Mitigation Framework for the Range-wide Conservation Plan for Lesser Prairie-Chicken

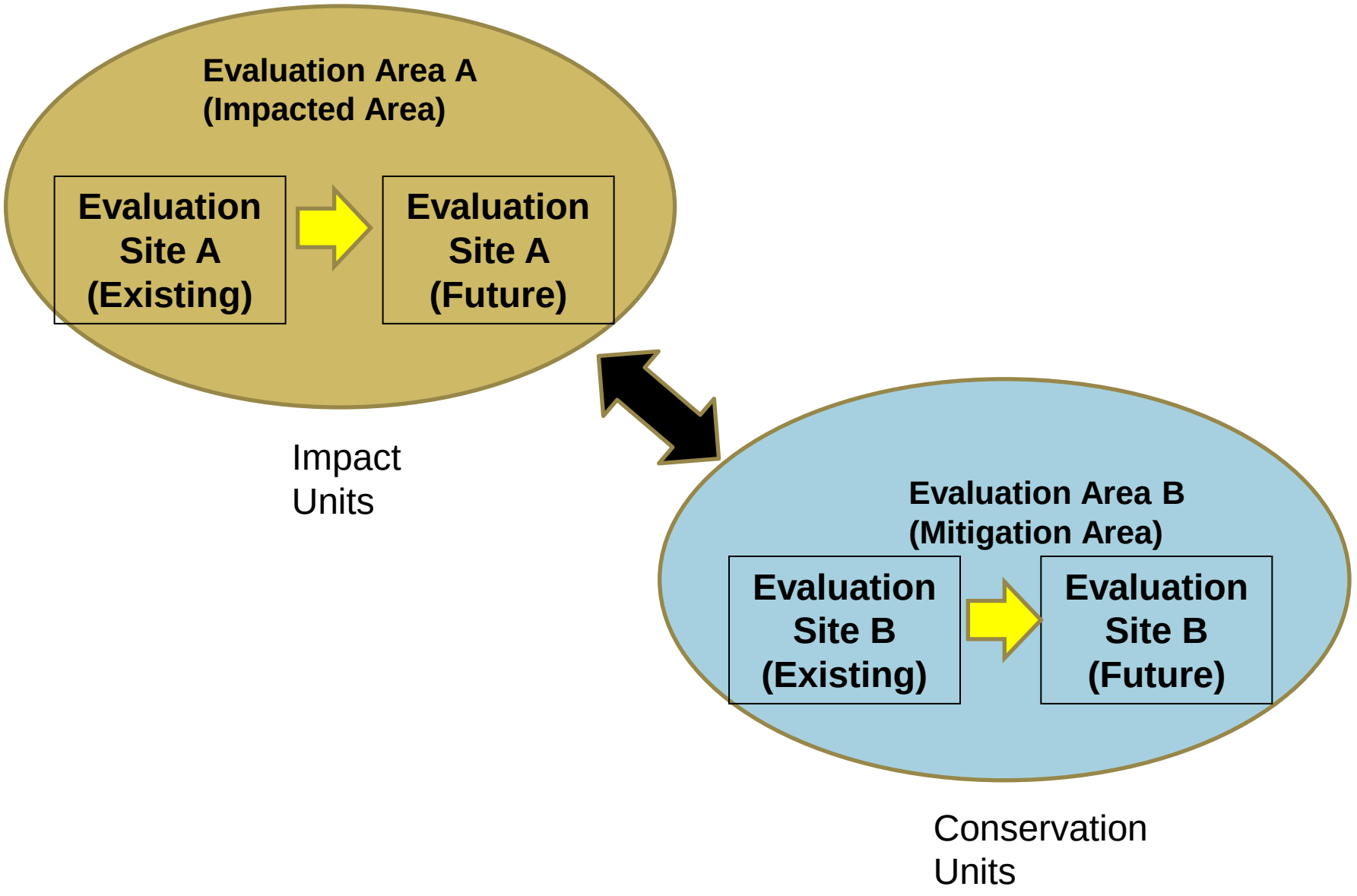
Objectives of Mitigation Framework

- Provide a foundation for incorporating mitigation into conservation tools and programs for LEPC
  - Voluntary offset programs
  - CCAA's and HCP's
  - Habitat trading systems
  - Conservation banking initiatives
- Provide a consistent metric system for quantifying impacts and mitigation

LEPC Habitat Metric System
Why do we need it?

- Must demonstrate a net conservation benefit based on habitat quality and quantity—$ for $ is not sufficient.
- Must be applicable to all impacts and mitigation practices
- Must be linked to population goals

Metric System



Impact Unit and Conservation Unit Considerations

- Impact Units:
  - Direct- changes to vegetation
  - Indirect- avoidance
- Temporal component
  - Permanent
  - Temporary

- Conservation Units:
  - Changes in habitat quality of an acre of habitat

Temporal components

  - Duration of change

- Removing impacts
  - Direct and indirect

Baseline condition calculation

- Site level (Evaluation site- 10’s-100’s ac)
  - Ecological site
  - Vegetation conditions
- Adjacent area (Evaluation area- 2000 ac)
  - Surrounding area characteristics
- Existing impacts

Baseline condition calculation

- Site level (**Evaluation site**)
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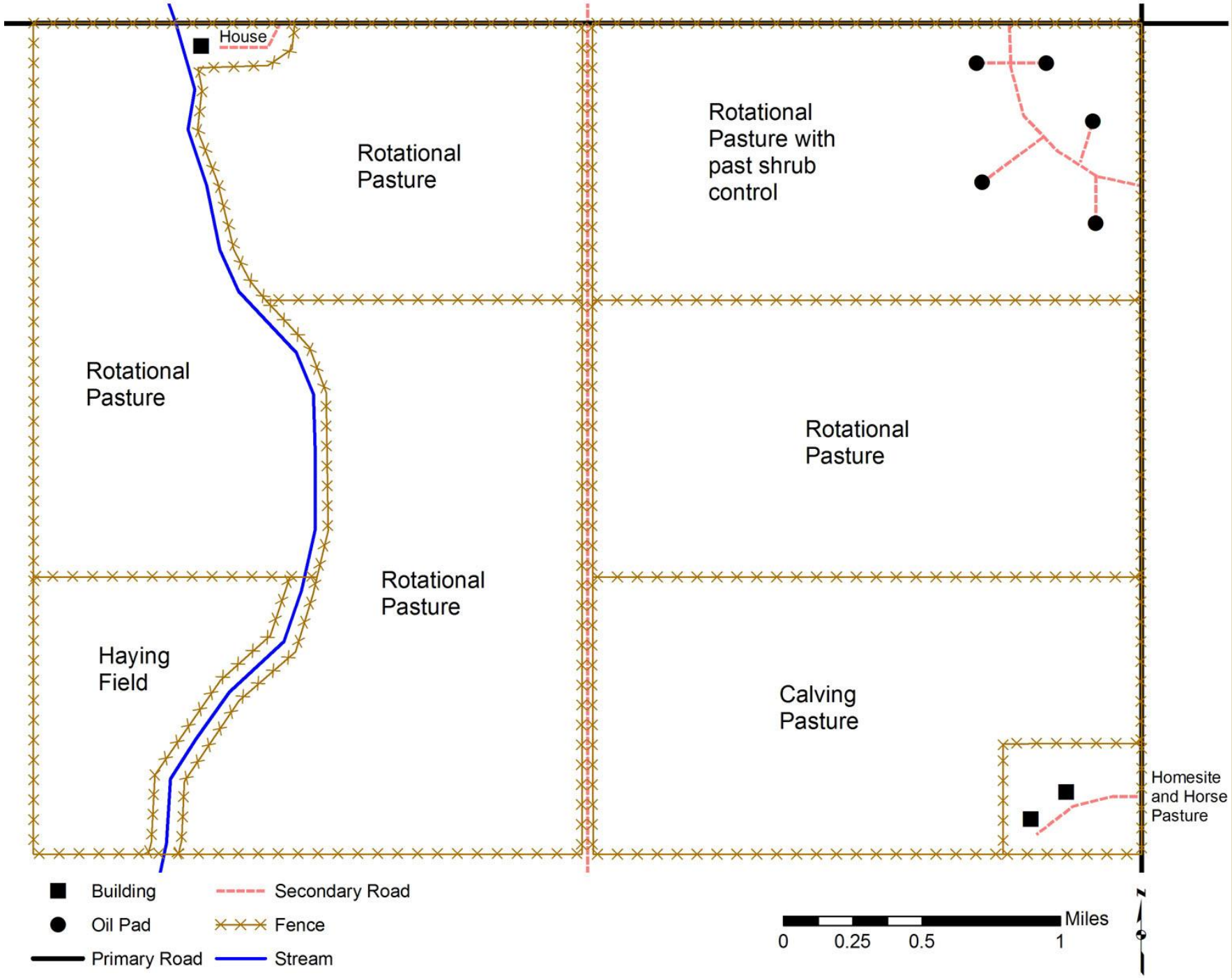
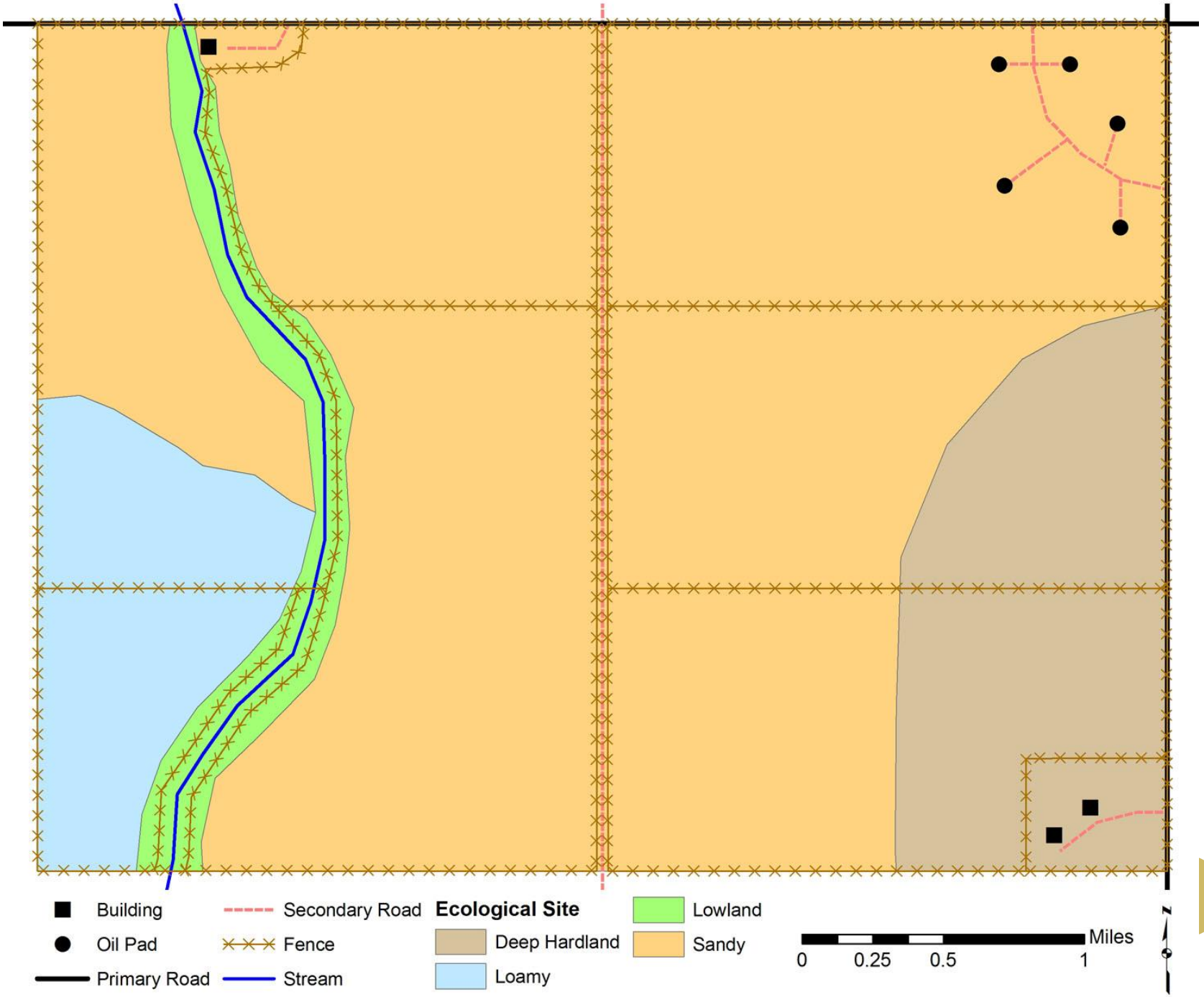
Evaluation Site- Ecological Site

- Identify maximum habitat potential for a site
- Incorporating ecological sites into impact and mitigation metrics:
  - Places lower impact units on sites with lower LEPC habitat potentials
  - Allows for prescriptive management to receive greater conservation units on sites with higher habitat potential

Ecological Site	LEPC Habitat Value 0-1
Shallow upland	0.4
Shallow sandstone	0.5
Lowland	0
Deep hardland	0.3
Limy upland	0.7
Sand hills	1
Sandy loam	0.9
Very shallow	0.3
Sandy	1


House
Rotational Pasture
Rotational Pasture with past shrub control
Rotational Pasture
Rotational Pasture
Rotational Pasture
Haying Field
Calving Pasture
Homesite and Horse Pasture
Building
Oil Pad
Primary Road
Secondary Road
Fence
Stream
Miles
0
0.25
0.5
1
N


Building
Oil Pad
Primary Road
Secondary Road
Fence
Stream
Ecological Site
Deep Hardland
Loamy
Lowland
Sandy
Miles
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0.25
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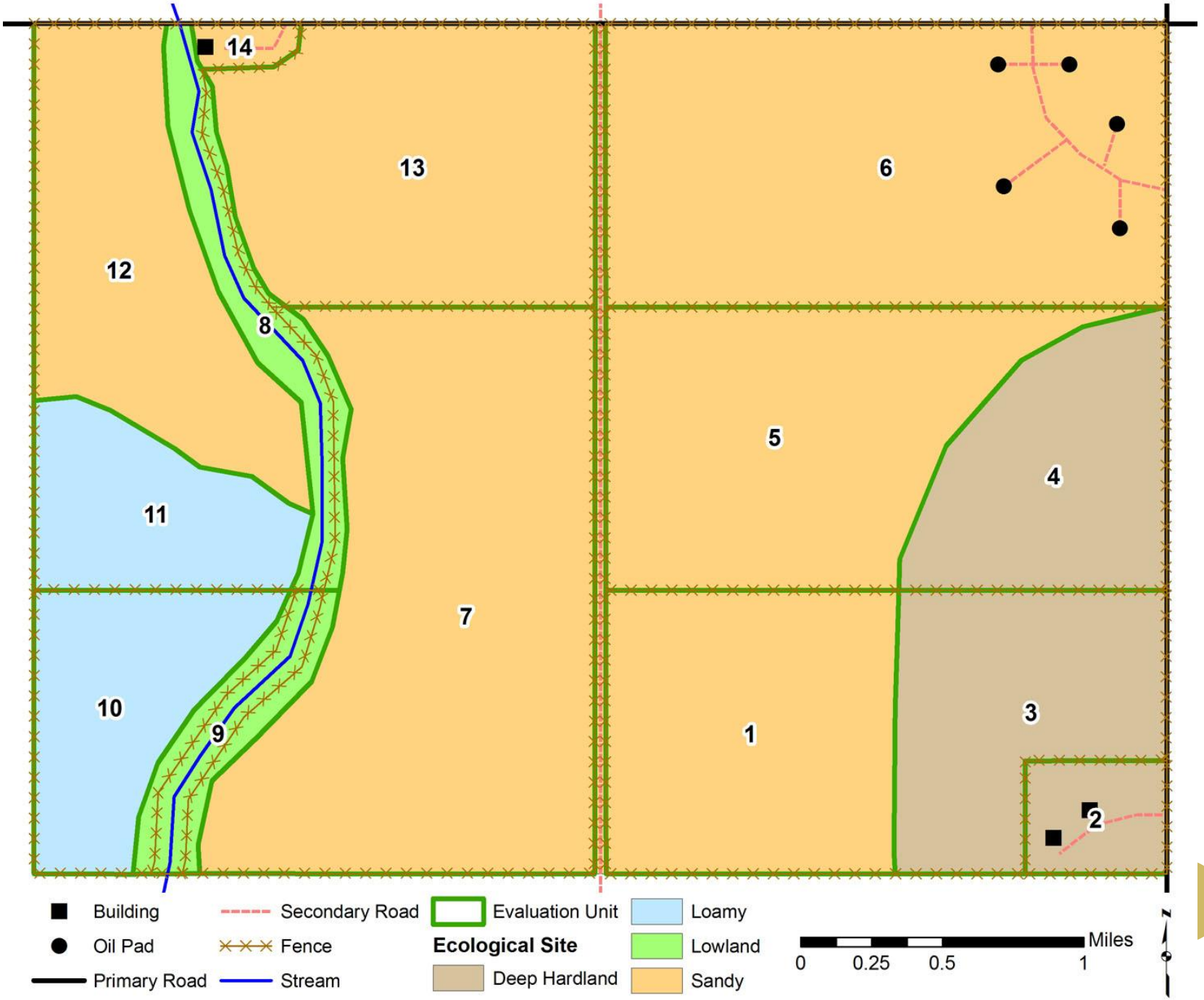
1
N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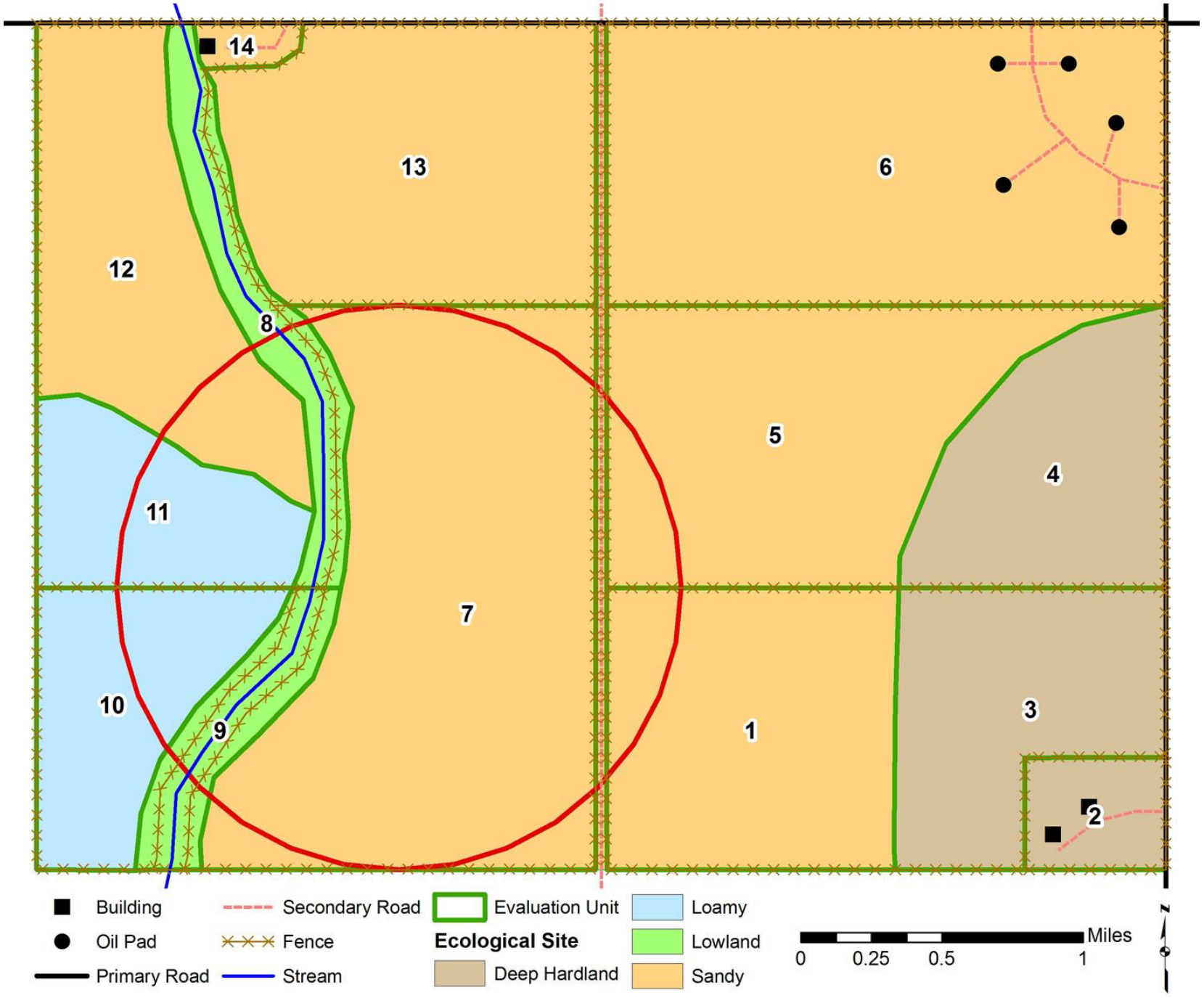
Building
Oil Pad
Primary Road
Secondary Road
Fence
Stream
Evaluation Unit
Ecological Site
Deep Hardland
Loamy
Lowland
Sandy
Miles
0
0.25
0.5
1
N

Evaluation Site- Vegetation Conditions

- Vegetation Cover**-** Amount of cover of herbaceous and woody vegetation within evaluation unit
- Vegetation Quality **-** Relative cover of preferred native grasses and shrubs within the evaluation unit.
- Presence of Tall Woody Plants- Woody vegetation present >3’ tall

Baseline condition calculation

- Site level (Evaluation site- 10’s-100’s ac)
  - Ecological site
  - Vegetation conditions
- Adjacent area (**Evaluation area**)
  - Surrounding area characteristics
- Existing impacts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Building
Oil Pad
Primary Road
Secondary Road
Fence
Stream
Evaluation Unit
Ecological Site
Deep Hardland
Loamy
Lowland
Sandy
Miles
0
0.25
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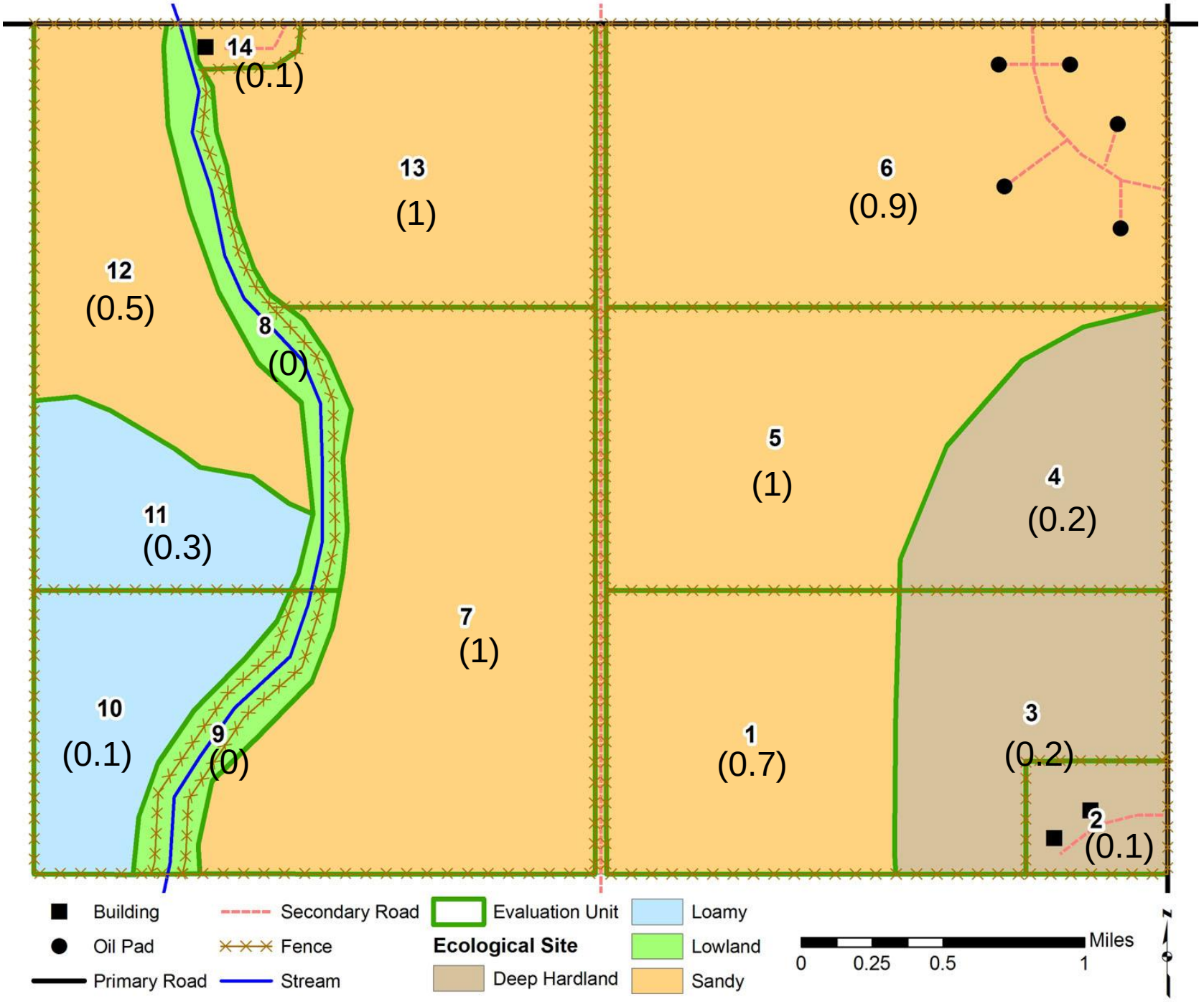
N

Evaluation Area- Variables

- Availability of nesting and brood habitat in surrounding area
- Percent of evaluation area in native grasses or shrubs or in CRP in native tall warm season grasses
- Proximity and intermixing of nesting and brood habitat
- Presence of fences close to leks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Building
Oil Pad
Primary Road
Secondary Road
Fence
Stream
Evaluation Unit
Ecological Site
Deep Hardland
Loamy
Lowland
Sandy
Miles
0
0.25
0.5
1
N

Baseline condition calculation

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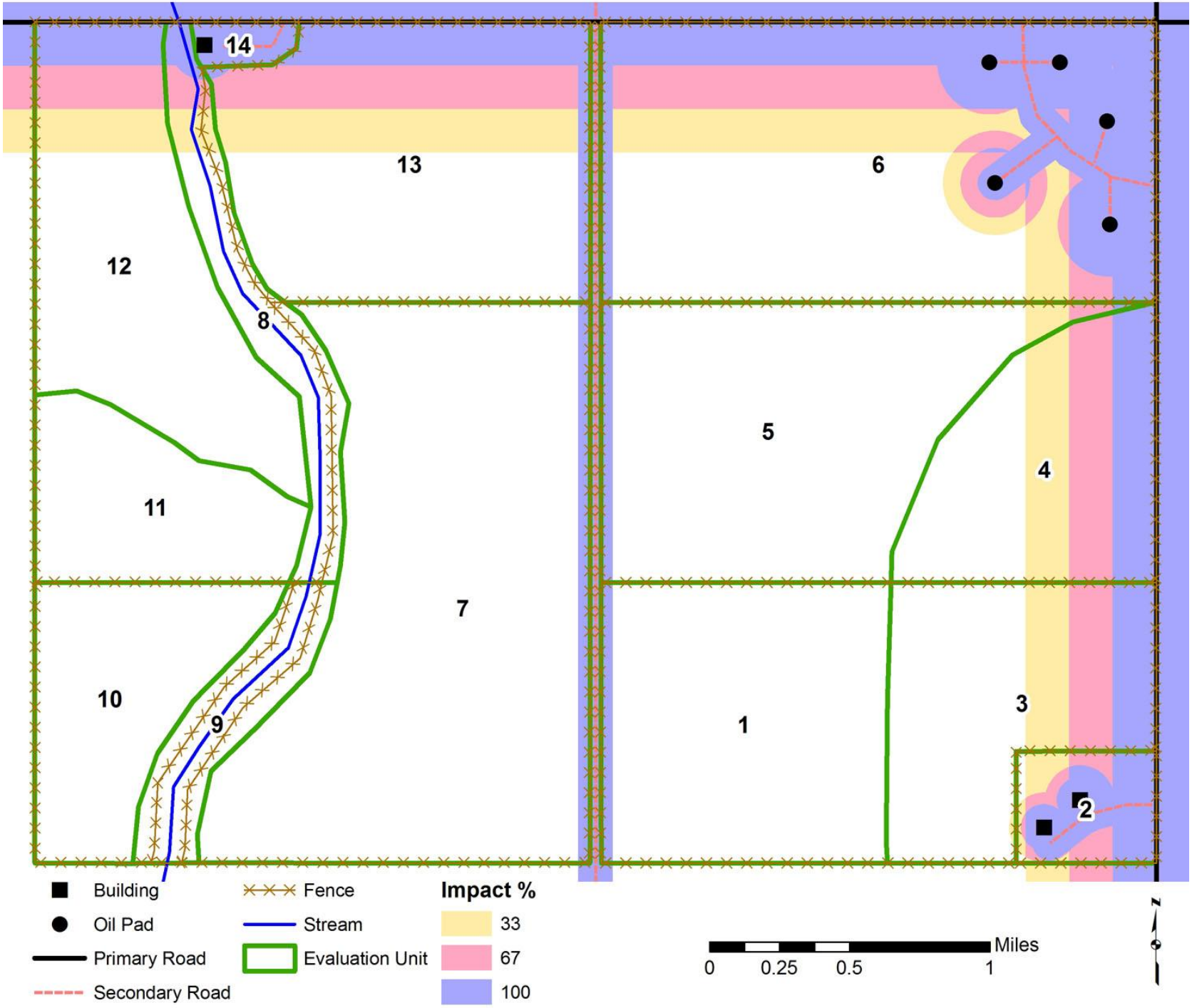
  - Surrounding area characteristics
- **Existing impacts**

Impact Buffers

- 3 categories for buffers > 100m: 100% reduction, 67% reduction, 33% reduction
  - Oil and gas pads: 300m
  - Wind farms/towers: 1000m
  - Transmission lines: 600m
  - Distribution lines: 200m
  - Tall vertical structures: 1000m
  - Gravel roads: 100m
  - Paved roads: 750m
  - Commercial buildings: 1000m
  - Residential buildings: 200m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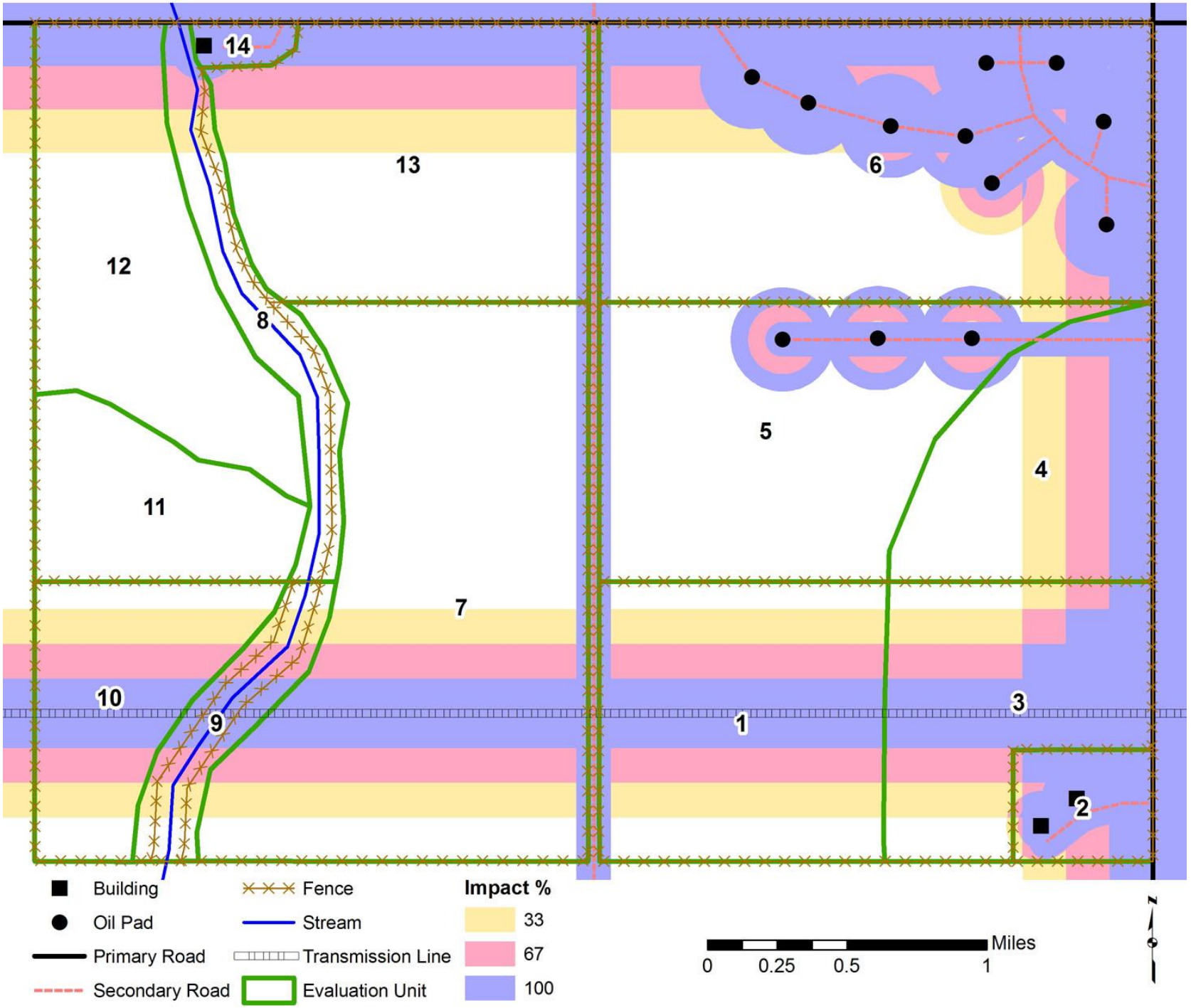
10
9
1
3
2
Building
Oil Pad
Primary Road
Secondary Road
Fence
Stream
Evaluation Unit
Impact %
33
67
100
Miles
0
0.25
0.5
1
N

Eval. Unit	Acres	Habitat Score	Base Habitat Score	Existing Impact Reduction	Adjusted Baseline Score
1	655	0.7	459	17	442
2	128	0.1	14	12	2
3	485	0.2	87	17	70
4	449	0.2	81	14	67
5	820	1	820	33	787
6	1269	0.9	1079	285	794
7	1329	1	1329	127	1202
8	209	0	0	0	0
9	160	0	0	0	0
10	360	0.1	40	2	38
11	313	0.3	81	5	76
12	602	0.5	313	48	265
13	797	1	797	103	694
14	35	0.4	15	13	2
totals	7611		5115	676	4439

Impact Determination

- Impact unit calculation- change from baseline conditions resulting from new impacts
- Encourages clustering of impacts with existing or other new developments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4
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7
10
9
1
3
2
Building
Oil Pad
Primary Road
Secondary Road
Fence
Stream
Transmission Line
Evaluation Unit
Impact %
33
67
100
0
0.25
0.5
1
Miles
N

Eval. Unit	Acres	Adjusted Baseline Score	Post Impact Score	Impact Debits
1	655	442	234	208
2	128	2	2	0
3	485	70	34	36
4	449	67	67	0
5	820	787	677	110
6	1269	794	680	114
7	1329	1202	882	320
8	209	0	0	0
9	160	0	0	0
10	360	38	19	19
11	313	76	76	0
12	602	265	265	0
13	797	694	694	0
14	35	2	2	0
total	7611	4439	3632	807

Temporal considerations

- Minimum 30 year impact assessment- conservation units generated for removing impact prior to 30 years
- “Permanent” impacts assigned a 100 year duration

Temporal Calculation

- 224 impact units were from oil and gas wells- 30 year duration equals 6,720 debits
- 583 impact units were from transmission line at 100 year duration equals 58,300 debits

Credit generation

Up to 50% of the conservation unit value can come from:

- Enrolling lands in LEPC mitigation system generates initial credits
- Improvements to the vegetation
- Improvements to the surrounding evaluation area
- Eliminating existing impacts

Additional 50% must come from:

- Implementing approved LEPC prescribed management (habitat improvement) practices adds conservation units

Prescribed Management Practices

- A management agreement and associated plan is required for conservation unit generation- minimum 5 year
- Included practices
  - Prescribed grazing for LEPC 15 pts
  - Prescribed burning for LEPC 10 pts
  - Mechanical tree removal 10 pts
  - Herbicide control of invasive or exotic species 5 pts
  - Adjusting density of sand shinnery oak 5 pts
  - Fence marking or removal 5 pts
- Guidelines for each practice will be described in User's Manual, and their application at a mitigation site will be spelled out in a LEPC management plan

CHAT Weightings

CHAT Number	Category Name	Debit Weighting	Credit Weighting
1	Focal area	10	5
2	Linkage and Irreplaceable	7	3.5
3	Limiting	5	2.5
4	Significant	3	1.5
5	Unknown	1	1
6	Common	0	0

Temporal Considerations

- Conservation units are earned based on length of LEPC management agreement times the evaluation unit score and management practice scores
  - 5 year minimum agreement for short-term market
  - 30 year minimum to enter long-term market
- 25% of debits assigned to long-term market

Administration of Mitigation Framework

- States, through WAFWA are administrators of range-wide plan and mitigation framework
- WAFWA holder for CCAA's/HCP's
  - Certificates of Inclusion issued to companies
    - Initial conservation unit generation through enrollment fee
    - Impact units created with specific project implementation and measurement of impacts
  - Certificates of Inclusion issued to conservation providers (conservation banks, credit traders, landowners)
    - Conservation units generated in either short or long-term markets

Summary

Baseline determination

- Site level (Evaluation site- 10’s-100’s ac)
  - Ecological site
  - Vegetation conditions
- Adjacent area (Evaluation area- 2000 ac)
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- Existing impacts

Summary continued

- Impact units generated from footprint and buffers from new developments
  - Site placement will determine debits
- Conservation units generated by
  - Enrollment of area (evaluation site score) in agreement
  - Improvements to site and/or area conditions
  - Removal of impacts
  - Application of prescribed management practices
- Impact and conservation units tracked over time

Additional Considerations

- Need to identify more specifics on conservation unit costs to provide more certainty to industry
- Administration/compliance monitoring costs will be a component of debit costs
- Percentage of debit costs put into a research fund?