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## Siskiyou Regional Education Project

5 Nov '93

Will Steir, Faceless Bureaucrat  
What else Office of Environ Policy

Yo, Will -

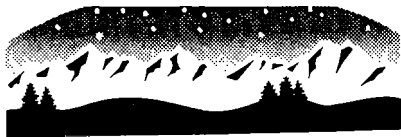
Thanks for the time a few weeks  
back when I was in town to talk  
to you about Siskiyou Roadless Areas.

So - you said "some poor bastard"  
would be the recipient of 600 Golds  
6,000 + Siskiyou form letters. I hear  
that it was "no poor bastard, it was  
you." Congratulations & thanks.

Enclosed - a more complete work-up on  
both Siskiyou & owl-region roadless  
areas & Option 9. 

P.O. Box 220, Cave Junction, Oregon 97523 • (503) 592-4459

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LITTLEFOOT  
Expeditions

X 503/482-8660

Dave Willis • Coordinator

15187 Greensprings Highway • Ashland, Oregon • 97520  
(503) 482-2307 • (503) 482-0526

Don't forget the "brodiversity  
bargain" as you revise (9) for  
Dwyer.

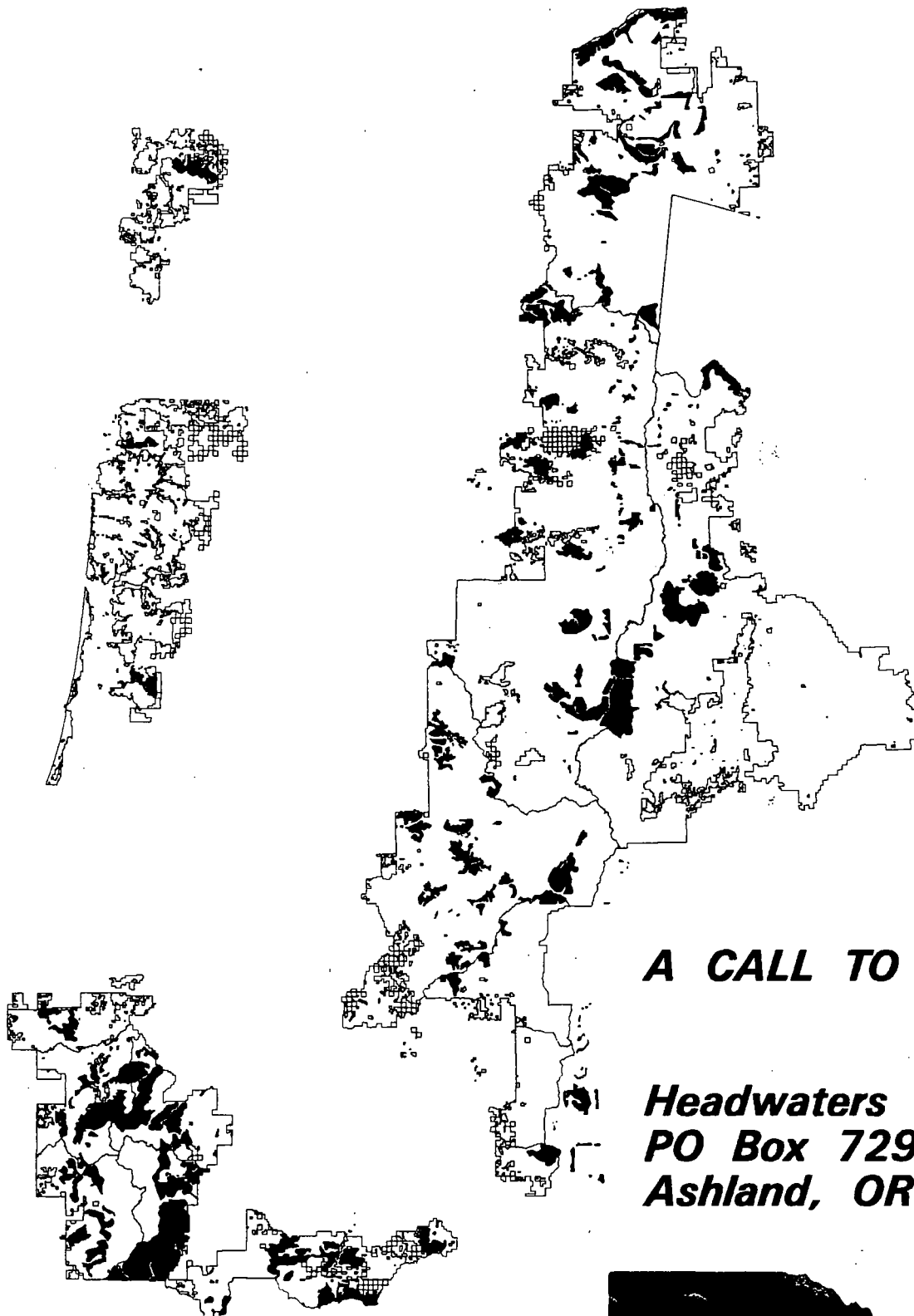
And don't forget your kid(s?), either.  
Too chicked -- but also too true --  
do you want only 65% viability  
ratings for fish for the next  
generation?

As a "faceless bureaucrat," there's  
a lot riding on the decisions of  
you & your comrades. No shit  
here Sherlock -- may God be with  
you and give you wisdom.

Dave Willis  
Amateur Vernacular Society  
"Stumps Don't Lie"

P.S. Join me on a Siskiyou trip sometime.

# ***PROTECTING ROADLESS AREAS IN CLINTON'S FOREST PLAN***



***A CALL TO ACTION***

***Headwaters  
PO Box 729  
Ashland, OR 97520***



**Headwaters**

## A Roadless Area Strategy - Table of Contents

1. What's the impact of Option 9 on Roadless Areas?
  - 1.4 million acres (43%) of the Roadless Areas are outside Late-Successional Reserves.
2. Each Roadless Area will be affected differently by logging under Option 9.
  - Only 23% of Roadless Areas outside of Option 9's Late-Successional Reserves are designated as "suitable" for commercial logging. (See table and piechart: Allocation of Roadless Areas Outside of Option 9's Late-Successional Reserves)
3. Roadless Areas are a "biodiversity bargain."
  - Only 23% of the Roadless Areas are commercially "suitable," compared to 43% in the roaded areas. (See Table 1 from Headwaters Press Release, October 19, 1993)
4. All the Roadless Areas can be protected at a relatively low cost to cut levels; the overall reduction in ASQ would be only 6% per year.
  - Table 19: Annual cut level costs of Roadless Area protection for each of 18 National Forests (from Johnson, et al., 1993).
5. Higher logging costs in Roadless Areas cost the Federal Treasury more dollars/board foot.
6. An undisclosed amount of Roadless Areas in the commercial forest "Matrix" are also in Key Watersheds.
7. Unprotected Roadless Areas, examples from S.W. Oregon.
8. Roadless Areas not inventoried in the RARE II process are also significant.
9. Changing Late-Successional Reserve Boundaries to Protect Roadless Areas in the Siskiyou NF.
  - There is a lower proportion of suitable timberlands in 4 Roadless Areas, compared to 2 proposed Late-Successional Reserves.
  - If necessary, Roadless Areas could be exchanged for already fragmented lands that are proposed as Late-Successional Reserves.
  - Map: Roadless Areas outside of Late-Successional Reserves that could be exchanged for equivalent mapped acres of already-roaded L-S Reserves. Over 31,000 roadless acres can be protected for the same cost in annual cut levels as 25,000 acres of already-roaded lands.
  - Six Suitability Analyses: (a) Lobster Cr. and Taylor Creek Late-Successional Reserves and (b) Upper Shasta Costa, West Indigo, Upper Silver and South Kalmiopsis Roadless Areas (see six tables)
10. Why is Roadless Area protection critical for the ecosystem?
11. Scientific and legal cites regarding Roadless Areas and wilderness
12. Table/Graph: Roadless Areas Impacted by Option 9 in 18 National Forests

MAP SECTION: Maps of Roadless Areas outside and inside of Option 9's Late-Successional Reserves for 18 national forests within the range of the northern spotted owl, presented in geographical order from north to south. (18 pages)

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*This booklet was designed and written by Robert Brothers, edited by Julie Norman, with tables and graphs by John Stahmer and Steve Beckwitt, and GIS maps by Pam Tenny.*

**COVER: Roadless Areas in Nat'l Forests in Western Oregon. Also see back cover.**

# Headwaters

*To protect and restore forest ecosystems*

November 15, 1993

Dear Decision-maker,

Headwaters is a forest advocacy group based in Southwest Oregon that has been intimately involved in federal forest planning processes since 1976, with particular focus on the Siskiyou National Forest, Rogue River National Forest and the Medford BLM. It is our hope that the new round of planning by the Clinton Administration will result in a dramatic turnaround of the Forest Service and BLM, and we would like to help the Administration work toward this goal.

The strengths and weaknesses of Option 9 in the President's Draft Forest Plan are being widely discussed, and we want to call your attention to one particular issue: the incomplete protection of Roadless Areas. In this booklet, we make the case for complete protection of all Roadless Areas as essential components of Late-Successional Reserves.

Due to the lower percentage of suitable timberland, higher road costs from steep terrain, lower productivity, and other factors, the Roadless Areas are a true "biodiversity bargain." Protecting all Roadless Areas would decrease the annual cut under Option 9 by only 6%, yet it would protect these pristine, unfragmented watersheds that are so crucial for rebuilding ecosystem health. Using GIS data, we have demonstrated how Roadless Areas could be exchanged (if necessary) for roaded lands proposed for Late-Successional Reserves. Large areas of ecologically significant roadless lands could be traded for fragmented lands with no net decline in annual cut levels. We have the GIS analysis capability to make these exchanges, as shown by the examples from the Siskiyou NF.

We look forward to working with you to improve the Reserve design. Please feel free to contact us for further information.

Best wishes,



Julie Norman, President

"It's going to be a major investment in resources to enter those roadless areas. They're going to have to have environmental impact statements, they're more expensive to log. We really do have to ask the question on each one, is it worth it?"

-- Professor K. Norman Johnson, Oregon State University, The Oregonian, October 20, 1993

## A Roadless Area Strategy

Roadless Areas are defined as places that are 5,000 acres or larger in size that have not been previously logged or roaded, and which are therefore eligible to be designated as Wilderness. They have long been recognized as the basic building blocks for reserve systems.

The following paper is written in the tradition of Aldo Leopold's exhortation to "keep all the pieces." This wisdom is echoed by two of our most eminent contemporary biologists, Paul Ehrlich and E.O. Wilson, who state that "The first step (to preserve biodiversity)... would be to cease 'developing' any more relatively undisturbed land."<sup>1</sup>

### I. What's the impact on Roadless Areas?

As much as 1.4 million acres<sup>2</sup> of Roadless Areas could be impacted by logging in the commercial forestlands outside of Option 9's Late-Successional Reserves. This is 43% of the 3.1 million total acres of unprotected wilderness currently remaining in the spotted owl region.

This fact was discovered through a GIS analysis of Forest Service data, performed at Headwaters' request by the Sierra Biodiversity Institute. The FEMAT team ignored this issue in its report, listing only those Roadless Areas acres that were open for cutting in the Matrix<sup>3</sup>, but failing to disclose the size of the larger Roadless Areas where the cutting units will be located.

### 2. Each Roadless Area will be affected differently by logging under Option 9.

Approximately 3/4 of the Roadless Area acres outside of Option 9's Late-Successional Reserves are already off-limits to timber sales because they are either "administratively withdrawn" or designated as "unsuitable" for logging by the Forest Plans.

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<sup>1</sup> Paul Ehrlich and E.O. Wilson, "Biodiversity Studies: Science and Policy," Science, vol. 253, August 16, 1991, p. 761.

<sup>2</sup> Sierra Biodiversity Institute, October 10, 1993 report to Headwaters.

<sup>3</sup> FEMAT report, Table V-9, p. V-53.

In many cases, the land open for cutting will be distributed throughout the Roadless Area, so that cutting even relatively few acres would destroy the integrity of the whole. This appears to be true for almost all of the Roadless Areas in southwest Oregon that Headwaters has examined.

In other cases, significantly large portions of Roadless Areas may exist where no cutting at all is allowed. For example, in the South Kalmiopsis Roadless Area in the Siskiyou National Forest, there are approximately 10,000 acres of "unsuitable" Jeffrey pine savannah without any inclusions of "suitable" lands open for logging. In contrast to the adjacent areas in Canyon Creek and Rough and Ready Creek where islands of "suitable" old-growth douglas-fir and sugar pine occur, this large section of the South Kalmiopsis would still retain its intact, wilderness character under Option 9.<sup>4</sup>

The following table and pie-chart list show how the Roadless Areas outside of L-S Reserves are composed of different land allocation classes.

**Table: Allocation of Roadless Areas outside of Option 9's Late-Successional Reserves**

|                                                                                                                          |   |                              |      |
|--------------------------------------------------------------------------------------------------------------------------|---|------------------------------|------|
| Total outside of Late-Successional Reserves                                                                              | = | 1,361,644 acres <sup>5</sup> | 100% |
| Administratively withdrawn <sup>6</sup> areas                                                                            | = | 676,321 acres <sup>7</sup>   | 50%  |
| Matrix and Adaptive Management Areas<br>(Includes suitable acres, unsuitable and nonforest acres, and Riparian Reserves) | = | 685,323 acres <sup>8</sup>   | 50%  |
| "Physically Suitable" timberlands                                                                                        | = | 454,955 acres <sup>9</sup>   |      |
| Suitable lands outside of Riparian Reserves                                                                              | = | 318,153 acres <sup>10</sup>  | 23%  |
| Suitable lands within Riparian Reserves                                                                                  | = | 136,802 acres <sup>11</sup>  | 10%  |
| "Physically Unsuitable" and nonforest lands                                                                              | = | 230,368 acres <sup>12</sup>  | 17%  |

The information in the preceding table shows that approximately three out of every four acres will be either administratively withdrawn, unsuitable for logging, nonforest land, or located

<sup>4</sup> Unsuitable or otherwise withdrawn lands may not always be as protected as it might seem. Loopholes exist in many Forest Plans that may allow logging under special circumstances. This portion of the South Kalmiopsis is both unsuitable and administratively withdrawn, yet the Forest Plan allows for an "experimental" logging program to take place (fortunately, no cuts have been planned thus far).

<sup>5</sup> Sierra Biodiversity Institute, October 10, 1993 report to Headwaters.

<sup>6</sup> These acres will be significantly less than shown here, because the FEMAT table from which they are drawn did not account for changes made in Option 9 that returned areas to the suitable timber base that were previously protected to benefit pine martens and pileated woodpeckers (personal communication from K. Norman Johnson, 10/20/93). Other administratively withdrawn designations for "backcountry recreation", "botanical areas", "unique interest areas", and "special wildlife sites", etc. remain in place.

<sup>7</sup> Total acres minus Matrix and AMA acres = administratively withdrawn acres

<sup>8</sup> FEMAT report, Table V-9, p. V-53.

<sup>9</sup> FEMAT report, Table V-9, p. V-53.

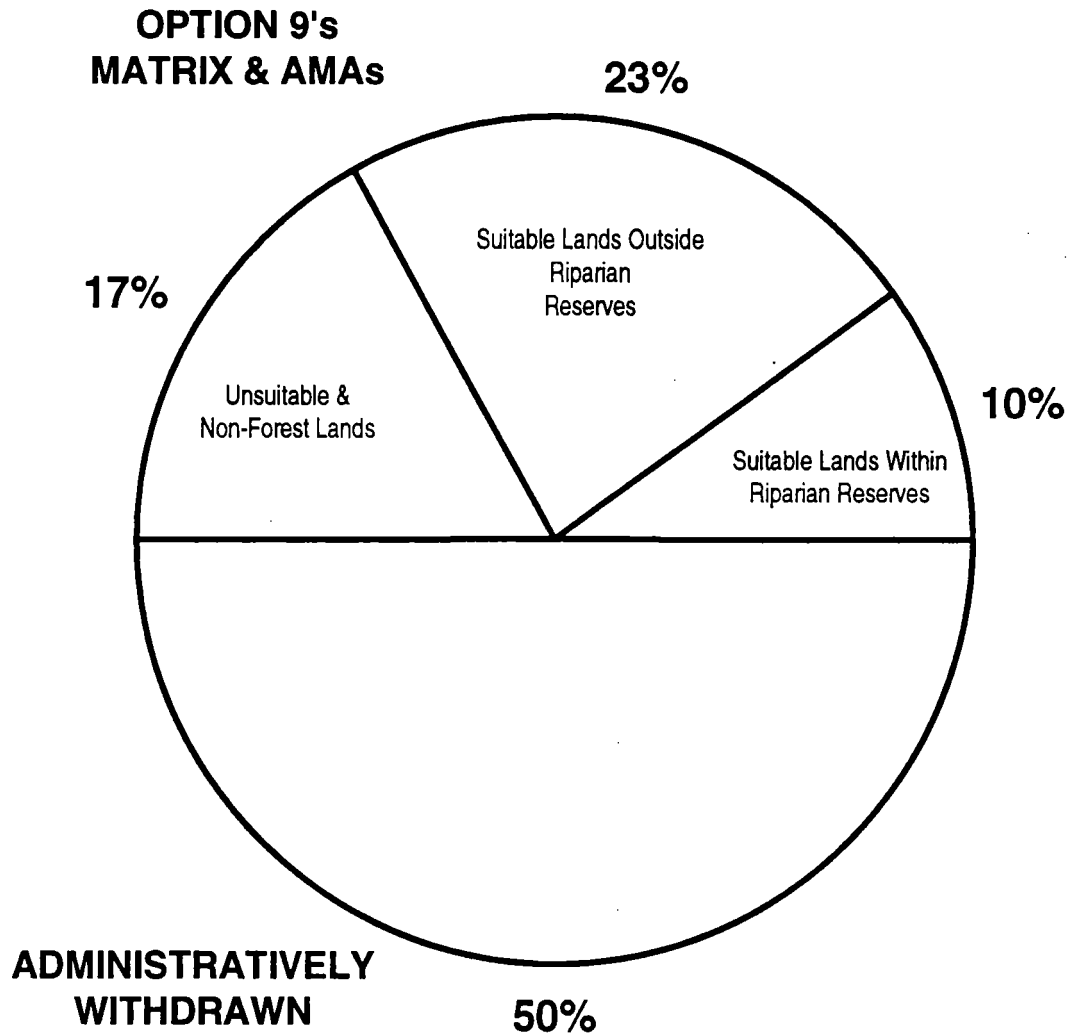
<sup>10</sup> Johnson, et al., 1993, "Sustainable Harvest and Short-Term Timber Sales," Table 19, p. 62.

<sup>11</sup> Total suitable minus suitable outside Riparian Reserves = suitable inside Riparian Reserves

<sup>12</sup> Matrix and AMA minus Suitable acres = Unsuitable plus nonforest acres



**ALLOCATION OF ROADLESS AREA ACRES  
OUTSIDE OF OPTION 9's  
LATE-SUCCESSIONAL RESERVES**



within a Riparian Reserve buffer along streams and creeks.<sup>13</sup> Only one out of four roadless acres will be open for logging. This may not seem like very much, but if one out of every four acres is cut, the remaining roadless forest will be severely fragmented. As an example of this, consider that the following portion of this page is only one-quarter covered with X's.

```

X  X  X  X  X  X  X  X  X  X  X  X  X  X  X  X  X  X  X  X  X  X
X  X  X  X  X  X  X  X  X  X  X  X  X  X  X  X  X  X  X  X  X  X
X  X  X  X  X  X  X  X  X  X  X  X  X  X  X  X  X  X  X  X  X  X

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### 3. Roadless Areas are a "biodiversity bargain."

The fact that a large number of roadless acres will be impacted by the logging of relatively few acres means that **very large, pristine areas can be protected at a relatively small cost to annual timber sale levels**. These inaccessible places haven't been roaded yet not only because they contain a high frequency of steep slopes where road-building is expensive, but also because they contain a lower amount of timber relative to other lands.

Only 23% of the acres within Roadless Areas are suitable for logging, compared to 43% for the already roaded parts of the National Forests.<sup>14</sup> Therefore, The proportion of suitable timberlands in Roadless Areas is **half** of what it is in the already roaded lands. That's why we say that protecting Roadless Areas is a "**biodiversity bargain**." (10/19 press release)

Across the spotted owl region:

318,153 acres are "suitable" for logging in Roadless Areas outside of L-S Reserves.  
1,043,491 acres are not available for logging in Roadless Areas outside of L-S Reserves.

Therefore, if the suitable acres are protected from logging by placing the Roadless Areas in Late-Successional Reserves, then the other acres with which they are intermingled get protected from the impacts of adjacent logging with no additional cost to the annual cut levels. *For every acre saved that reduces the annual cut levels, three more get saved for free.*

### 4. Roadless Areas can be protected at a relatively low cost to annual cut levels.

Protecting all 3 million acres of unprotected Roadless Areas would only lower Option 9's annual timber sale level by 6%, to approximately 1.1 billion board feet/year. This information

<sup>13</sup> The percent of the land base within Riparian Reserves is estimated in Table 7, p. 45 of Johnson, et al., 1993 for each National Forest. Roadless Area acres were reduced by this factor to arrive at Johnson et al.'s final estimates of suitable acres in Roadless Areas.

<sup>14</sup> See Table #1 from the October 19, 1993 press release on the following page.

## Headwaters Press Release, October 19, 1993

Table #1. The relative proportion of suitable timberlands outside of Option 9's Late-Successional Reserves in national forests within the range of the northern spotted owl:

### *Roadless Areas vs. roaded areas in the already managed landscape*

#### a. Roadless Areas = 23% suitable

Suitable timberland ..... = 318,153 acres<sup>1</sup>  
Total Roadless Areas outside of Late-Successional Reserves ..... = 1,361,644 acres<sup>2</sup>

Proportion of suitable acres =  $318,153 / 1,361,644$  ..... = 23%

#### b. Roaded areas = 43% suitable

Total suitable timberland ..... = 4,086,000 acres<sup>3</sup>  
minus suitable timberland in Roaded Areas ..... - 318,153 acres<sup>4</sup>

-----  
Total suitable timberland in roaded areas ..... = 3,767,847 acres

#### Total roaded areas outside of Late-Successional Reserves

= Administratively Withdrawn Areas ..... 1,652,900 acres<sup>5</sup>  
+ Riparian Reserve Areas: ..... 2,231,300 acres  
+ Adaptive Management Areas ..... 1,487,700 acres  
+ Matrix Areas ..... 4,853,300 acres

-----  
- Total Roadless Areas outside of Late-Successional Reserves

= 10,225,200 acres - 1,361,644 acres<sup>6</sup>

= 8,863,556 acres

Proportion of suitable acres =  $3,767,847 / 8,863,556$  = 43%

<sup>1</sup> Johnson, et al., 1993, "Sustainable Harvest Levels and Short Term Timber Sales....", Table 19, p. 62.

<sup>2</sup> Sierra Biodiversity Institute, October 10, 1993 report to Headwaters.

<sup>3</sup> Johnson, et al., 1993, Table 16, p. 54.

<sup>4</sup> Johnson, et al., Table 19, p. 62.

<sup>5</sup> FEMAT report, Table III-5, p. III-44. This Table is also the source for acres in Riparian Reserves, Adaptive Management Areas, and the Matrix.

<sup>6</sup> Sierra Biodiversity Institute, October 10, 1993 report to Headwaters.

was recently released in a report prepared by Professor K. Norman Johnson of Oregon State University, and others, as documentation for the FEMAT report.<sup>15</sup>

The effects for each National Forest of full Roadless Area protection were calculated by Johnson, et al., and a copy of this information is included on the next page.<sup>16</sup>

**-- Roadless Areas have less "timber productivity":**

Roadless Areas may contribute even less to the annual cut levels than estimated by Johnson, et al., because they are often relatively less "productive", in terms of current timber volume and growth rates, than other areas of the National Forests. Roadless Areas frequently contain many steep lands with poor soils, so the volume per acre in the "suitable" base would be less than average. The significant amount of "unstable land" is acknowledged on p. V-51 of the FEMAT report.

The following data demonstrate the reduced productivity of Roadless Areas: the Roadless Areas comprise 8% (318,153<sup>17</sup>/4,092,000<sup>18</sup>) of the land suitable for timber production in Option 9, but contribute only 6% to the annual cut level under Option 9 [69.242 mmbf<sup>19</sup>/ 1,150 mmbf<sup>20</sup> = 6.02%]. If the Roadless Areas were as productive as other lands, then their contribution to the annual cut would be the same proportion as their acreage.

**5. Higher logging costs in Roadless Areas cost the Federal Treasury more dollars/board foot.**

Two factors increase logging costs in Roadless Areas:

- a. Steep ground increases both road-building costs and logging costs for skyline equipment; if helicopters are used, logging costs increase further.
- b. The overall percentage of suitable land within Roadless Areas as a whole (23%) is much lower than the percentage generally found in the more gently-sloping, already-roaded areas of federal lands (43%). Therefore, more road miles will need to be constructed in order to cut the same amount of board feet.

<sup>15</sup> Johnson, et al., 1993, "Sustainable Harvest Levels and Short Term Timber Sales."

69.242 mmbf (the total amount from Roadless Areas, Table 19, p. 62) divided by 1,155 mmbf (the total annual cut from the region as a whole, p. 12) = 0.059 = 6%

1,155 mmbf - 69.242 mmbf = 1,085.758 mmbf = approximately 1.1 bbf

<sup>16</sup> This table does not reflect increases in suitable lands that result from Option 9's removal of protection for areas previously administratively withdrawn for pine marten and pileated woodpeckers. (See footnote #5 above.) Therefore, the cost of protecting some Roadless Areas may be slightly increased from what is shown in this table.

<sup>17</sup> Johnson, et al., 1993, "Sustainable Harvest Levels and Short-Term Timber Sales for Options considered in the Report of the Forest Ecosystem Management Assessment Team: Methods, Results, and Interpretations," Table 19, p. 62. (Further references to this document will simply list page and/or Table numbers.)

<sup>18</sup> Table 11, p. 49.

<sup>19</sup> Table 19, p. 62

<sup>20</sup> p. 12.

**Table 19.** Probable sale quantity (PSQ) for roadless areas in Option 9.

| Administrative Unit                             | Total Roadless Area Acres | Suitable* for Timber Production Acres | MMBF/ Suitable Acre | MMBF/ Yr. *   |
|-------------------------------------------------|---------------------------|---------------------------------------|---------------------|---------------|
| <b>National Forests - Region 6 - Oregon</b>     |                           |                                       |                     |               |
| DES                                             | 99,570                    | 15,407                                | 0.095               | 1,456         |
| MTH                                             | 135,676                   | 10,302                                | 0.338               | 3,485         |
| ROR                                             | 74,097                    | 10,302                                | 0.222               | 2,288         |
| SIS                                             | 279,652                   | 20,339                                | 0.256               | 5,199         |
| SIU                                             | 25,491                    | 5,250                                 | 0.858               | 4,504         |
| UMP                                             | 97,268                    | 13,997                                | 0.359               | 5,026         |
| WIL                                             | 143,334                   | 14,834                                | 0.371               | 5,498         |
| WIN                                             | 20,891                    | 1,987                                 | 0.386               | 766           |
| <b>NF - Oregon Total</b>                        | <b>875,979</b>            | <b>92,417</b>                         |                     | <b>28,222</b> |
| <b>National Forests - Region 6 - Washington</b> |                           |                                       |                     |               |
| GIP                                             | 209,907                   | 47,873                                | 0.284               | 13,610        |
| MBS                                             | 384,533                   | 16,501                                | 0.210               | 3,465         |
| OKA                                             | 271,341                   | 7,665                                 | 0.079               | 603           |
| OLY                                             | 92,084                    | 5,839                                 | 0.202               | 1,177         |
| WEN                                             | 530,255                   | 61,921                                | 0.122               | 7,554         |
| <b>NF - Washington Total</b>                    | <b>1,488,120</b>          | <b>139,799</b>                        |                     | <b>26,409</b> |
| <b>NF - Region 6 Total</b>                      | <b>2,364,099</b>          | <b>232,216</b>                        |                     | <b>54,631</b> |
| <b>National Forests - Region 5 - California</b> |                           |                                       |                     |               |
| KLA                                             | 253,900                   | 41,157                                | 0.186               | 7,658         |
| MEN                                             | 44,268                    | 1,052                                 | 0.194               | 204           |
| SXR                                             | 194,235                   | 18,650                                | 0.133               | 2,487         |
| SHA/TRN                                         | 162,533                   | 25,078                                | 0.170               | 4,262         |
| <b>NF - Region 5 Total</b>                      | <b>654,936</b>            | <b>85,938</b>                         |                     | <b>14,611</b> |
| <b>Total</b>                                    | <b>3,019,035</b>          | <b>318,153</b>                        |                     | <b>69,242</b> |

\* Timber suitable acres shown here are less than timber suitable acres shown in the FEMAT Report, Table V-9, due to removal of riparian reserves.

Note: Bureau of Land Management administered lands contain no roadless areas. Roadless areas are not included on the Shasta portion of the Shasta-Trinity National Forest.

Source: Johnson et al., 1993. Note: These statistics are slightly different from those in Table 14.

\* Erratum: The figures in the "MMBF/yr." column should have decimal points instead of commas. For example, 1,456 should read 1.456.

## **6. An Undisclosed Amount of Roadless Areas that are in the Matrix are also Located Within Key Watersheds in Option 9.**

Placing all Roadless Areas off-limits within Reserves would eliminate the need for the many costly "Watershed Analyses" that are required for Key Watersheds in general, and for Roadless Areas in particular. [Note that Watershed Analyses are required for Roadless Areas in "non-Key Watersheds" as well.<sup>21</sup>]

Many fisheries biologists agree that any adequate analysis of a roadless watershed would prohibit logging, with or without additional road-building. Putting all Roadless Areas off-limits to logging is a good way to save taxpayers money for costly analysis time (and equally costly court costs if the analysis is done poorly).

The FEMAT report provides acreages for Roadless Areas inside and outside of Key Watersheds for each National Forest,<sup>22</sup> but does not disclose how many of these roadless acres are protected within Late-Successional Reserves or are open for logging in the commercial forest "Matrix". Headwaters hopes to complete this analysis soon, with the assistance of the Sierra Biodiversity Institute.

## **7. Unprotected Roadless Areas under Option 9, examples from southwest Oregon:**

Significant portions of the following Roadless Areas designated by the Forest Plans and the RARE II process are located outside of Late-Successional Reserves.

### **Siskiyou National Forest:**

6171 Copper Mountain  
6173 Rogue  
6174 Potato Mountain  
6175 Shasta Costa  
6176 North Kalmiopsis  
6178 Briggs  
6179 Squaw Mountain  
6180 Windy Valley  
6183 Kalmiopsis Addition  
6709 South Kalmiopsis.

### **Rogue River National Forest**

6136 Sherwood  
6146 McDonald Peak  
6148 Little Grayback  
6148 Kinney  
6703 Kangaroo  
6704 Condrey Mountain

### **Medford District, BLM**

- The Zane Grey Roadless Area upslope from the Wild and Scenic Rogue River
- The Soda Mountain Wilderness Additions, including the Bruce Bocard Unit
- The Dakubetede Wilderness Recovery Area

<sup>21</sup> FEMAT report, p. V-51.

<sup>22</sup> FEMAT report, Table V-8, p. V-52.

**8. Roadless Areas not inventoried in the RARE II process are also significant.**

"Uninventoried" Roadless Areas should also receive protection within Late-Successional Reserves.

The RARE II process missed certain Roadless Areas that are adjacent to Wilderness Areas or National Parks. Several of these smaller, "uninventoried" Roadless Areas exist downslope from the border of Crater Lake National Park in the Rogue River National Forest. These smaller areas are very significant because they are in fact part of a larger wilderness or park area that should not be diminished in size or impacted by adjacent logging. The following timber sales in the Rogue River National Forest (and others like them) contain units that should be dropped because they are all or in part located within these uninventoried Roadless Areas: Ace, Butch, Head, Varmit, Elsie, Mickey, Ryeleven, Minnebell, Reed.<sup>23</sup>

Uninventoried Roadless Areas were also discovered through the preliminary planning for the Lawson Timber Sale analysis in the Siskiyou NF.

*[roadless\rdlstrat.112]*

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<sup>23</sup> The first four timber sales on this list are subject of a lawsuit brought by ONRC and others, in a case that was recently remanded to the Federal District Court in Oregon after the 9th Circuit Court affirmed the significance of logging in uninventoried Roadless Areas.

## IMPROVING OPTION 9'S RESERVE SYSTEM

Preliminary Analysis:

October 11, 1993

### **Changing Late-Successional Reserve Boundaries to Protect Roadless Areas In the Siskiyou National Forest**

Many observers have noted that Roadless Areas<sup>1</sup> often contain relatively fewer acres "suitable"<sup>2</sup> for timber extraction than do the already-roaded portions of National Forests, and the term "biodiversity bargain"<sup>3</sup> has been used to emphasize this fact.

The high values that Roadless Areas have for maintaining species and habitat diversity have been described by many conservation biologists.<sup>4</sup> This paper will take a look at the other side of the equation: the relatively lower economic cost of protecting these irreplaceable places. *Completely protecting four of the most significant Roadless Areas in the Siskiyou National Forest would reduce the annual cut by less than 10%.*

#### **Acres of Suitable Timberlands: A Comparison between Roadless Areas and Roaded Areas in the Siskiyou National Forest**

Three portions of Roadless Areas not protected within Late-Successional Reserves were selected for this analysis: Upper Shasta Costa, and the West Indigo and Upper Silver portions of the North Kalmiopsis Roadless Area.<sup>5</sup> A map of these areas and the roaded areas discussed below is included with this report.

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<sup>1</sup> The term "Roadless Areas" refers to areas (generally 5,000 acres in size, or larger) that were designated by the Forest Service during the RARE II process in 1979. Descriptions of these places eligible for Wilderness designation can be found in Appendix C of the current Forest Plans. Smaller "uninventoried" Roadless Areas not described by the Forest Plans also exist adjacent to existing Wilderness, Roadless Areas, or National Parks.

<sup>2</sup> "Suitable timberlands" are parts of forest ecosystems that are described in terms of their "suitability" for "timber production" by the Forest Plans. Otherwise vital components of the forest ecosystem are designated as "unsuitable" for timber production due to (a) potential reforestation problems (TMR), (b) unstable (landslide-prone) slopes (TML), and (c) slow rates of tree growth (SSC).

<sup>3</sup> Kelpie Wilson, Siskiyou Regional Education Project, 1992.

<sup>4</sup> See, for example, Reed Noss, 1983, "A Regional Landscape Approach to Maintain Diversity," *BioScience* 33: 700-706.

<sup>5</sup> Other lands between the West Indigo and Upper Silver portions of the North Kalmiopsis Roadless Area have been deleted from formal "Roadless Area" status by the Forest Service because of salvage logging after the Silver Fire. This deletion may not have been appropriate. These lands should definitely be included within Late-Successional Reserves, but the effects of this inclusion are not analyzed here.



For comparison, already roaded Late-Successional Reserve Areas in the Taylor Creek and Lobster Creek watersheds were selected. These areas are easily definable for GIS (geographical information system) analysis, and also are highly fragmented, with many existing clearcuts and few large stands of mature or old-growth forest. If, for political reasons, the timber volume available under President Clinton's Forest Plan cannot be reduced, then these areas appear to be examples of the kind of already-roaded and fragmented places that could be removed from the Late-Successional Reserve system in order to make room for Roadless Areas of greater ecological significance.

The following table<sup>6</sup> shows the amount and relative percent of suitable timberland within these areas. The "Total Acres" column includes suitable timber land, unsuitable timberland, and areas designated as "administratively withdrawn" by the Forest Plan.<sup>7</sup>

|                                       | <u>Suitable Acres</u>            |                           |                        |
|---------------------------------------|----------------------------------|---------------------------|------------------------|
|                                       | <u>Mature and<br/>Old-Growth</u> | <u>Total<br/>Suitable</u> | <u>Total<br/>Acres</u> |
| Roadless Areas:                       |                                  |                           |                        |
| Outside of Late-Successional Reserves |                                  |                           |                        |
| Upper Shasta Costa                    | 2,807                            | 5,456                     | 10,125                 |
| West Indigo                           | 3,006                            | 6,961                     | 11,234                 |
| Upper Silver                          | 2,610                            | 6,644                     | 10,164                 |
| -----                                 |                                  |                           |                        |
| Totals                                | 8,423 (27%)                      | 19,061 (60%)              | 31,523 (100%)          |
| Roaded Areas:                         |                                  |                           |                        |
| Inside of Late-Successional Reserves  |                                  |                           |                        |
| Lobster Creek                         | 5,891                            | 13,917                    | 16,567                 |
| Taylor Creek                          | 3,045                            | 6,366                     | 8,782                  |
| -----                                 |                                  |                           |                        |
| Totals                                | 8,936 (35%)                      | 20,283 (80%)              | 25,349 (100%)          |

<sup>6</sup> The information in this table was derived via GIS computer analysis by Steve Beckwitt of the Sierra Biodiversity Institute, at the request of Headwaters. More complete summaries of the data are attached. Source data were obtained from the Siskiyou National Forest and the Regional Office of the Forest Service in Portland.

<sup>7</sup> Areas that the Forest Plan designated as "administratively withdrawn" for the protection of the northern spotted owl, pileated woodpecker, and pine marten have been returned to the suitable timberland base by Option 9 (FEMAT report, p. III-23), and these changes are reflected in this table.

# Unprotected Roadless Areas in the Siskiyou NF

Late Successional

RESERVE (VERTICAL STRIPES)

Siskiyou NF Boundaries

UNPROTECTED  
Roadless Areas

(HORIZ.  
STRIPES)

LOBSTER CR.  
L-S RESERVE

UPPER SHASTA COSTA  
UNPROTECTED ROADLESS AREA

W. INDIGO UNPROTECTED RDLs.

UPPER SILVER CR.  
UNPROTECTED ROADLESS

TAYLOR CR.  
L-S RESERVE

SOUTH  
KALMIOPSIS  
UNPROTECTED  
ROADLESS  
AREA

NOTE: ROADLESS AREAS PROTECTED  
BY OPTION 9 L-S RESERVES  
ARE SHOWN IN DARK GRAY.

## Summary

This table shows that these Roadless Areas contain a relatively lower proportion of mature/old-growth and total suitable forest than do the roaded areas.

The Roadless Areas are almost equivalent with the roaded areas in terms of suitable mature and old-growth forest and total suitable acres, but they contain over 6,000 more acres of other lands.

These Roadless Areas could be exchanged for these roaded areas, and protected within the Late-Successional Reserve system, with little or no cost in suitable timber volume or lowering in the annual "Probable Sale Quantity" (PSQ).<sup>8</sup>

If the volume of suitable timber per acre in these Roadless Areas is equivalent to the forest-wide average<sup>9</sup>, then protecting them would lower the annual PSQ from the Siskiyou NF by 2.25 mmbf (from 27 to 24.75 mmbf/year).<sup>10</sup> If the roaded areas in Lobster Creek and Taylor Creek were removed from the Late-Successional Reserves as compensation, then the PSQ reduction would be 0.14 mmbf/year.

The protection of 24% more acres that are composed of ecologically intact Roadless Areas rather than heavily impacted roaded lands is a good example of a "biodiversity bargain."

### The South Kalmiopsis Roadless Area: The Best Single Biodiversity Bargain.

Only 2,767 (6%) of the 48,872 acres of the South Kalmiopsis Roadless Area located outside of Late Successional Reserves are rated as suitable for timber production. This is 1/10th of the suitability ratio for the other Roadless Areas analysed in this report. When

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<sup>8</sup> Estimating the effects of riparian reserves on PSQ calculations: the figures in the table above do not account for the acres of Riparian Reserves that will be established along all fish-bearing, perennial, and intermittent streams under Option 9. These Reserves have not yet been mapped. Based on measurements of stream density and miles of streams in the Siskiyou NF, it is estimated that 54% of the landscape in the Siskiyou will be protected by Riparian Reserves. (See Johnson, et al., "Sustainable Timber Harvest Levels and Short-Term Timber Sales," Interagency EIS Team, September, 1993, Table 7, p. 45.) Therefore, the acreages of suitable timberlands used by this report to estimate Probable Sale Quantity (PSQ) were reduced by 54% to approximate the effects of Riparian Reserves.

<sup>9</sup> Timber volume per acre varies greatly across the forest, and the steep, inaccessible lands in Roadless Areas often contain a relatively greater proportion of lower site class lands where the volume per acre is lower than average. Headwaters is working with the Steve Beckwitt to obtain an analysis of the timber volume per acre in these Roadless and roaded areas.

<sup>10</sup> The "suitable mmbf/acre" factor of 0.256 that was used in this calculation was taken from Johnson, et al.,

the Riparian Reserve factor of 0.46<sup>11</sup> is applied to these acres, the total amount of suitable timber lands is only 1,273 acres, and the PSQ cost of protecting these acres is 0.326 mmbf/year.

Most of the current suitable acres are found within the Canyon timber sale area in the north part of the Roadless Area, and in the headwaters of Rough and Ready Creek near Buckskin Peak along the southwestern edge of the Roadless Area. Part of the Buckskin Peak area was designated by the Forest Plan as a Spotted Owl Habitat Area, but would now be considered for logging in the Matrix under Option 9.

The per acre volume of 17.7 mbf/acre for the Roadless Area as a whole<sup>12</sup> is 1/3 less than the forest average, so the cost of protection will be relatively less than elsewhere. Additional GIS analysis will be used to more accurately determine the cost in PSQ of protecting the South Kalmiopsis.

All of the Douglas-fir forests in the South Kalmiopsis are especially valuable because they occur in islands of habitat surrounded by a very different ecosystem dominated by Jeffrey pine on serpentine soils. The interaction of these two different ecosystems provides opportunities for unique species interactions.

### Conclusion:

Upper Shasta Costa, West Indigo, Upper Silver, and the South Kalmiopsis are portions of Roadless Areas in the Siskiyou NF that are not included within Option 9's Late-Successional Reserves.

The total PSQ cost of including these Roadless Areas in Late-Successional Reserves is only 2.576 mmbf/year, or less than 1/10th of the annual estimated PSQ for the Siskiyou NF as a whole<sup>13</sup>.

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<sup>11</sup> See footnote 8.

<sup>12</sup> Siskiyou NF Final Forest Plan, Appendix C, p. C-269.

<sup>13</sup> The PSQ for the Siskiyou NF as a whole is estimated at 27 mmbf/year by Johnson, et al., Table 12, p. 50.

# Lobster and Taylor Creek Late Successional Reserves

## Suitable Lands Analysis

| The Lobster Creek Late-Successional Reserve |                                     |                                                                   |                                             |                                          |                                       |                                    |                                             |                   |
|---------------------------------------------|-------------------------------------|-------------------------------------------------------------------|---------------------------------------------|------------------------------------------|---------------------------------------|------------------------------------|---------------------------------------------|-------------------|
|                                             | Suitable Lands<br>Mature<br>(acres) | Suitable Lands<br>Immature Poles<br>Excessive Stocking<br>(acres) | Suitable Lands<br>Immature Poles<br>(acres) | Suitable Lands<br>Other Types<br>(acres) | Total<br>Suitable<br>Lands<br>(acres) | Percent<br>Suitable<br>(all lands) | Unsuitable<br>Lands<br>All Types<br>(acres) | Totals<br>(acres) |
| Administratively<br>Withdrawn Acres         | 1,265                               | 79                                                                | 237                                         | 633                                      | 2,214                                 | 13%                                | 357                                         | 2,571             |
| Other acres                                 | 5,891                               | 198                                                               | 1,621                                       | 6,207                                    | 13,917                                | 84%                                | 79                                          | 13,996            |
| Totals                                      | 7,156                               | 277                                                               | 1,858                                       | 6,840                                    | 16,131                                | 97%                                | 436                                         | 16,567            |
| The Taylor Creek Late-Successional Reserve  |                                     |                                                                   |                                             |                                          |                                       |                                    |                                             |                   |
|                                             | Suitable Lands<br>Mature<br>(acres) | Suitable Lands<br>Immature Poles<br>Excessive Stocking<br>(acres) | Suitable Lands<br>Immature Poles<br>(acres) | Suitable Lands<br>Other Types<br>(acres) | Total<br>Suitable<br>Lands<br>(acres) | Percent<br>Suitable<br>(all lands) | Unsuitable<br>Lands<br>All Types<br>(acres) | Totals<br>(acres) |
| Administratively<br>Withdrawn Acres         | 554                                 | 0                                                                 | 119                                         | 357                                      | 1,030                                 | 12%                                | 199                                         | 1,229             |
| Other acres                                 | 3,045                               | 0                                                                 | 909                                         | 2,412                                    | 6,366                                 | 72%                                | 1,187                                       | 7,553             |
| Totals                                      | 3,599                               | 0                                                                 | 1,028                                       | 2,769                                    | 7,396                                 | 84%                                | 1,386                                       | 8,782             |

# Upper Silver Roadless Area

## Analysis of Lands Outside Late-Successional Reserves

| Upper Silver Roadless Area Outside of Late-Successional Reserves |                                     |                                                                   |                                             |                                          |                                       |                                    |                                             |                   |
|------------------------------------------------------------------|-------------------------------------|-------------------------------------------------------------------|---------------------------------------------|------------------------------------------|---------------------------------------|------------------------------------|---------------------------------------------|-------------------|
|                                                                  | Suitable Lands<br>Mature<br>(acres) | Suitable Lands<br>Immature Poles<br>Excessive Stocking<br>(acres) | Suitable Lands<br>Immature Poles<br>(acres) | Suitable Lands<br>Other Types<br>(acres) | Total<br>Suitable<br>Lands<br>(acres) | Percent<br>Suitable<br>(all lands) | Unsuitable<br>Lands<br>All Types<br>(acres) | Totals<br>(acres) |
| Administratively<br>Withdrawn                                    | 1,344                               | 40                                                                | 396                                         | 594                                      | 2,374                                 | 14%                                | 3,994                                       | 6,368             |
| Matrix:                                                          |                                     |                                                                   |                                             |                                          |                                       |                                    |                                             |                   |
| Full Yield                                                       | 2,610                               | 0                                                                 | 1,226                                       | 2,491                                    | 6,327                                 | 38%                                | 3,322                                       | 9,649             |
| Partial Yield                                                    | 0                                   | 0                                                                 | 0                                           | 317                                      | 317                                   | 2%                                 | 198                                         | 515               |
| Subtotals                                                        | 2,610                               | 0                                                                 | 1,226                                       | 2,808                                    | 6,644                                 | 40%                                | 3,520                                       | 10,164            |
| Totals                                                           | 3,954                               | 40                                                                | 1,622                                       | 3,402                                    | 9,018                                 | 55%                                | 7,514                                       | 16,532            |

*This is the key percentage to compare between roadless and roaded lands.*

# West Indigo Roadless Area

## Analysis of Lands Outside Late-Successional Reserves

| West Indigo Roadless Area Outside of Late-Successional Reserves |                                     |                                                                   |                                             |                                          |                                       |                                    |                                             |                   |
|-----------------------------------------------------------------|-------------------------------------|-------------------------------------------------------------------|---------------------------------------------|------------------------------------------|---------------------------------------|------------------------------------|---------------------------------------------|-------------------|
|                                                                 | Suitable Lands<br>Mature<br>(acres) | Suitable Lands<br>Immature Poles<br>Excessive Stocking<br>(acres) | Suitable Lands<br>Immature Poles<br>(acres) | Suitable Lands<br>Other Types<br>(acres) | Total<br>Suitable<br>Lands<br>(acres) | Percent<br>Suitable<br>(all lands) | Unsuitable<br>Lands<br>All Types<br>(acres) | Totals<br>(acres) |
| Administratively<br>Withdrawn                                   | 792                                 | 0                                                                 | 0                                           | 475                                      | 1,267                                 | 11%                                | 1,029                                       | 2,296             |
| Matrix:                                                         |                                     |                                                                   |                                             |                                          |                                       |                                    |                                             |                   |
| Full Yield                                                      | 2,571                               | 0                                                                 | 1,068                                       | 2,214                                    | 5,853                                 | 52%                                | 1,661                                       | 7,514             |
| Partial Yield                                                   | 435                                 | 198                                                               | 435                                         | 40                                       | 1,108                                 | 10%                                | 316                                         | 1,424             |
| Subtotals                                                       | 3,006                               | 198                                                               | 1,503                                       | 2,254                                    | 6,961                                 | 62%                                | 1,977                                       | 8,938             |
| Totals                                                          | 3,798                               | 198                                                               | 1,503                                       | 2,729                                    | 8,228                                 | 73%                                | 3,006                                       | 11,234            |

# Shasta Costa Roadless Area

## Analysis of Lands Outside Late-Successional Reserves

| Shasta Costa Roadless Area Outside of Late-Successional Reserves |                                     |                                                                   |                                             |                                          |                                       |                                    |                                             |                   |
|------------------------------------------------------------------|-------------------------------------|-------------------------------------------------------------------|---------------------------------------------|------------------------------------------|---------------------------------------|------------------------------------|---------------------------------------------|-------------------|
|                                                                  | Suitable Lands<br>Mature<br>(acres) | Suitable Lands<br>Immature Poles<br>Excessive Stocking<br>(acres) | Suitable Lands<br>Immature Poles<br>(acres) | Suitable Lands<br>Other Types<br>(acres) | Total<br>Suitable<br>Lands<br>(acres) | Percent<br>Suitable<br>(all lands) | Unsuitable<br>Lands<br>All Types<br>(acres) | Totals<br>(acres) |
| Administratively<br>Withdrawn                                    | 1,028                               | 80                                                                | 395                                         | 0                                        | 1,503                                 | 15%                                | 2,137                                       | 3,640             |
| Matrix:                                                          |                                     |                                                                   |                                             |                                          |                                       |                                    |                                             |                   |
| Full Yield                                                       | 79                                  | 0                                                                 | 0                                           | 79                                       | 158                                   | 2%                                 | 40                                          | 198               |
| Partial Yield                                                    | 2,728                               | 395                                                               | 1,187                                       | 988                                      | 5,298                                 | 52%                                | 989                                         | 6,287             |
| Subtotals                                                        | 2,807                               | 395                                                               | 1,187                                       | 1,067                                    | 5,456                                 | 54%                                | 1,029                                       | 6,485             |
| Totals                                                           | 3,835                               | 475                                                               | 1,582                                       | 1,067                                    | 6,959                                 | 69%                                | 3,166                                       | 10,125            |



*South*      **Kalmiopsis Roadless Area**  
**Analysis of Lands Outside Late Successional Reserves**

| South Kalmiopsis Roadless Area Outside of Late-Successional Reserves |                                     |                                                                   |                                             |                                          |                                       |                                    |                                             |                   |
|----------------------------------------------------------------------|-------------------------------------|-------------------------------------------------------------------|---------------------------------------------|------------------------------------------|---------------------------------------|------------------------------------|---------------------------------------------|-------------------|
|                                                                      | Suitable Lands<br>Mature<br>(acres) | Suitable Lands<br>Immature Poles<br>Excessive Stocking<br>(acres) | Suitable Lands<br>Immature Poles<br>(acres) | Suitable Lands<br>Other Types<br>(acres) | Total<br>Suitable<br>Lands<br>(acres) | Percent<br>Suitable<br>(all lands) | Unsuitable<br>Lands<br>All Types<br>(acres) | Totals<br>(acres) |
| Administratively<br>Withdrawn                                        | 237                                 | 0                                                                 | 0                                           | 0                                        | 237                                   | < 1 %                              | 33,610                                      | 33,847            |
| Matrix:                                                              |                                     |                                                                   |                                             |                                          |                                       |                                    |                                             |                   |
| Full Yield                                                           | 1,858                               | 0                                                                 | 395                                         | 198                                      | 2,451                                 | 5%                                 | 5,694                                       | 40                |
| Partial Yield                                                        | 316                                 | 0                                                                 | 0                                           | 0                                        | 316                                   | 1%                                 | 6,564                                       | 6,880             |
| Subtotals                                                            | 2,174                               | 0                                                                 | 395                                         | 198                                      | 2,767                                 | 6%                                 | 12,258                                      | 15,025            |
| Totals                                                               | 2,411                               | 0                                                                 | 395                                         | 198                                      | 3,004                                 | 6%                                 | 45,868                                      | 48,872            |

## Why is Roadless Area Protection Critical for the Ecosystem?

Roadless Areas are defined as natural areas 5,000 acres or larger in size that have not been fragmented by logging or roadbuilding, and which are therefore eligible to be designated as Wilderness Areas by Congress. If Option 9's logging within Roadless Areas is permitted, then the wilderness quality and ecological significance of 1.4 million acres of irreplaceable wildlands will be lost forever.

**Roadless Areas are the largest unprotected blocks of intact forest wilderness in the Pacific Northwest.** Many are directly connected to existing protected Wilderness, forming very large areas of original forest landscape spanning 100,000 acres or more. For example, the Kalmiopsis wilderness complex in southwestern Oregon contains over 400,000 acres of wildlands, but less than half is permanently protected as Wilderness by Congress.

The science of conservation biology has developed three main principles that apply to the design of Reserve systems and the protection of Roadless Areas: the species/area relationship, fragmentation and connectivity, and edge effects.

1. The species/area relationship: The larger the area, the more species it will be able to support.

Roadless Areas are the only remaining places large enough to allow the full range of natural ecosystem processes to function undisturbed by human interference.

2. Fragmentation and connectivity: Forest habitat is more useful if it occurs in large intact blocks and is directly connected to other habitat; it is less useful if it is fragmented and disconnected by clearcuts and roads.

3. Edge effects: Clearcutting and roadbuilding not only destroy habitat, but also decrease the usefulness of the habitat remaining along their edges in the following ways:

a. micro-climate -- exposed forest edges will be subject to extremes of heat, cold, and moisture loss.

b. intruding species -- seeds of common weeds not native to the forests, such as canadian thistle and starthistle, may enter the exposed edges on the wind. Bird species common to openings, such as ravens, great horned owls, and jays may intrude to prey on interior forest species. Road access will increase hunting and poaching of black bears, cougars, martens, and most recently, commercially valuable mushrooms.

c. increased pollution -- roads introduce carbon monoxide, lead, and other toxins.

d. exotic diseases and pests -- a root rot fatal to Port Orford cedar trees is spread principally from logging roads.

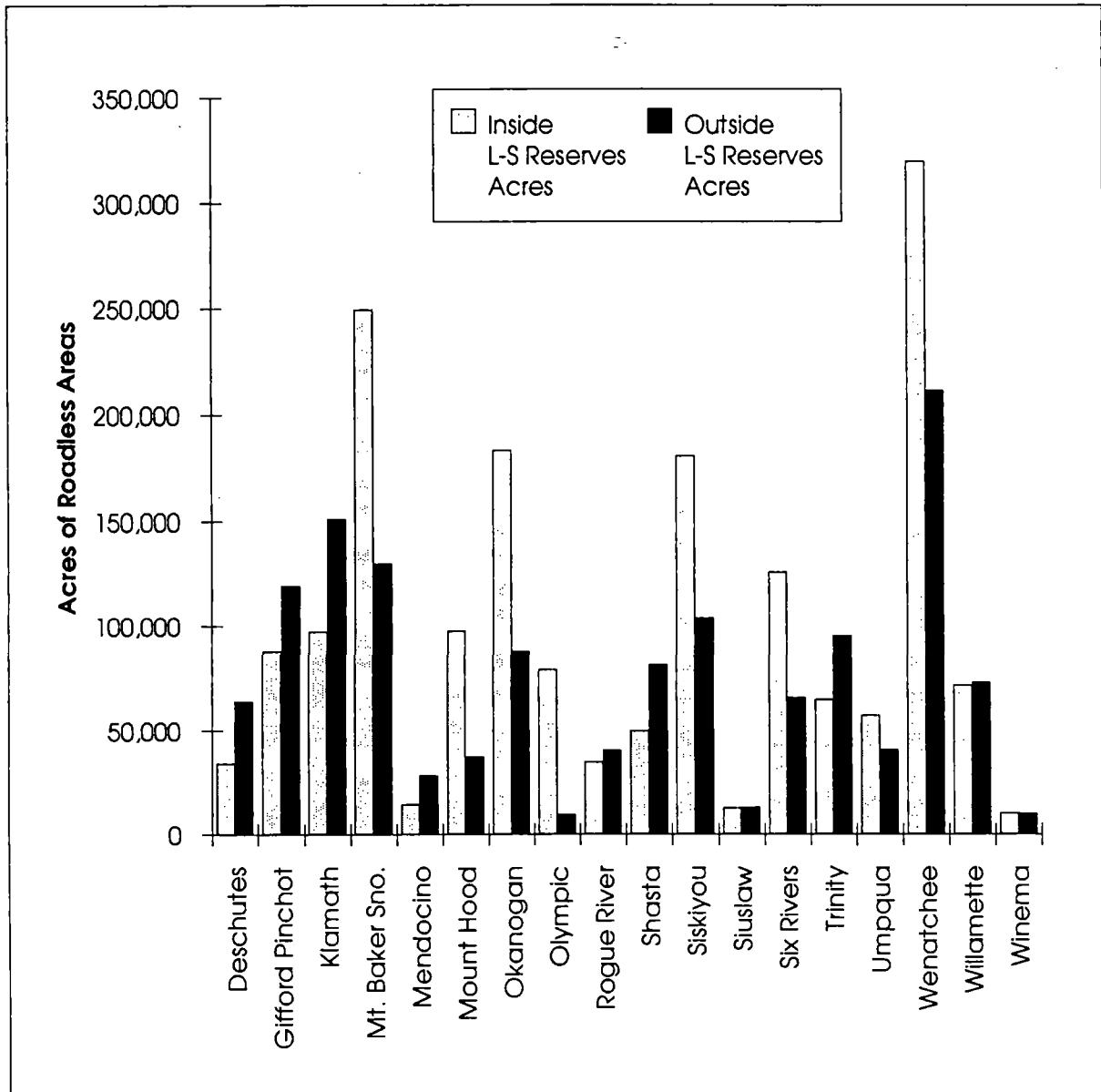
## ROADLESS AREAS IMPACTED BY OPTION 9

| <b>National Forest</b> | <b>Inside<br/>L-S Reserves<br/>Acres</b> | <b>Outside<br/>L-S Reserves<br/>Acres</b> | <b>Total<br/>Acres</b> | <b>Percent<br/>Outside<br/>L-S Reserves</b> |
|------------------------|------------------------------------------|-------------------------------------------|------------------------|---------------------------------------------|
| Deschutes              | 34,321                                   | 63,817                                    | 98,138                 | 65%                                         |
| Gifford Pinchot        | 87,818                                   | 119,371                                   | 207,189                | 58%                                         |
| Klamath                | 97,308                                   | 151,122                                   | 248,430                | 61%                                         |
| Mt. Baker Sno.         | 249,340                                  | 129,929                                   | 379,269                | 34%                                         |
| Mendocino              | 14,353                                   | 28,231                                    | 42,584                 | 66%                                         |
| Mount Hood             | 97,426                                   | 37,445                                    | 134,871                | 28%                                         |
| Okanogan               | 183,149                                  | 87,858                                    | 271,007                | 32%                                         |
| Olympic                | 79,119                                   | 9,687                                     | 88,806                 | 11%                                         |
| Rogue River            | 34,716                                   | 40,490                                    | 75,206                 | 54%                                         |
| Shasta                 | 49,703                                   | 81,334                                    | 131,037                | 62%                                         |
| Siskiyou               | 180,658                                  | 103,595                                   | 284,253                | 36%                                         |
| Siuslaw                | 12,731                                   | 13,128                                    | 25,859                 | 51%                                         |
| Six Rivers             | 125,975                                  | 65,558                                    | 191,533                | 34%                                         |
| Trinity                | 64,648                                   | 95,173                                    | 159,821                | 60%                                         |
| Umpqua                 | 57,017                                   | 40,766                                    | 97,783                 | 42%                                         |
| Wenatchee              | 319,562                                  | 211,342                                   | 530,904                | 40%                                         |
| Willamette             | 71,567                                   | 72,833                                    | 144,400                | 50%                                         |
| Winema                 | 10,201                                   | 9,965                                     | 20,166                 | 49%                                         |
| <b>Totals</b>          | <b>1,769,612</b>                         | <b>1,361,644</b>                          | <b>3,131,256</b>       | <b>43%</b>                                  |

For the number of acres suitable for logging in Roadless Areas outside of Late-Successional Reserves, per National Forest, and the cost in annual cut of protecting these acres, see Johnson, et al., 1993, "Sustainable Harvest Levels...", Table 19, p. 62.

*Information for this chart and the accompanying graph on the following page was produced from Forest Service GIS data analyzed by the Sierra Biodiversity Institute, PO Box 29, North San Juan, California 95960*

# ROADLESS AREAS IMPACTED BY OPTION 9



## SCIENTIFIC AND LEGAL CITES REGARDING ROADLESS AREAS & WILDERNESS

1. Paul Ehrlich and E.O Wilson: "The first step (to preserve biodiversity)... would be to cease 'developing' any more relatively undisturbed land."

"Biodiversity Studies: Science and Policy," Science, vol. 253, Aug. 16, 1991, p. 761.

2. Eastside Forests Scientific Society Panel:

"Because roads crisscross so many forested areas on the Eastside, existing roadless regions have enormous ecological value.... Although roads were intended as innocuous corridors to ease the movement of humans and commodities across the landscape, they harm the water, soils, plants, and the other animals in those landscapes." (p.3)

"Do not construct new roads or log within (1) roadless regions larger than 1,000 acres or (2) roadless regions that are biologically significant but smaller than 1,000 acres. Roadless regions exemplify the least human-disturbed forest and stream systems, the last reservoirs of ecological diversity, and the primary benchmarks for restoring ecological health and integrity. Roads fragment habitat; alter the hydrology of watersheds; supply excessive sediment to streams; increase human access and thus disturbances to forest animals; and influence the dispersal of plants and animals, especially exotic species, across the landscape." (p. 4)

"Interim Protection for Late-Successional Forests, Fisheries, and Watersheds....", September, 1993.

3. Reed Noss: "An increasingly common saying among wildlife biologists is 'nothing is worse for wildlife than a road.'"

Declaration in support of plaintiff's application for preliminary injunction, Marble Mtn. Audubon Society, et al. v. U.S. Forest Service, December 11, 1989.

4. The Wilderness Act:

"A wilderness, in contrast with those areas where man and his works dominate the landscape, is hereby recognized as **an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain.** An area of wilderness ... retain(s) its primeval character and influence ... (and) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable...." (emphasis added)

16 U.S.C. 1121 (note), Section 2 (c), September 3, 1964.

5. Howie Wolke: "Wilderness is an organic whole, not a political subdivision."  
in Foreman and Wolke, The Big Outside, Harmony Books, 1992, p. 24.

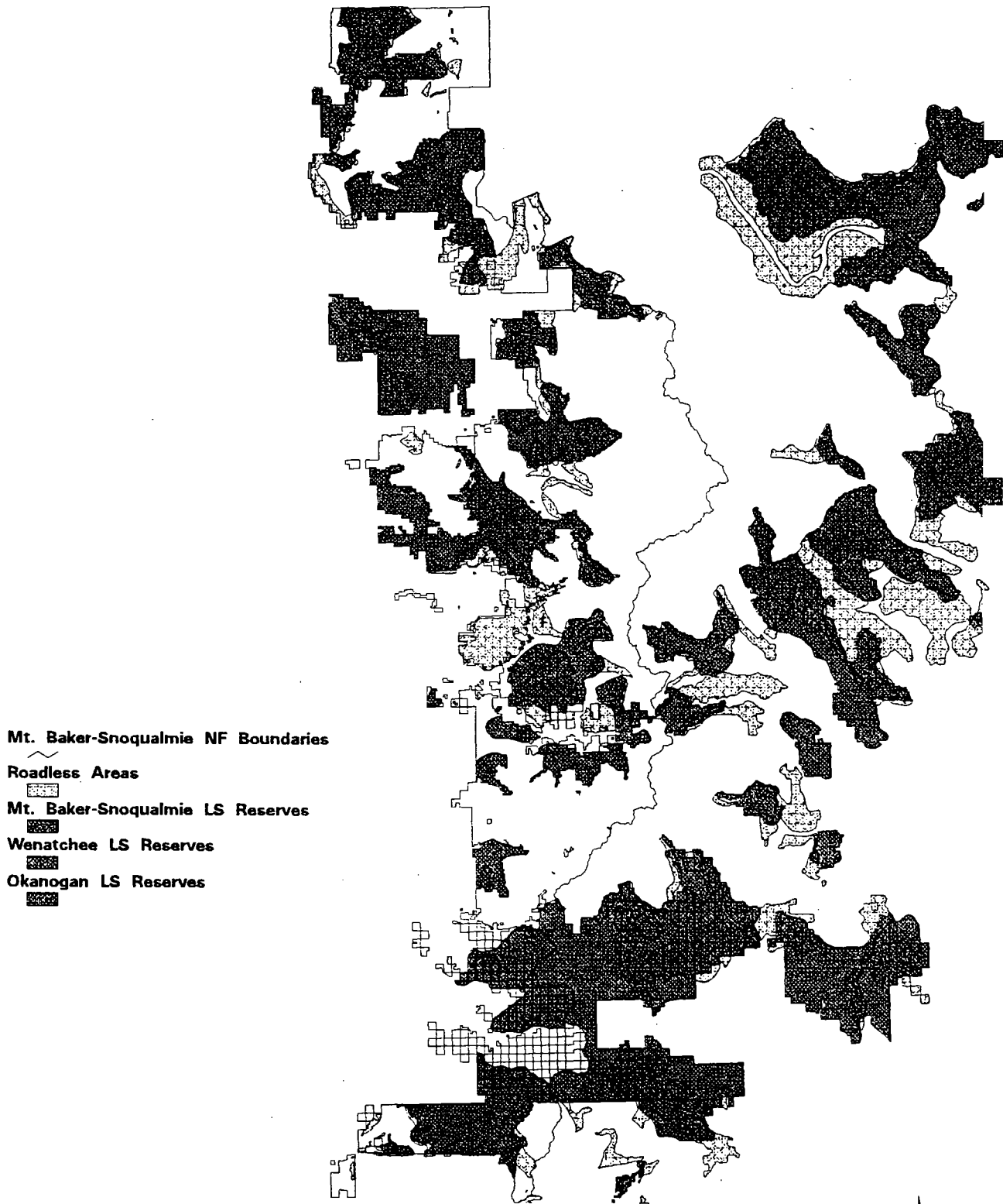
MAPS OF ROADLESS AREAS  
OUTSIDE\* AND INSIDE OF  
OPTION 9'S PROPOSED  
LATE SUCCESSIONAL RESERVES  
FOR 18 NATIONAL FORESTS  
WITHIN THE RANGE OF THE  
NORTHERN SPOTTED OWL

(in geographical order, north to south)

Prepared by Headwaters using ARCVIEW software and USFS digital data, with assistance from the Sierra Biodiversity Institute.

\* Roadless Areas outside of L-S Reserves are shown with open cross-hatching.

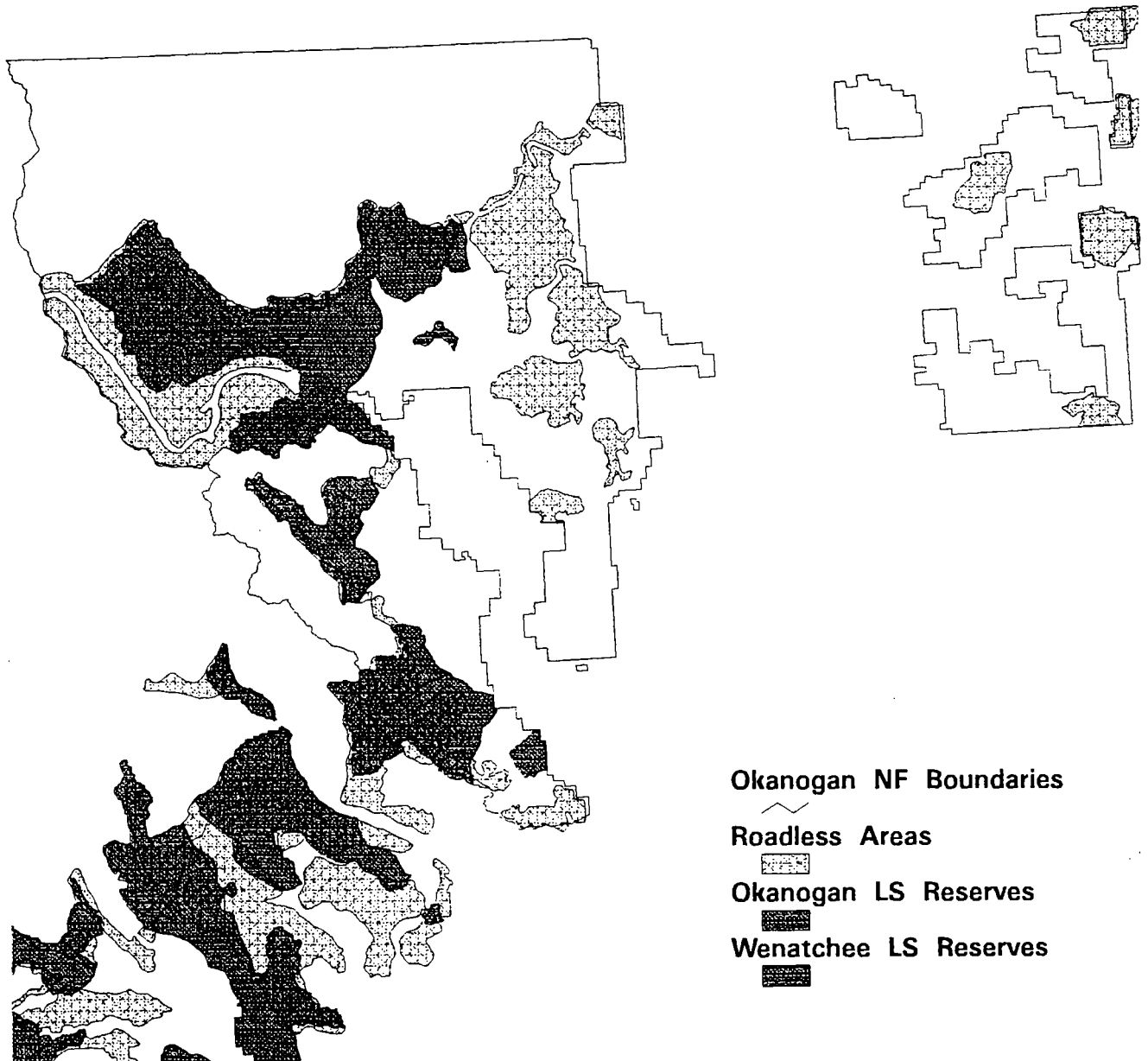
# Unprotected wilderness (Roadless Areas not in Late-Successional Reserves) Mt. Baker-Snoqualmie NF\*



\*Logging may be allowed in the Roadless Areas outside of Option 9's Late Successional Reserves after a "Watershed Analysis" is completed, even if the Roadless Areas are located within Key Watersheds where road building in Roadless Areas is prohibited.

Errata: The USFS data source incorrectly maps Adaptive Management Areas as L-S Reserves.

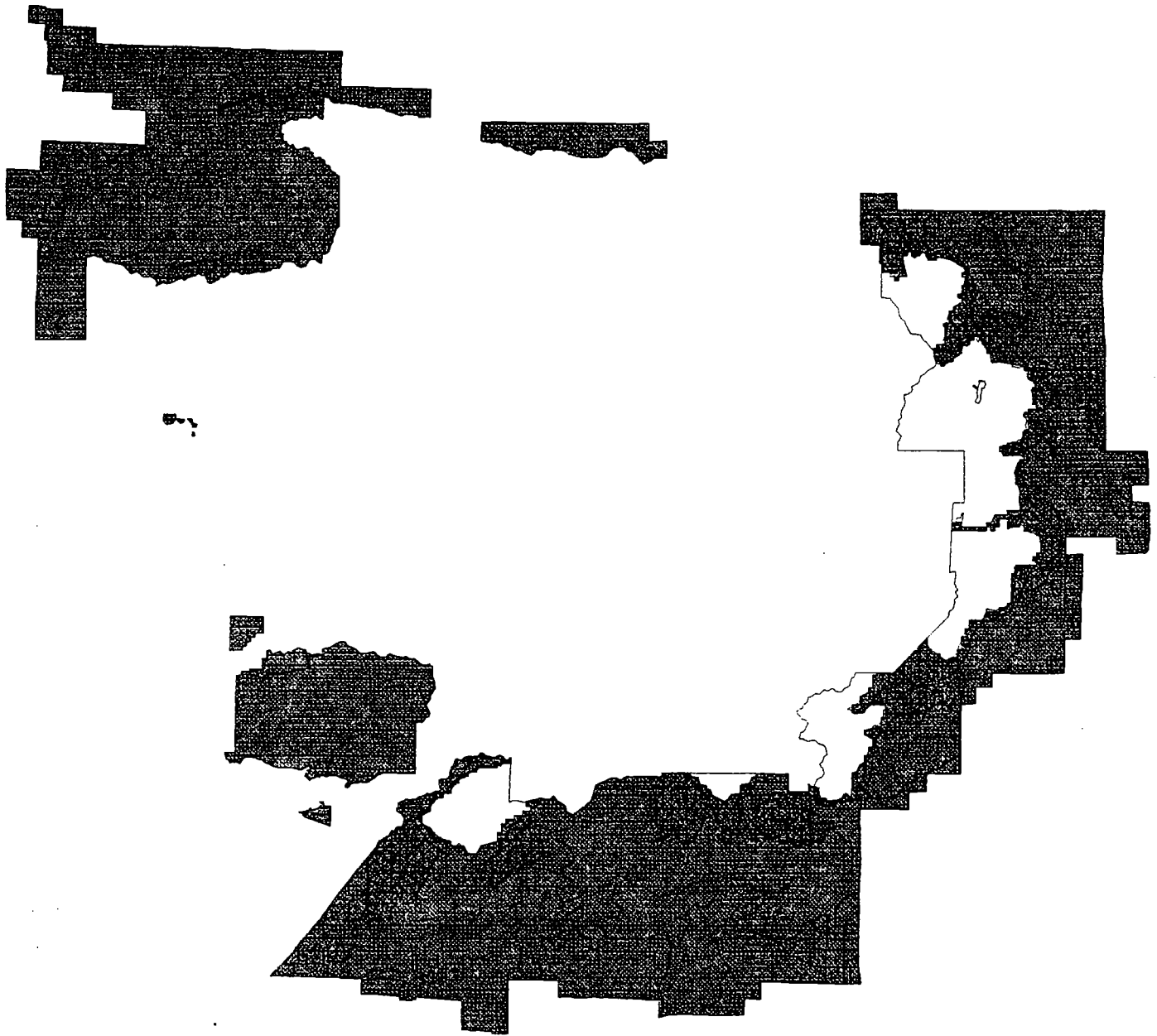
# **Unprotected wilderness (Roadless Areas not in Late-Successional Reserves) Okanogan NF\***



\*Logging may be allowed in the Roadless Areas outside of Option 9's Late Successional Reserves after a "Watershed Analysis" is completed, even if the Roadless Areas are located within Key Watersheds where road building in Roadless Areas is prohibited.



# Unprotected wilderness (Roadless Areas not in Late-Successional Reserves) Olympic NF\*



Olympic NF Boundaries

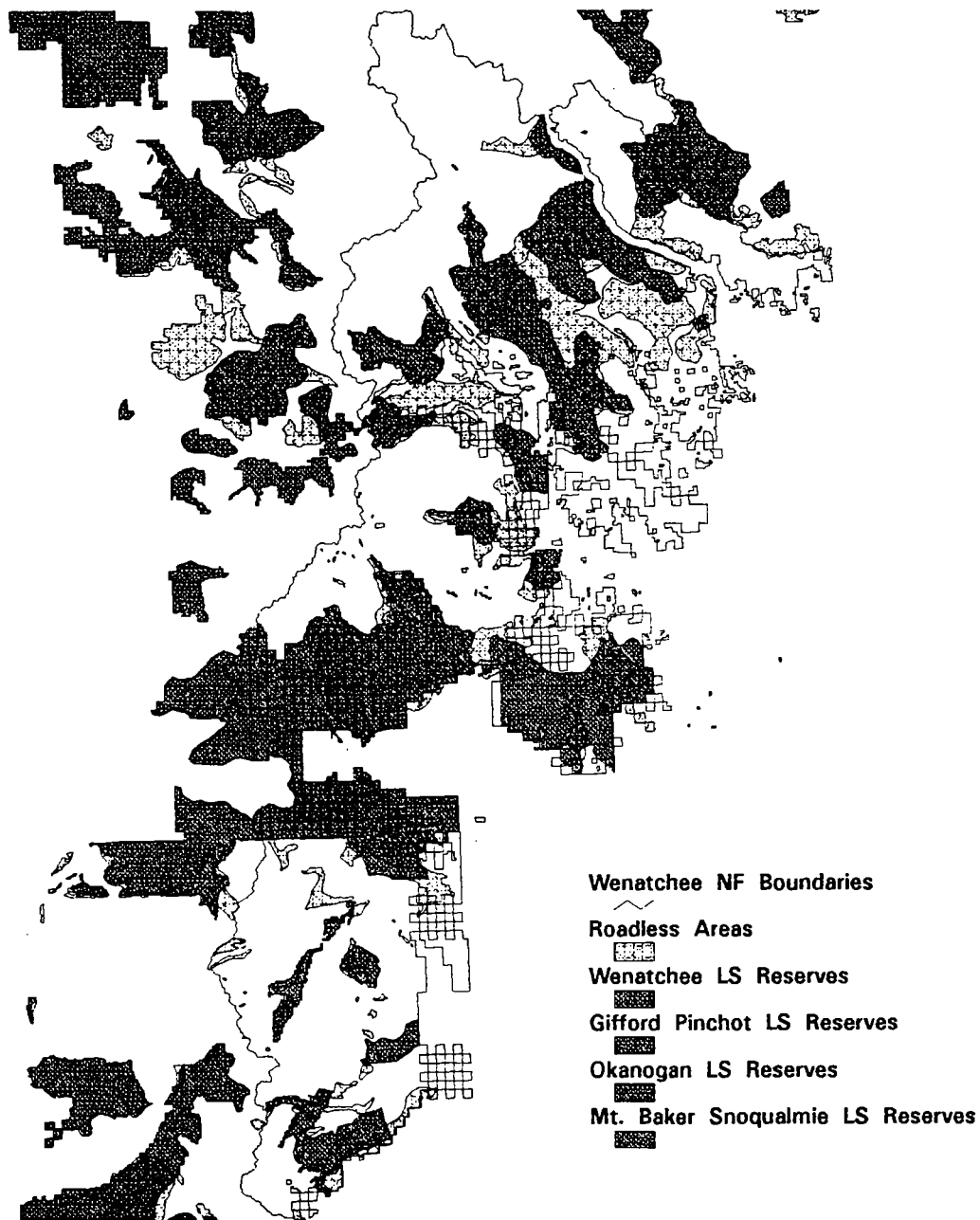
Roadless Areas

Olympic LS Reserves

\*Logging may be allowed in the Roadless Areas outside of Option 9's Late Successional Reserves after a "Watershed Analysis" is completed, even if the Roadless Areas are located within Key Watersheds where road building in Roadless Areas is prohibited.

Errata: The USFS data source incorrectly maps Adaptive Management Areas as L-S Reserves.

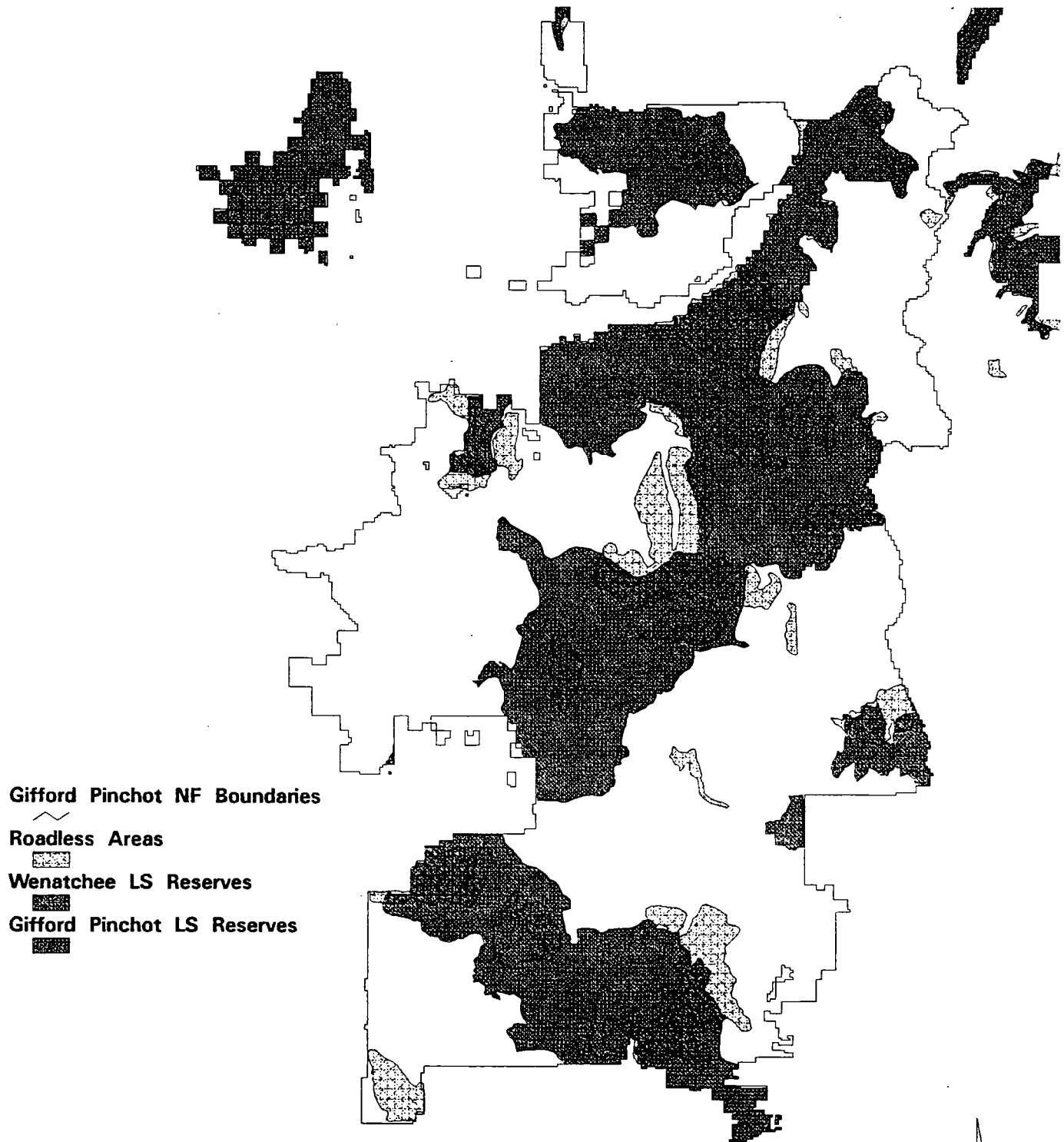
# **Unprotected wilderness (Roadless Areas not in Late-Successional Reserves) Wenatchee NF\***



\*Logging may be allowed in the Roadless Areas outside of Option 9's Late Successional Reserves after a "Watershed Analysis" is completed, even if the Roadless Areas are located within Key Watersheds where road building in Roadless Areas is prohibited.

Errata: The USFS data source incorrectly maps Adaptive Management Areas as L-S Reserves.

# **Unprotected wilderness (Roadless Areas not in Late-Successional Reserves) Gifford Pinchot NF\***



\*Logging may be allowed in the Roadless Areas outside of Option 9's Late Successional Reserves after a "Watershed Analysis" is completed, even if the Roadless Areas are located within Key Watersheds where road building in Roadless Areas is prohibited.

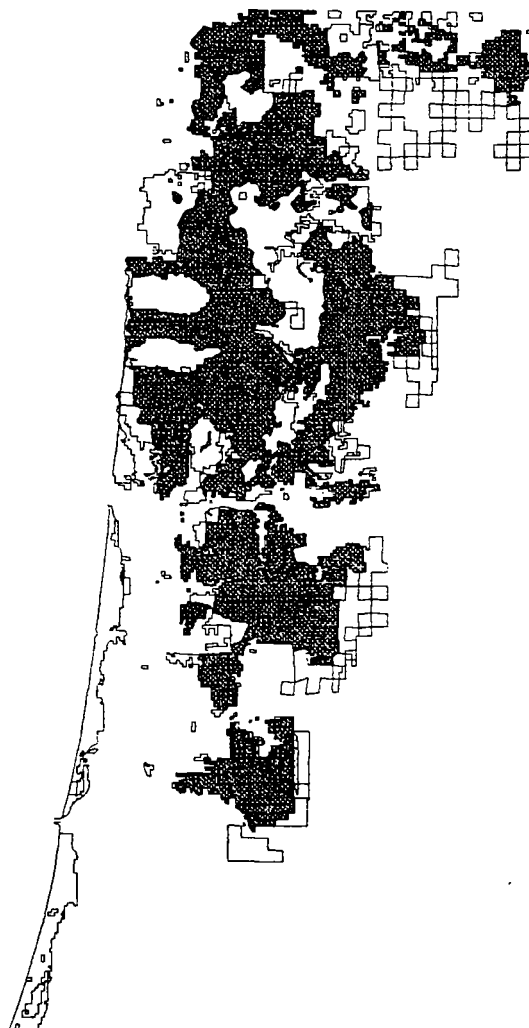
Errata: The USFS data source incorrectly maps Adaptive Management Areas as L-S Reserves.

# **Unprotected wilderness (Roadless Areas not in Late-Successional Reserves Siuslaw NF\***

**Siuslaw NF Boundaries**

**Roadless Areas**

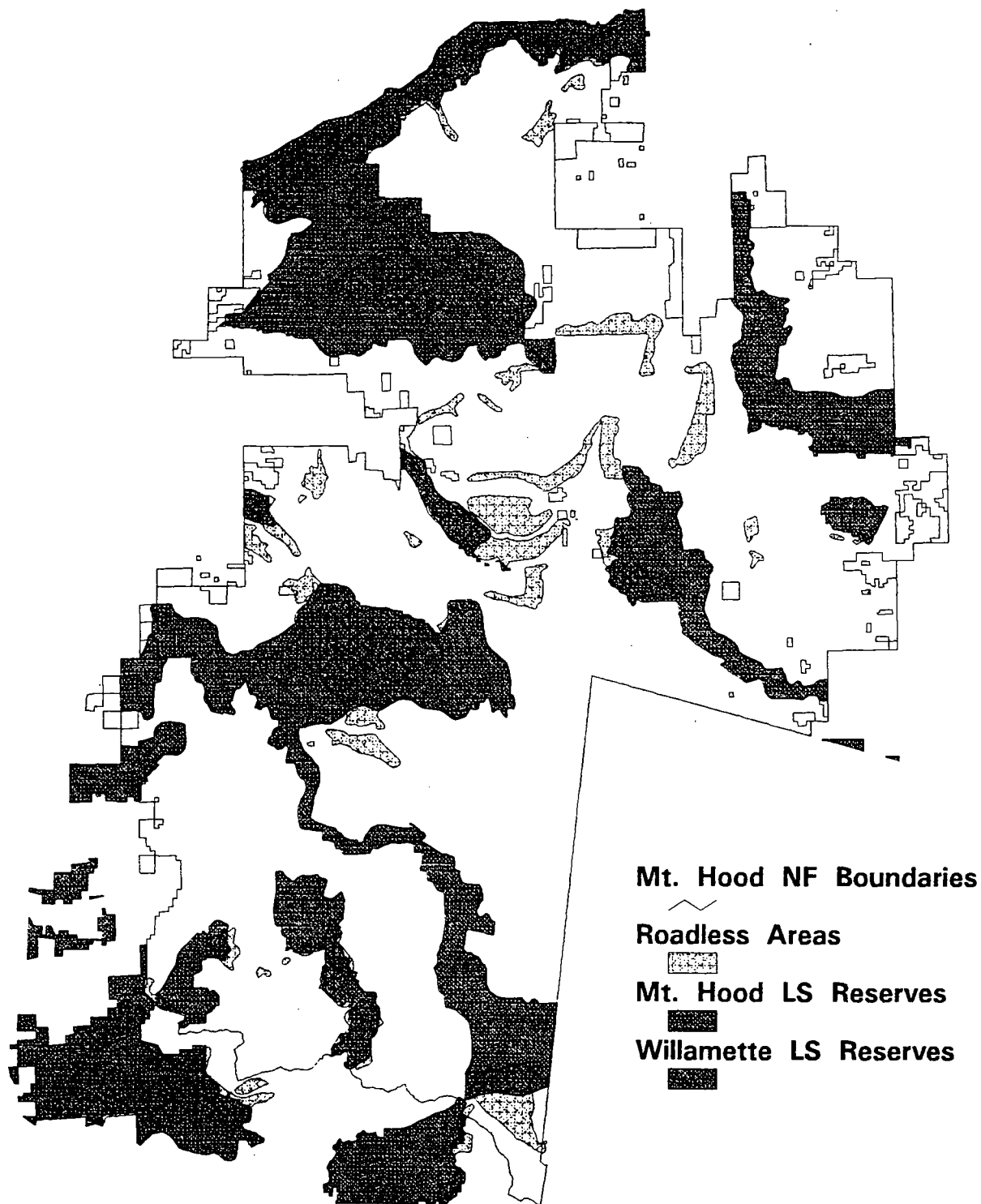
**Siuslaw LS Reserves**



\*Logging may be allowed in the Roadless Areas outside of Option 9's Late Successional Reserves after a "Watershed Analysis" is completed, even if the Roadless Areas are located within Key Watersheds where road building in Roadless Areas is prohibited.

Errata: The USFS data source incorrectly maps Adaptive Management Areas as L-S Reserves.

# **Unprotected wilderness (Roadless Areas not in Late-Successional Reserves) Mt. Hood NF\***



\*Logging may be allowed in the Roadless Areas outside of Option 9's Late Successional Reserves after a "Watershed Analysis" is completed, even if the Roadless Areas are located within Key Watersheds where road building in Roadless Areas is prohibited.

# **Unprotected wilderness (Roadless Areas not in Late-Successional Reserves) Willamette NF\***

**Willamette NF Boundaries**

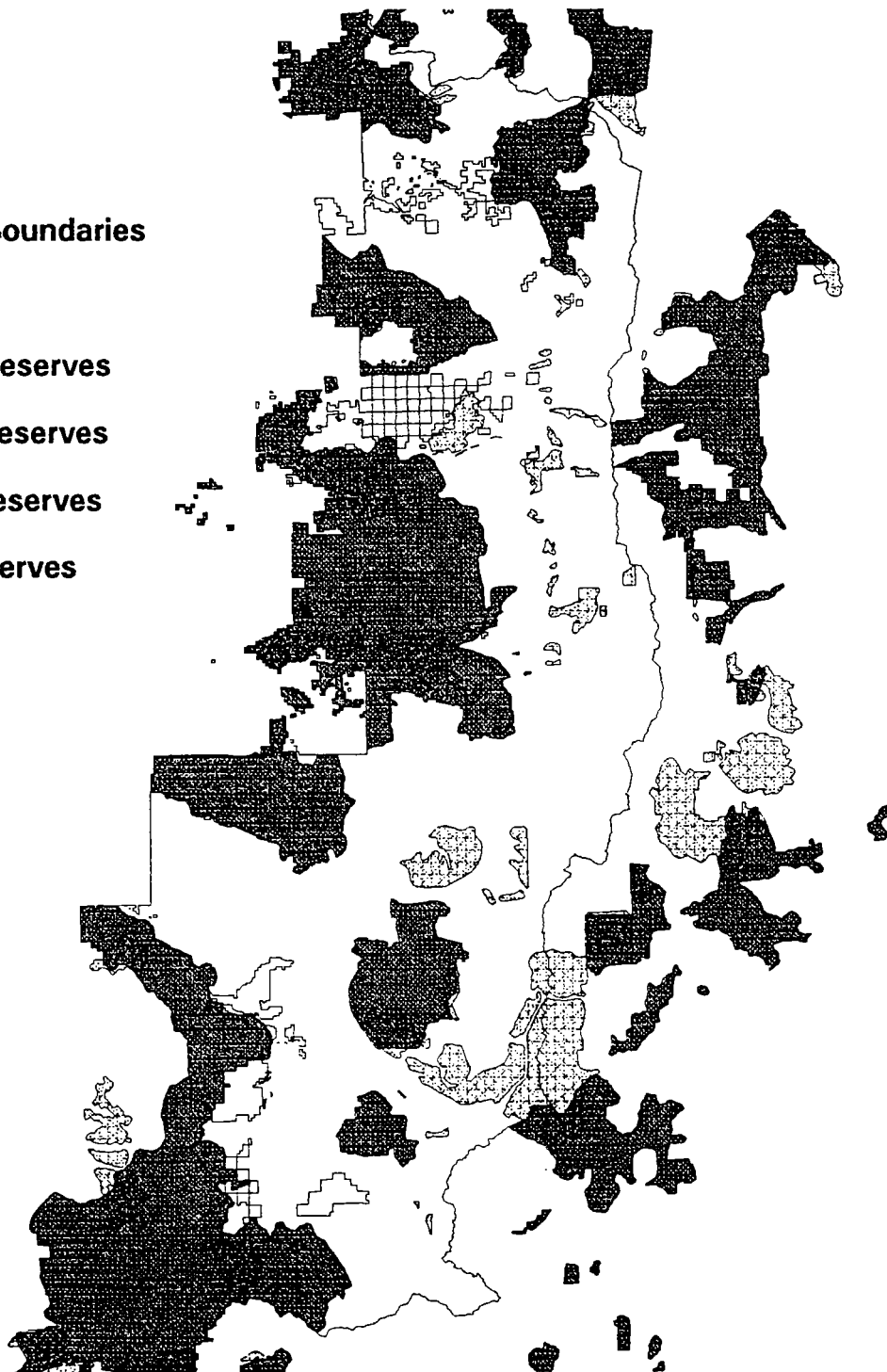
**Roadless Areas**

**Willamette LS Reserves**

**Deschutes LS Reserves**

**Mt. Hood LS Reserves**

**Umpqua LS Reserves**

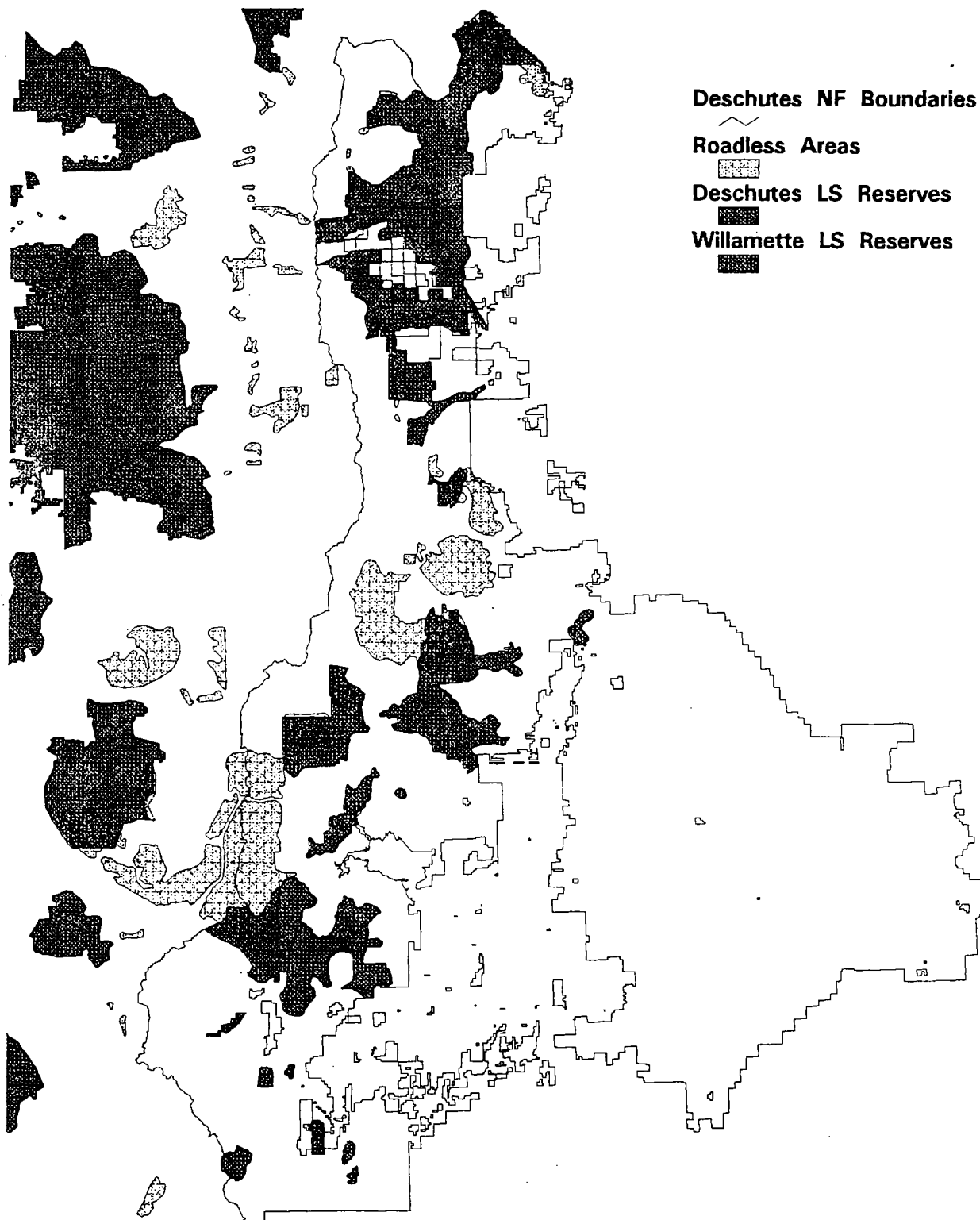


\*Logging may be allowed in the Roadless Areas outside of Option 9's Late Successional Reserves after a "Watershed Analysis" is completed, even if the Roadless Areas are located within Key Watersheds where road building in Roadless Areas is prohibited.

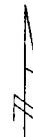
Errata: The USFS data source incorrectly maps Adaptive Management Areas as L-S Reserves.

17

# Unprotected wilderness (Roadless Areas not in Late-Successional Reserves) Deschutes NF\*



\*Logging may be allowed in the Roadless Areas outside of Option 9's Late Successional Reserves after a "Watershed Analysis" is completed, even if the Roadless Areas are located within Key Watersheds where road building in Roadless Areas is prohibited.



# **Unprotected wilderness (Roadless Areas not in Late-Successional Reserves) Umpqua NF\***

Umpqua NF Boundaries

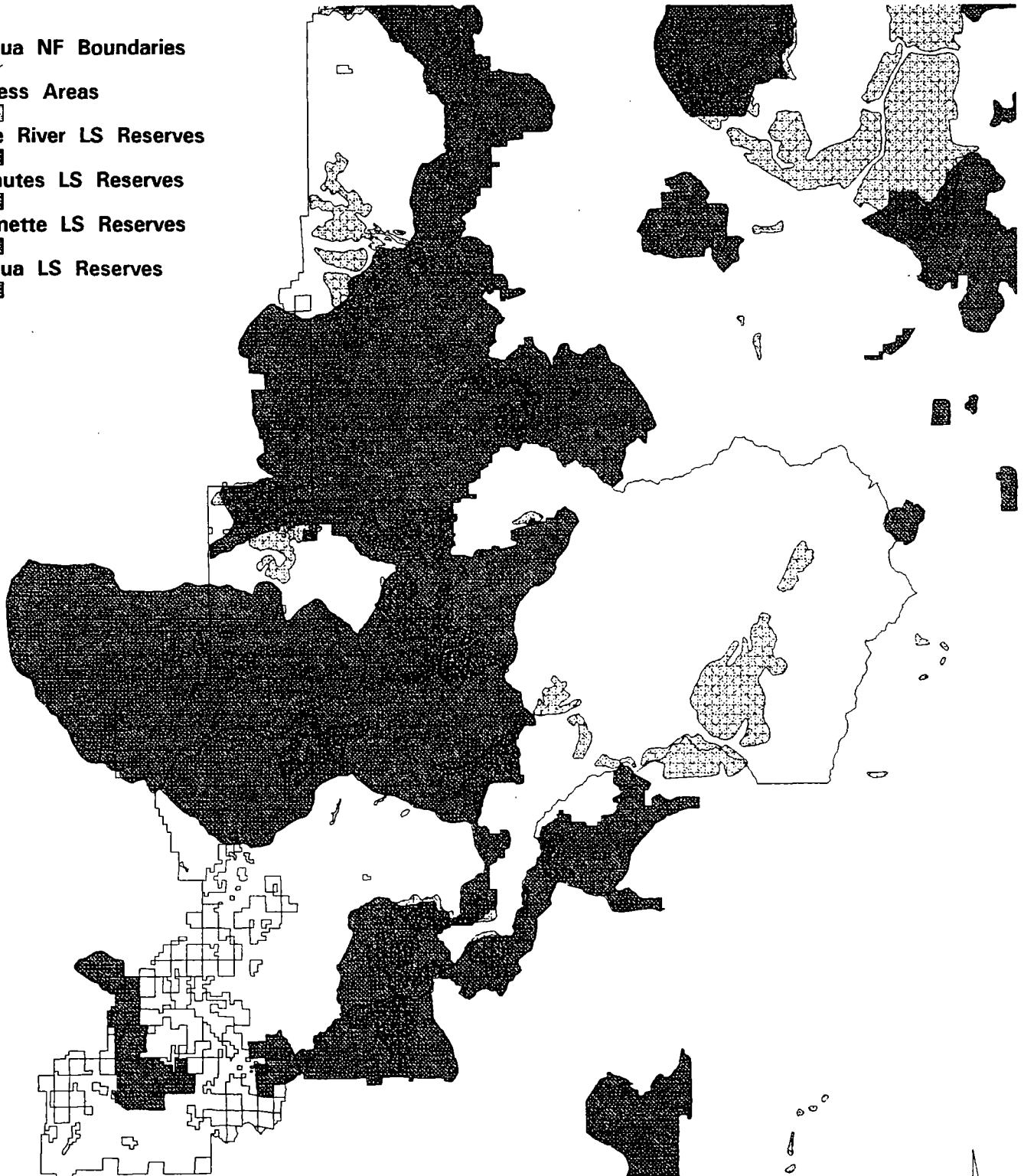
Roadless Areas

Rogue River LS Reserves

Deschutes LS Reserves

Willamette LS Reserves

Umpqua LS Reserves

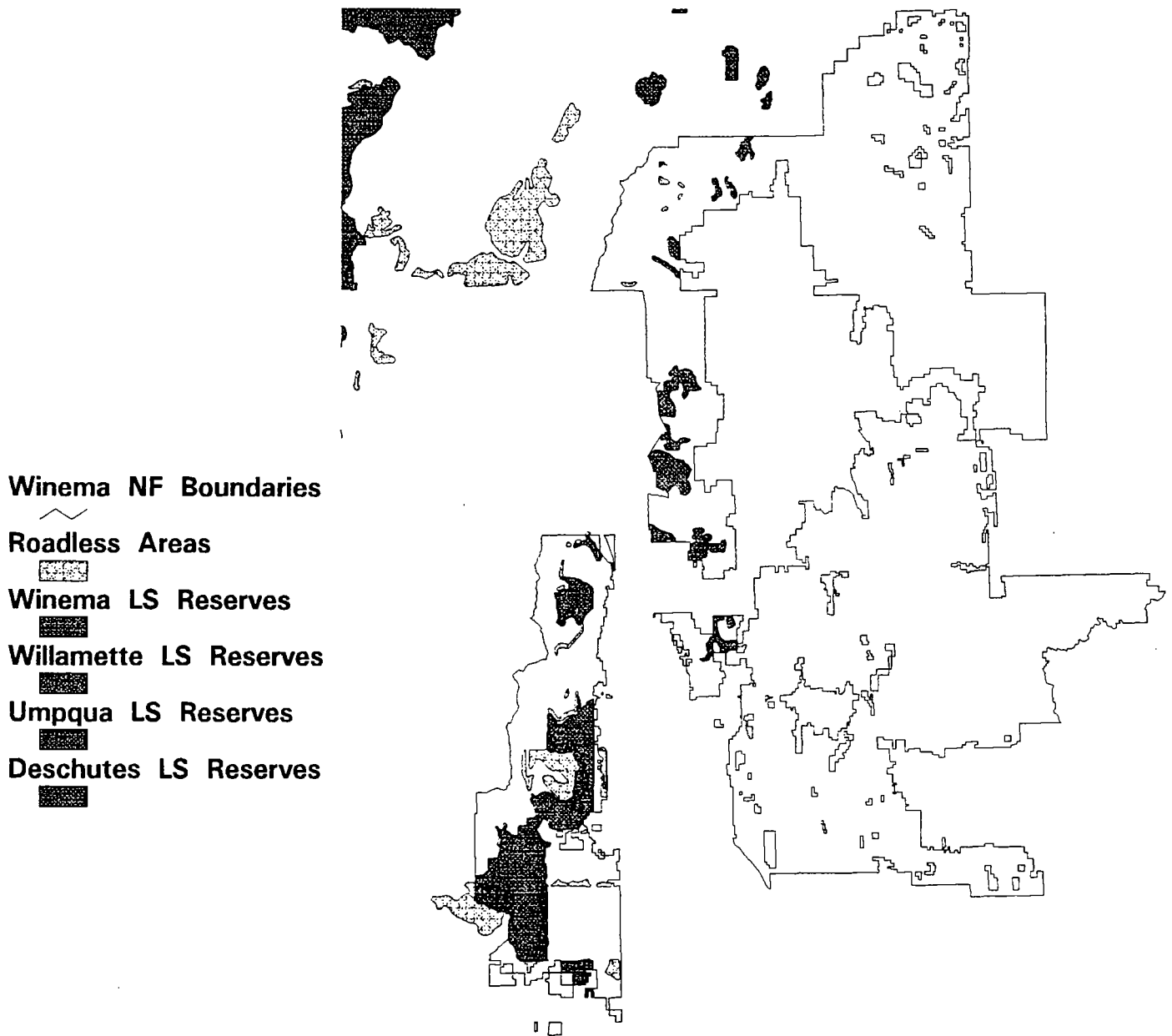


\*Logging may be allowed in the Roadless Areas outside of Option 9's Late Successional Reserves after a "Watershed Analysis" is completed, even if the Roadless Areas are located within Key Watersheds where road building in Roadless Areas is prohibited.

Errata: The USFS data source incorrectly maps Adaptive Management Areas as L-S Reserves.



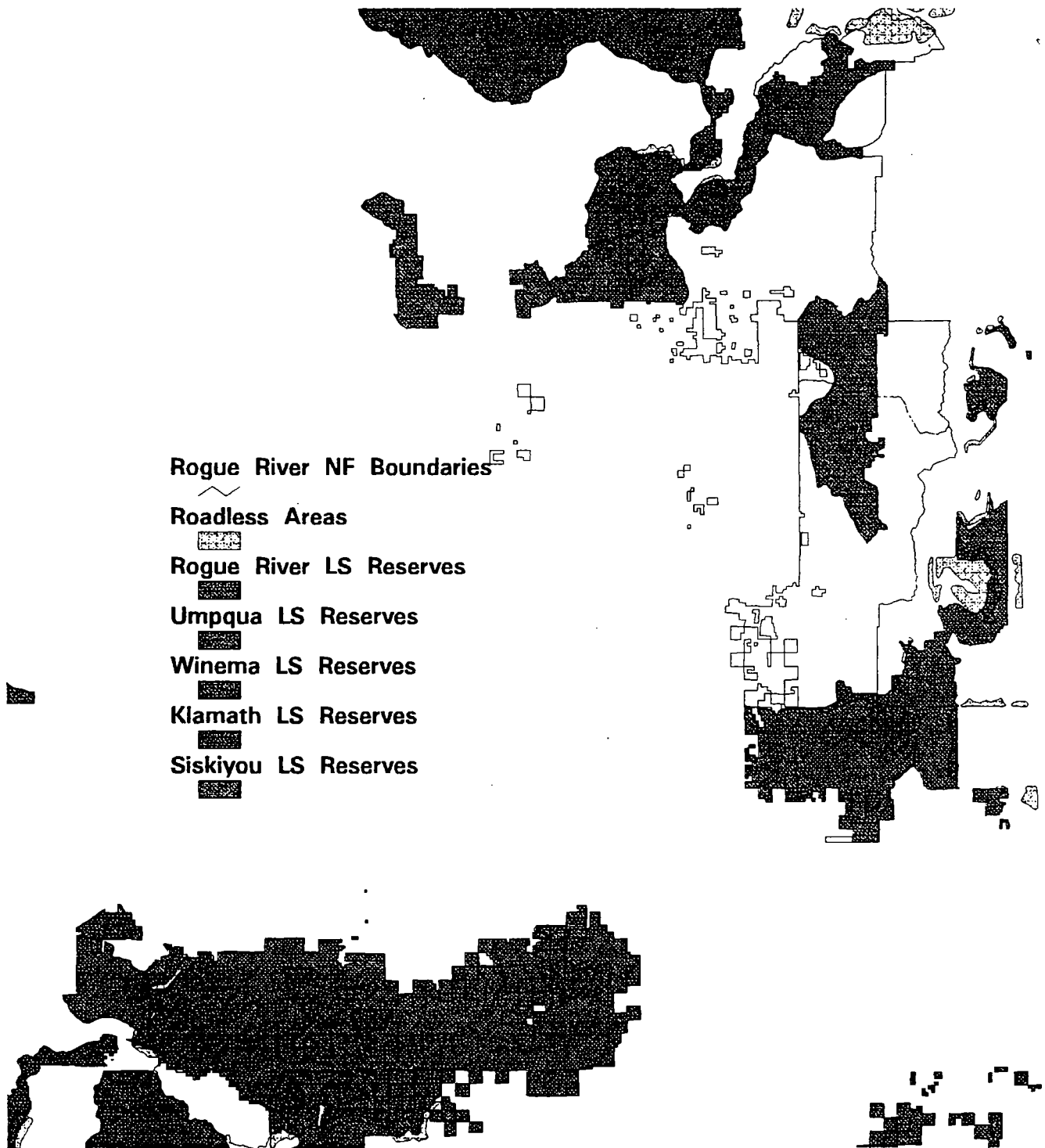
# **Unprotected wilderness (Roadless Areas not in Late-Successional Reserves) Winema NF\***



\*Logging may be allowed in the Roadless Areas outside of Option 9's Late Successional Reserves after a "Watershed Analysis" is completed, even if the Roadless Areas are located within Key Watersheds where road building in Roadless Areas is prohibited.



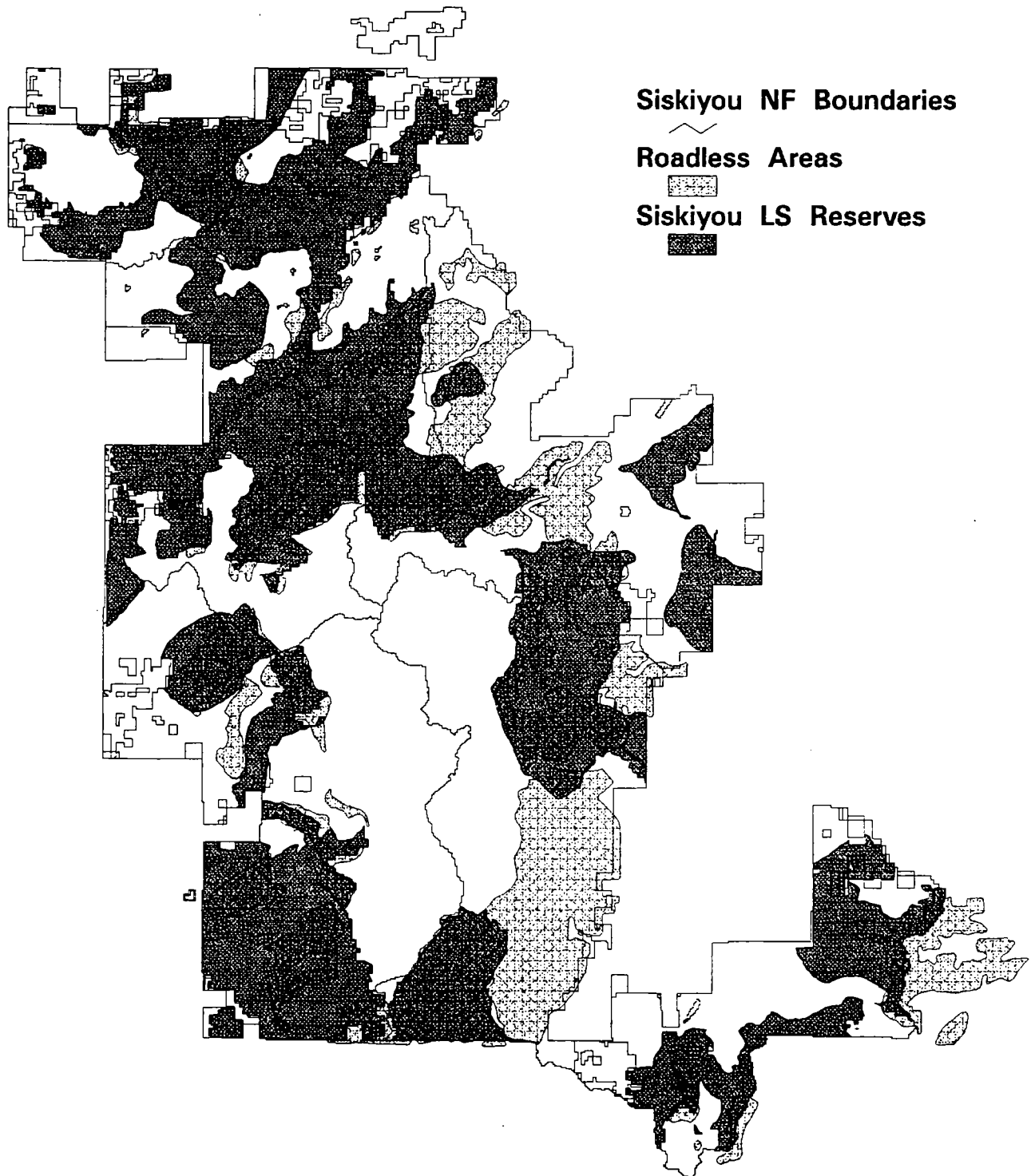
# **Unprotected wilderness (Roadless Areas not in Late-Successional Reserves) Rogue River NF\***



\*Logging may be allowed in the Roadless Areas outside of Option 9's Late Successional Reserves after a "Watershed Analysis" is completed, even if the Roadless Areas are located within Key Watersheds where road building in Roadless Areas is prohibited.

Errata: Reserve areas in the Applegate Watershed are in fact an Adaptive Management Area.

# Unprotected wilderness (Roadless Areas not in Late-Successional Reserves) Siskiyou NF\*



\*Logging may be allowed in the Roadless Areas outside of Option 9's Late Successional Reserves after a "Watershed Analysis" is completed, even if the Roadless Areas are located within Key Watersheds where road building in Roadless Areas is prohibited.

Errata: The USFS data source incorrectly maps Adaptive Management Areas as L-S Reserves.

# Unprotected wilderness (Roadless Areas not in Late-Successional Reserves) Six Rivers NF\*

Six Rivers NF Boundaries

Roadless Areas

Trinity LS Reserves

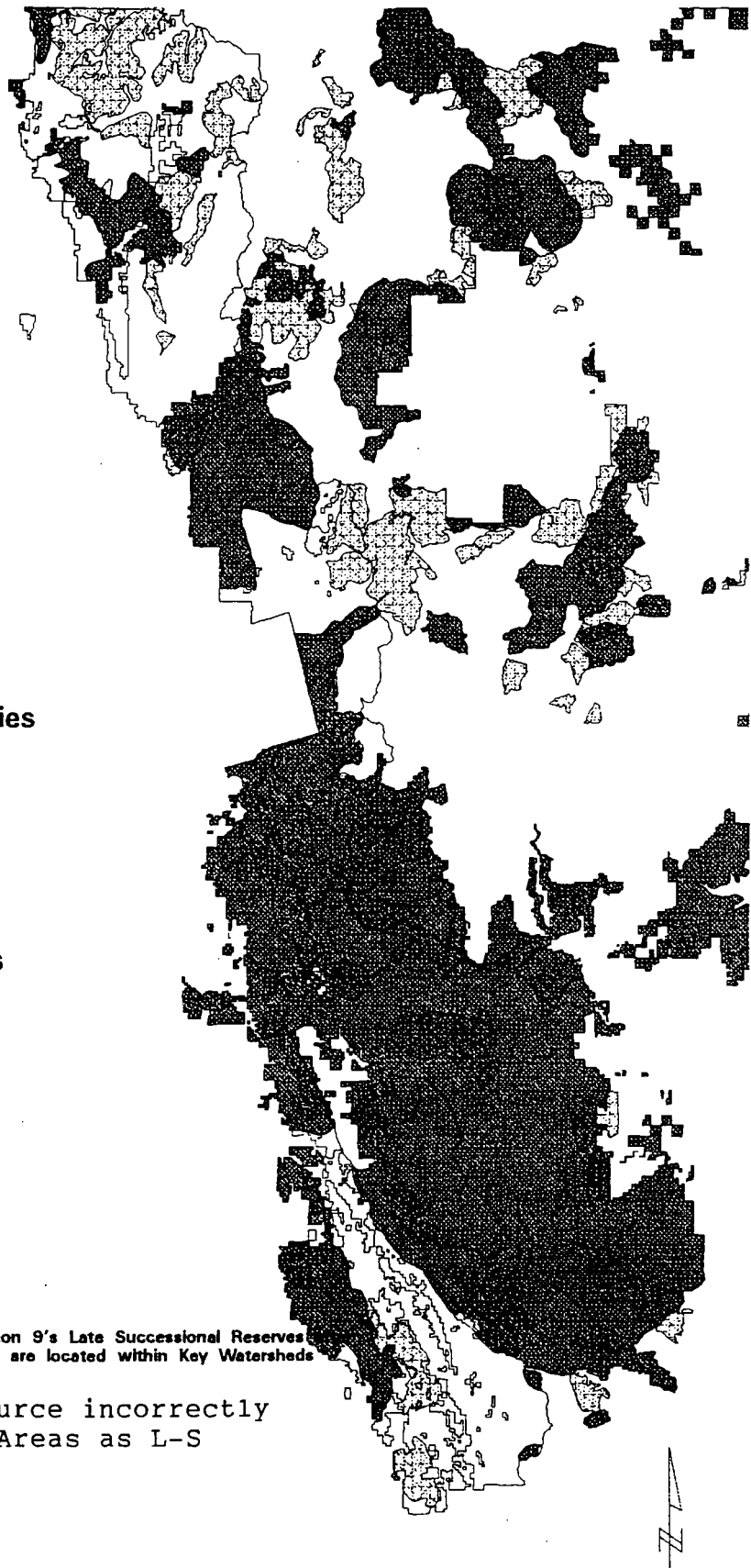
Klamath LS Reserves

Six Rivers LS Reserves

Shasta LS Reserves

\*Logging may be allowed in the Roadless Areas outside of Option 9's Late Successional Reserves a "Watershed Analysis" is completed, even if the Roadless Areas are located within Key Watersheds where road building in Roadless Areas is prohibited.

Errata: The USFS data source incorrectly maps Adaptive Management Areas as L-S reserves.



# **Unprotected wilderness (Roadless Areas not in Late-Successional Reserves) Klamath NF\***

**Klamath NF Boundaries**

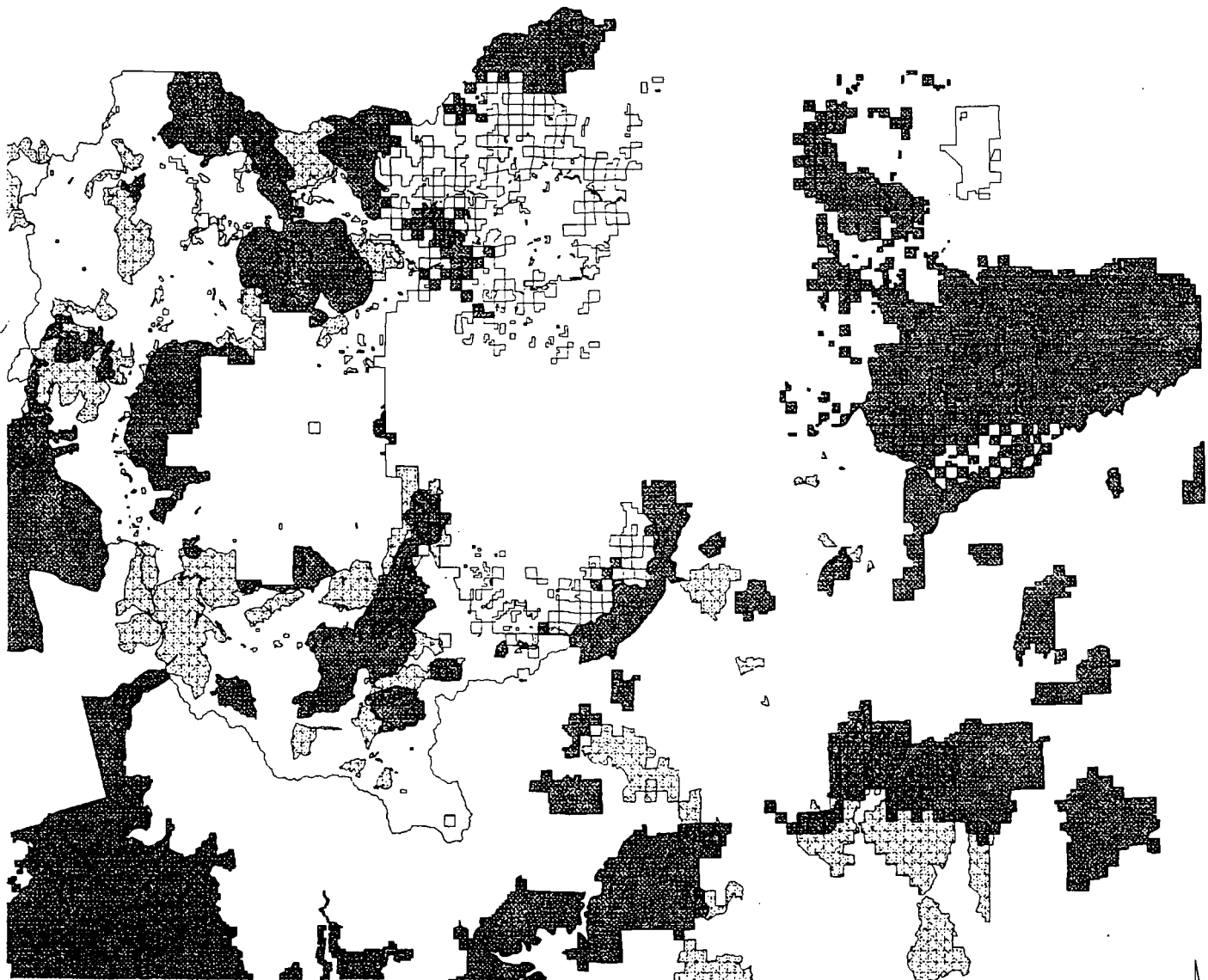
**Roadless Areas**

**Klamath LS Reserves**

**Shasta LS Reserves**

**Trinity LS Reserves**

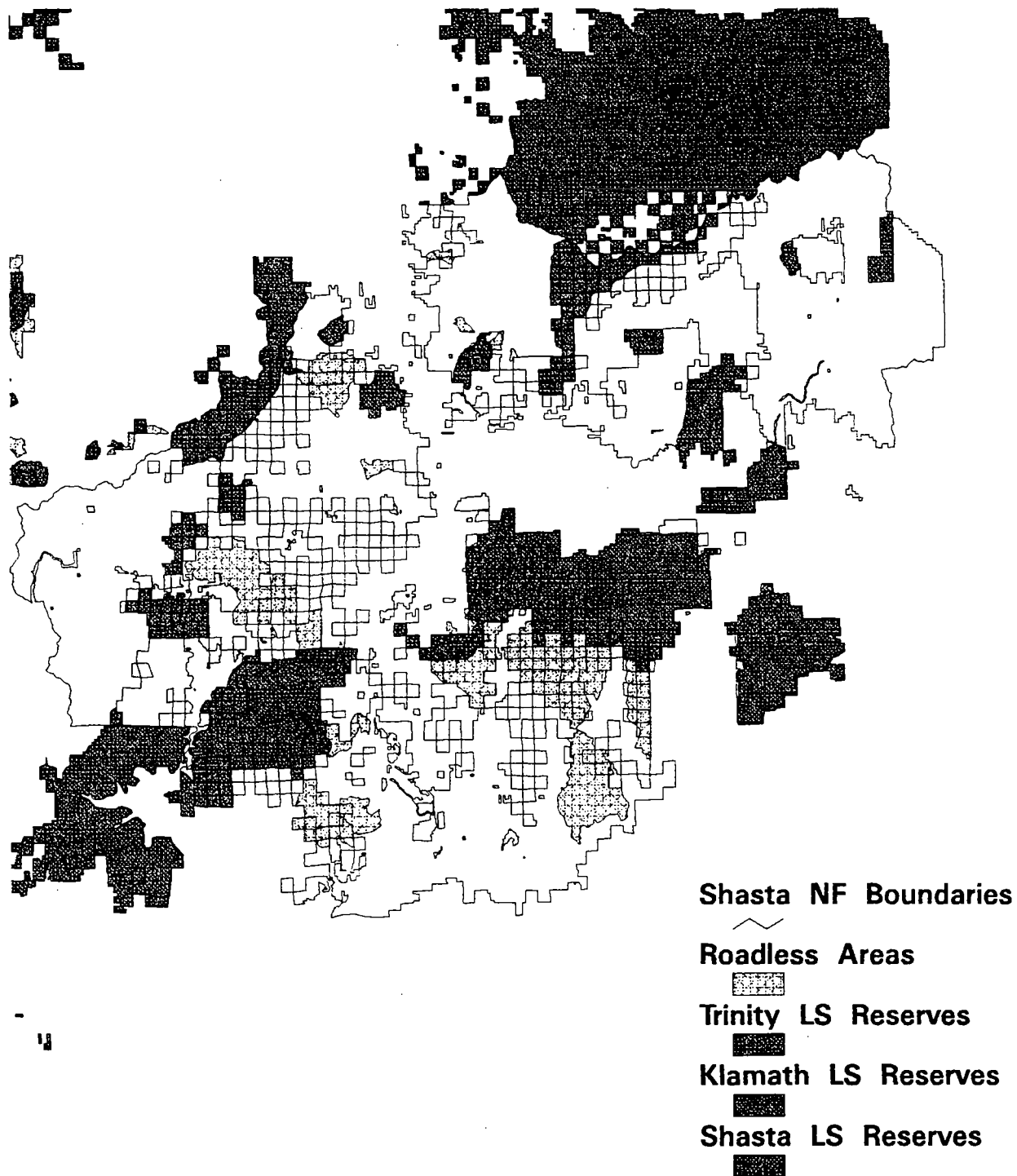
**Six Rivers LS Reserves**



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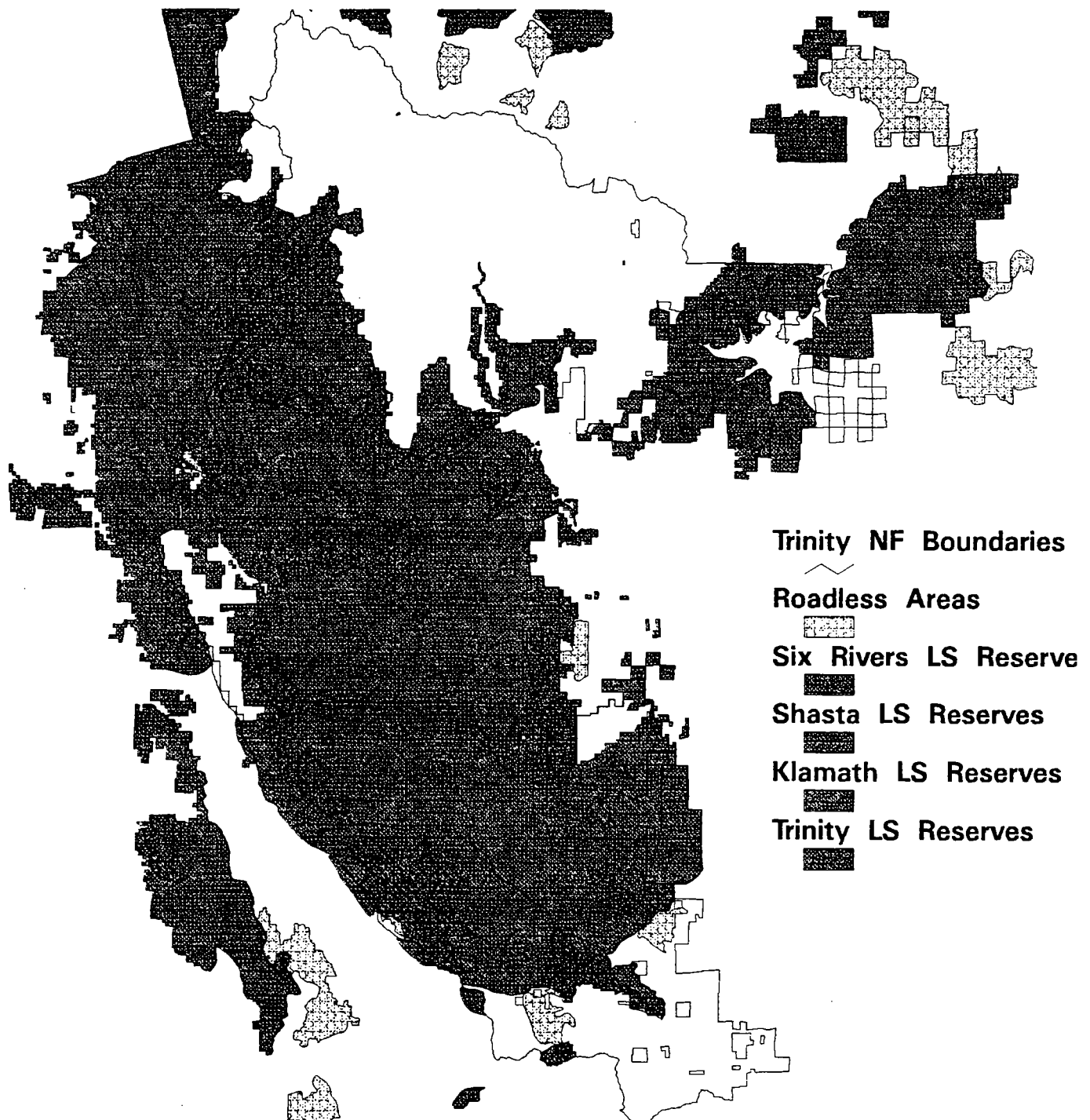


# Unprotected wilderness (Roadless Areas not in Late-Successional Reserves) Shasta NF\*



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# **Unprotected wilderness (Roadless Areas not in Late-Successional Reserves) Trinity NF\***

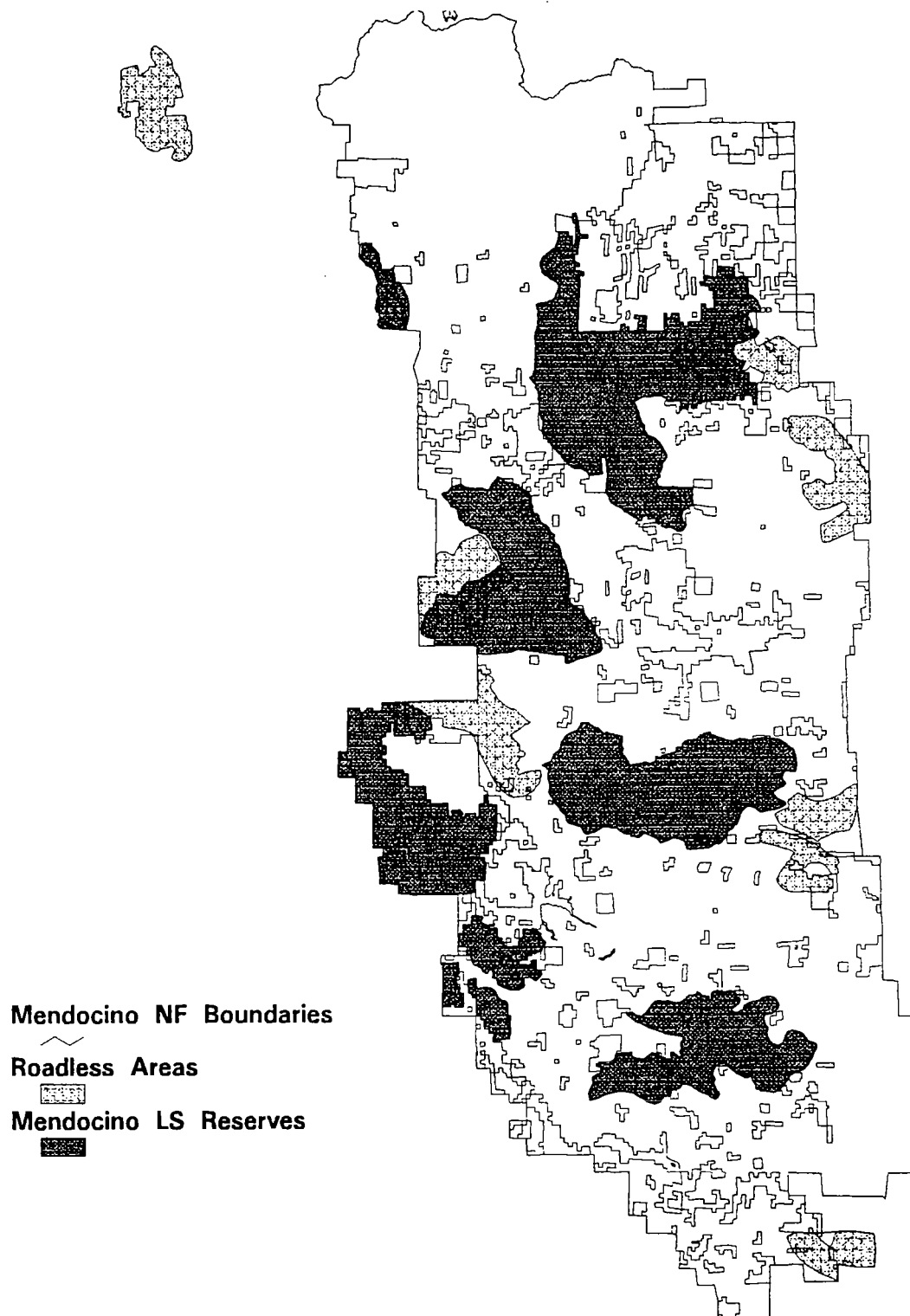


\*Logging may be allowed in the Roadless Areas outside of Option 9's Late Successional Reserves after a "Watershed Analysis" is completed, even if the Roadless Areas are located within Key Watersheds where road building in Roadless Areas is prohibited.

Errata: The USFS data source incorrectly maps Adaptive Management Areas as L-S Reserves.



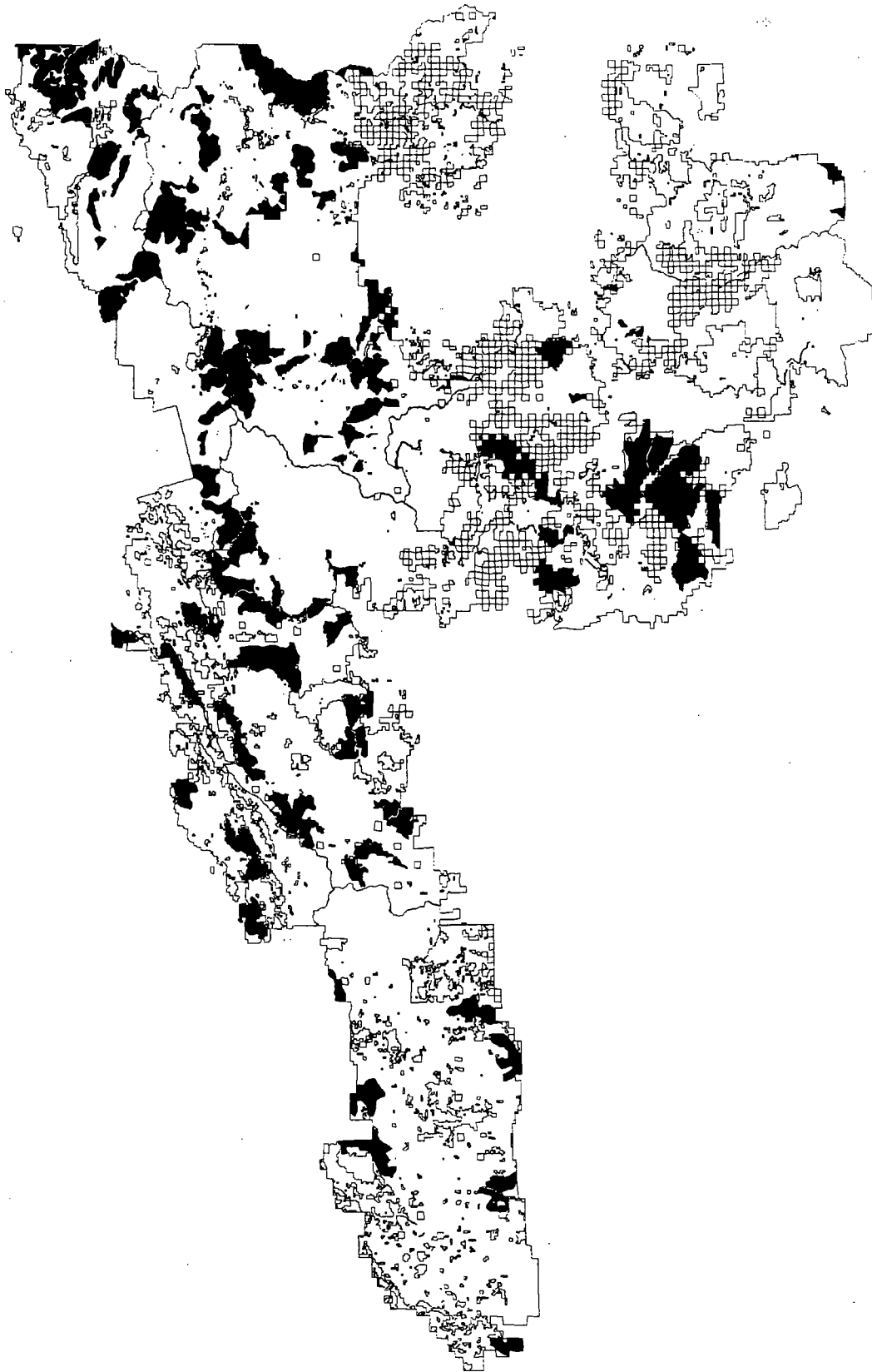
# **Unprotected wilderness (Roadless Areas not in Late-Successional Reserves) Mendocino NF\***



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# ***ROADLESS AREAS IN NORTHERN CALIFORNIA***



# ***ROADLESS AREAS IN WESTERN WASHINGTON***

