

**Alaska Department of Fish and Game  
Division of Wildlife Conservation**

**Federal Aid in Wildlife Restoration  
Annual Performance Report  
1 July 1999 -30 June 2000**

# **Alaska Wildlife Habitat Enhancement**

**Mary U. Hicks, Editor**



**ADF&G**

**Grant W-28-2  
Study 20.0  
September 2000**

**STATE OF ALASKA**

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# PERFORMANCE REPORT

STATE: Alaska—Region III

STUDY NO.: 20.0

GRANT: W-28-2

TITLE: Alaska Wildlife Habitat Enhancement

AUTHORS: Dale Haggstrom and Tom Paragi

PERIOD: 1 July 1999–30 June 2000

## OBJECTIVES

- 1 Work with state and federal agencies and the private sector to plan, coordinate, and implement forest management activities to maintain or improve wildlife habitat.
- 2 Encourage prescribed burning and other appropriate forestry practices in developed areas to offset the negative ecological effects of increased suppression of natural fires.
- 3 Evaluate biological and economic efficacy of prescribed burning and other forestry practices for maintaining or enhancing wildlife habitat.

## ACTIVITIES PLANNED

- 1 Landscape Scale Prescribed Fire. Plan and implement prescribed fires on a landscape scale (thousands of acres) to maintain or improve wildlife habitat, forest health, and ecosystem diversity, and to reduce the potential for catastrophic wildland fires (Objectives 1 and 3).
- 2 Postlogging Site Treatment. Implement postlogging treatments to enhance wildlife and forest values, monitor treatment effects, and develop forest management recommendations. Treatments include prescribed fire, soil scarification, and willow planting (Objectives 1–3).
- 3 Ruffed Grouse Habitat Enhancement. Create and maintain optimal habitat conditions for the production of ruffed grouse in areas readily accessible to hunters (Objectives 1 and 3).
- 4 Moose Habitat Enhancement. Enhance availability, short-term quality, and quantity of moose browse species, especially felleaf willow, in important wintering areas (Objectives 1–3).
- 5 Prescribed Burning Protocol. Prepare documentation to support continued categorical exclusion of the state's prescribed fire program from the National Environmental Policy Act process under US Fish and Wildlife Service guidelines (Objective 1).
- 6 Program Coordination, Support, and Outreach. Miscellaneous tasks not specific to any of the above-mentioned activities (Objectives 1–3).

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## ACTIVITIES ACCOMPLISHED

### Landscape Scale Prescribed Fire (Objectives 1 and 3)

- ◆ Staff from the Alaska Department of Fish and Game—Division of Wildlife Conservation (ADF&G—DWC), Tok Area Office and the Alaska Department of Natural Resources—Division of Forestry (ADNR—DOF), and Tok Area Forestry office conducted a 30,781 acre prescribed burn (Kraemer et al. 1999) on 3 August in the Kechumstuk Creek drainage about 35 miles north of Tok (Fig 1 and 2).
- ◆ Helped Tok Area Office staff start a planning effort for a prescribed burn on predominantly state land in the Robertson River drainage (Fig 1) where burning is needed to maintain moose winter range. We intend to complete the planning process during winter 2000–2001.
- ◆ Prepared a Farewell Bison Prescribed Burn Plan (Boudreau et al. 2000), in cooperation with the DWC McGrath Area Office and the DOF McGrath Field Office, to burn at least 22,500 acres on the winter range of the Farewell Bison Herd during a 5-year period, beginning in spring of 2000 (Fig 1).
- ◆ Developed a sampling design, in cooperation with the McGrath Area Office, to evaluate vegetative changes following a planned prescribed burn to improve bison and moose habitat near Farewell. Aerial photos were taken from the department's DeHavelin Beaver aircraft at predetermined sample points before the burn in May 2000.
- ◆ Attempted to implement the Farewell Bison Prescribed Burn Plan during late May 2000. Fire staff at the DOF McGrath Field Office used a helicopter-borne aerial ignition device (Premo Mark III® "ping pong" dispenser) to successfully burn forest fuels along 5.5 miles of the northwest perimeter of the planned burn area to help contain later burns in planned ignition units. The DOF also completed a burnout and other preparatory work around a permitted hunting camp within the burn area and pre-positioned equipment for contingency protection needs at another site adjacent to the burn area. The cost was \$21,332.
- ◆ Began an update of the Western Tanana Flats Prescribed Burn Plan (Haggstrom and Kurth 1999) (Fig 1), in cooperation with the DOF Fairbanks Area Forestry, to describe additional ignition units, allow management of wildland fires to meet prescribed fire objectives, consolidate previous amendments and attachments, and meet current planning requirements.
- ◆ Continued discussions with Tanacross residents, the Tanana Chiefs Conference Inc., the Bureau of Land Management—Alaska Fire Service (BLM—AFS), the DWC Tok Area Office, and DOF Tok Area Forestry on the proposed Wolf Lake Prescribed Burn (Fig 1 and 2) on Native corporation and village lands near Tanacross to reduce forest fuels and improve wildlife habitat.
- ◆ Initiated discussions, in cooperation with the DWC Delta Area Office, with the DOF Tok Area Forestry and Fairbanks Area Forestry offices on the feasibility of conducting a

landscape-scale prescribed burn on the Shaw Creek Flats (Fig 1) to improve moose winter range.

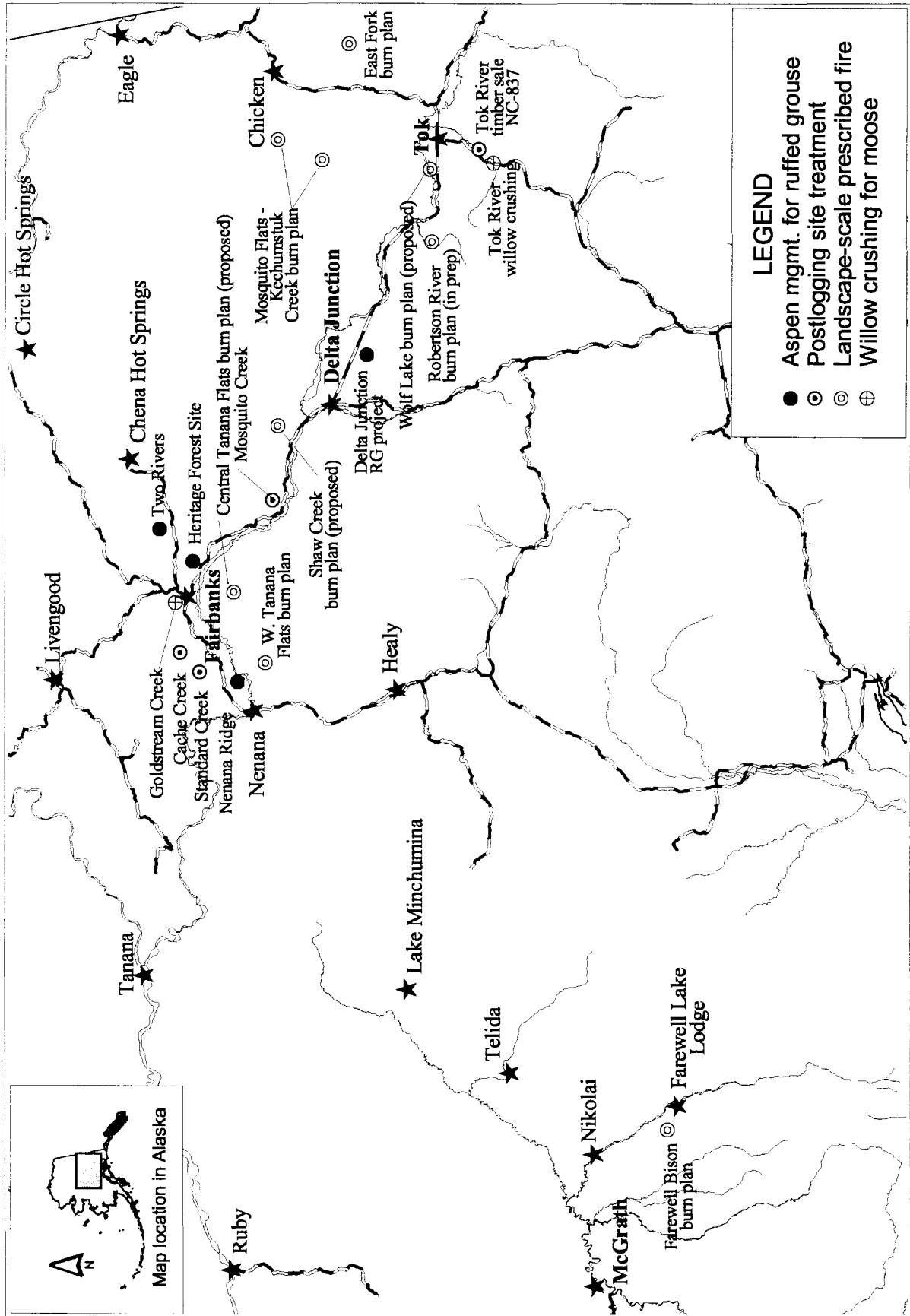
- ◆ Met with the BLM Northern Field Office, BLM-AFS, and US Army to discuss the use of prescribed burning to enhance wildlife habitats on the Central Tanana Flats (Fig 1). Division of Wildlife staff in Fairbanks provided biological objectives and background information on wildlife management needs to AFS staff.

#### Postlogging Site Treatment (Objectives 1-3)

- ◆ Developed a research study plan (Paragi 2000) for Tok River Timber Sale NC-837 (Fig 1), in cooperation with the DWC Tok Area Office and DOF Tok Area Forestry, to evaluate the relative effectiveness of 3 postlogging site preparation treatments (broadcast burning, disk trenching, and blade scarification) in enhancing wildlife habitat. Furbearer track transects were flagged across several proposed sale units and control areas. Moose pellet groups (both in sale units and adjacent riparian willows) and browse species were sampled to define baseline conditions before treatment. Snags and cavity trees were marked for retention.
- ◆ Planned prescribed burning of logging slash at the Standard Creek Timber Harvest Area (Fig 1) was not completed during either summer 1999 or 2000 because of poor weather conditions and other demands for fire resources. The prescribed burn plan (Patten et al. 1999) will be revised to include new burn units for summer 2001.
- ◆ Willows were not planted at the Standard Creek Timber Harvest Area during either summer 1999 or 2000. Planting was contingent on completion of 1 or more of the planned prescribed burns to prepare planting sites.
- ◆ Visited forest research sites near Fairbanks and Tok with Lori Trummer, USFS Forest Pathologist, in late June 2000 to identify and discuss various forest pathogens as they relate to wildlife habitat enhancement activities.
- ◆ Provided comments and recommendations on DOF timber sales and schedules, and DOF revision of the Tanana Valley State Forest Management Plan in cooperation with the ADF&G – Division of Habitat and Restoration.

#### Ruffed Grouse Habitat Enhancement (Objectives 1 and 3)

- ◆ Worked cooperatively with the DOF to secure and administer financial support from The Ruffed Grouse Society for activities designed to improve ruffed grouse habitat.
- ◆ Established permanent transects and conducted track counts to index furbearer and prey abundance among treatment (burning and felling) and control sites at the Nenana Ridge Ruffed Grouse Habitat Enhancement Project (Fig 1 and 3).



**LEGEND**

- Aspen mgmt. for ruffed grouse
- ⊙ Postflogging site treatment
- ⊖ Landscape-scale prescribed fire
- ⊕ Willow crushing for moose

Figure 1 Location of ADF&G/DWC Region III habitat enhancement activities

- ◆ Established permanent sample plots in the 4 (May 1998) burn units at the Nenana Ridge Ruffed Grouse Habitat Enhancement Project Area during September 1999 and gathered data to assess aspen suckering response and adult tree mortality.
- ◆ Felled mature aspen in 8 treatment units totaling 99 acres at the Nenana Ridge Ruffed Grouse Habitat Enhancement Project Area during fall 1999. Felling was contracted by DOF to Nip and Tuk Logging, North Pole, for \$199 per acre.
- ◆ Extended the one-lane forest road at the Nenana Ridge Ruffed Grouse Habitat Enhancement Project Area westward approximately 2.5 miles during early November 1999 to provide better public access and facilitate project-related treatments and evaluations. Construction of the new road was contracted to North Pole Wood for \$5,700 by the DOF.
- ◆ Worked with DOF personnel to identify and evaluate potential sites for timber sales, other mechanical treatments, and prescribed burning in mature aspen near the Nenana Ridge Ruffed Grouse Habitat Enhancement Project Area and the Cache Creek Timber Harvest Area (Fig 1).
- ◆ Designed and implemented an experimental project in mature aspen with a spruce understory and moss ground cover at the Delta Junction Ruffed Grouse Project Area (Fig 1), in cooperation with the DWC Delta Area Office and DOF Delta Area Forestry, to evaluate the efficacy of different mechanical treatments to enhance ruffed grouse habitat. Eighteen acres were treated in late March 2000 by S & K Farms of Delta Junction using two types of dozer blades and several treatment variations (felling only, felling and windrowing debris, and a range of moss disturbance) at a cost of \$2,500. Permanent sample plots were established after snow melt in June.
- ◆ Attempted ruffed grouse drumming counts at the Nenana Ridge Ruffed Grouse Habitat Enhancement Project Area and the Cache Creek Timber Harvest Area during early May 2000 in cooperation with the DWC Fairbanks Area Office.
- ◆ Marked the perimeter of a 16-acre aspen unit at the Nenana Ridge Ruffed Grouse Habitat Enhancement Project Area for prescribed burning during May 2000 and revised the prescribed burn plan (Haggstrom and Kurth 2000) in cooperation with DOF Fairbanks Area Forestry fire staff. However, desired burn conditions did not develop before leaf out due to unusually cool weather in May. This unit, and a 26-acre aspen unit carried over from May 1999, will be rescheduled for burning during May 2001.
- ◆ Visited ruffed grouse habitat enhancement projects near Fairbanks and Delta in early June 2000 with Dan Dessecker, Senior Wildlife Biologist for The Ruffed Grouse Society, to evaluate current management activities and discuss future management and research needs.
- ◆ Tom Paragi gave a presentation on aspen response to burning at the Interagency Fire Effects Task Group in Fairbanks.

### Moose Habitat Enhancement (Objectives 1-3)

- ◆ Revisited the Heritage Forest (formerly Heritage Park) Education and Recreation Site (Fig 1) near Fairbanks in late summer 1999 to see how well new shoots have established in the aspen, birch, and willow units that were shearbladed during March 1997 (Haggstrom and Kelleyhouse 1997) and to discuss options for a more thorough assessment. We plan to establish permanent plots during Fall 2001 to monitor sprout density over time.
- ◆ Revisited the willow treatment units along the Tok River (Fig 1) in late summer 1999. Willows crushed with bulldozer during March 1998 have produced a vigorous growth of new stems that are receiving moderately high browsing by moose.
- ◆ Conducted and evaluated moose browse surveys, in cooperation with the McGrath Area Office, on sites along the Kuskokwim River within about 15 miles of McGrath during February 2000.
- ◆ The willow crushing conducted during March 1996 in the Goldstream Creek Public Use Area (Haggstrom 1996) was not evaluated during this reporting period. We plan to re-photograph certain sites during late winter 2001 for a visual comparison with photographs taken before and during crushing.

### Prescribed Burning Protocol (Objective 1)

- ◆ The DOF Fairbanks Area Forestry fire staff began compiling documentation of the state's prescribed fire policies and procedures during 1999 and, as new prescribed fire plans were prepared, DWC and DOF staff continued to broaden the prescribed burning protocol to better address social and environmental concerns.

### Program Coordination, Support, and Outreach (Objectives 1-3)

- ◆ Hired Tom Paragi on August 16, 1999 as Wildlife Biologist II to assist Project Leader Dale Haggstrom.
- ◆ Jointly conducted field trips at Delta, Fairbanks and Tok with DOF staff to familiarize Tom with existing projects and discuss future needs.
- ◆ Reviewed literature on habitat management and forest silviculture.
- ◆ Reviewed various sampling and analysis techniques for feasibility, cost-effectiveness, and statistical rigor.
- ◆ Prepared a wildlife research study plan (Paragi and Haggstrom 2000) to identify and evaluate wildlife habitat enhancement techniques in Interior Alaska.
- ◆ Developed expertise in using the ArcView<sup>®</sup> graphic information system to evaluate and display spatially oriented data.



- ◆ Purchased supplies and equipment, prepared Request For Quotations (RFQ) and awarded contracts, and provided oversight and accountability for project expenditures.
- ◆ Prepared or amended Reimbursable Services Agreements (RSA) with the DOF and provided administrative oversight and accountability for expenditures charged against these encumbered project funds.
- ◆ Prepared the FY99 Federal-Aid Performance Report, and the FY01 annual work plan and budget request.
- ◆ Tom Paragi presented lectures on habitat management at a local Fairbanks high school and the University of Alaska Fairbanks (UAF) and gave presentations on habitat issues in ecosystem management at the 10<sup>th</sup> Northern Furbearer Conference at UAF.
- ◆ Tom also attended the Second Alaska Fire Effects Workshop sponsored by Department of Interior in Cooper Landing during May 2000 and gave a presentation on sampling vegetation and wildlife use in post-fire seres.

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**SEGMENT PERIOD PROJECT COSTS**

	<u>Personnel</u>	<u>Operating</u>	<u>Total</u>
Planned	0.0	176.6	176.6
Actual	0.0	48.7	48.7
Difference	0.0	127.9	127.9

*Explanation:* Personnel costs for this project were not paid from Federal Aid in Wildlife Restoration Act funds during FY00. Actual operating costs were less than planned because many of the planned activities included prescribed burning. It is inherently difficult to predict when prescribed burning can be accomplished and how much it will cost because both factors depend on weather conditions and the availability of fire resources when desired conditions are met.

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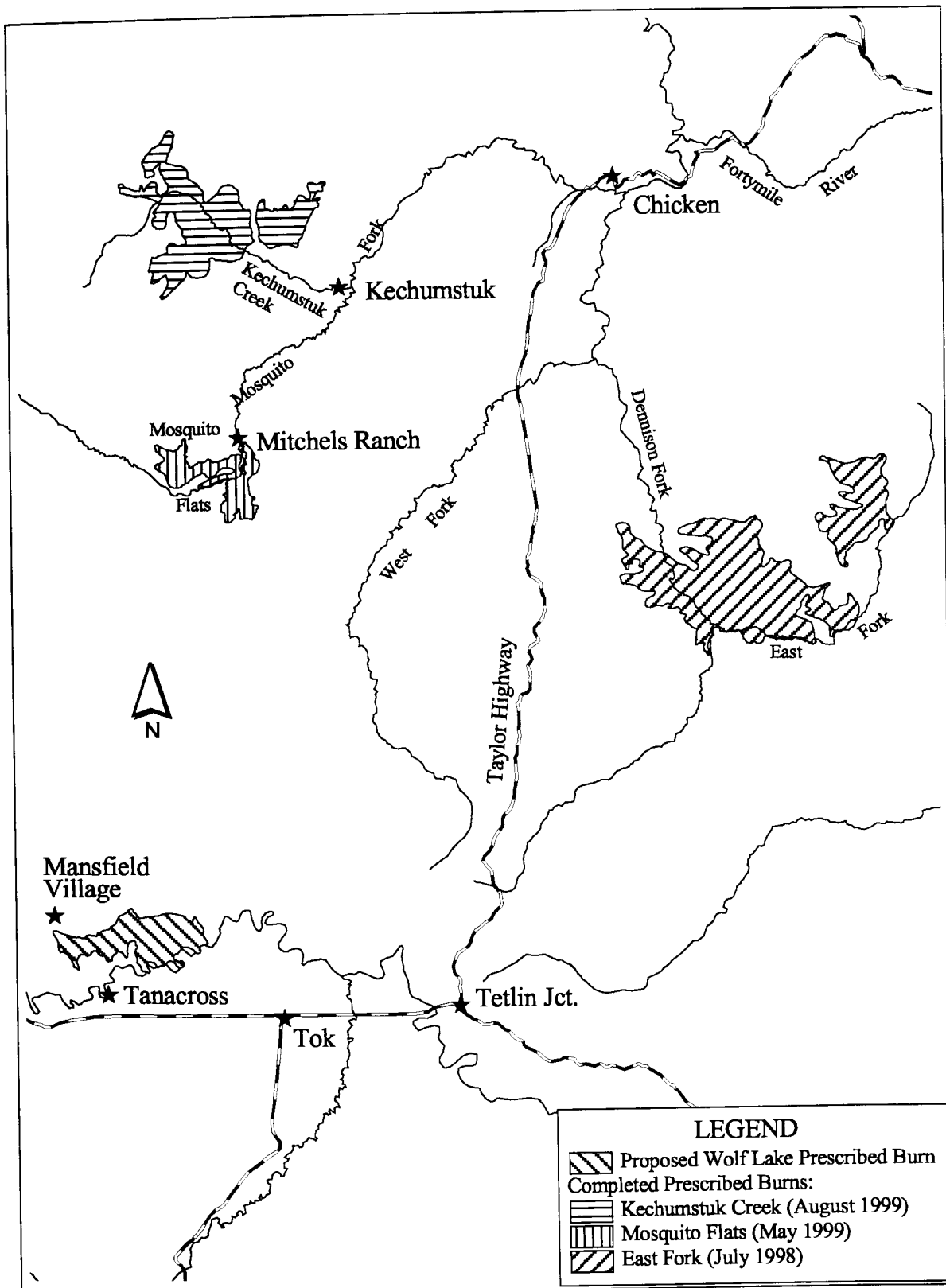


Figure 2 Landscape-scale prescribed burns in eastern Interior Alaska, 1998-2000

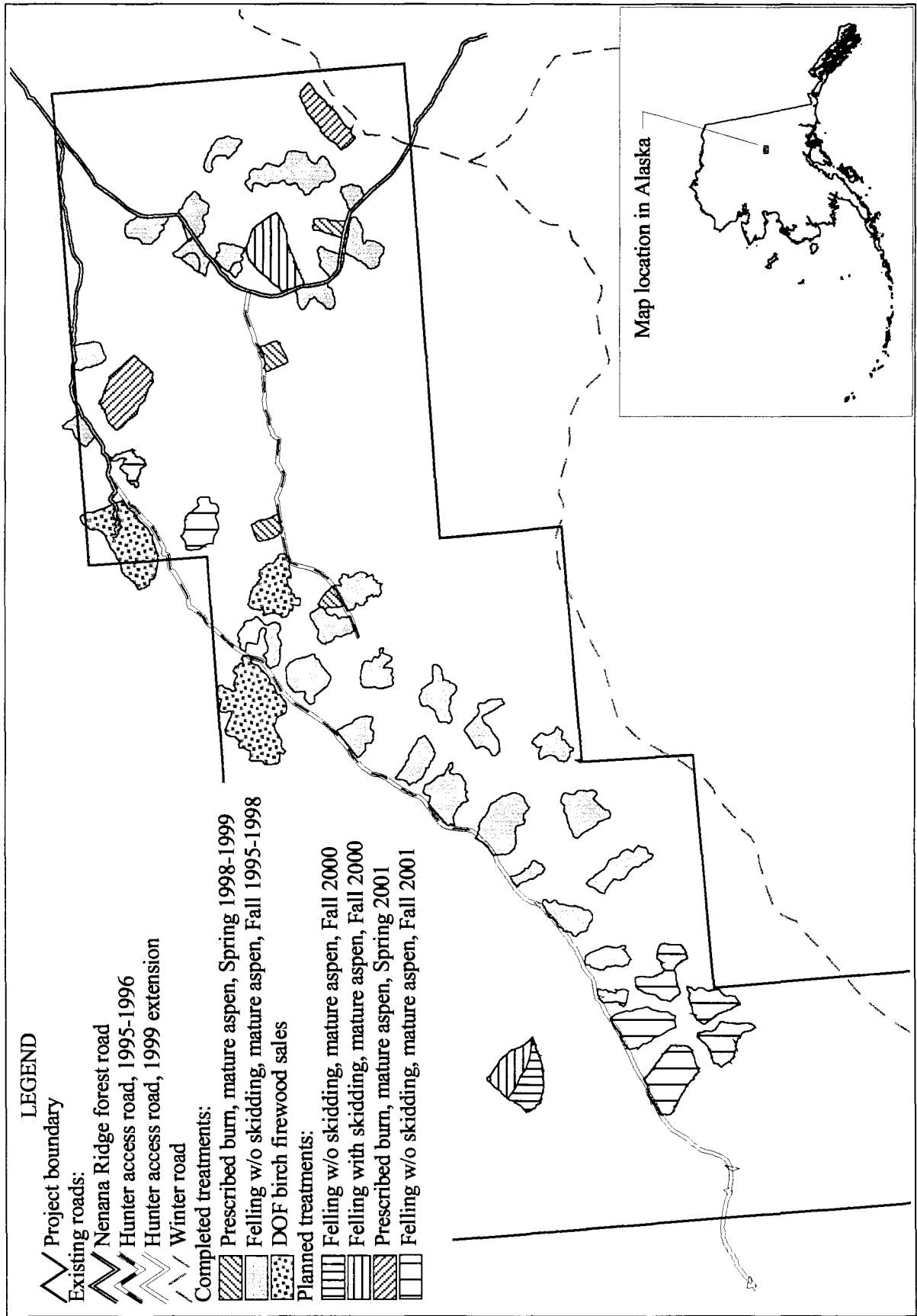
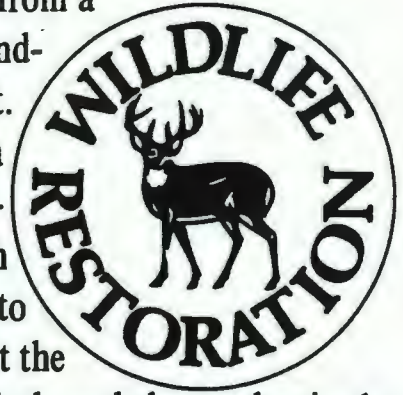


Figure 3 Nenana Ridge Ruffed Grouse Habitat Enhancement Project in Interior Alaska

Table 1 Summary of project accomplishments, 30 June 1999–1 July 2000

Location and Activity	DWC Area Office	Game Mgmt. Unit	Number of Sites	Total Amount Completed
Mosquito Flats/Kechumstuk Creek Prescribed Burn Plan Area:				
• Aerial ignition w/Ping Pong Dispenser (Kechumstuk Cr.)	Tok	20E	2	30,781 acres
Farewell Bison Prescribed Burn Plan Area:				
• Aerial ignition w/Ping Pong Dispenser	McGrath	19C	1	5.5 miles black line
• Hand ignition w/drip torches	McGrath	19C	1	black line for site protection
Nenana Ridge Ruffed Grouse Project Area:				
• Aspen felling	Fairbanks	20B	8	99 acres
• Hunter access road	Fairbanks	20B	1	2.5 miles
Delta Junction Ruffed Grouse Project Area:				
• Aspen shearblading	Delta	20D	1	18 acres

The Federal Aid in Wildlife Restoration Program consists of funds from a 10% to 11% manufacturer's excise tax collected from the sales of handguns, sporting rifles, shotguns, ammunition, and archery equipment. The Federal Aid program allots funds back to states through a formula based on each state's geographic area and number of paid hunting license holders. Alaska receives a maximum 5% of revenues collected each year. The Alaska Department of Fish and Game uses federal aid funds to help restore, conserve, and manage wild birds and mammals to benefit the public. These funds are also used to educate hunters to develop the skills, knowledge, and attitudes for responsible hunting. Seventy-five percent of the funds for this report are from Federal Aid.



ADF&G