex canescens	Fourwing saltbush	native	Perennial	Shrub	3	29 35 13
•	1703	15.0	Atriplex canescens	Fourwing saltbush	native	Perennial	Shrub	3	29 35 13
•	1706	25.0	Atriplex canescens	Fourwing saltbush	native	Perennial	Shrub	3	29 35 13
•	1707	35.0	Atriplex canescens	Fourwing saltbush	native	Perennial	Shrub	3	29 35 13
•	976	20.0	Atriplex polycarpa	Desert saltbush	native	Perennial	Shrub	2	12 13
•	1704	20.0	Atriplex polycarpa	Desert saltbush	native	Perennial	Shrub	2	12 13
•	1705	30.0	Atriplex polycarpa	Desert saltbush	native	Perennial	Shrub	2	12 13
•	1706	30.0	Atriplex polycarpa	Desert saltbush	native	Perennial	Shrub	2	12 13
•	1708	20.0	Atriplex polycarpa	Desert saltbush	native	Perennial	Shrub	2	12 13
•	976	20.0	Larrea tridentata	Creosote bush	native	Perennial	Shrub	2	29 35 11 13
•	1645	20.0	Larrea tridentata	Creosote bush	native	Perennial	Shrub	2	29 35 11 13
•	1648	20.0	Larrea tridentata	Creosote bush	native	Perennial	Shrub	2	29 35 11 13
•	1701	30.0	Larrea tridentata	Creosote bush	native	Perennial	Shrub	2	29 35 11 13
•	1703	20.0	Larrea tridentata	Creosote bush	native	Perennial	Shrub	2	29 35 11 13
•	1704	20.0	Larrea tridentata	Creosote bush	native	Perennial	Shrub	2	29 35 11 13
•	1705	20.0	Larrea tridentata	Creosote bush	native	Perennial	Shrub	2	29 35 11 13
•	1708	25.0	Larrea tridentata	Creosote bush	native	Perennial	Shrub	2	29 35 11 13
•	1644	15.0	Suaeda moquinii	Bush seepweed, Mojave seablite	native	Perennial	Shrub	2	13

Figure 16. Results from the revised multiple-parameter search using three parameters (Resident Status, Plant Type, and Footnotes) to form the combined search constraints.

The planner can now search for the full component species list and associated site applicability data [i.e., conservation practice, practice purpose, and MLRA(s)] for the displayed mixtures. As previously described, click on the blue dot (<sup>O</sup>) to view the <u>full mixture</u> record, and then proceed using the search procedures described above in <u>Section 2.3</u>.

Third example – the planner wishes to locate and examine mixtures within the eVegGuide whose component species meet the following criteria: 1) <u>native</u>; 2) <u>forb</u>; 3) peak bloom period includes the month of March (code 3); and 4) characterized by <u>Footnote 26</u> (i.e., highly preferred by native bees) (Figure 17).

<b>v</b> Search	► Results	▶ Detail		HELP
SEARCH	Enter criteria below to search	for Mix records		
Mix ID	Plant ID Percent			
Scientific Nam	le	Common Name	Footnotes 26	
native	any Forb		Ease	

Figure 17. Another revised multiple-parameter search from the MIXTURE RECORD window, incorporating four new parameters (Resident Status, Plant Type, Bloom Period, and Footnotes) to form the combined search constraints.

The search results (Figure 18) display 14 line-item listings of component species (many are repeat species that occur across different mixtures and/or with different percentage composition) that meet the combination of stipulated search criteria above.

▶ 9	Search		▼ Results	▶ Detail					HELP
14 1	results	Click or	• to view a record						
	Mix ID	Percent	Scientific Name	Common Name	Resident	Growth	Plant Type	Ease	Notes
•	1802	10.0	Phacelia californica	Rock phacelia	native	Perennial	Forb	2	26 29
•	1803	7.0	Phacelia californica	Rock phacelia	native	Perennial	Forb	2	26 29
•	1805	7.5	Phacelia californica	Rock phacelia	native	Perennial	Forb	2	26 29
•	155	8.3	Phacelia tanacetifolia	Tansy phacelia	native	Annual	Forb	3	26 35 31
•	1818	2.0	Phacelia tanacetifolia	Tansy phacelia	native	Annual	Forb	3	26 35 31
•	976	5.0	Sphaeralcea ambigua	Desert globernalow	native	Perennial	Forb	3	26 12
•	1644	5.0	Sphaeralcea ambigua	Desert globernalow	native	Perennial	Forb	3	26 12
•	1645	10.0	Sphaeralcea ambigua	Desert globernalow	native	Perennial	Forb	3	26 12
•	1702	5.0	Sphaeralcea ambigua	Desert globernalow	native	Perennial	Forb	3	26 12
•	1703	5.0	Sphaeralcea ambigua	Desert globernalow	native	Perennial	Forb	3	26 12
•	1704	5.0	Sphaeralcea ambigua	Desert globernalow	native	Perennial	Forb	3	26 12
•	1707	5.0	Sphaeralcea ambigua	Desert globernalow	native	Perennial	Forb	3	26 12
•	1708	5.0	Sphaeralcea ambigua	Desert globernalow	native	Perennial	Forb	3	26 12
•	1709	10.0	Sphaeralcea ambigua	Desert globemalow	native	Perennial	Forb	3	26 12

# Figure 18. Results from the revised multiple-parameter search using four parameters (Resident Status, Plant Type, Bloom Period, and Footnotes) to form the combined search constraints.

As previously illustrated, clicking on the blue dot (•) for either of the listed mixtures will then provide the mixture record summary for that mixture. This latter window then allows active link access to "**Mix Detail**' (i.e., a basic listing of the component species), and to **PLANT-PRACTICE SEARCH** (which provides the cross-referenced listing of where these specific mixtures are located in relation to conservation practice(s), practice purpose (if applicable), and MLRA(s).