

# Threatened Grizzly Bear Habitat in the Greater Yellowstone Ecosystem



## Key Findings

*Brent Creek in the Shoshone National Forest is threatened by oil and gas development*

## Summary

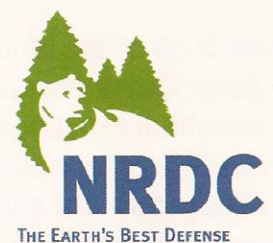
While there is still adequate secure habitat to increase the Yellowstone grizzly bear population, **habitat for bears throughout the Greater Yellowstone Ecosystem (GYE) is at serious risk from logging, energy development, roads, and sheep grazing.**

Current Forest Service management plans allow for excessive resource extraction and development in places that grizzly bears currently call home.

The most sensitive barometer of the health of the Northern Rockies ecosystems, grizzlies need vast wildlands to survive. Grizzly bears are particularly vulnerable to the impacts of roads and developments. Domestic sheep also pose a problem because grizzlies cannot resist them, and sheepherders are prone to shoot bears in response.

The 1.7 million acres that are currently occupied by grizzly bears, but outside of the outdated Recovery Zone, or Primary Conservation Area (PCA) line, is the most threatened area in the entire GYE. The protections afforded to grizzlies inside of the Recovery Zone abruptly end at the line set for grizzly recovery in the early 1980s. Over 50% of the habitat outside the Recovery Zone is subject to oil and gas development and timber cutting. Over 75% of these lands are available for roadbuilding.

About one third of the GYE grizzly population, approximately 175 bears, live outside of the Recovery Zone. For a sustained, recovered population, it is vital to: (1) protect occupied habitat outside of the Recovery Zone, so that bears can continue to live there and recolonize habitat that is still available to them, and (2) ensure that Yellowstone bears are connected to other grizzly populations further west and north.



# OIL AND GAS

## Oil and Gas Threats

- 53% of the land outside of the Recovery Zone on which grizzly bears currently live—885,000 acres—is open to full field oil and gas development.
- About 2 million acres of suitable grizzly bear habitat in the GYE is open to oil and gas development, three quarters of which is outside of the Recovery Zone.
- Only 4.5 million acres of national forest in the ecosystem as a whole, about one third of all national forest land in the GYE, is protected from oil and gas leasing. Over 7 million acres in the GYE national forests, on the other hand, are available for leasing.

# GRAZING

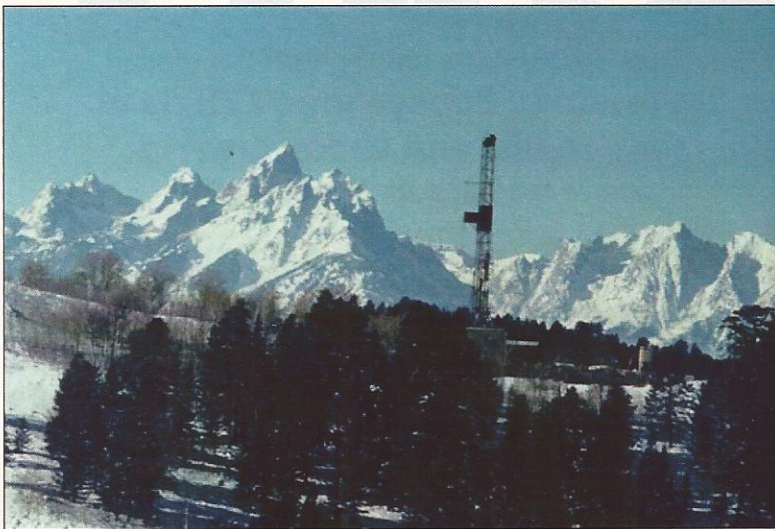
## Grazing

- Domestic sheep graze on 127,000 acres inside of occupied grizzly bear habitat.
- Domestic sheep graze on over 1.3 million acres of suitable grizzly bear habitat.

# ROADS

## Roads

- Over half of the Greater Yellowstone national forests—nearly 7 million acres—are open to road construction.
- In occupied grizzly habitat outside of the Recovery Zone, over 75%—1.2 million acres—is open to roadbuilding
- Only 9% of the occupied grizzly habitat outside of the Recovery Zone—347,000 acres—has been designated to remain roadless by the federal government.



# TIMBER

## Timber

- Over 50% of the land outside of the Recovery Zone that is occupied by grizzly bears is open to scheduled logging.
- Over 70% of all national forest lands in the ecosystem are subject to logging, either as part of the annual harvest quota or for “ecological” purposes.

# SECURE HABITAT

## Secure Habitat

- There are about 11 million acres of habitat that is more than 500 meters from a road in the GYE. Limiting extractive industry and development on these lands using scientifically based standards would allow grizzlies to flourish there.

**Threatened Grizzly Bear Habitat  
in the Greater Yellowstone Ecosystem**  
**Key Findings**

**Summary**

While there is still adequate secure habitat to increase the Yellowstone grizzly bear population, habitat for bears throughout the Greater Yellowstone Ecosystem (GYE) is at serious risk from logging, energy development, roads, and sheep grazing. Current Forest Service management plans allow for excessive resource extraction and development in places that grizzly bears currently call home.

The most sensitive barometer of the health of the Northern Rockies ecosystems, grizzlies need vast wildlands to survive. Grizzly bears are particularly vulnerable to the impacts of roads and developments. Domestic sheep also pose a problem because grizzlies cannot resist them, and sheepherders are prone to shoot bears in response.

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Forest Plan Amendments  
GIS Analysis  
For Protection of Grizzly Bears  
In the Six GYE National Forests

11/9/04

**Category Designations:**

All land in the Greater Yellowstone Ecosystem (GYE) managed by the Forest Service can be categorized into one of the following three levels of habitat security for grizzly bears. Land managed by the Park Service was not included in any these categories.<sup>1</sup>

**Protected:** Places in which any new development would require a decision of Congress. For the most part, these areas are the national parks and wilderness areas.

**Semi-Protected:** The Forest Service manages some of its lands as areas that should be left, to some degree, in their natural state. These areas are currently protected from development through forest plan prescriptions, many of which are now under revision.

**Open:** Places that either have already been developed, or could be under current forest plan prescriptions.

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<sup>1</sup> except in the Category "Secure Habitat" where FS data did not delineate park boundaries.

# Timber

In Acres

<b>Timber</b>	Inside PCA	Occupied Habitat	Suitable Habitat	Occupied Habitat outside of PCA	Suitable Habitat outside of PCA	Entire ecosystem
<u>Habitat Status</u>						
Protected	2,411,000	2,738,000	4,662,000	475,000	2,363,000	5,114,000
Semi-protected	271,000	588,000	1,869,000	318,000	1,718,000	3,396,000
Open	744,000	1,506,000	2,191,000	859,000	1,554,000	3,635,000
<u>Management Prescription</u>						
Logging under ASQ	744,000	1,506,000	2,191,000	859,000	1,554,000	3,635,000
Logging for ecological purposes only	271,000	588,000	1,869,000	318,000	1,718,000	3,470,000
No logging	2,411,000	2,738,000	4,662,000	475,000	2,363,000	5,114,000

**Table 1:** Land subject to timbering in the GYE National Forests.

## The Data

The Forest Service Data classified timber availability into four different categories.

- 1. Logging Under ASQ:** ASQ stands for Annual Saleable Quantity. Areas classified as part of the forest's ASQ will be cut regularly, and either have been or will be subject to roadbuilding. These parts of the forest are managed with timber as a very high priority.
- 2. Logging for Ecological Purposes Only:** Not part of the "Annual Saleable Quantity," and thus not scheduled for regular logging. At the same time, logging (and the roads and other developments that go along with it) is not prohibited in these areas. Large projects are still a possibility here, especially in areas of beetle infestation, fire damage, or fire potential
- 3. No Timbering:** Most of the areas inside of this category are either in the national parks or in federally protected wilderness. Anything classified as "No timbering" is not at serious risk for large timber projects in the foreseeable future.

**Designations:**

**Protected:** (3) No Timbering

**Semi-Protected:** (2) Timbering for Ecological Purposes Only

**Open:** (1) Timbering Under ASQ

# Oil and Gas:

In Acres

<b>Oil and Gas</b>	Inside PCA	Occupied Habitat	Suitable Habitat	Occupied Habitat outside of PCA	Suitable Habitat outside of PCA	Entire ecosystem
<u>Habitat Status</u>						
<b>Protected</b>	2,218,000	2,532,000	4,211,000	421,000	2,078,000	4,522,000
<b>Semi-Protected</b>	677,000	902,000	2,602,000	364,000	2,018,000	3,609,000
<b>Open</b>	552,000	1,438,000	1,922,000	885,000	1,540,000	4,148,000
<u>Management Prescription</u>						
Legally Withdrawn Lands	2,218,000	2,532,000	4,211,000	421,000	2,078,000	4,522,000
Administratively Not Available	448,000	402,000	1,162,000	90,000	759,000	1,466,000
No Surface Occupancy	186,000	457,000	1,434,000	274,000	1,259,000	2,100,000
Park	2,324,000	2,271,000	2,323,000	-	-	2,324,000
Private	122,000	204,000	197,000	84,000	104,000	473,000
Surface Occupancy	101,000	559,000	1,319,000	457,000	1,243,000	2,557,000
Suspended Decision	451,000	879,000	603,000	428,000	297,000	1,591,000
Grizzly Bear	43,000	43,000	6,000	-	-	43,000

Table 2: Calculations for Oil and Gas in National Forests in the GYE.

- 1. Legally Withdrawn Lands:** These areas, mostly federally protected wilderness, are permanently withdrawn from oil and gas leasing. Without a change in federal law, these areas will not be leased for oil and gas development.
- 2. Administratively Not Available for Lease:** Existing forest plans designate these lands as unavailable for oil and gas leasing. Without a change in forest plans, it is very unlikely that these lands will be leased for oil and gas. But, since many of the GYE National Forests will revise their forest plans in the next five years, there is no guarantee that these areas will remain unavailable for lease into the distant future.
- 3. No Surface Occupancy (NSO):** Oil and Gas deposits under this designation may be leased, but no development may occur on the surface of the land during the



exploratory phase. But, there is no requirement that the surface of the land would be protected if sufficient deposits are discovered. The Forest Service has never been known to deny surface occupancy if a company wants to pursue full field oil and gas development.

4. **Park:** No oil and gas leasing can occur on national parks.
5. **Private:** Leasing rights are not in the hands of the Forest Service. Some recent land swap agreements have occurred since this data was gathered.
6. **Surface Occupancy Allowed:** Lands with this designation are currently available for surface leasing.
7. **Suspended Decision:** Mostly concentrated in Bridger-Teton and Gallatin National Forests, these are lands where leasing activity has been suspended, but which may be made available at in the future.
8. **Grizzly Bear Strip on Bridger-Teton:** According to Kim Barber of Shoshone National Forest, surface occupancy is allowed in this area while the grizzly is on the endangered species list, but when they are delisted, this area will be afforded NSO stipulations.

**Designations:**

- |                        |  |
|------------------------|--|
| <b>Protected:</b>      | (1) Legally Withdrawn Lands<br>(4) National Parks  |
| <b>Semi-Protected:</b> | (2) Administratively Not Available for Lease<br>(3) No Surface Occupancy<br>(8) Grizzly Bear Strip |
| <b>Open:</b>           | (6) Suspended Decision<br>(7) Surface Occupancy  |

# Roads:

In Acres

<b>Roadless</b>	Inside PCA	Occupied Habitat	Suitable Habitat	Occupied Habitat outside of PCA	Suitable Habitat outside of PCA	Entire ecosystem
<b>Habitat Status</b>						
Protected	2,256,000	2,603,000	4,234,000	347,000	2,094,000	4,622,000
Semi-protected	263,000	294,000	779,000	50,000	577,000	1,171,000
Open	933,000	2,060,000	3,781,000	1,357,000	3,051,000	6,820,000
<b>Management Prescription</b>						
Congressionally designated roadless	128,000	197,000	423,000	69,000	341,000	597,000
No road construction by prescription	238,000	252,000	649,000	32,000	471,000	990,000
Forest Service recommended wilderness	24,000	42,000	130,000	18,000	106,000	181,000
Prescription allows road construction	329,000	940,000	2,136,000	619,000	1,864,000	3,635,000
Wilderness	2,128,000	2,406,000	3,811,000	278,000	1,753,000	4,025,000
Roads	603,000	1,120,000	1,645,000	738,000	1,187,000	3,185,000

Figure 1.4: Calculations for Roadless in Acres.

- 1. Congressionally Designated Roadless:** Only an act of Congress could allow road construction on these areas.
- 2. No Road Construction by Prescription:** Individual forest plans specify certain parts of each national forest that is not to have new roads built. A change to the forest plan, however, could open these areas to new roads.

3. **Recommended Wilderness:** No new roads may be built under current forest plans. Until Congress designates these as wilderness, however, they could be vulnerable to roadbuilding, off-road vehicles, and other activities.
4. **Road Construction Permitted by Prescription:** New roads can be built in these areas under present circumstances.
5. **Wilderness:** Roadbuilding is not allowed in federally protected wilderness areas..
6. **National Park:** Yellowstone and Grand Teton National Parks are not threatened by a dense network of roads.
7. **Roads:** Locations of all known roads in the GYE.

**Designations:**

- |                        |  |
|------------------------|--|
| <b>Protected:</b>      | (1) Congressionally designated roadless<br>(5) Wilderness<br>(6) National Parks                |
| <b>Semi-Protected:</b> | (2) No Road Construction by Prescription and<br>(3) Recommended Wilderness are semi-protected. |
| <b>Open:</b>           | (4) Road Construction Permitted by Prescription<br>(7) Roads                                   |

# Secure Habitat:

In Acres, including National Parks

				Occupied Habitat outside of PCA	Suitable Habitat outside of PCA	Entire ecosystem
Secure	Inside PCA	Occupied Habitat	Suitable Habitat			
Secure	5,072,000	5,890,000	9,153,000	1,062,000	4,302,000	11,188,000
Not secure	822,000	1,458,000	2,104,000	694,000	1,442,000	3,898,000

Figure 1.5: Calculations for Secure Habitat. Area includes Yellowstone and Grand Teton National Parks.

1. **Secure:** Habitat that is more than 500 meters from a maintained road or heavy use OHV area.
2. **Not Secure:** Habitat within 500 meters of a maintained road or heavy use OHV area.

## Grazing:

In Acres

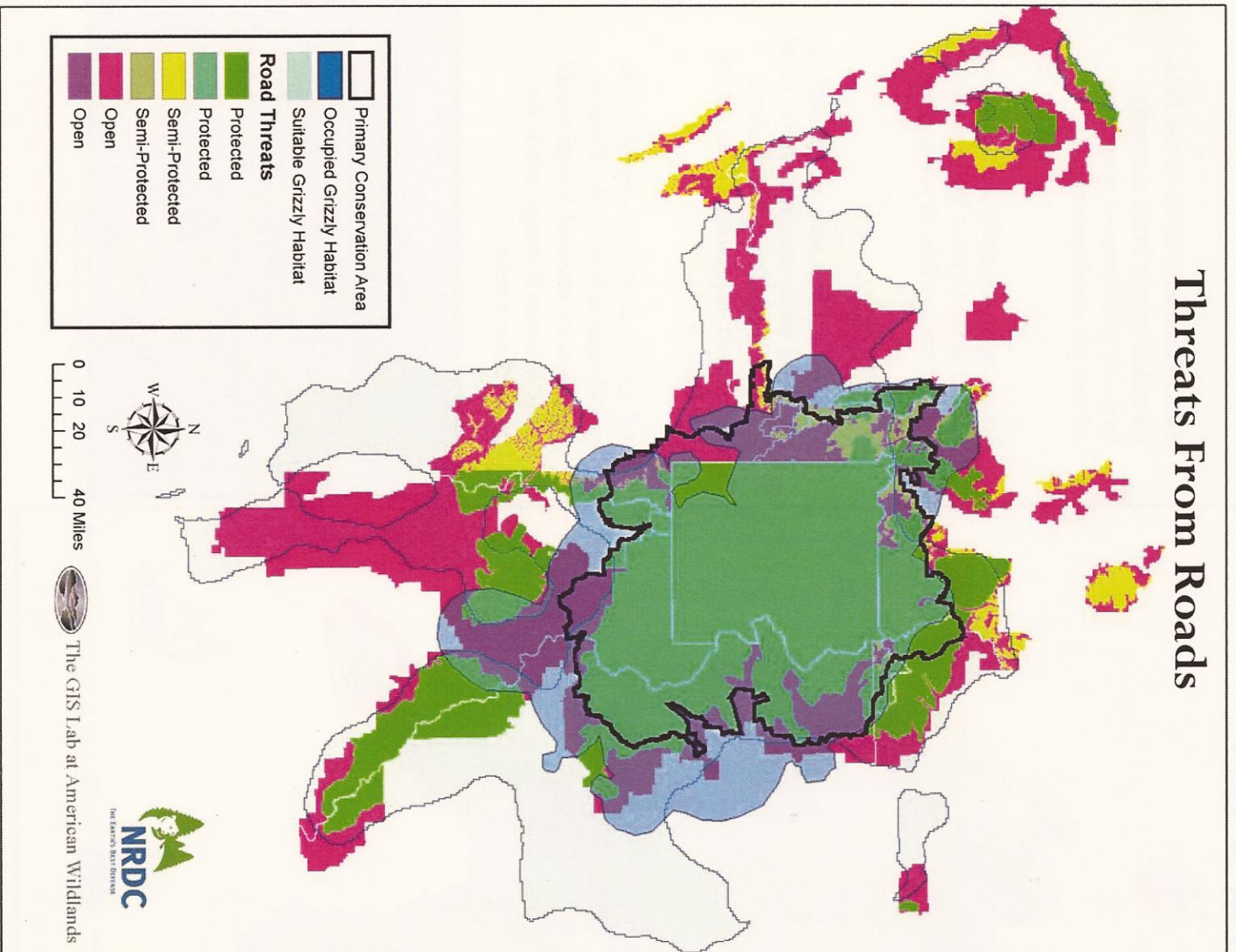
<b>Grazing</b>	Inside PCA	Occupied Habitat	Suitable Habitat	Occupied Habitat outside of PCA	Suitable Habitat outside of PCA	Entire ecosystem
Closed Sheep	109,000	93,000	20,000	60,545	85,562	210,000
Vacant Sheep	61,000	56,000	161,000	9,247	99,897	195,000
Active Sheep	116,000	127,000	1,319,000	31,122	1,028,098	1,436,000
Number of Sheep in 2003	8,170	10,050	191,978	6,250	183,808	220,574

Table 1.6: Calculations for sheep allotments in acres.

### The Data:

1. **Active Sheep:** Allotments that were utilized for sheep in 2003.
2. **Vacant Sheep:** Sheep allotments that were not leased in 2003, but are currently available to be leased for sheep.
3. **Closed Sheep:** Allotments that are no longer available for sheep grazing.

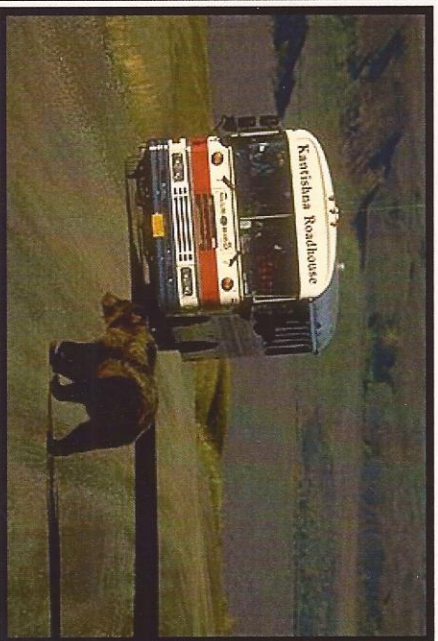
# Threats From Roads



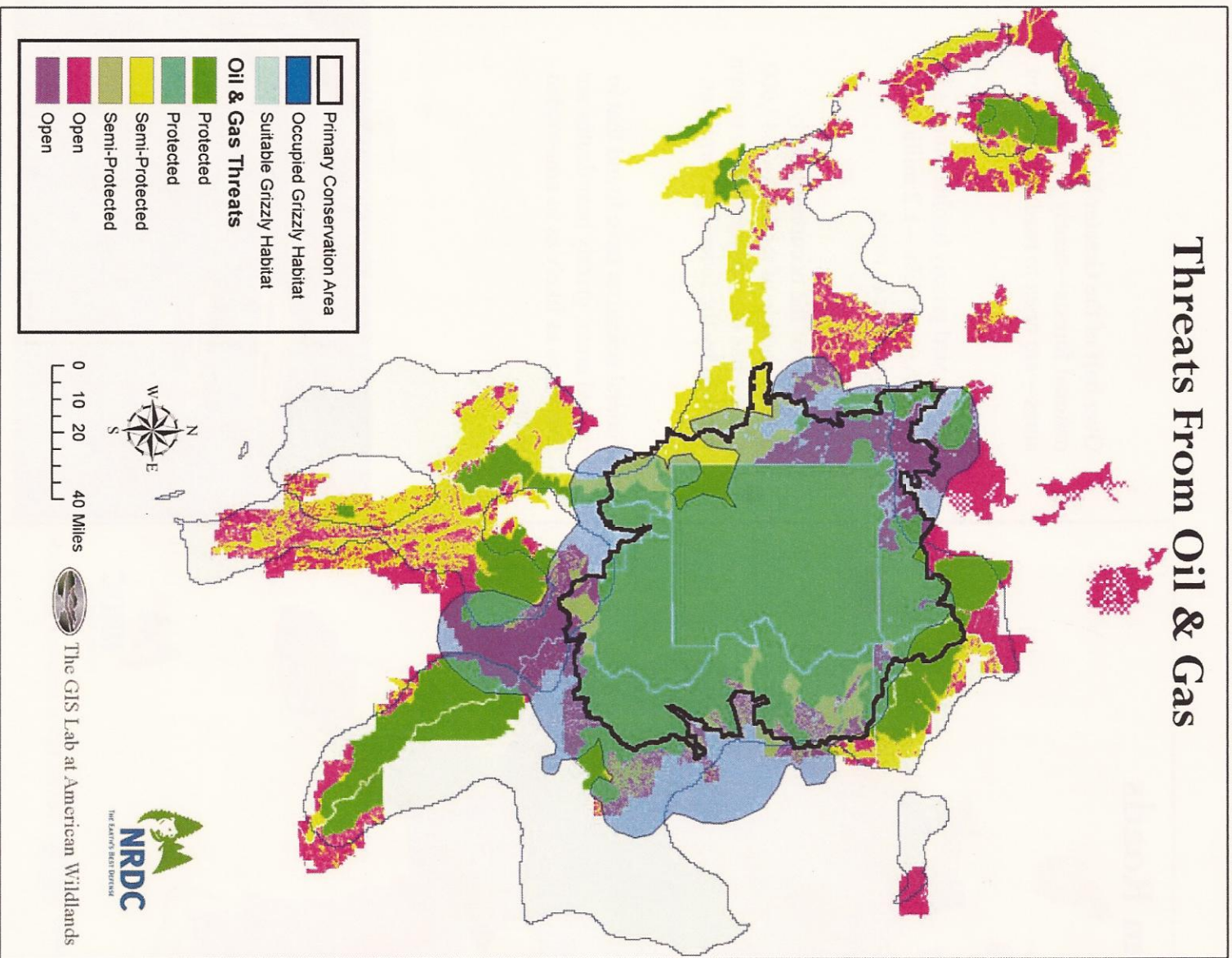
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- Only 9% of the occupied grizzly habitat outside of the PCA—347,000 acres—has been designated to remain roadless by the federal government.

● Federal scientists have found that in roaded areas, grizzly bear deaths are five times as likely as in non-roaded areas.



# Threats From Oil & Gas



53% of the land outside of the PCA on which grizzly bears currently live—885,000 acres—is open to oil and gas development.

Today, approximately 2 million acres of land in the Greater Yellowstone Ecosystem could be developed for oil and gas.

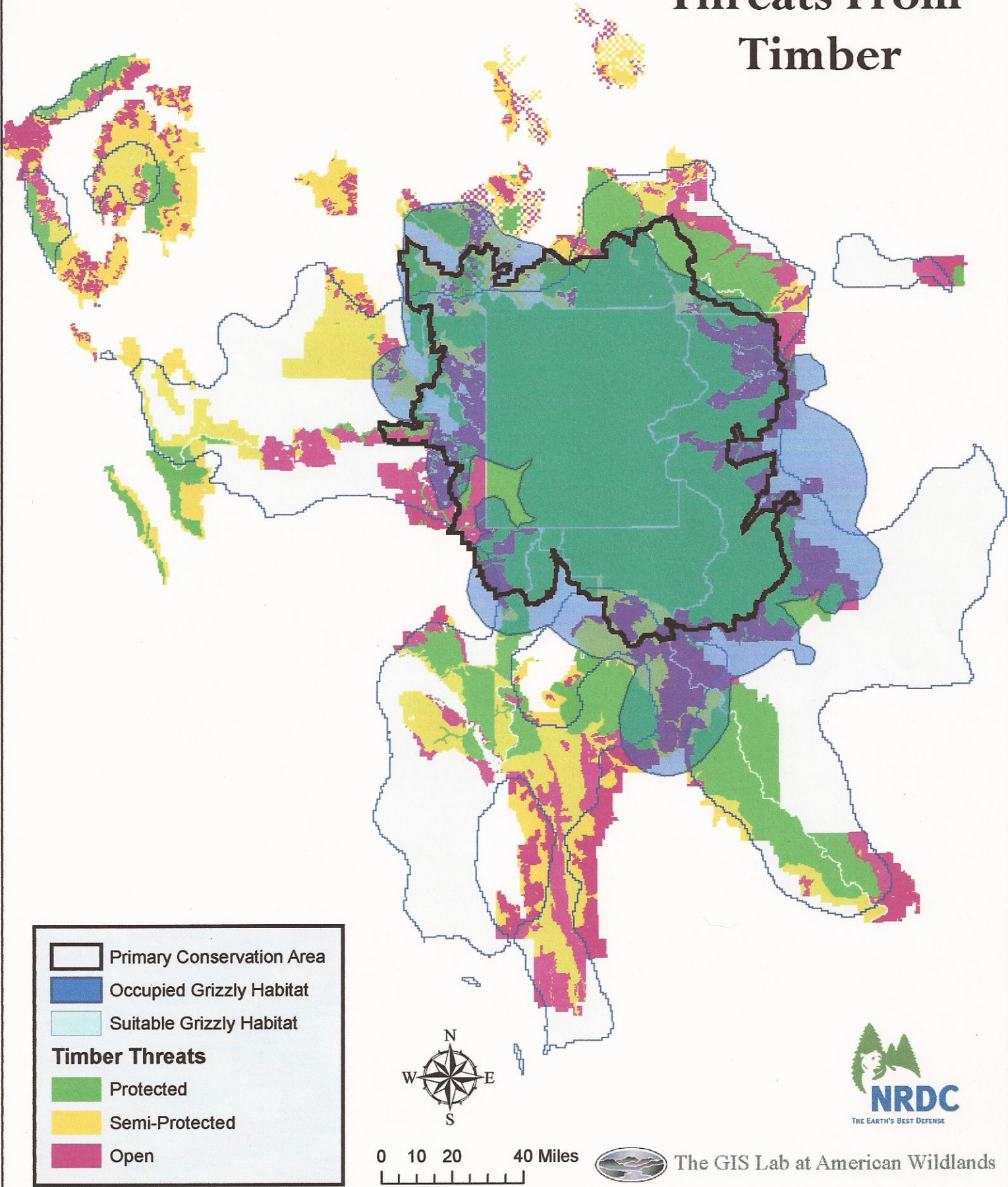
Only 4.5 million acres of national forest in the ecosystem as a whole, barely more than one third of all national forest land, is protected from oil and gas leasing.

All economically recoverable oil in grizzly bear habitat in the Greater Yellowstone national forests would meet America's energy needs for under three weeks.



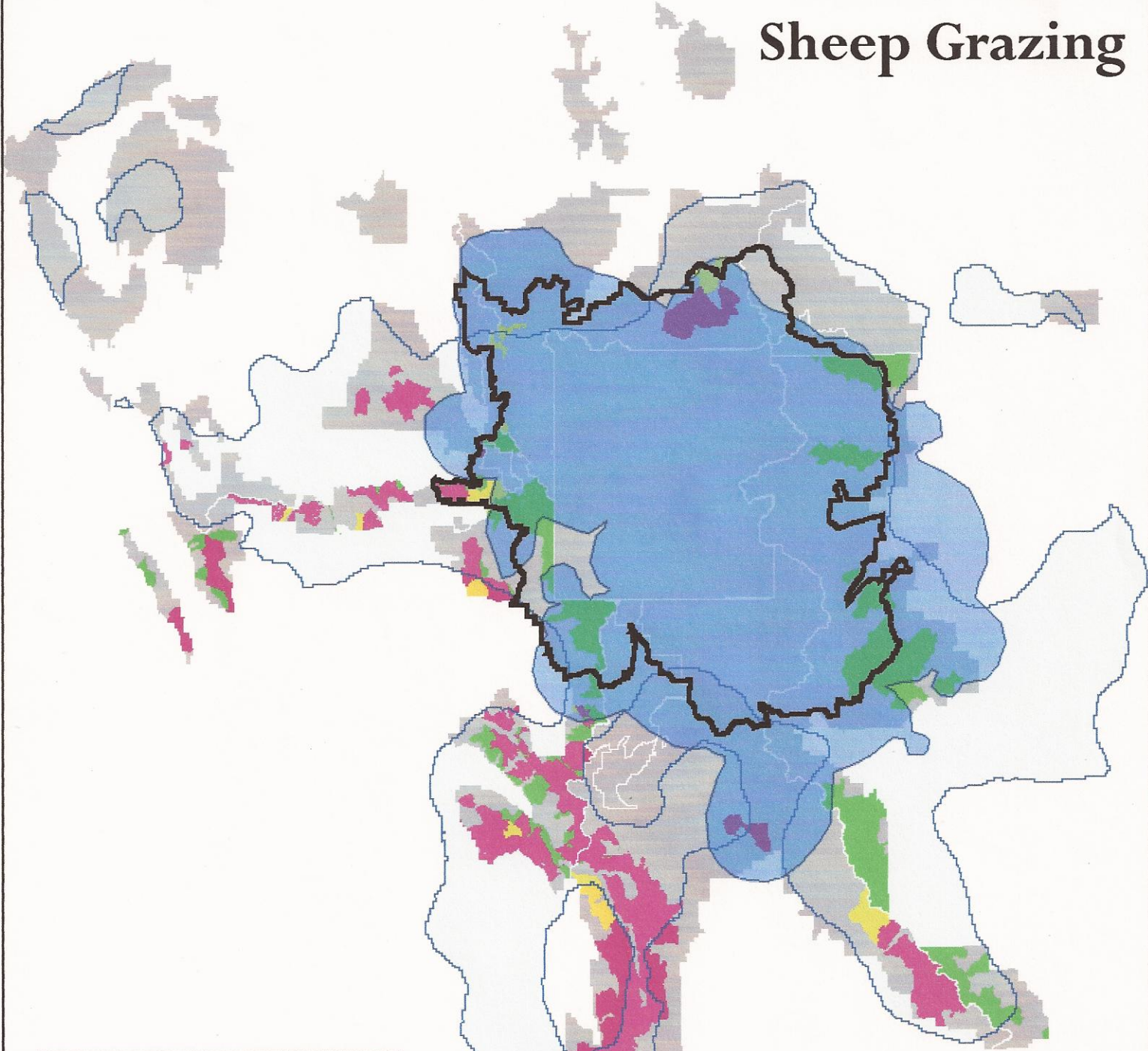
The Jonah Field, Wyoming. Photo by Peter Arngst

# Threats From Timber





# Threats From Sheep Grazing



 Primary Conservation Area

 Occupied Grizzly Habitat

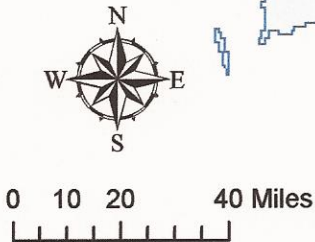
 Suitable Grizzly Habitat


**Sheep Grazing Threats**

 Closed Sheep Allotment

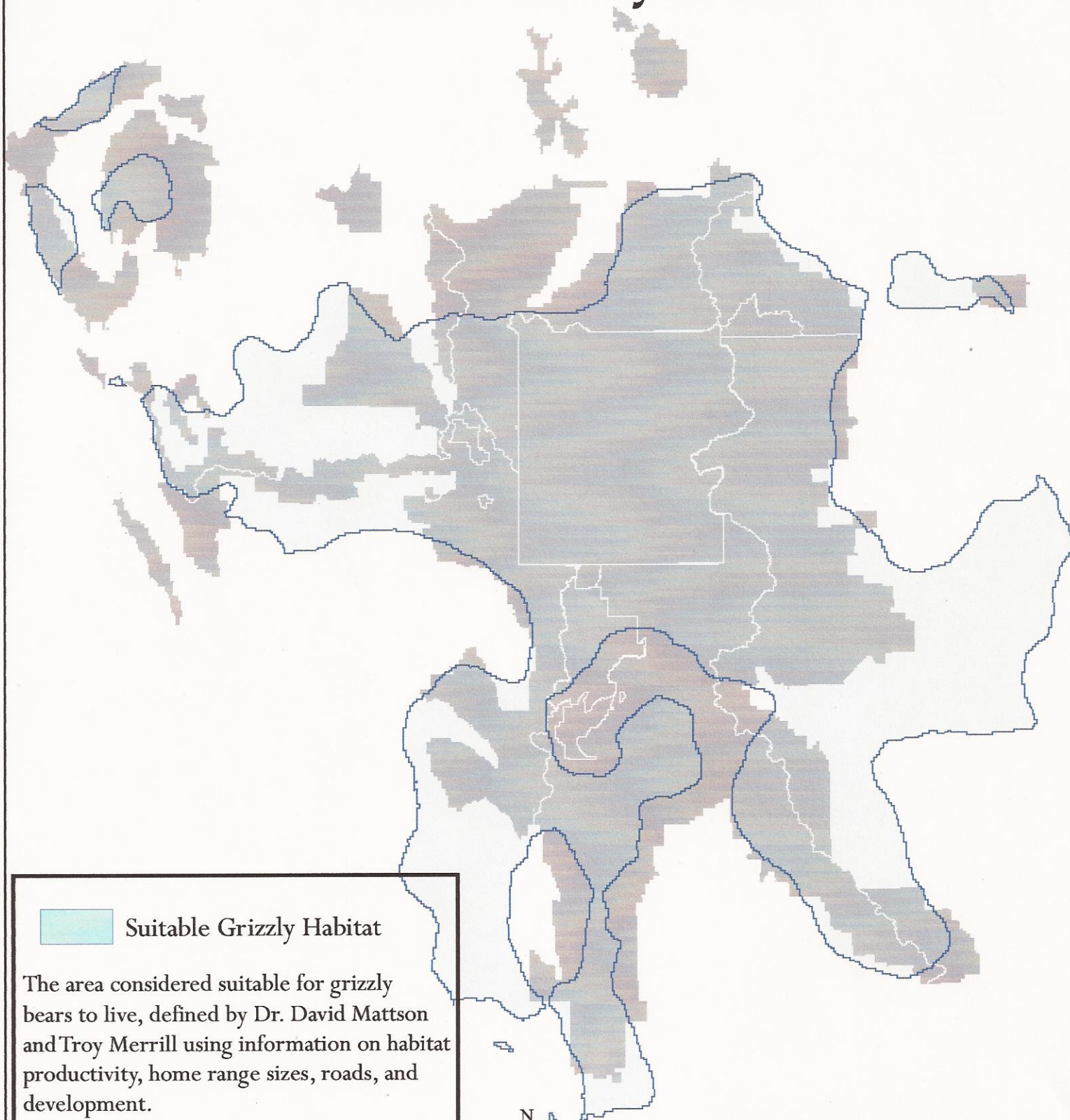
 Vacant Sheep Allotment

 Open Sheep Allotment



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# Suitable Grizzly Habitat



Suitable Grizzly Habitat

The area considered suitable for grizzly bears to live, defined by Dr. David Mattson and Troy Merrill using information on habitat productivity, home range sizes, roads, and development.

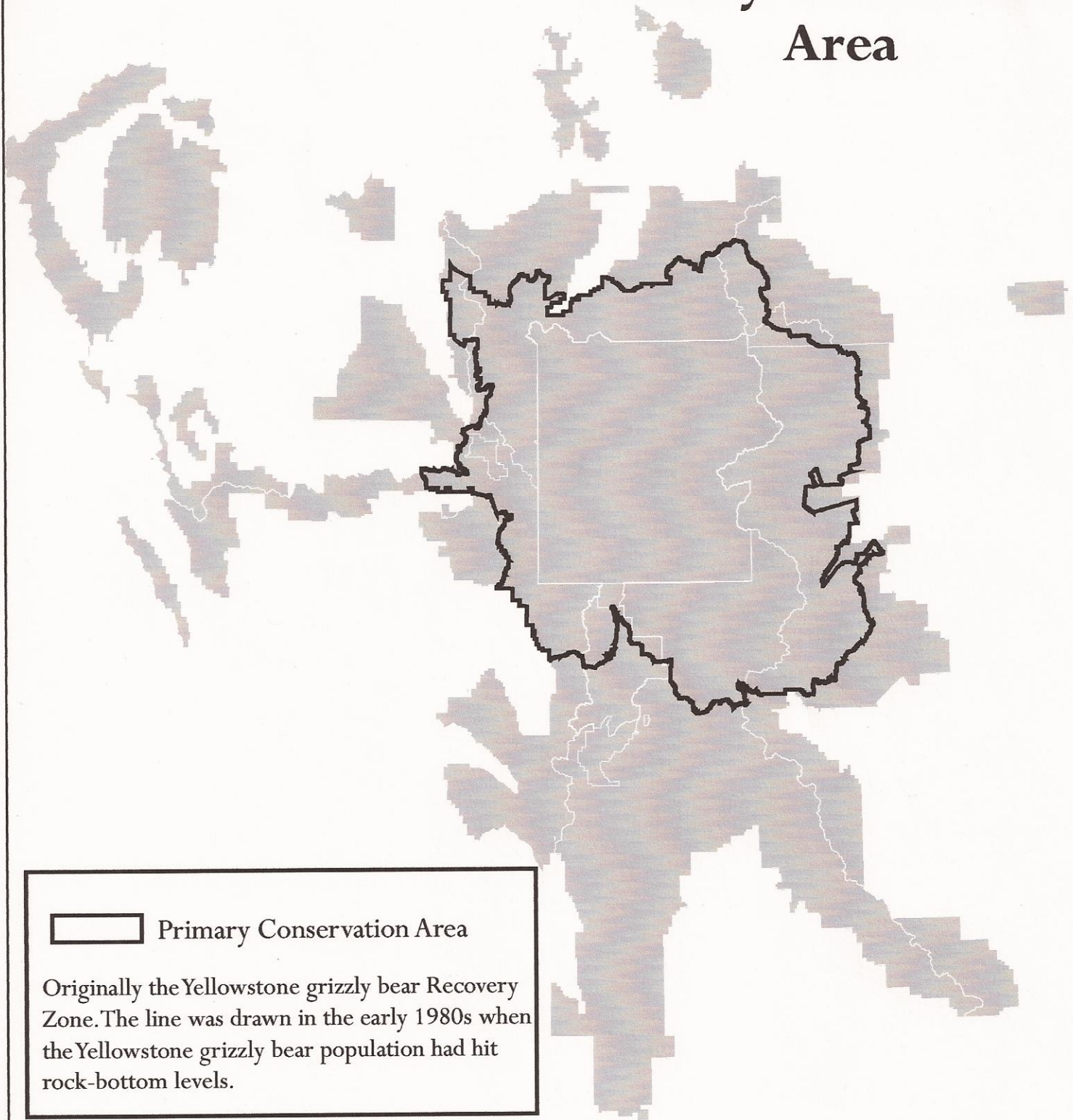


0 10 20 40 Miles



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# Primary Conservation Area




 Primary Conservation Area

Originally the Yellowstone grizzly bear Recovery Zone. The line was drawn in the early 1980s when the Yellowstone grizzly bear population had hit rock-bottom levels.

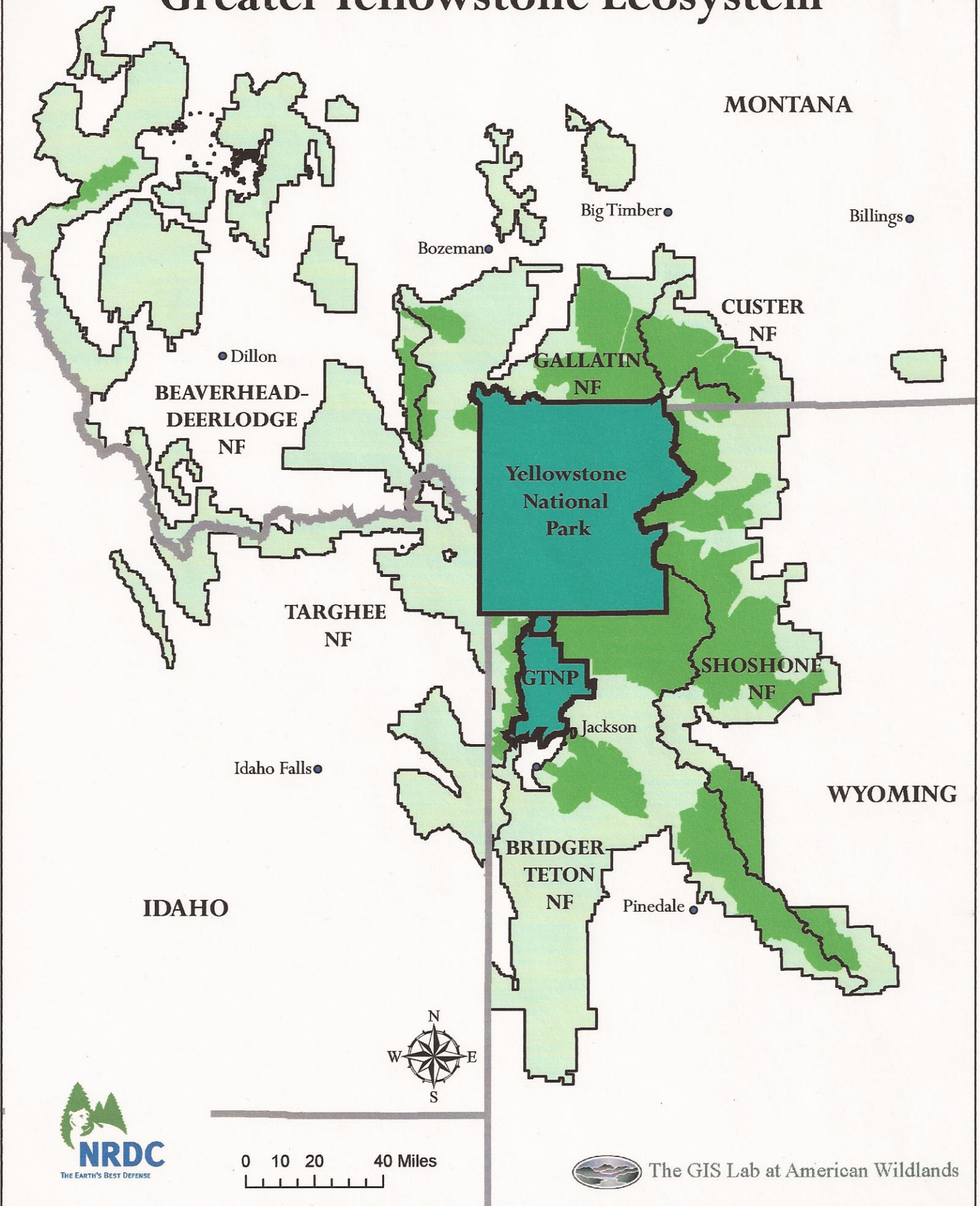


0 10 20 40 Miles

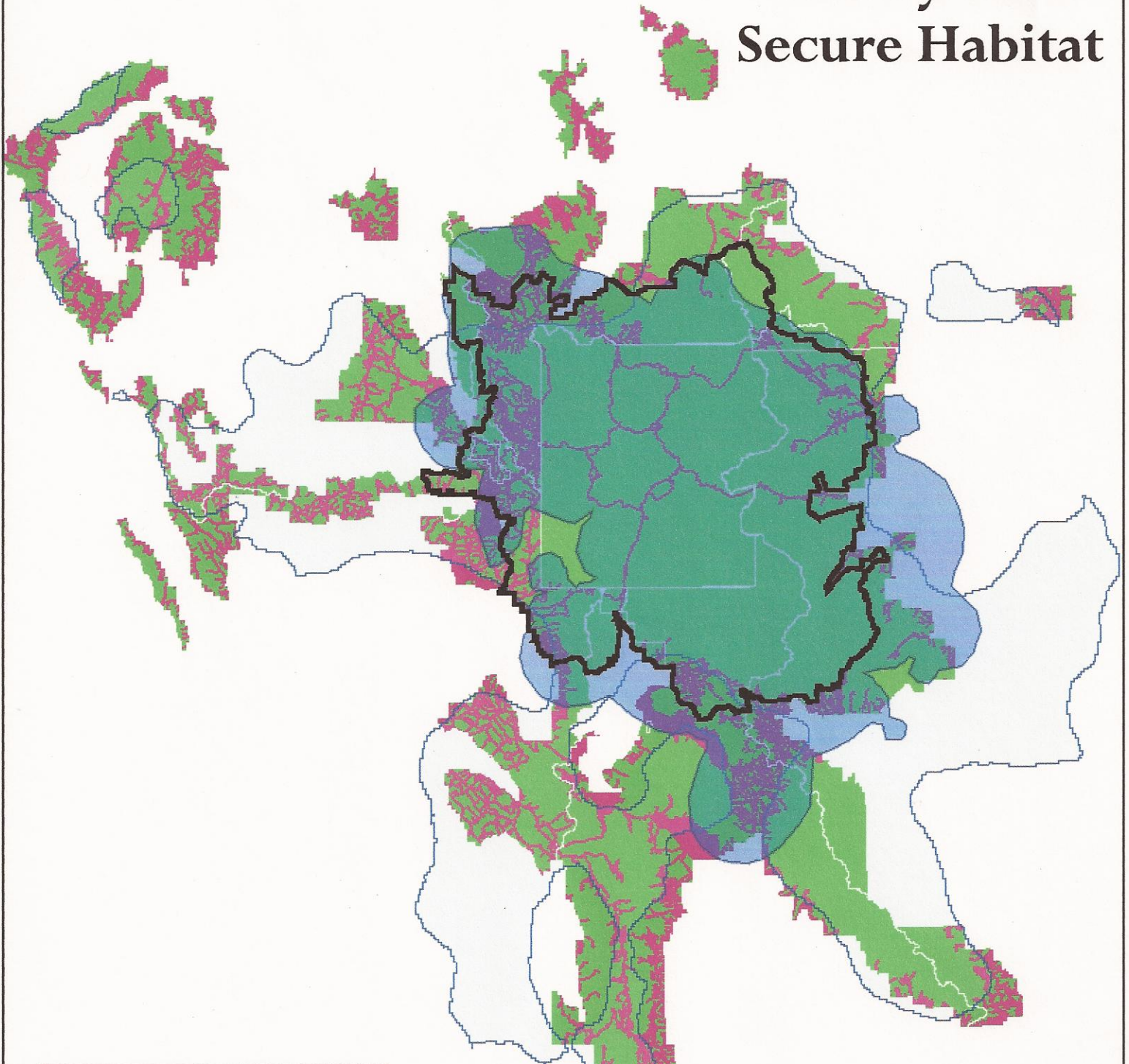


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# Greater Yellowstone Ecosystem



# Grizzly Bear Secure Habitat



Primary Conservation Area

Occupied Grizzly Habitat

Suitable Grizzly Habitat

**Grizzly Bear Secure Habitat**

Secure

Not Secure



0 10 20 40 Miles



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