Sage-grouse Conservation Efforts Database

DRAFT – September 12, 2013

PURPOSE AND NEED

In Fiscal Year 2015 the U.S. Fish and Wildlife Service (Service) is scheduled to make a determination regarding whether or not the greater sage-grouse should be proposed for listing under the Endangered Species Act. To ensure that this decision is based on the best available information the Service needs to account for, and analyze, conservation efforts that have occurred, or which are reasonably certain to occur. A single database to effectively and efficiently capture these conservation efforts and report them in a way that allows the Service to evaluate their meaning for sage-grouse conservation is needed.

PROPOSED DATABASE FUNCTIONALITY

There are some key functions that we require, including:

1. Intuitive Data Entry on the Web by biologists (i.e., do not need GIS/programmer skills). Multiple users from a variety of agencies will need access to enter data. We will likely want to restrict data entry to trained individuals.

2. Spatially explicit – ability to map the location of location-species conservation efforts.

3. Multiple spatial scales – in addition to collecting information on single location-specific actions, the ability to collect information on programmatic or plan level actions that occur across large areas.

4. Intuitive Reporting – ability to view location-specific activities and plan-level actions at multiple reporting scales (e.g., by sage-grouse population or sage-grouse management unit). Also ability to view activities by threat addressed (i.e., query the database and get spatial output of all actions that address the threat of conifer encroachment).

5. One-to-Many relationships – ability to allow define single actions as addressing multiple threats.

A mock-up of the types of information that the database should capture is provided in Appendix 1. This will be revised as we get completed products from other teams that are working on specific aspects of data inputs (i.e., activities tracked) and metrics (quantifying the positive impact of conservation actions); and, as we get additional input from the Sage-grouse Field Management Team and its representatives.

Reporting will be a critical function of the database. Ultimately, we envision reports largely organized around (1) sage-grouse populations (2) threats identified in the Sage-grouse Conservation Objectives Team Report, and (3) the extent to which those threats identified in 2 have been ameliorated by conservation actions in the database.

Our hope is that we can view a "spatial report" showing (1) sage-grouse population boundaries, (2) a depiction of the threat (e.g., conifer encroachment. Note: this would be a separate GIS file provided from some source outside of the database), and (3) a point shapefile showing the location of location-

specific conservation efforts that ameliorate that specific threat and the extent to which they ameliorate that threat (e.g., by acres treated). Point shapefiles would be displayable for a number of traits through colors or size of the points (see Appendix 1 for an example of how this might look).

Alongside the "spatial report" a list of all of the plan-level, programmatic, or other landscape-scale actions should be viewable to capture those items that can't be easily mapped as points within the population.

The database should also have a place for a narrative summary report by population and by threat.   For example, if one clicked on the conifer encroachment threat in the Baker population, there should be a window that displays a text report for that threat in that population.

The database should also hold information about the presence and extent of threats as identified in the Sage-grouse conservation objectives team report. A report should show (in tabular form) the populations, level of threat, and then provide some indication of how much that threat has been ameliorated through conservation actions. The exact formulation of how that is done is still being developed, but will rely on information in the database. See Appendix 2 for a mock-up of how this report might look. Ideally, we would be able to click on a box in the report and have it pull up the "spatial report" of all the conservation actions that address that specific threat in that population.

APPENDIX 1 – Mock-up of Sage-grouse Conservation Efforts Fields and Inputs (DRAFT)

INTERNAL, DELIBERATIVE AND PREDECISIONAL

Yellow Highlights indicate other teams working on specific aspects of the database.

FIELD	INPUT
General Information	
1a. Project ID	[Unique # generated by database]
1b. Project Name	[Text]
1c: Implementing Party	[pull-down menu of most likely agencies. Include private, ability to select multiple parties, and other]
2a. Activity Type	[Nicole's Group to provide this pull-down menu] • Conifer removal • Habitat restoration • Invasive grassland treatment • Fence marking • Easement • Translocation • Research (ability to track ongoing research projects and proposed research projects desirable) • [insert others]
2b. Activity Description	[Text describing the action in detail]; Include the ability to attach .pdf or .doc documents describing the project in detail.
2c. Plan-level document	[If project is part of a larger plan-level document, name that plan]
3a. Location (State)	[drop down menu of States]
3b. Location (County)	[drop down menu of Counties for State picked]
3c. Location (specific)	[Either geographic coordinates, map click, or polygon]
Threats and Populations	
4. Threat(s) Addressed	• Isolation/Small Population Size • Sagebrush Elimination • Agricultural Conversion • Fire • Conifers • Weeds/Annual Grasses • Energy • Mining • Infrastructure • Overgrazing • Free-Roaming Equids • Recreation

	• Urbanization • Disease • Predation • [insert others?]
5. WAFWA management zones affected	[Drop down menu of management zones]
6. Population(s) affected	[Drop down menu of populations from the COT report]
Metrics [Risct Team to develop]	
7. Acres	[Insert acres or NA; applies to conifer removal, habitat restoration, easements; invasive grassland treatment]
8. Linear miles	[Insert Linear miles or NA; applies to fence marking]
9. Number of birds	[Insert # of birds; applies to translocation]
10. Scope of Threat Amelioration (area)	[Insert scope code: 1: 0-10 acres 2: 10-100 acres 3: 100-1000 acres 4: 1,000-10,000 acres 5: > 10,000 acres
11. Magnitude of threat amelioration	[Insert magnitude code: 1: 0-10 birds 2: 10-50 birds 3: 50-100 birds 4: 100-500 birds 5: >500 birds
12. Immediacy of threat amelioration	[Insert immediacy code (when is the beneficial impact expected to be realized by sage-grouse individuals or populations?): 1: 0-1 year 2: 1-5 years 3: 5-10 years 4: 10-20 years 5: >20 years
13. Narrative Description of Effects	[Text field]
Land Ownership	
14. Land Ownership	• Federal (Subset?) • State • County • Tribal • Private • Multiple • Other
PECE Analysis	
15. Has the project been implemented and deemed	• Yes • No

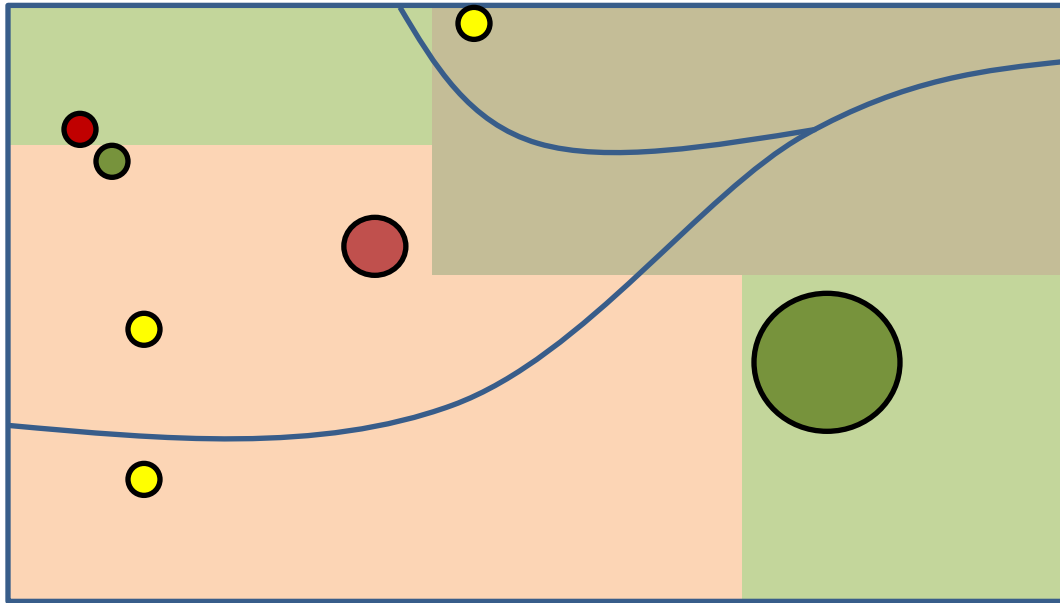|	
effective?; OR, Is project part of an existing regulatory mechanism? (e.g., State Executive Order, State Law, Federal Land Management Plan). [If YES, there is no need to fill out the implementation and effectiveness fields below.]	
Implementation	
16a. Has the project been fully implemented?	• Yes • No
16b. If YES, identify the completion date and proceed to questions on effectiveness.	[date]
17a. Have all the necessary resources (i.e., staffing, equipment, necessary partners) to implement the project been secured?	• Yes • No
17b. If NO, which component is lacking?	[drop down menu of possible lacking components]
18. Does the responsible party have the legal authority to conduct the project?	• Yes • No
19. Have all Federal/State/local legal procedural and regulatory requirements, such as NEPA, permits, cultural clearances, etc been met/addressed; or is it reasonably certain that they they will be met/addressed?	• Yes [include the ability to attach documents that demonstrate implementation – e.g., project reports; NEPA docs, etc.] • No
Effectiveness	
20. Has the project been determined to be effective?	• Yes • No
21. Do you have written objectives for the project AND does each objective have a defined timeline?	• Yes • No
22. Does the project contain a monitoring plan that will demonstrate whether or not the objectives are being met; AND are regular progress reports part of that plan?	• Yes • No
23. Does the project allow for an adaptive management strategy?	• Yes • No
Contact Information	
24. Contact Name, phone number, address, e-mail address [can put in multiple fields].	

Fig 1. Example of spatial representation of the database where circles represent individual database entries. The size of the circle could represent the scope or magnitude of the activity with respect to its beneficial impact to sage-grouse or sage-grouse habitat and the color could represent the threat being addressed or other fields in the database. Background colors might represent land ownership patters or other features of interest.

APPENDIX 2. Mock-up of COT Table Report for the Conservation Efforts Database.

Population	Unit Number	Management Zone	Isolated/Small Size	Sagebrush Elimination	Agriculture Conversion	Fire	Conifers	Weeds/Annual Grasses	Energy	Mining	Infrastructure
Baker (*OR*)	17	IV	Y	Y	Y	Y	L	Y	L	Y	L
Northern Great Basin (*OR, ID, NV portion*)	26a	IV	N	L	L	Y	Y	Y	L	L	Y
Central Oregon (*OR*)	28	V	N	L	L	Y	Y	Y	L	Y	L
Western Great Basin (*OR, CA, NV*)	31	V	N	L	L	Y	Y	Y	L	L	L

Y = threat is present		7, 8, 9, 10	Threat addressed
N = threat is not present		4, 5, 6	Threat partially addressed
L = Threat present but localized		1, 2, 3	Threat not addressed
U = unknown		U	Unknown