

General	Spring Name _____ Springs Online ID# _____ ¹ Spring Type Primary _____ Secondary _____																						
	Country _____ State _____ County _____ ² Sensitivity _____	Survey																					
Land Unit _____ Land Unit Detail _____																							
Georef Source: GPS / Map Device _____ Datum _____																							
UTM Zone _____ Easting _____ Northing _____																							
Latitude _____ Longitude _____ Elev _____ ft / m																							
EPE _____ ft or m Comment _____	Date _____ Begin Time _____ End Time _____ Project _____ Protocol: Lev 1 / Lev 2 / Oth _____ Surveyors _____ _____ Weather _____ Recent rain _____ _____ No current/ recent precip. _____ Snow on ground _____ _____ Rain during survey _____ Snow/ hail/ sleet during survey _____																						
Description	Site Description <i>Seepage/ flow emerges from...</i>																						
	Access Directions																						
Microhabitats	Survey Notes																						
	Site Condition (<i>amount of water present, grazing impacts, status of infrastructure</i>)																						
Microhabitats	Name and Description	Area (m ²)	⁵ Surf Type	⁶ Surf Subtype	⁷ Slope Var	Aspect True/ Mag	Slope Deg	⁸ Soil Moist	Water Max depth (cm)	%	⁹ Substrate %								Prec %	Litter %	Wood %	Litter (cm)	
	A																						
	B																						
	C																						
	D																						
	E																						
Images	Whose Camera Used _____	Photo#	Photo Caption								Photo#	Photo Caption											
	Sketch Map Location _____																						

- 1 Spring Type**
 Anthropogenic
 Cave
 Exposure
 Fountain
 Geyser
 Gushet
 Hanging Garden
 Helocrene
 Hillslope
 Hypocrene
 Limnocrene
 Mound-form
 Rheocrene
- 2 Sensitivity**
 None - Spring Online users with Land Unit and Project permissions can see all data
 Location - Users need extra permissions to see spring location
 Survey - Users need extra permissions to see survey data
 Both - Users need extra permissions to see spring location and survey data
- 3 Land Unit**
 BLM
 DOE
 NPS
 Private
 State
 Tribal
 USFS
 Other
- 4 Georeference Source**
 GPS
 Map
 Other
- 5 Surface Type**
 BW- Backwall
 C- Cave/Tunnel
 CH- Channel
 CS- Colluvial slope
 HGC- High Grad. Cienega (>16°)
 LGC- Low Grad. Cienega(<16°)
 Mad- Madiculous Flow
 P- Pool
 PM- Pool Margin
 SB- Sloping Bedrock
 SZ- Spray Zone
 SM- Spring Mound
 TE- Terrace
 Oth- Other/anthropogenic
- 6 Surface Subtype (optional)**
 BW: Wet, Dry
 CH: Riffle, Run, Margin, Eph
 CS: Wet, Dry
 PO: Wet, Dry
 SB: Wet, Dry
 TE: LRZ, MRZ, URZ, HRZ
 UPL,LRZMRZ,LRZURZ,
 MRZURZ, HRZMRZ
 All: Anthro (human influence)
- 7 Slope Variability**
 Low, Medium, High
- 8 Soil Moisture**
0 - Dry, no soil moisture
 1 – Soil mostly dry, few slightly moist patches
 2 – Soil mostly slightly moist. few dry patches
3 – Soil moist, with little moisture
 4 – Soil mostly moist, with few wetter patches where soil easily sticks together
 5 – Soil mostly wet with soil easily sticking together, few drier patches
6 – Soil wet, soil easily sticks together
 7 - Some wet patches of soil (easily sticking together) and some saturated soil patches
8 – Soil saturated, added water does not soak up, but there is little to no standing or flowing water
 9 - Substantial standing or flowing water, but less than 100% of microhabitat is inundated
10 – Inundated, 100% standing or flowing water, with no emergent vegetation or rocks
- 9 Substrate**
 1- clay
 2- silt
 3- sand (0.1-1mm)
 4- fine gravel (1-10 mm)
 5- coarse gravel (1-10 cm)
 6- cobble/ small boulders (10-100 cm)
 7- large boulders (>1 m)
 8- bedrock
 Organic Soil, including peat. Not including litter.
 Other/anthropogenic
- 10 Lifestage**
 Adult
 Egg
 Exuvia
 Immature
 Larvae
 Mixed
 Other
 Pupae
 Shell
- 11 Habitat**
 AQ - Aquatic
 T - Terrestrial
- 12 Method (Invertebrates)**
 Spot
 Benthic
- 13 Detection Type (Vertebrates)**
 Call
 Observed
 Sign
 Reported (by others)
 Other
- 14 Str (Vegetation Cover Codes)**
 NV- Nonvascular (moss, liverworts, lichen)
 GC- Ground Cover (all non-aquatic herbaceous veg, including grasses and forbs)
For woody shrubs and trees:
 SC- Shrub Cover (all cover in 0-4 m strata)
 MC- Midcanopy (all cover in 4-10 m strata)
 TC- Tall Canopy Cover (>10 m)
 BC- Basal Cover (record if >1% of cover)
- 15 Emergence Environ/Detail**
 Cave (Subterranean)
 Subaerial
 Subglacial
 Subaqueous-lentic freshwater
 Subaqueous-lotic freshwater
 Subaqueous-estuarine
 Subaqueous-marine
- 16 Source Geomorphology**
 Contact Spring
 Fracture Spring
 Seepage or filtration
 Tubular Spring
- 17 Flow Force Mechanism**
 Anthropogenic
 Artesian
 Geothermal
 Gravity
 Other
- 18/19 Parent Rock Type/Subtype**
 *only a selection of subtypes is listed
Igneous
 andesite
 basalt
 dacite
 gabbro
 granite
 peridotite
 rhyolite
Metamorphic
 gneiss
 marble
 quartzite
 slate
 schist
Sedimentary
 conglomerate
 dolomite
 evaporates
 limestone
 mudstone
 sandstone
 shale
 siltstone
Unconsolidated
 alluvium
 ash/ loess mixture
 talus deposit
Combination
- 20 Channel Dynamics**
 Mixed runoff/spring dominated
 Runoff dominated
 Spring dominated
 N/A
- 21 Flow Consistency**
 Perennial
 Ephemeral (GDE Intermittent)
 Unknown
- 22 Flow Measurement Technique**
 Volumetric (timed volume capture)
 Current meter
 Weir
 Flume
 Other

Invertebrates

Invertebrates	Coll?	Taxon Name	Qty	¹⁰ Stage <i>See below</i>	¹¹ Habitat <i>AQ or T</i>	¹² Method <i>Spot or Benthic</i>	Rep#	Comments

Stages: **Adult/ Egg/ Exuviae/ Immature/ Larvae/ Mixed/ Pupae/ Shell/ Other**
 Method: **Spot/ Collected spot/ Preserved benthic/ Uncollected Benthic**

Benthic Rep	Rep#	Velocity (m/sec)	Depth (cm)	Area (m ²)	Time (sec)	Location	Substrate	Comments

Vertebrates				
Vertebrates	Fauna Notes (Including weather conditions and search effort for vertebrate & invertebrate species of concern):			
	Taxon Name	No. Ind	¹³ Detection Type <small><i>Call/ Observed/ Sign/ Reported (by others)</i></small>	Comments

Spring Name _____ Date _____

Str (Vegetation Cover Codes) For herbaceous plants: NV- Nonvascular (moss, liverworts, lichen, algae) GC- Ground Cover (all terrestrial and aquatic herbaceous veg, incl. forbs, grasses, graminoids)	For woody shrubs and trees: SC- Shrub Cover (0-4 m stratum) MC- Midcanopy (4-10 m stratum) TC- Tall Canopy Cover (>10m stratum) BC- Basal Cover (record if >1% of cover)
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Flora Notes

Flora	Coll?	Species Name	¹⁴ Str	A	B	C	D	E	Comments	

Spring Name _____ Date _____

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Flora Notes

Flora	Coll?	Species Name	¹⁴ Str	A	B	C	D	E	Comments	

Geomorphology	¹⁵ Emergence Env <i>Cave / Subaerial / Subglacial / Subaqueous Lentic freshwater / Subaqueous Lotic freshwater / Subaqueous Estuarine / Subaqueous Marine</i>																																																																																																																																								
	¹⁶ Source Geomorph. <i>Contact / Fault / Fracture / Seepage or Filtration / Tubular or Conduit</i>						Rock Type <i>Igneous / Metamorphic / Sedimentary / Unconsolidated / Combo</i>																																																																																																																																		
SPF	¹⁷ Flow Force Mechanism <i>Anth. / Artesian / Geothermal / Gravity / Other</i>																																																																																																																																								
	Channel Dynamic <i>Spring Dom. / Runoff Dom. / Mixed / N/A</i>						Rock Subtype _____ Geologic Unit _____																																																																																																																																		
Sunrise: D _____ J _____ N _____ F _____ O _____ M _____ S _____ A _____ A _____ M _____ J _____ J _____ Latitude checked? _____ Sunset: D _____ J _____ N _____ F _____ O _____ M _____ S _____ A _____ A _____ M _____ J _____ J _____																																																																																																																																									
Flow	Flow Consistency:				Occurrence of Surface Water:				Did Surveyors Measure Flow?																																																																																																																																
	<input type="checkbox"/> <i>Perennial</i> <input type="checkbox"/> <i>Ephemeral</i> <input type="checkbox"/> <i>Unknown</i>				<input type="checkbox"/> <i>Dry</i> <input type="checkbox"/> <i>Saturated soil, no open water</i> <input type="checkbox"/> <i>Patches of standing or flowing water</i>				<input type="checkbox"/> <i>Extensive standing water</i> <input type="checkbox"/> <i>Flowing water in developed channel</i> <input type="checkbox"/> <i>Extensive standing AND flowing water</i>																																																																																																																																
	<i>If Flow was measured...</i>						<i>If Flow was NOT measured...</i>																																																																																																																																		
	Measurement Technique <i>Volumetric / Weir / Flume / Other</i> Site % Capture _____ Calculated Flow _____						Visual Estimate of Flow _____																																																																																																																																		
	Flow Measurement Location:						Reason flow was not measured:																																																																																																																																		
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="2">Weir or Flume</th> <th colspan="2">Weir/ Flume Size _____</th> <th colspan="2"></th> </tr> <tr> <th>Point</th> <th>Stage</th> <th>% Flow</th> <th>Flow Rate <i>(include units)</i></th> <th>Convert to L/s</th> <th>Adjust for % Flow</th> </tr> <tr><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td>_____</td></tr> </table>						Weir or Flume		Weir/ Flume Size _____				Point	Stage	% Flow	Flow Rate <i>(include units)</i>	Convert to L/s	Adjust for % Flow	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="4">Volumetric</th> <th colspan="2">Units: mL / L</th> </tr> <tr> <th>Point</th> <th>Time (sec)</th> <th>Volume</th> <th>% Flow</th> <th colspan="2"></th> </tr> <tr><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td colspan="2"></td></tr> <tr><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td colspan="2"></td></tr> <tr><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td colspan="2"></td></tr> <tr><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td colspan="2"></td></tr> <tr><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td colspan="2"></td></tr> <tr><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td colspan="2"></td></tr> <tr><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td colspan="2"></td></tr> <tr><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td colspan="2"></td></tr> <tr><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td colspan="2"></td></tr> </table>						Volumetric				Units: mL / L		Point	Time (sec)	Volume	% Flow			_____	_____	_____	_____			_____	_____	_____	_____			_____	_____	_____	_____			_____	_____	_____	_____			_____	_____	_____	_____			_____	_____	_____	_____			_____	_____	_____	_____			_____	_____	_____	_____			_____	_____	_____	_____		
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						<input type="checkbox"/> <i>Diffuse outflow</i> <input type="checkbox"/> <i>Little outflow</i> <input type="checkbox"/> <i>No outflow (standing water only)</i> <input type="checkbox"/> <i>Spring is dry</i> <input type="checkbox"/> <i>Hazard</i> Other _____																																																																																																																																			
						Other Notes on Presence/ Absence of Water:																																																																																																																																			

Device 1 _____ Date Last Calibrated _____

Device 2 _____ Date Last Calibrated _____ **Time** of WQ Measurement _____

Device 3 _____ Date Last Calibrated _____

Water Quality Sampling Locations (circle)

(circle)

1	source down-gradient stream exiting wetland pool hole well other _____	standing water flowing water
Comments _____		
2	source down-gradient stream exiting wetland pool hole well other _____	standing water flowing water
Comments _____		
3	source down-gradient stream exiting wetland pool hole well other _____	standing water flowing water
Comments _____		

Field Measurements

Location #	Air Temp (°C)	pH	SC (µS/cm)	Water Temp (°C)	Tot. Dissolved Solids (ppm)	Dissolved O ₂		Alkalinity		Device/ Comments
						%	mg/L			
										<i>handheld therm</i>

Were samples collected for laboratory analysis? _____ How many? _____ Were they filtered? _____

Which analyses will be conducted, and at which lab? _____

Who is the responsible for delivering the results? _____

Water Quality

SEAP

Aquifer/ WQ	Cond	Risk
Spring dewatered (Y/N)	<input type="checkbox"/>	
Aquifer functionality	<input type="checkbox"/>	<input type="checkbox"/>
Spring discharge	<input type="checkbox"/>	<input type="checkbox"/>
Flow naturalness	<input type="checkbox"/>	<input type="checkbox"/>
Flow persistence	<input type="checkbox"/>	<input type="checkbox"/>
Water quality	<input type="checkbox"/>	<input type="checkbox"/>
Algal and periphyton cover	<input type="checkbox"/>	<input type="checkbox"/>

Geomorphology	Cond	Risk
Site obliterated (Y/N)	<input type="checkbox"/>	
Geomorphic functionality	<input type="checkbox"/>	<input type="checkbox"/>
Runout channel geometry	<input type="checkbox"/>	<input type="checkbox"/>
Soil integrity	<input type="checkbox"/>	<input type="checkbox"/>
Geomorphic diversity	<input type="checkbox"/>	<input type="checkbox"/>
Natural physical disturbance	<input type="checkbox"/>	<input type="checkbox"/>

Habitat	Cond	Risk
Isolation	<input type="checkbox"/>	<input type="checkbox"/>
Habitat patch size	<input type="checkbox"/>	<input type="checkbox"/>
Microhabitat quality	<input type="checkbox"/>	<input type="checkbox"/>
Native plant ecological role	<input type="checkbox"/>	<input type="checkbox"/>
Trophic dynamics	<input type="checkbox"/>	<input type="checkbox"/>

Biotic Integrity	Cond	Risk
Native plant richness/ diversity	<input type="checkbox"/>	<input type="checkbox"/>
Native faunal diversity	<input type="checkbox"/>	<input type="checkbox"/>
Sensitive plant richness	<input type="checkbox"/>	<input type="checkbox"/>
Sensitive faunal richness	<input type="checkbox"/>	<input type="checkbox"/>
Nonnative plant rarity	<input type="checkbox"/>	<input type="checkbox"/>
Nonnative faunal rarity	<input type="checkbox"/>	<input type="checkbox"/>
Native plant demography	<input type="checkbox"/>	<input type="checkbox"/>
Native faunal demography	<input type="checkbox"/>	<input type="checkbox"/>

Human Influence	Cond	Risk
Surface water quality	<input type="checkbox"/>	<input type="checkbox"/>
Flow regulation	<input type="checkbox"/>	<input type="checkbox"/>
Road/ trail/ railroad	<input type="checkbox"/>	<input type="checkbox"/>
Fencing	<input type="checkbox"/>	<input type="checkbox"/>
Construction	<input type="checkbox"/>	<input type="checkbox"/>
Herbivory	<input type="checkbox"/>	<input type="checkbox"/>
Recreational	<input type="checkbox"/>	<input type="checkbox"/>
Adjacent conditions	<input type="checkbox"/>	<input type="checkbox"/>
Fire influence	<input type="checkbox"/>	<input type="checkbox"/>

Administrative Context	Cond	Risk
Information quality/ quantity	<input type="checkbox"/>	<input type="checkbox"/>
Cultural significance	<input type="checkbox"/>	<input type="checkbox"/>
Historical significance	<input type="checkbox"/>	<input type="checkbox"/>
Recreational significance	<input type="checkbox"/>	<input type="checkbox"/>
Economic value	<input type="checkbox"/>	<input type="checkbox"/>
Conformance to mgmt. plan	<input type="checkbox"/>	<input type="checkbox"/>
Scientific/ educational value	<input type="checkbox"/>	<input type="checkbox"/>
Environmental compliance	<input type="checkbox"/>	<input type="checkbox"/>
Legal status	<input type="checkbox"/>	<input type="checkbox"/>

Condition: Rank 0 to 6
0 Obliterated
1 Very Poor
2 Poor
3 Moderate
4 Good
5 Very Good
6 Pristine

Risk: Rank 0 to 6
0 No risk to site
1 Negligible risk to site
2 Low risk to site
3 Moderate risk to site
4 Serious risk to site
5 Very great risk to site
6 Extreme risk to site

See the SEAP Scoring Criteria for more details about each category

Number of Blank Condition Scores ____ of 34
 Number of Blank Risk Scores ____ of 34

Management Recommendations:

Additional Site Description Notes:

Additional Site Condition Notes:

State _____ County _____ Land Unit _____ Land Unit Detail _____ Date _____

Spring Name _____ ID# _____ Start time _____ End time _____ Scale | _____ m

Observers and Roles:

- Remember:**
- Scale
 - North Arrow
 - Loc. Of GPS Point
 - WQ Location
 - SPF Location
 - Flow Measurement Loc.
 - Flow Direction Arrows
 - Label Microhabitats
 - Photo Points, Direction
 - Area of Microhabitats