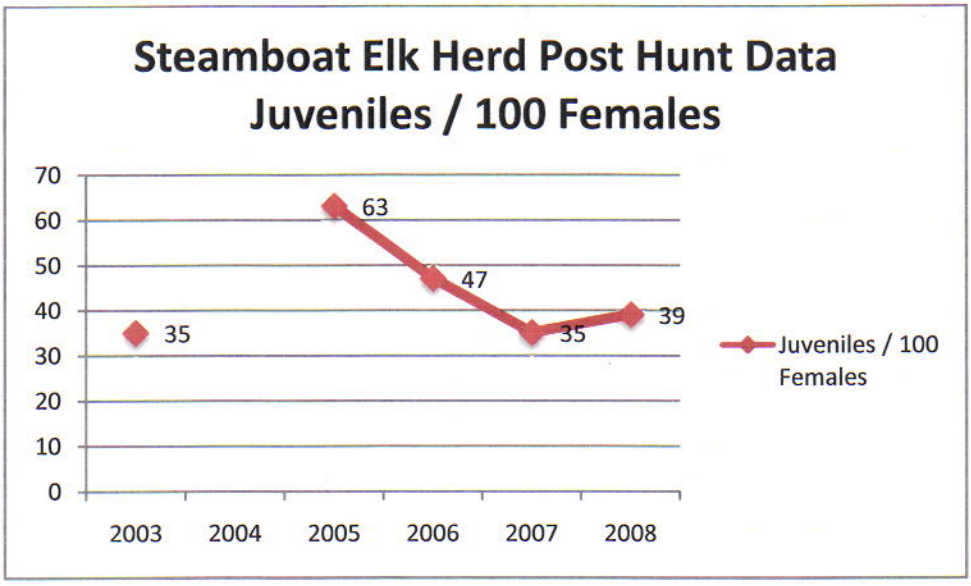
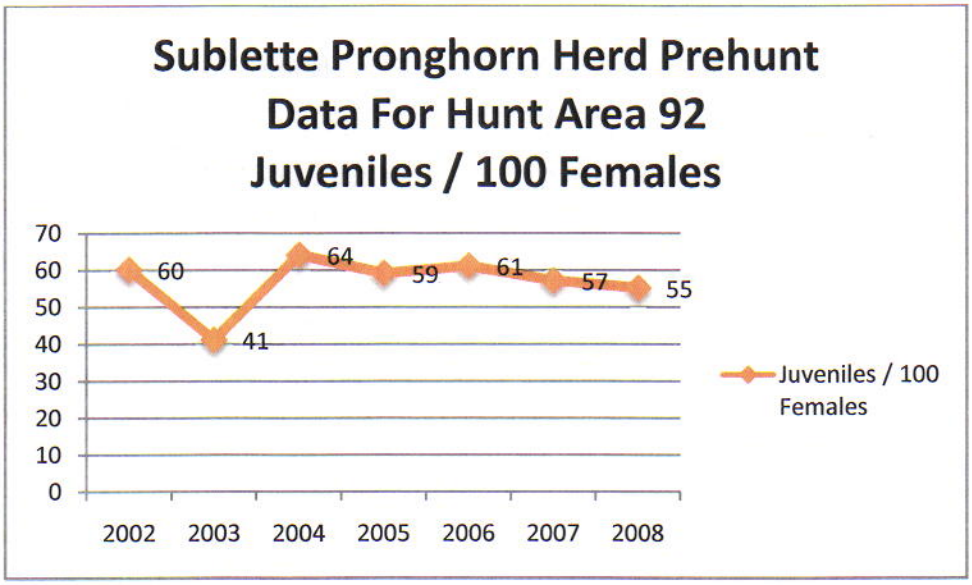
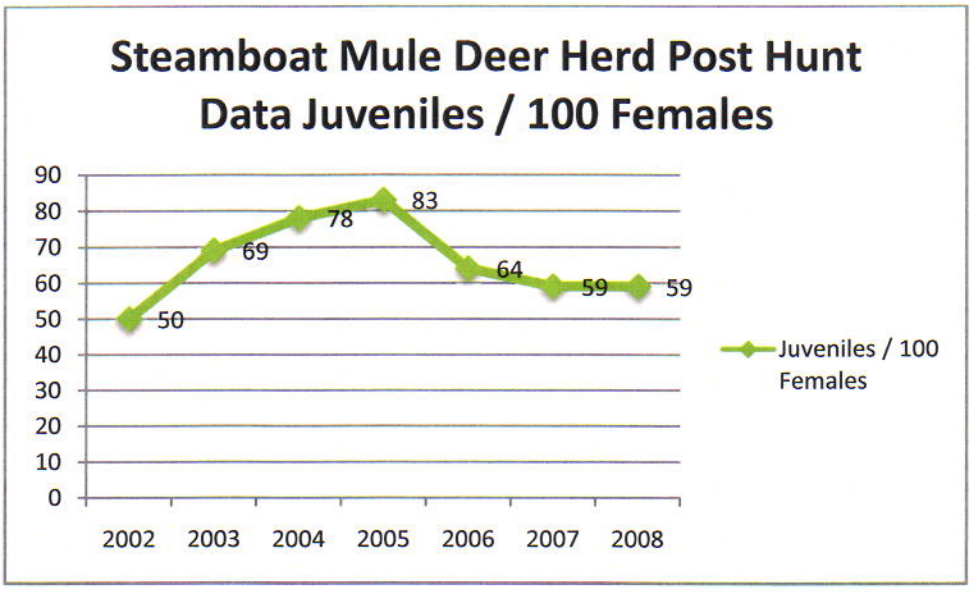
JMH Data Showing Herd Health

Jack Morrow Hills
Work Group Meeting
July 30, 2009
Handout # 4







The above data measuring herd health was taken from the Wyoming Game and Fish Departments Job Completion Reports for the years of 2006, 2007 and 2008. For complete information on the Elk, Mule Deer, and Pronghorn herds refer to the Job Completion Reports for years 2006 and 2007 at http://gf.state.wy.us/wildlife/index.asp .

The Record of Decision and Coordinated Activity Plan for the Jack Morrow Hills area defined the elk, pronghorn and mule deer herd units as the units to monitor as indicators for herd health. By monitoring and tracking the calf to female ratio we are able to draw some conclusions as to the health of the herds in the JMH area. The defined herd units for these species are much larger and include much more land than strictly the JMH area, so although they are a useful tool which enables us to perform some monitoring, people should keep in mind that activities outside the JMH area are also having impacts on these indicators.

A wildlife biologist with the Wyoming Game and Fish Department indicated that of the three species monitored here, the elk herd provides the most accurate indicator of the health of the animals within the JMH area. The reason for this is that the elk herd spends more time in the JMH area than either the pronghorn or the mule deer herds.

Steamboat Elk Herd

The WY Game and Fish Departments analysis of this herd is indicates that the herd is in good health and at the objective density of 1,200 animals. This herd is being managed to maintain the population objective of 1,200 animals and to maintain a healthy balance between the bulls to cow ratio.

Sublette Pronghorn Herd (Hunt Area 92)

The WY Game and Fish Departments analysis of this herd is indicates that the herd is in good health and continuing to grow despite drought conditions. Analysis of the data collected during monitoring flights taking place in May and early June of 2007 showed the herd to be growing at a faster rate than predicted. This higher than expected growth rate led to a plan to increase the number of hunting licenses for the 2008 season. As can be seen in the graph above, the juvenile to female ratio specifically for hunt area 92 indicates that the population is stable with a slight decline in numbers.

Steamboat Mule Deer Herd

The WY Game and Fish Departments analysis of this herd is indicates that the herd is above the management objective of 4,000 animals. The projected population after the 2008 hunt season is 4,800 animals. Analysis of the herd performed in 2007 indicated a decrease in fawn survival rate from 64 to 59 fawns per 100 does.

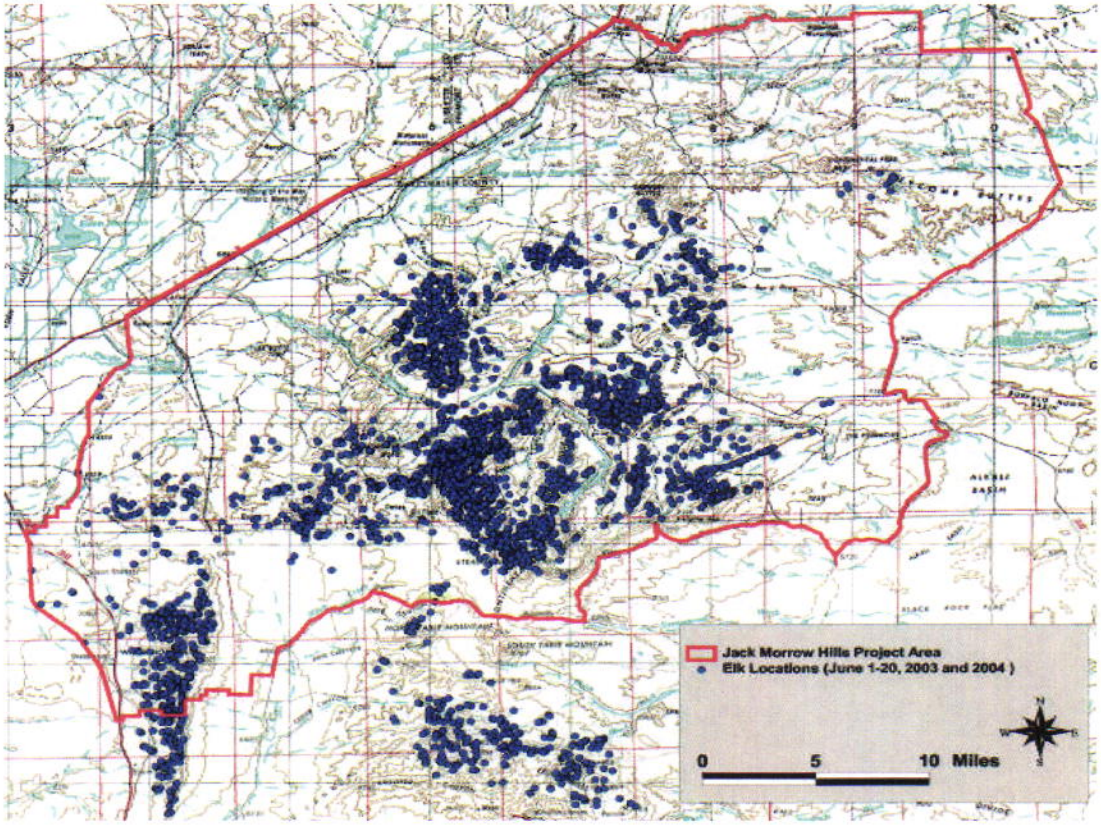


Figure 2. Locations (n=5,580) collected from 33 radio-collared elk between June 1 - 20, 2003 and 2004 in the Jack Morrow Hills (JMH) Planning Area, Wyoming.

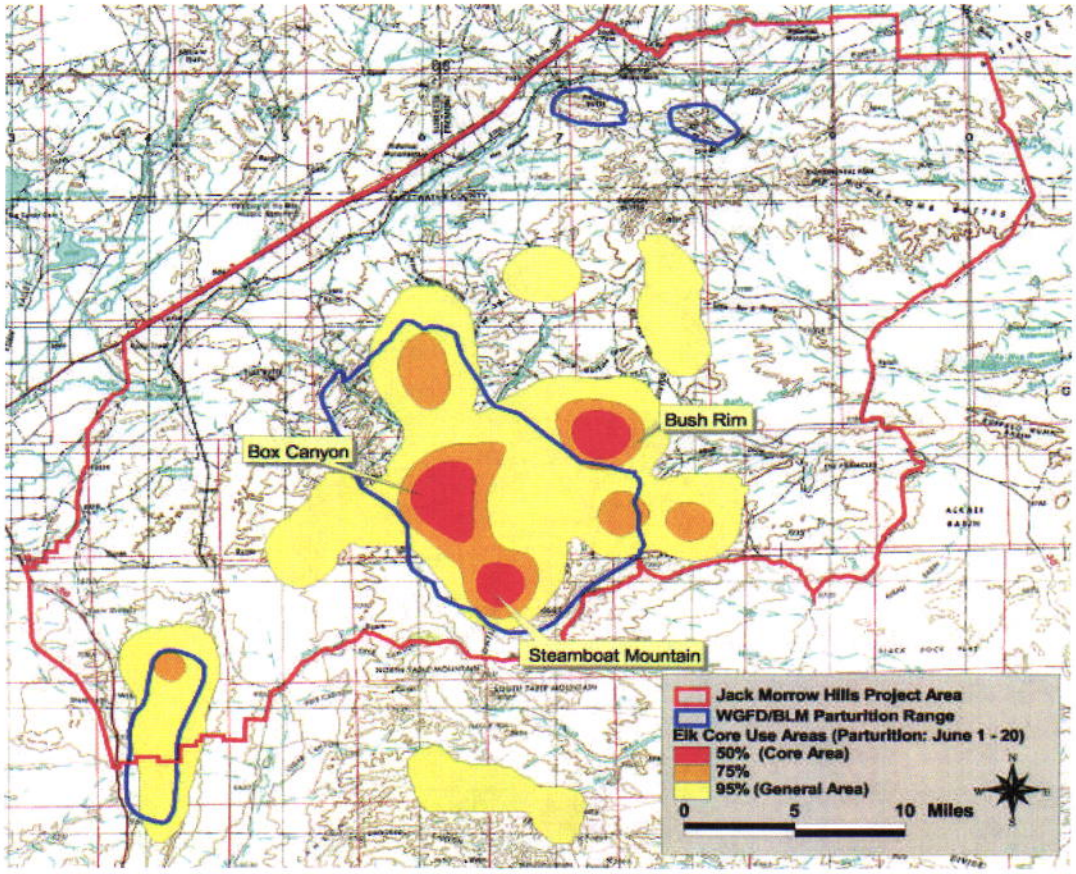


Figure 3. Existing parturition ranges as delineated by the Wyoming Game and Fish Department and parturition use areas generated from elk locations (n=5,580) collected June 1 - 20, 2003 and 2004 in the Jack Morrow Hills (JMH) Planning Area, Wyoming.

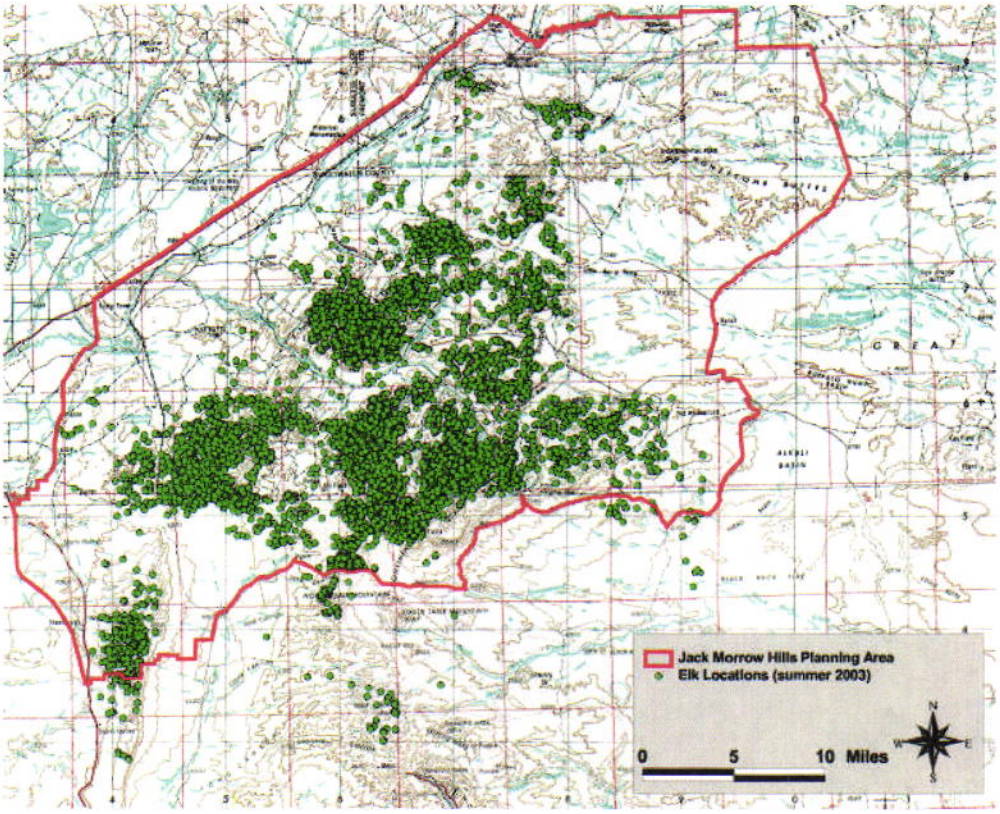


Figure 4. Elk locations (n=13,845) locations collected from 26 radio-collared elk during the summer (June 15 – September 15) of 2003 in the Jack Morrow Hills (JMH) Planning Area, Wyoming.

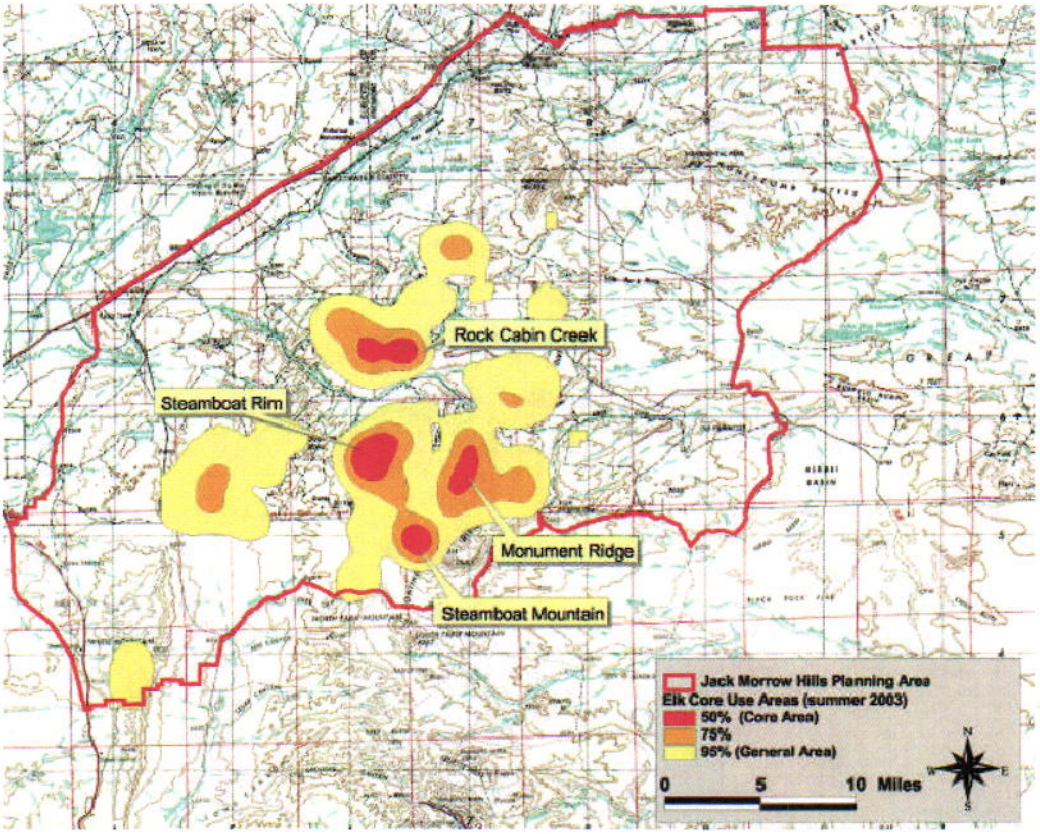


Figure 5. Kernel home ranges (50%, 75%, and 95%) generated for 13,845 elk locations collected from 26 radio-collared elk during the summer (June 15 – September 15) of 2003 in the Jack Morrow Hills (JMH) Planning Area, Wyoming.

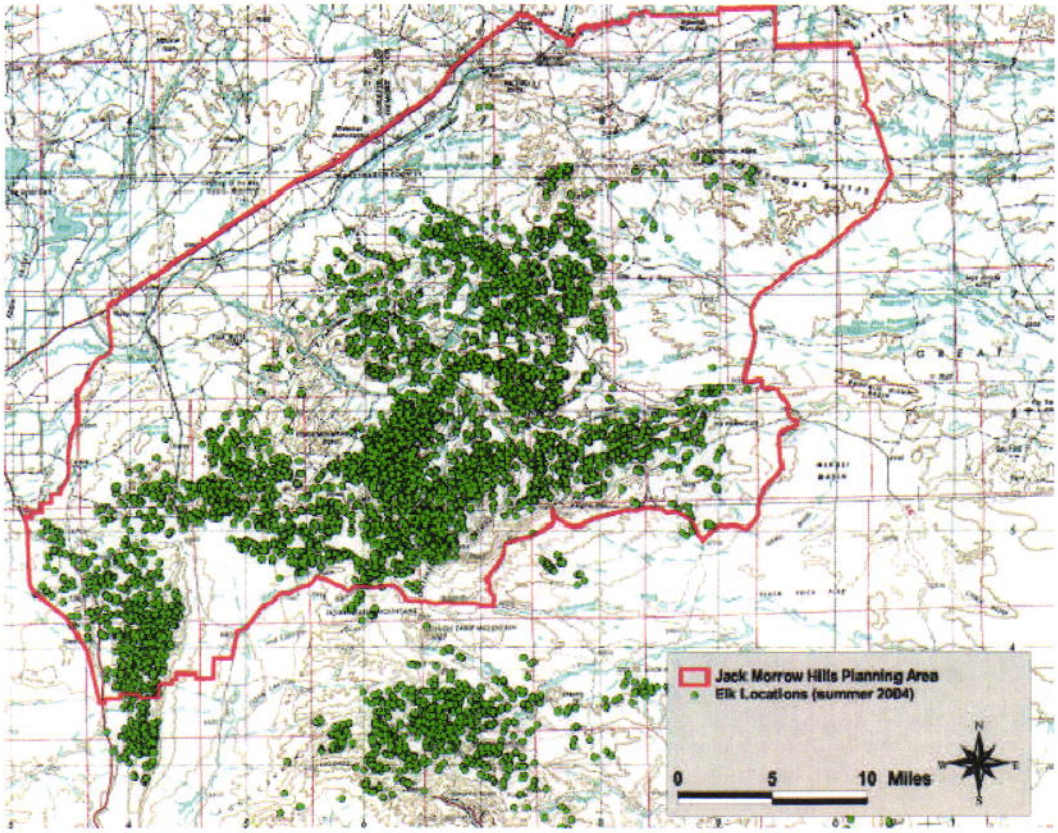


Figure 6. Elk locations (n=11,845) locations collected from 23 radio-collared elk during the summer (June 15 – September 15) of 2004 in the Jack Morrow Hills (JMH) Planning Area, Wyoming.

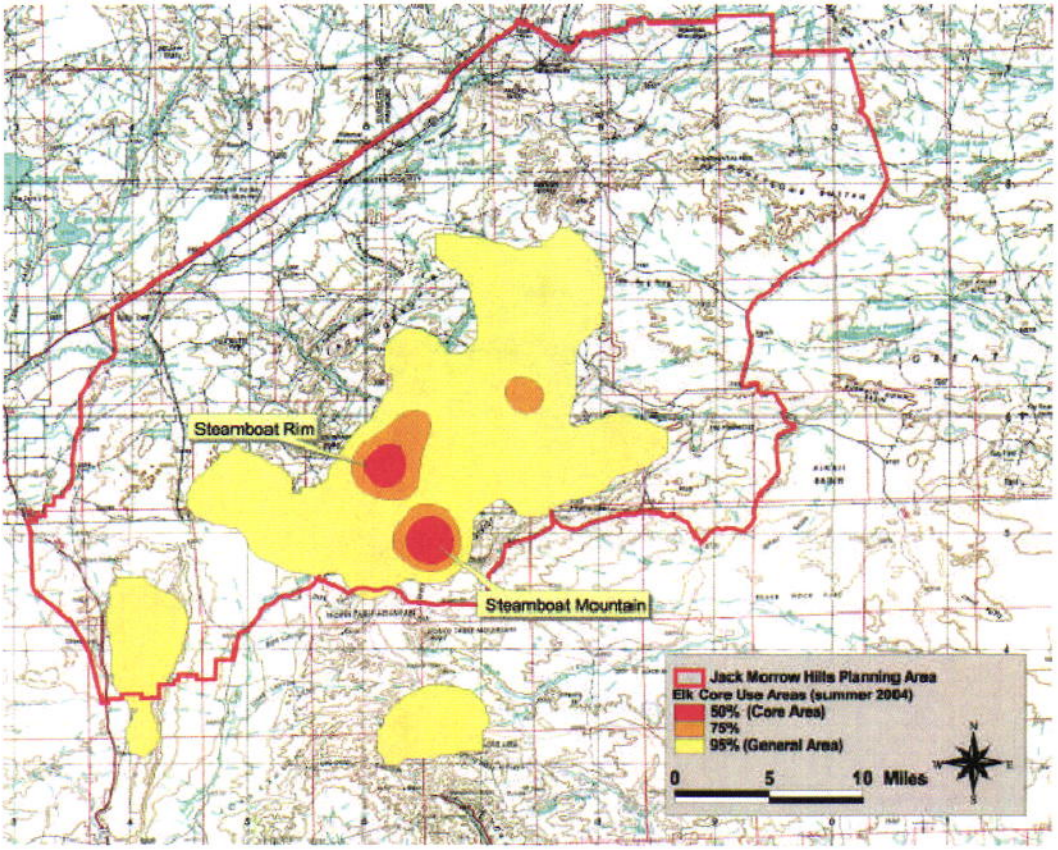


Figure 7. Kernel home ranges (50%, 75%, and 95%) generated for 11,845 elk locations collected from 23 radio-collared elk during the summer (June 15 – September 15) of 2003 in the Jack Morrow Hills (JMH) Planning Area, Wyoming.

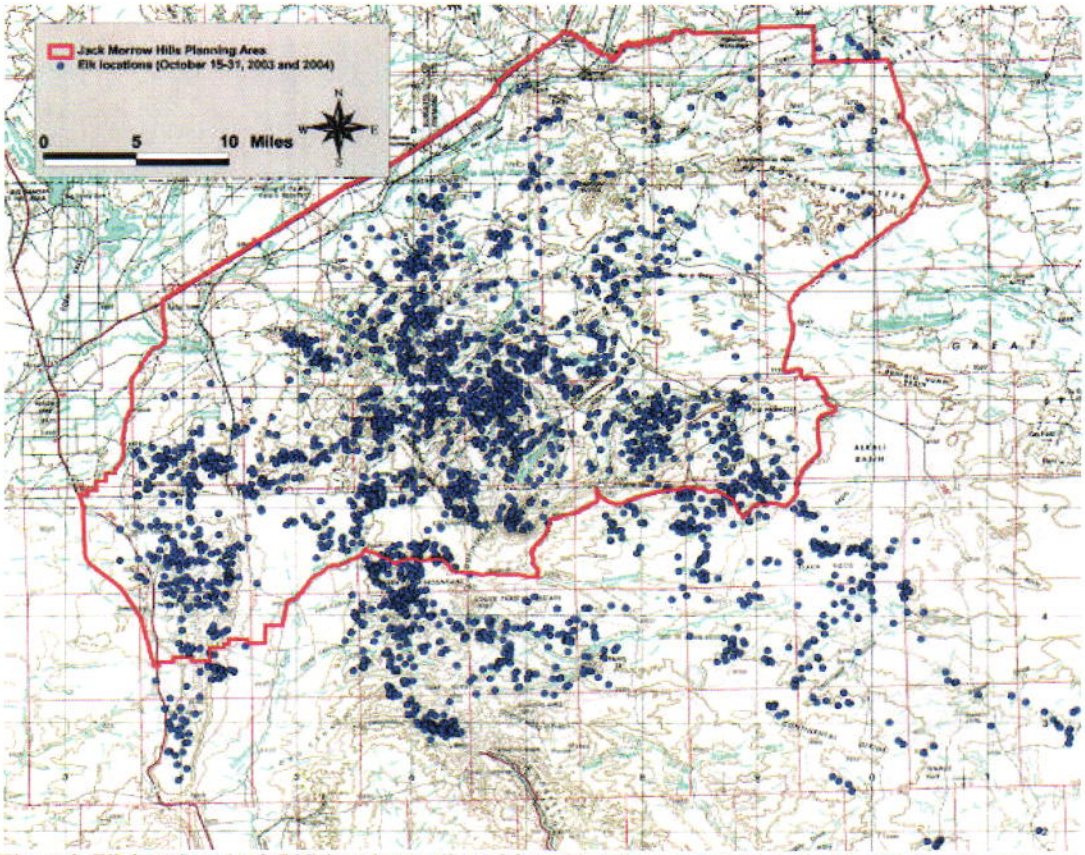


Figure 8. Elk locations (n=3,766) locations collected from 30 radio-collared elk during the rifle hunting seasons (October 15 – 31) of 2003 and 2004 in the Jack Morrow Hills (JMH) Planning Area, Wyoming.

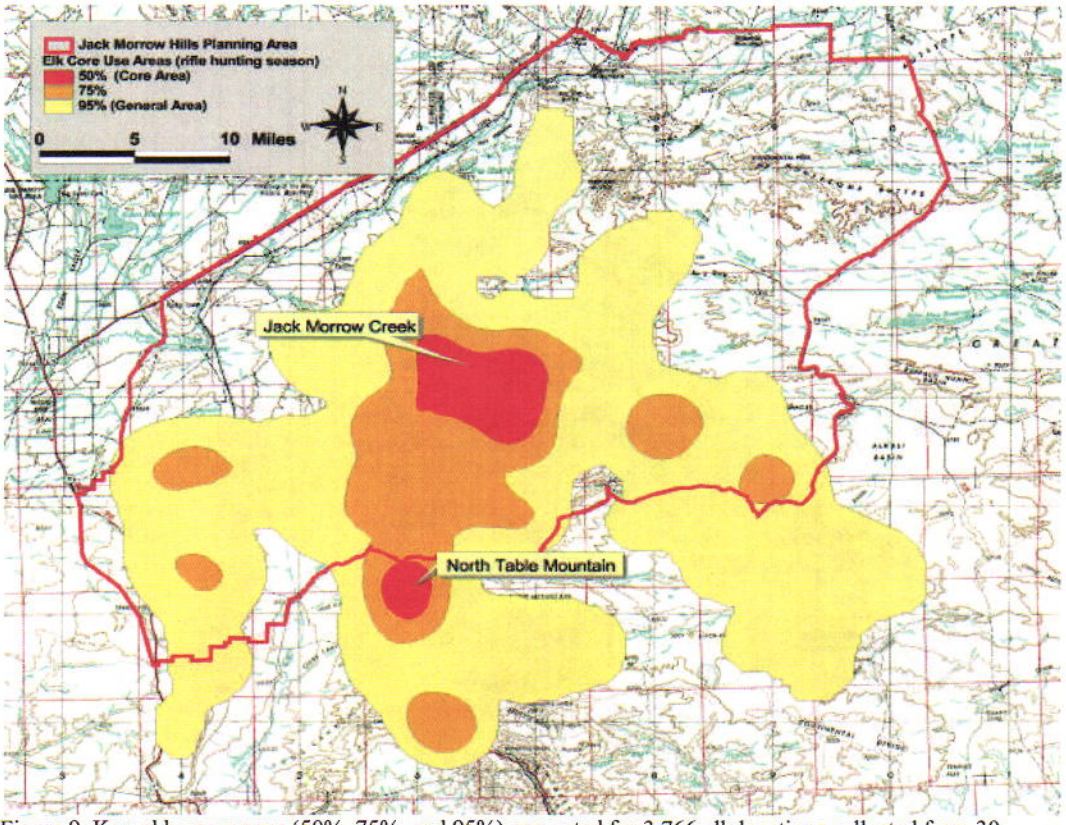


Figure 9. Kernel home ranges (50%, 75%, and 95%) generated for 3,766 elk locations collected from 30 radio-collared elk during the rifle hunting seasons (October 15 – 31) of 2003 and 2004 in the Jack Morrow Hills (JMH) Planning Area, Wyoming.

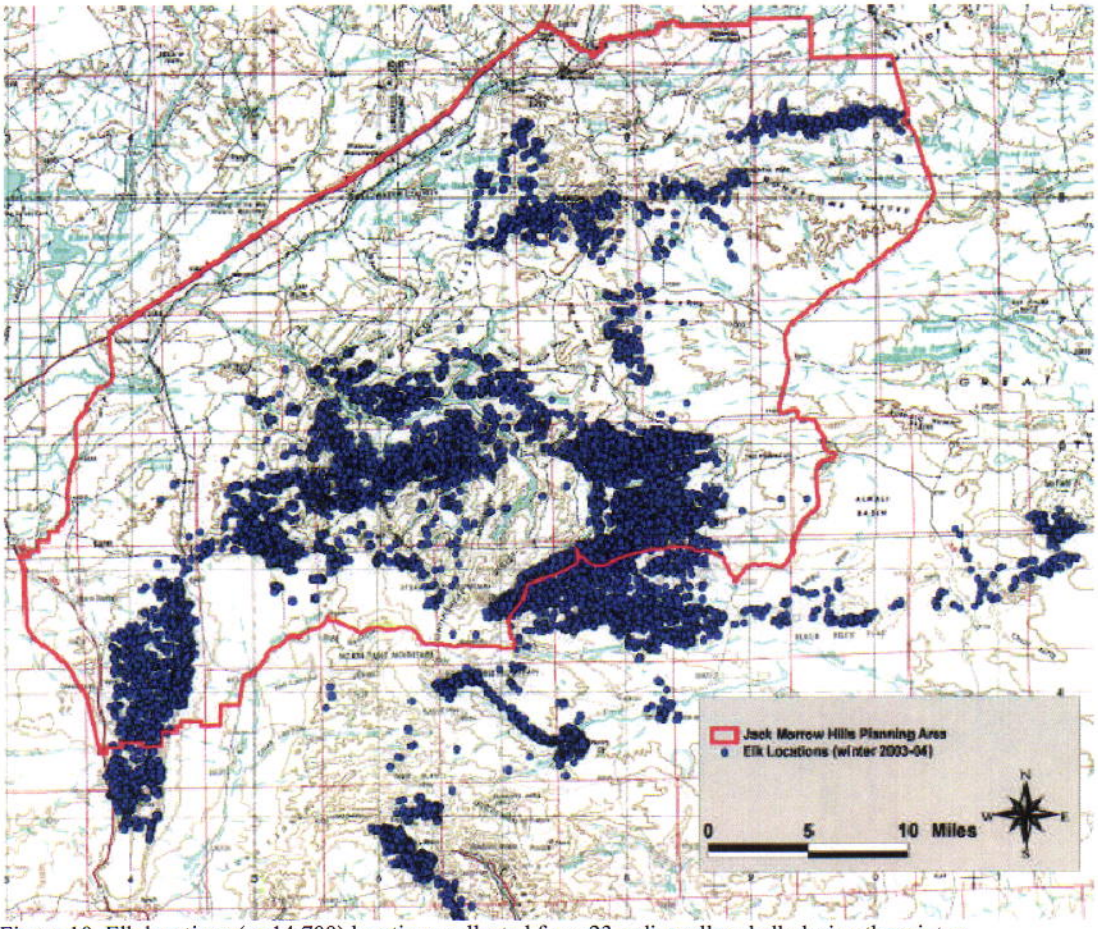


Figure 10. Elk locations (n=14,700) locations collected from 23 radio-collared elk during the winter (November 15 – March 15) of 2003-04 in the Jack Morrow Hills (JMH) Planning Area, Wyoming.

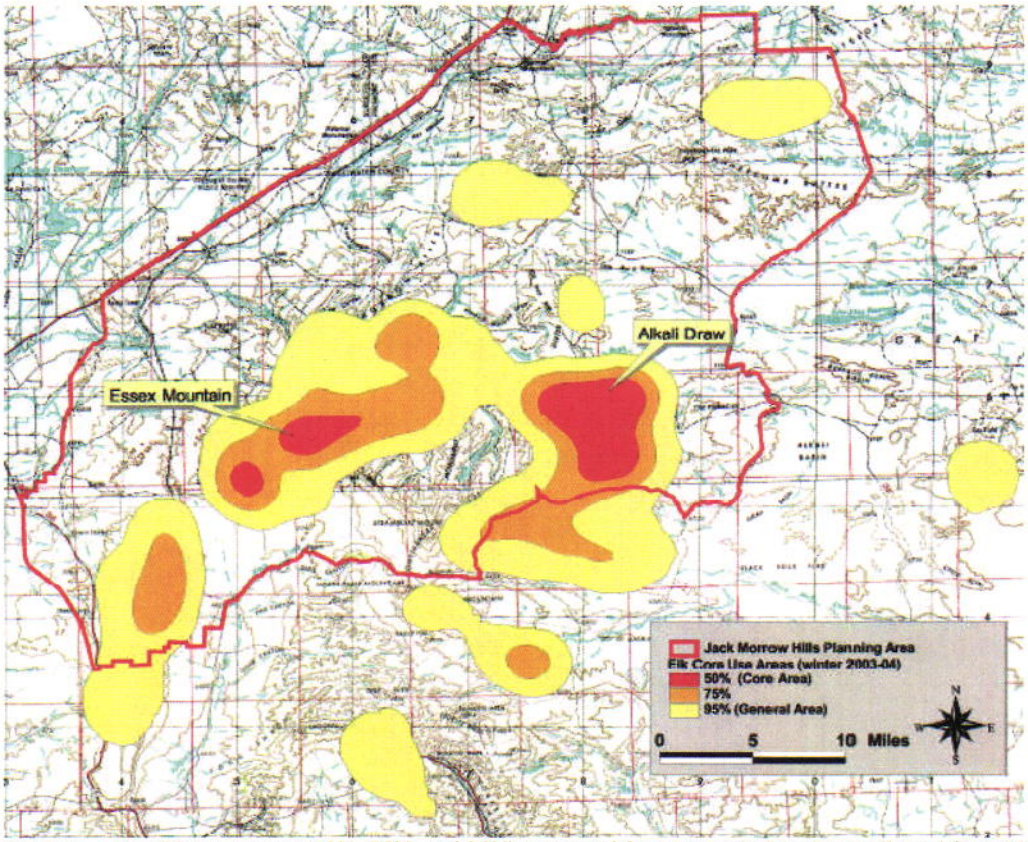
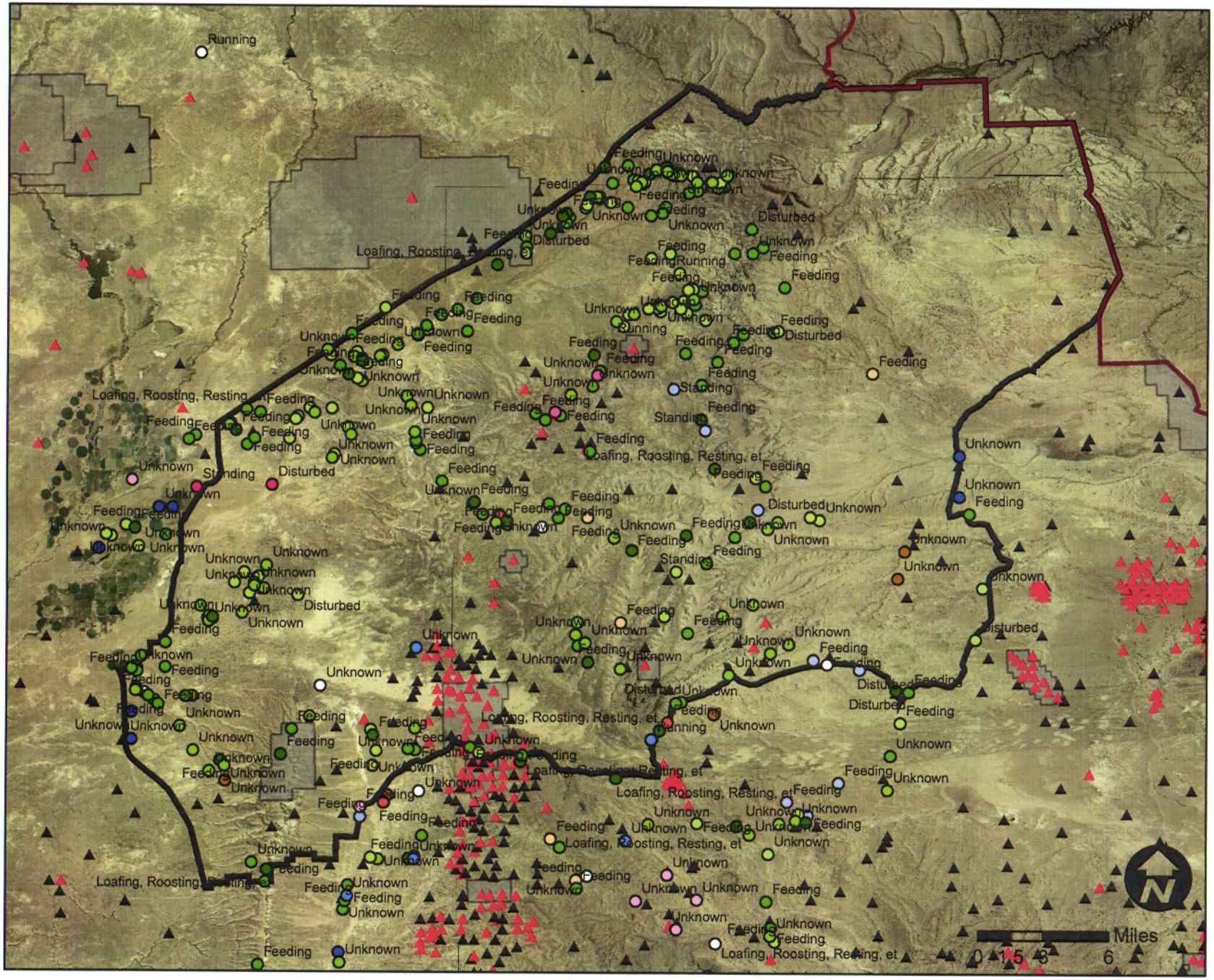


Figure 11. Kernel home ranges (50%, 75%, and 95%) generated for 14,700 elk locations collected from 23 radio-collared elk during the winter (November 15 – March 15) of 2003-04 in the Jack Morrow Hills (JMH) Planning Area, Wyoming.

Pronghorn HA 92 Year Round WGF Observations in the JMH, 2003 - 2009

8/11/09
C. Nelson



Legend

Pronghorn.HA92.WGFData.

- Winter 06-07
- Winter 05-06
- Winter 07-08
- Fall 05
- Fall 06
- Fall 08
- Winter 08-09
- Winter 03-04
- Winter 06-07
- Spring 05
- Spring 04
- Spring 06
- Summer 04
- Summer 05
- Summer 06
- Summer 08
- Summer 07
- Fall 03
- RSFO Boundary
- Jack Morrow Hills Boundary

RSFO_OG_Wells_by_Ownership

Status

- Active
- Currently Inactive
- RSFO_Oil_and_Gas_Units

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Mule Deer HA 131 Year Round WGF Observations in the JMH, 2003 - 2009

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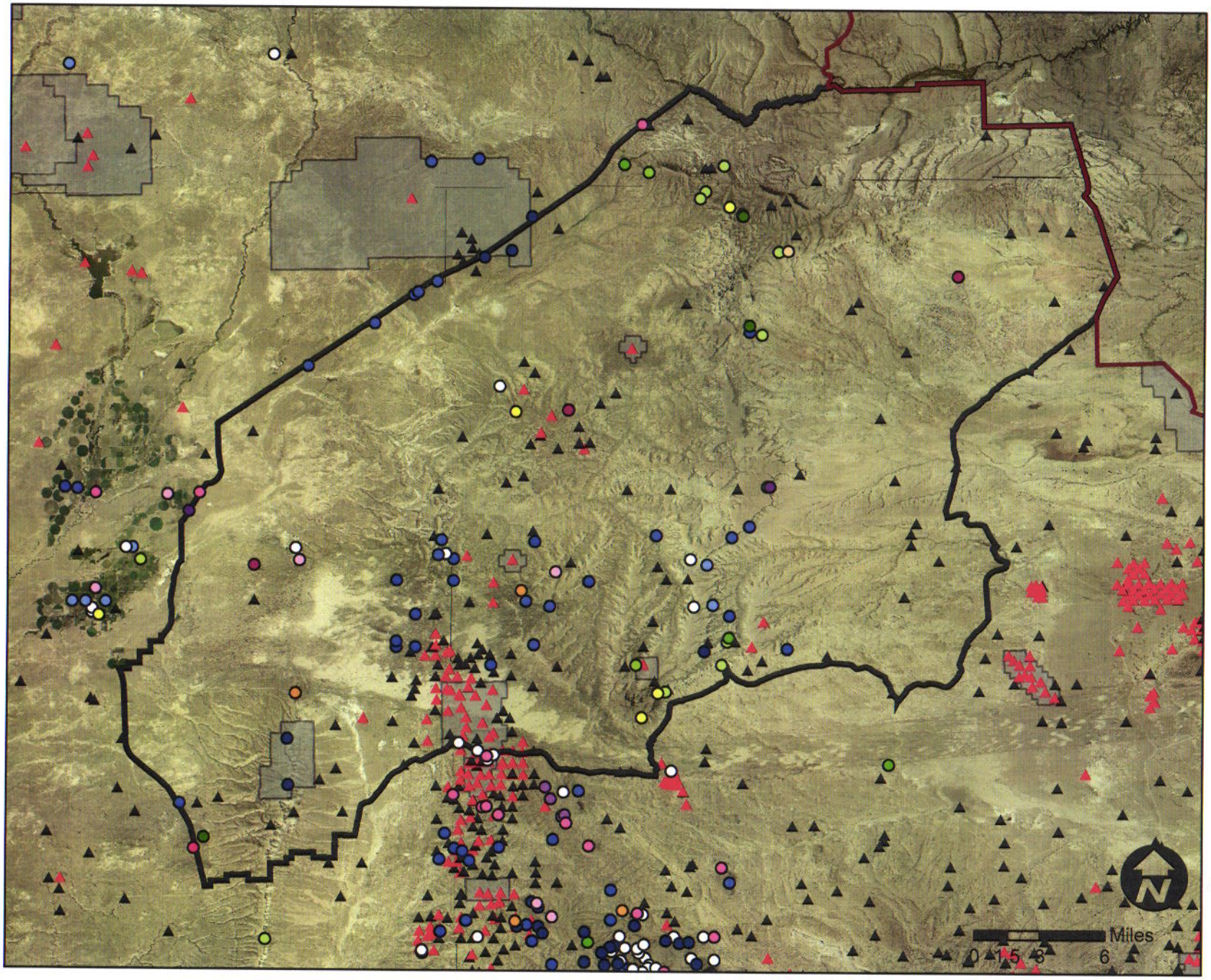
C. Nelson



Legend

Mule.deer.HA131.WGFData.

- Winter 06-07
- Winter 08-09
- Winter 05-06
- Winter 03-04
- Winter 07-08
- Fall 03
- Fall 05
- Fall 06
- Fall 08
- Winter 02-03
- Spring 06
- Spring 08
- Spring 04
- Spring 05
- Spring 03
- Spring 07
- Summer 06
- Summer 05
- Summer 07
- Summer 08
- Summer 04
- RSFO Boundary
- Jack Morrow Hills Boundary

RSFO_OG_Wells_by_Ownership

Status

- Active
- Currently Inactive
- RSFO_Oil_and_Gas_Units

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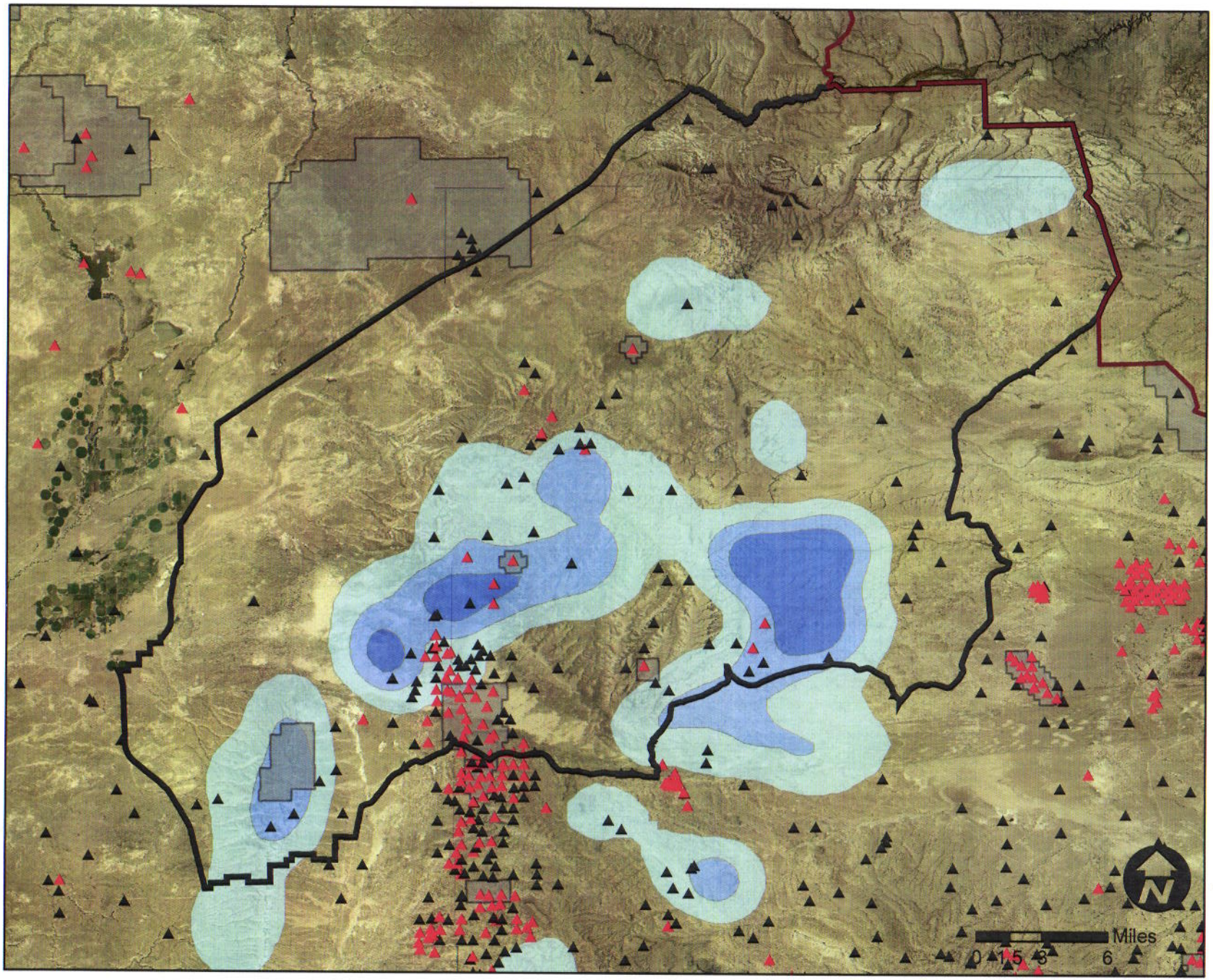
Kernal Analysis of Elk Winter Use in Relation to Oil and Gas Development in the JMH, 2003-2004

8/11/09
C. Nelson



Legend

- RSFO Boundary
- Jack Morrow Hills Boundary

RSFO_OG_Wells_by_Ownership

Status

- Active
- Currently Inactive

RSFO_Oil_and_Gas_Units

Kernal Analysis Elk Use Winter 03-04

- 95%
- 75%
- 50%

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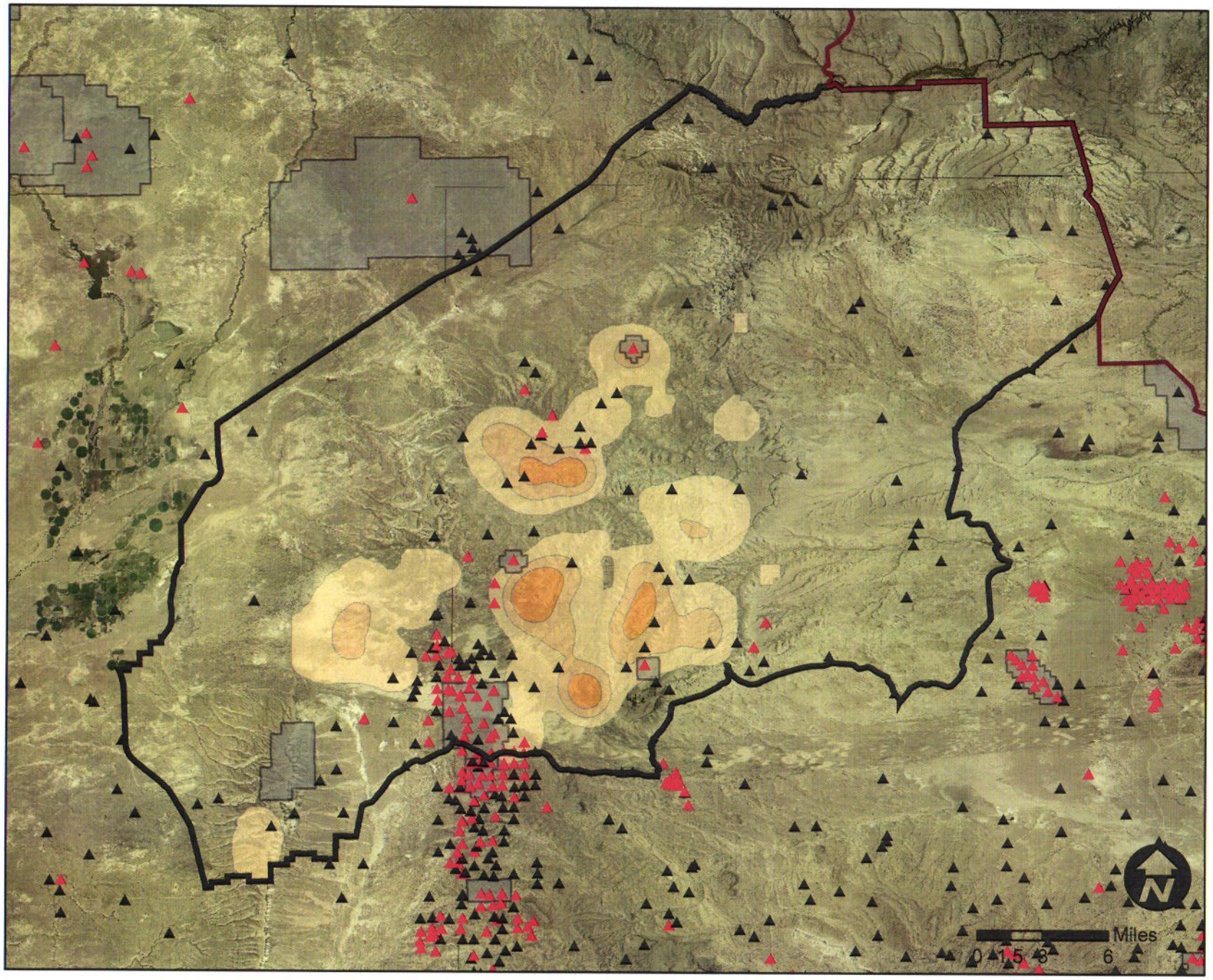
Kernal Analysis of Elk Summer Use in Relation to Oil and Gas Development in the JMH, 2003

8/11/09
C. Nelson



Legend

- RSFO Boundary
- Jack Morrow Hills Boundary

RSFO_OG_Wells_by_Ownership

Status

- Active
- Currently Inactive

RSFO_Oil_and_Gas_Units

Kernal Analysis Elk Use Summer 03

- 95%
- 75%
- 50%

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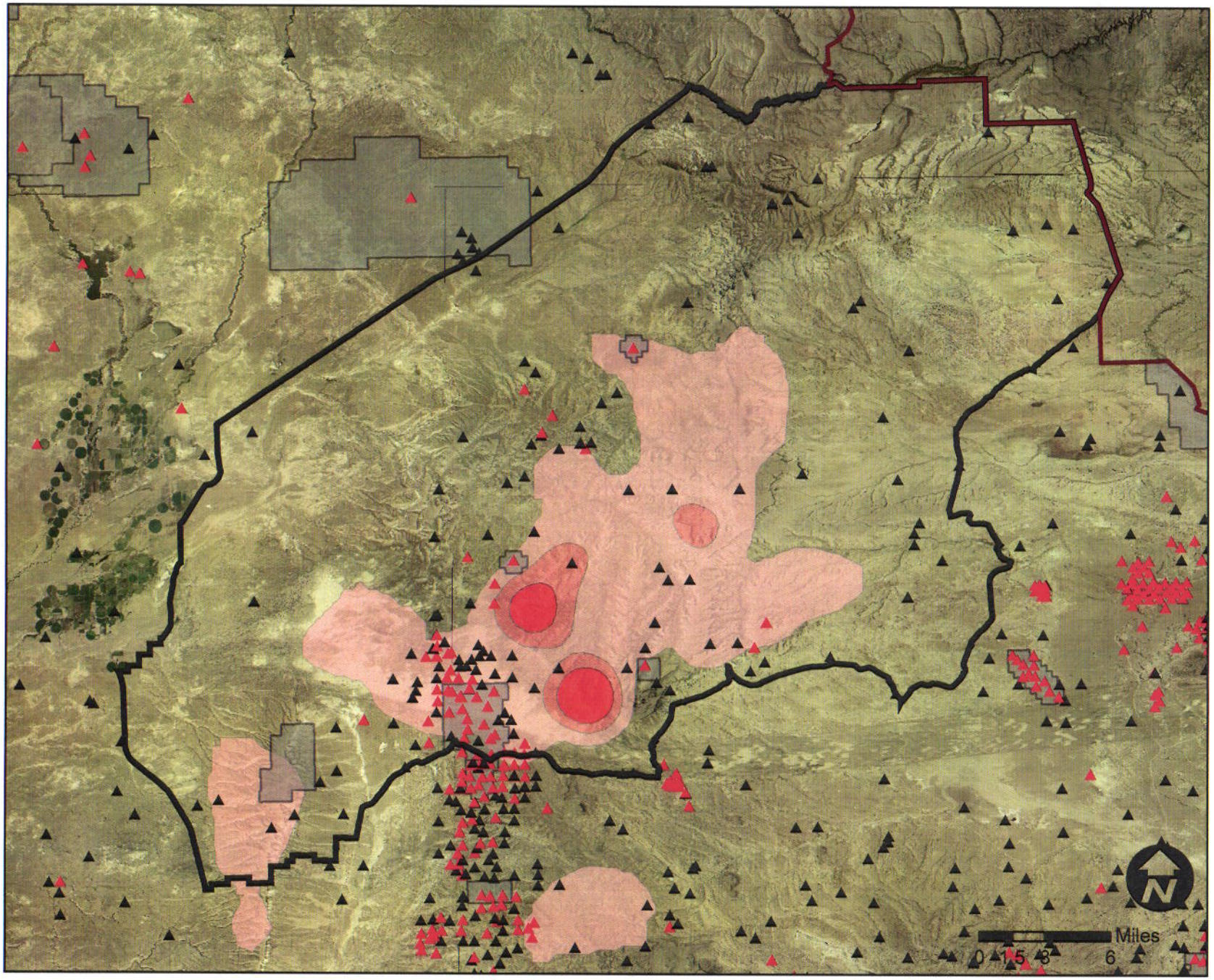
Kernal Analysis of Elk Summer Use in Relation to Oil and Gas Development in the JMH, 2004

8/11/09
C. Nelson



Legend

- RSFO Boundary
- Jack Morrow Hills Boundary

RSFO_OG_Wells_by_Ownership

Status

- Active
- Currently Inactive

RSFO_Oil_and_Gas_Units

Kernal Analysis Elk Use Summer 04

- 95%
- 75%
- 50%

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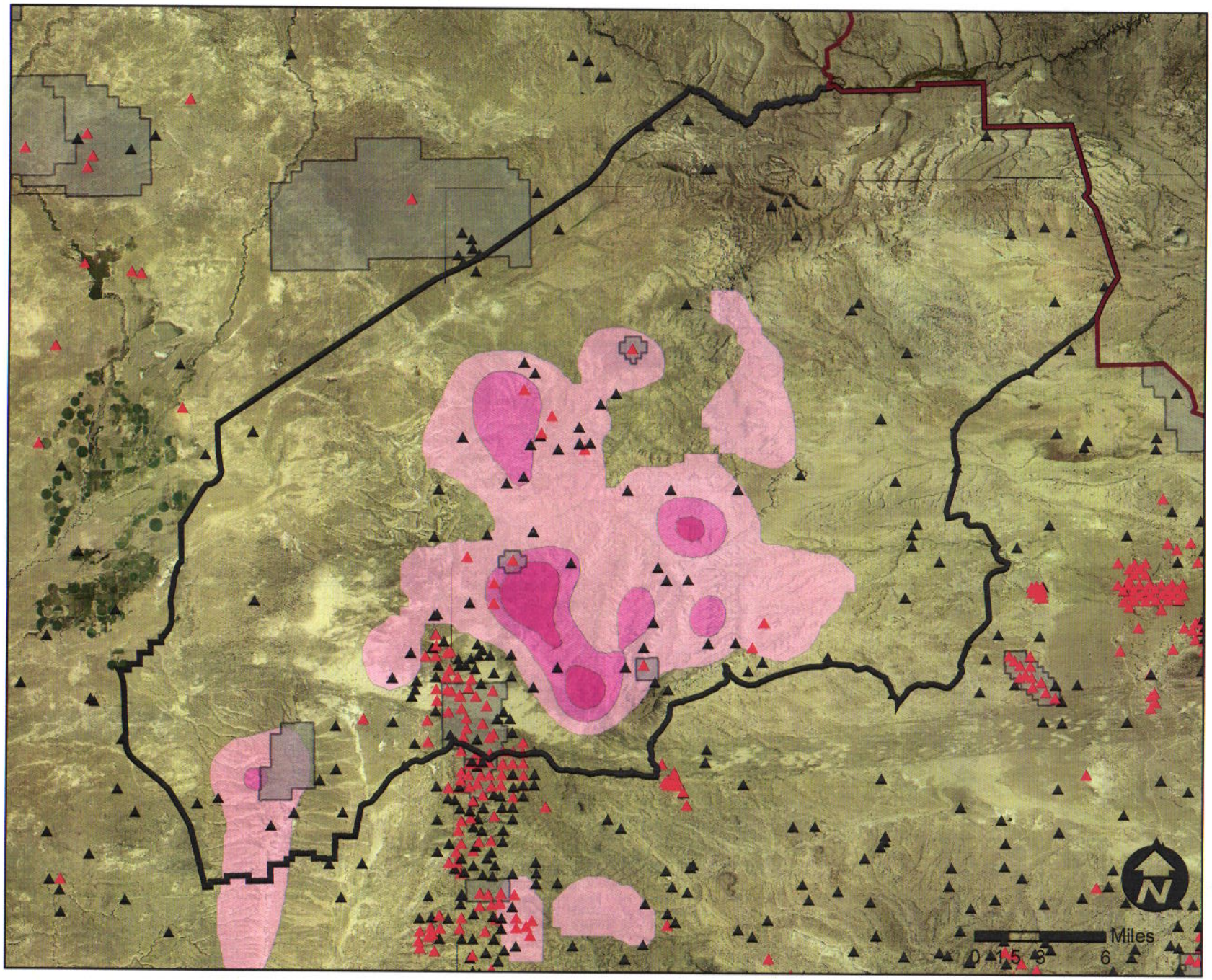
Kernal Analysis of Elk Parturition Use in Relation to Oil and Gas Development in the JMH, May - June

8/11/09
C. Nelson



Legend

- RSFO Boundary
- Jack Morrow Hills Boundary

RSFO_OG_Wells_by_Ownership

Status

- Active
- Currently Inactive

RSFO_Oil_and_Gas_Units

Kernal Analysis Elk Use May-June

- 95%
- 75%
- 50%

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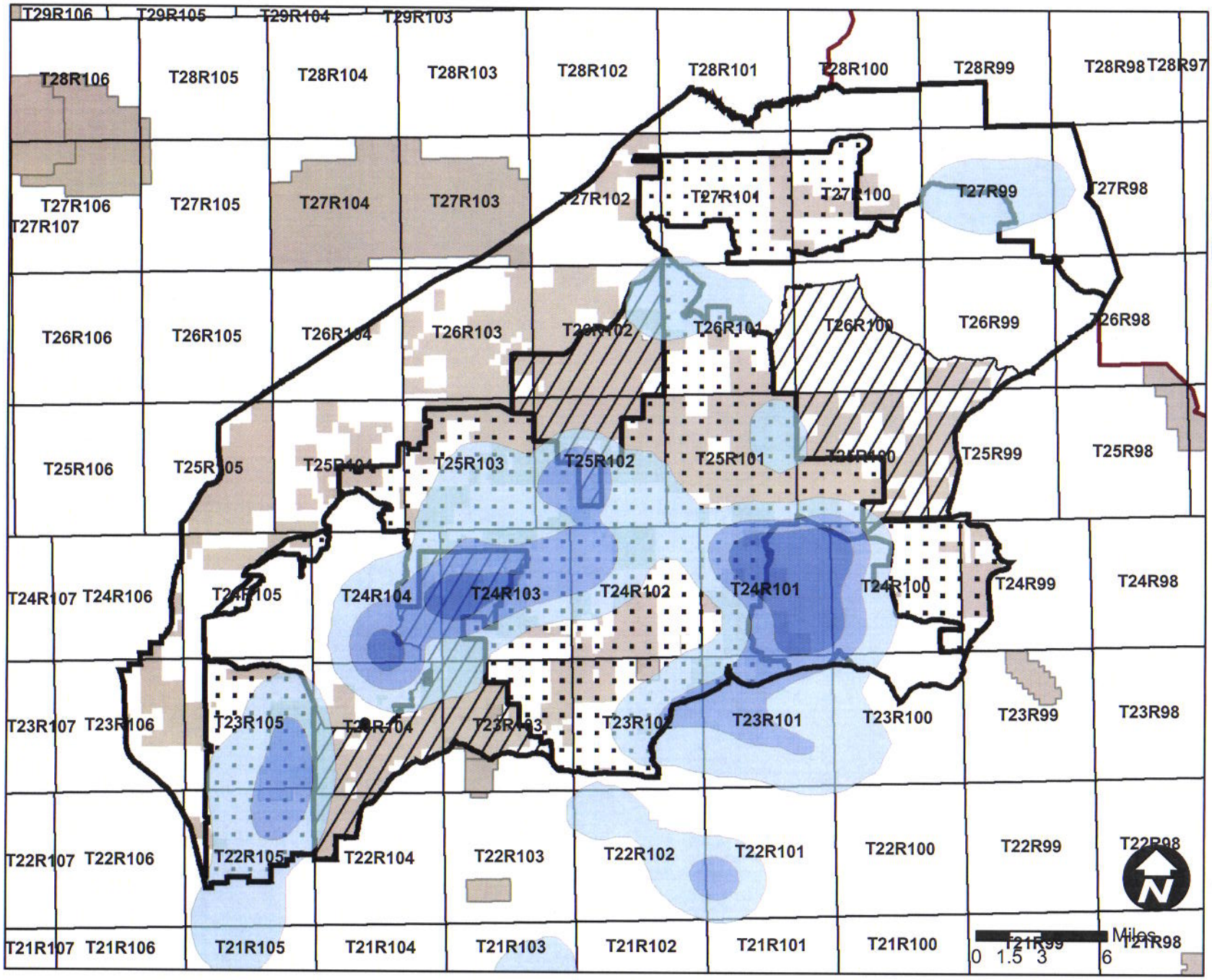
Kernal Analysis of Elk Winter Use in Relation to Areas Leased for Development in the JMH, 2003-2004

8/11/09
C. Nelson



Legend

- Jack Morrow Hills Boundary

Kernal Analysis Elk Use Winter 03-04

- 95%
- 75%
- 50%

Implementation_Strategy_012904

NOTES

- Area 3 Closed to Future Leasing
- Area 2 Conditional to Future Leasing
- Area 1 Open to Future Leasing
- Oil and Gas Leases
- RSFO Boundary
- RSFO_Oil_and_Gas_Units

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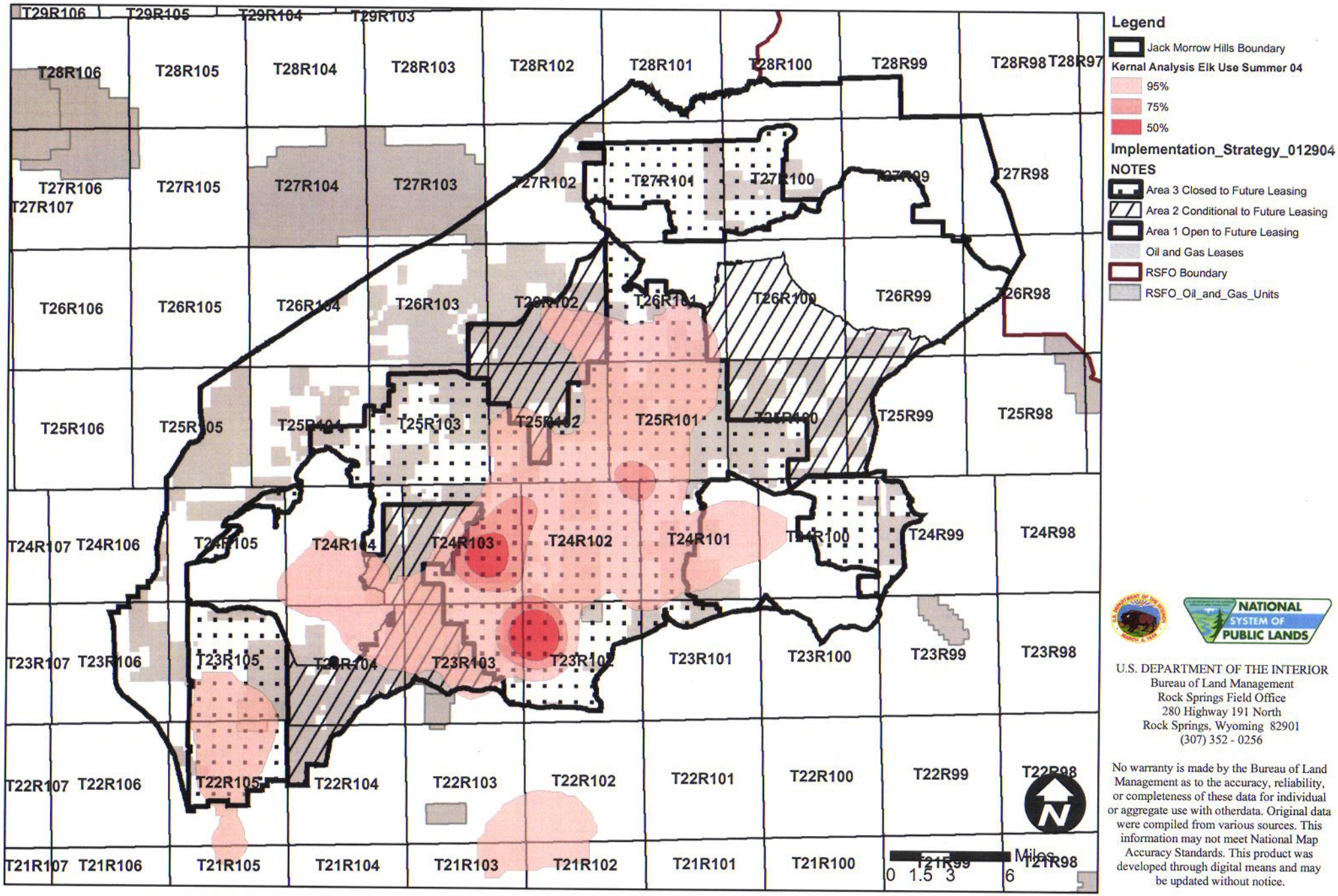
Kernal Analysis of Elk Summer Use in Relation to Areas Leased for Development in the JMH, 2004

8/11/09
C. Nelson



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Kernal Analysis of Elk Summer Use in Relation to Areas Leased for Development in the JMH, 2003

8/11/09
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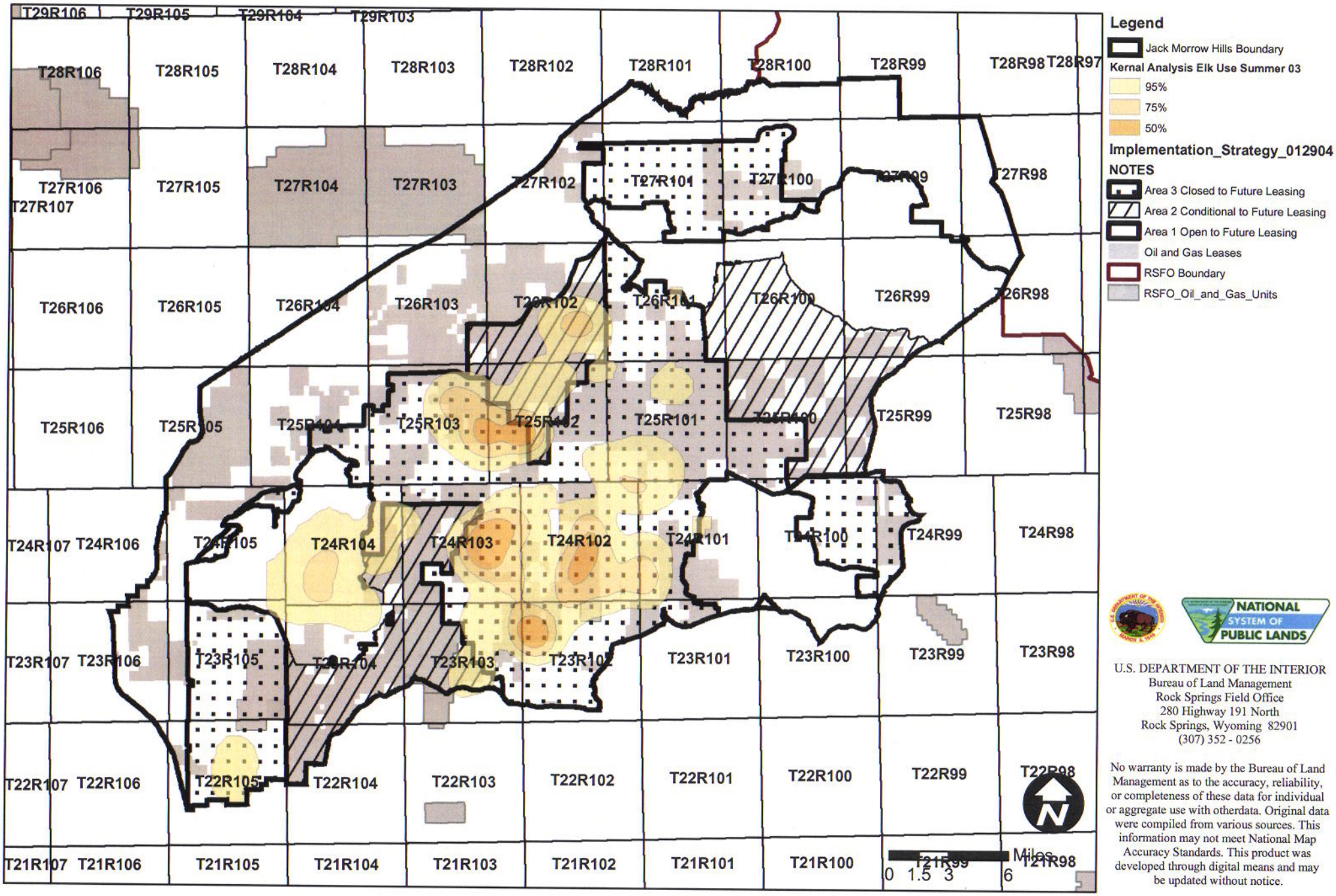

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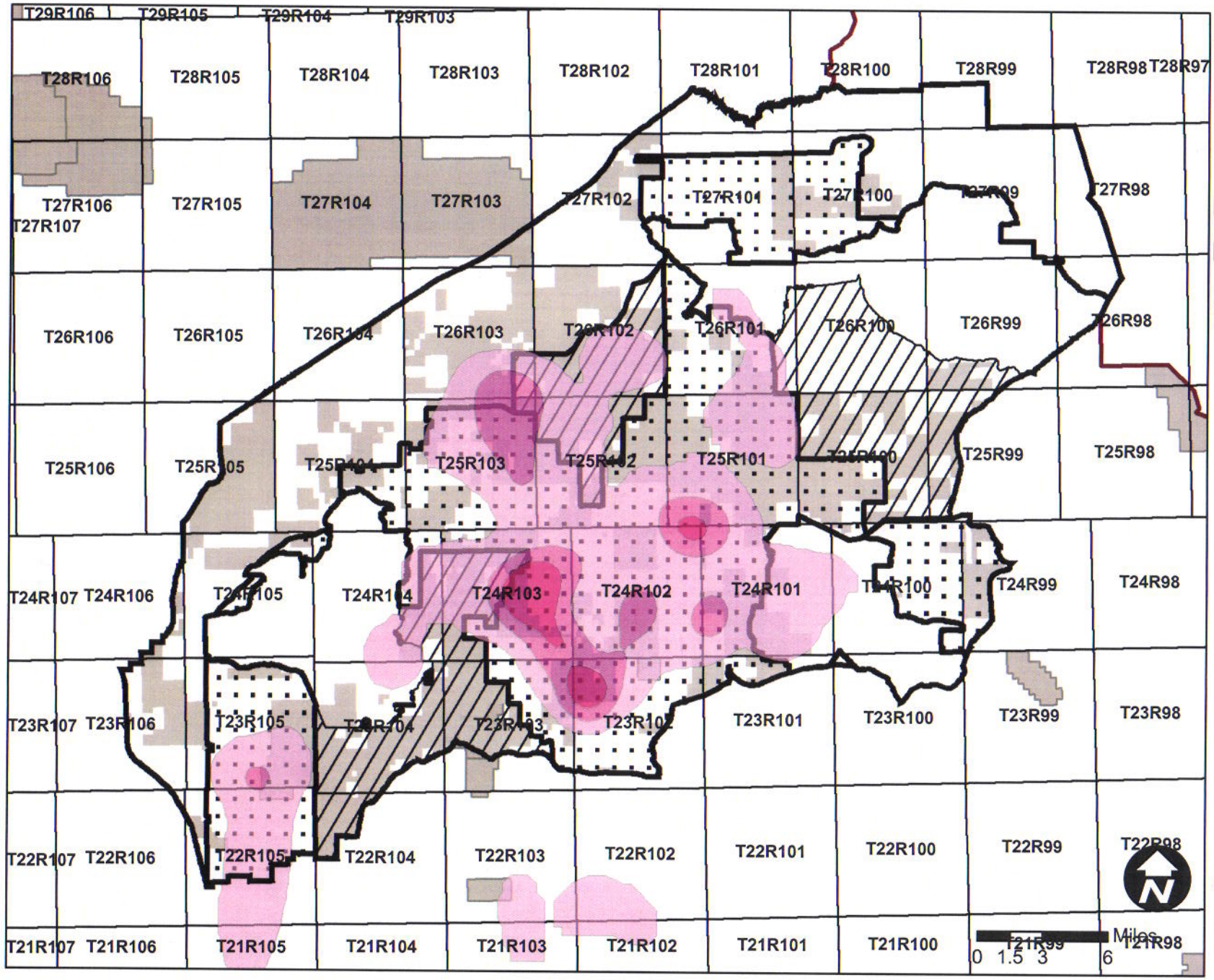
Kernal Analysis of Elk Parturition Use in Relation to Areas Leased for Development in the JMH, May - June

8/11/09
C. Nelson



Legend

- Jack Morrow Hills Boundary

Kernal Analysis Elk Use May-June

- 95%
- 75%
- 50%

Implementation_Strategy_012904

NOTES

- Area 3 Closed to Future Leasing
- Area 2 Conditional to Future Leasing
- Area 1 Open to Future Leasing
- Oil and Gas Leases
- RSFO Boundary
- RSFO_Oil_and_Gas_Units

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