STATE OF ALASKA

DIVISION OF FORESTRY

1992

ANNUAL REPORT

Alaska Department of
NATURAL
RESOURCES

George K. Hollett

This annual report is dedicated to George K. Hollett, in appreciation for his many years of dedicated service to the State of Alaska.

August 12, 1963 to December 31, 1992

George Hollett retired on the last day of 1992, completeing a 30-year career with the Department of Natural Resources. He served the department in many capacities and through many changes. George joined the Department of Natural Resources as Area Forester in Fairbanks in 1963, when Forestry was a section of the Division of Lands. In 1968 he became Fairbanks Area Manager for the Division of Lands and the following year the Fairbanks District Land Manager. George moved to Anchorage in 1974 and was appointed State Forester by Governor Hammond. When the Division of Land and Water Management was created in 1976, George was named deputy director. He returned to forestry in 1982, soon after the Division of Forestry was created, and served as deputy director until his retirement. He worked one year in Juneau and the remainder in Anchorage.

George's exceptional memory, experience and understanding of the development of DNR and its changes in administration, policy, structure, focus and staffing were invaluable to those who worked with him. Through the years, George's institutional memory and historical perspective of the management of natural resources in Alaska helped the Division of Forestry look ahead and prepare for the challenges of the future.

George is turning his attention to new challenges, such as learning to weld, improving his skills in woodworking and taking time to pursue his love of sailing in Prince William Sound. George's former co-workers wish him well as he applies himself to these new interests with the same proficiency, steadiness and good humor that will be missed at the Division of Forestry.

Alaska Division of Forestry

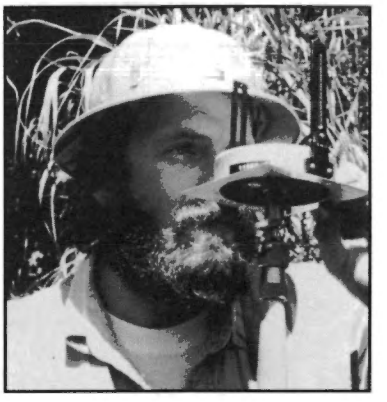
The Division of Forestry is one of eight divisions within the Department of Natural Resources. It was established as a division in November, 1981. Prior to that time it was a section within the Division of Forest, Land and Water Management.

The division's mission is to protect the state's forested land and forest resources, and to manage them for multiple use and sustained yield. The Division of Forestry:

- protects water quality, fish and wildlife habitat and other forest values through appropriate forest practices and by administering the Forest Resources and Practices Act;
- manages a wildland fire program on public, private and municipal lands;
- encourages development of the timber industry and forest products markets;
- administers the Community Forestry and Stewardship programs;
- manages the Haines and Tanana Valley state forests (over two million acres);
- conducts personal-use and commercial timber and fuelwood sales;
- gives technical assistance to forest landowners;
- operates the Forest Regeneration Center.

The division has a central office in Anchorage for policy and program direction, and ten area offices responsible for program support and field work.

In 1992 the division employed 90 people full-time, 130 seasonally and about 600 as emergency firefighters.



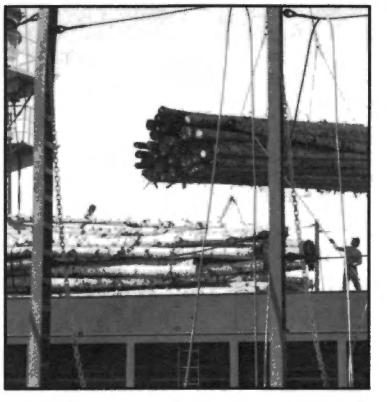
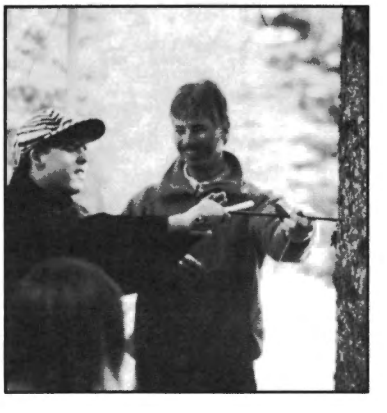


Table of Contents



Highlights of 1992

Forest Management

- Held ground breaking for the new Forest Regeneration Center near Palmer.
- Grew 196,800 seedlings and supplied 433,922 for reforestation on federal, state, municipal and private land.
- Planted 367,100 seedlings on 689 acres of state land.
- Completed the Forest Health Management Plan for the Western Kenai Peninsula and Kalgin Island, and began work on a plan for the Copper River Basin.
- Prioritized seven parcels of state land on the Kenai Peninsula that are heavily infested with spruce bark beetles to consider for harvest.
- Processed 225 forest practices notifications of timber harvest on 83,386 acres, and conducted 169 field inspections.

Timber Production

- Administered the harvest of 2,680 million board feet of timber on state lands, which provided $1,090,164 to the state coffers.
- Issued 27 commercial timber sale contracts, nine commercial fuelwood sales and 706 personal use fuel wood permits.
- Registered 74 log brands, up from 45 the previous year.
- Issued 28 beach log salvage contracts—a record high number.
- Proposed a 20 million board foot salvage sale of beetle-killed spruce on 5,300 acres of state land on the Kenai Peninsula.

Fire Protection

- Provided, in cooperation with federal agencies, fire protection for 134 million acres of private, state and municipal land.
- Employed emergency fire fighters who collected $1.39 million in state and federal wages.
- Administered federal Rural Community Fire Protection Grants, totaling $76,550, to 20 communities.
- Negotiated a new five-year contract for fire fighting aircraft that resulted in a savings of 18 percent, or $265,200, compared to the previous contract.

Cooperation, Education, Assistance

- Granted $29,000 in federal community forestry funds to eight communities. The grants were matched with $72,000 in local funds and in-kind services.
- Administered a $32,000 grant from the Small Business Administration for tree planting projects in Wasilla, Anchorage, Fairbanks and Soldotna.
- Co-sponsored Project Learning Tree, a nationwide environmental education program that trains teachers to help students make wise decisions about the use, management and protection of natural resources.
- Cooperated with the Department of Transportation to plant an arboretum with 18 species of trees in a Soldotna greenbelt.
- Implemented the new Forest Stewardship Program, which provides technical assistance to private forest landowners to help them achieve healthy and productive forests.
- Sponsored a spruce bark beetle exhibit and demonstration of log cabin construction using beetle-killed spruce at the Anchorage Fur Rendezvous, visited by 4,000 people.

Resource Management

Forest Regeneration

Lawrence A. Dutton Forest Regeneration Center

Ground breaking for the new Forest Regeneration Center was held in Palmer in June. The headhouse building was completed in September and foundations for the two greenhouses were laid in November. The greenhouses at the former nursery site in Eagle River were moved during the winter. The new facilities were located on 12 acres on the Matanuska Research Farm through an agreement between the division and the University of Alaska.

New greenhouses could not be included in the upgrade but the division has placed in storage two greenhouses from the former U.S. Forest Service nursery at Petersburg. Even without the new greenhouses, major improvements were achieved. The location has excellent soils and room for producing transplants or bare root seedlings. The headhouse includes expanded work and storage space and a walk-in seed freezer. New equipment was purchased that automatically fills trays and sows seeds.

There is ample space for construction of additional greenhouses when funding is available. Utility connections were designed to allow for expansion and the water source can supply up to eight greenhouses.

The process of moving and upgrading facilities disrupted the normal growing schedule and resulted in a smaller crop size than in previous years. A total of 196,800 seedlings were grown and 433,922 (produced the prior year) were shipped. As in the past, most of the seedlings were used for reforestation of state lands. Other users included forestry researchers, non-industrial private forest landowners, the forest industry, state fairs and the Society of American Foresters.

The nursery was staffed with a manager, maintenance mechanic, technician and inmate laborers provided by the Department of Corrections. The Division of Parks' Design and Construction Section provided engineering expertise for development of the new facility.

Greenhouse and headhouse at the Forest Regeneration Center's new site in Palmer.

Fabric mat study

In some areas regeneration is difficult because of the thick grass that competes with seedlings. In 1991 the division, in cooperation with the Institute of Northern Forestry, began a study of fabric mats that inhibit the growth of vegetation around seedlings. Test plots were established on the Kenai Peninsula and near Willow to assess the use of mats with white spruce seedlings.

In the second year of the study the division measured and evaluated the overall health of the seedlings at all test plots. Early results indicate that seedlings planted in heavy grass with the benefit of fabric mats had almost 100 percent survival. However, seedlings planted without mats showed significant mortality due to the competition from the grass. The study will continue to measure and evaluate the benefits of mats, as well as the best type of fabric for conditions in Alaska's forests.

Vegetation management

A Forest Vegetation Management Workshop, sponsored by the Division of Forestry, Alaska Reforestation Council, Cooperative Extension Service and U.S. Forest Service was held in October and attended by 31 people. The training session focused on the suppression of undesirable vegetation and the promotion of desirable trees and shrubs. Topics included herbicide use, manual and mechanical brush clearing, fire and other control techniques used in revegetation.

Seedling Production in 1992

Seedling Species Sown

white spruce	133,600
lodgepole pine	21,230
black spruce	10,030
tamarack	10,000
Sitka spruce	6,800
Siberian larch	6,430
Scotch pine	6,200
paper birch	1,230
Siberian crab apple	630
common lilac	440
Norway spruce	40
Siberian pea shrub	40
silverberry	30
chokecherry	30
mountain hemlock	30
Sitka mountain ash	30
prairie rose	10
Total	**196,800**

Seed Processed

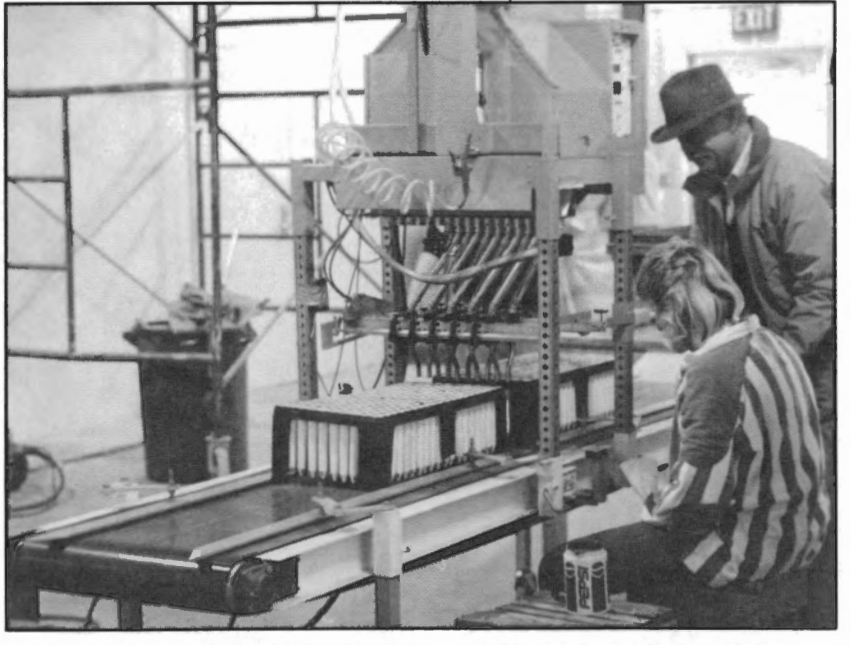
Species	Cones Received	Seed Recovered	Seed Shipped
	bushels	grams	
white spruce	3	313	2,670
Sitka spruce	18	5,630	514
paper birch	—	—	44
tamarack	—	—	1,000
Scotch pine	—	—	454
other	—	—	20
Total	**21**	**5,943**	**4,702**

Seedlings Sown & Shipped

Client	Sown	Shipped
state	155,800	376,649
private	27,200	18,856
federal	7,000	28,652
research	6,800	9,765
Total	**196,800**	**433,922**

Reforestation on State Land

	Seedlings planted	Acres planted
Fairbanks Area	330,000	535
Kenai/Kodiak Area	16,300	59
Southeast Region	20,800	95
Total	**367,100**	**689**



This new seeder automatically places one seed in each seedling container, eliminating the time-consuming task of seeding by hand.

Timber Development

Haines State Forest

This year marked the resumption of an active timber sale program on the Haines State Forest, after several years with no sale activity due to Mental Health Land management restrictions. Sales were prepared for both the University of Alaska and the Mental Health Land Trust for a total volume of 13.3 million board feet. Klukwan Forest Products, Inc. bought both sales totaling 576.5 acres.

The University Sunshine Timber Sale covers 209.5 acres predominately composed of spruce that has been killed or infested by bark beetles. A total volume of 4.4 million board feet (MMBF) will be harvested and three miles of road will be constructed during the life of the contract. Haines Area staff will administer the sale.

The Little Salmon Combo Sale, held for the Mental Health Land Trust had a volume of 8.87 MMBF on 367 acres. The primary silvicultural goal is the salvage of spruce bark beetle infested timber. The sale will require construction of 5.4 miles of road and substantial upgrades to portions of the existing road.

This feller buncher, operating in the Tanana Valley State Forest, is very efficient at harvesting timber. The owner, using a crew of three, harvests nearly one million board feet each year from state and private land.

Valdez/Copper River harvests

The Valdez/Copper River Area had a very productive year in terms of timber harvesting. The area sold six timber sales for a total volume of 465 thousand board feet (MBF) and approximately 1,447 cords of fuel wood. All sawtimber and fuel wood was white spruce.

The area office received several inquiries from large timber companies interested in harvesting from three to 15 million board feet of timber on state lands.

The Ahtna Corporation began preparing a sale to make available 46,000 acres of spruce that has been killed or threatened by bark beetles near Chitina. The corporation also sold about ten sections of timber on its land near the Kotsina River.

Southwest Area harvests

The Southwest Area sold two timber sales in 1992, both located at Devil's Elbow on the Kuskokwim River. The sales totaled 600,000 board feet of white spruce sawtimber and allow the operators to mill for the next three years.

The area also responded to a request for timber sales near Big River, up the Kuskokwim from McGrath. One sale was laid out for sale in March, 1993.

Fairbanks Area harvests

The Fairbanks Area held a fall auction in which seven sales were offered, for a total of 6,127 cunits of spruce sawlogs and 1,432 cunits of fuel wood. Five sales sold for a total of 5,404 cunits of sawlogs and 843 cubic feet of fuelwood. The area also prepared negotiated sales in Manley Hot Springs and Central, and sold five house log sales near Fairbanks.

The Fairbanks Area has computerized its timber sale records on a geographical information system called ARC-INFO this year. The new system allows instant access to the records and is able to do computations and data comparisons. It provides maps of all timber sales and allows staff to look at vegetation, water, roads and land ownership in the area. This makes it useful for timber inventory, sale planning, reforestation and other forest management functions including fire management.

Falls Creek Salvage Sale

Harvesting began on the Falls Creek Cooperative Salvage Sale near Kasilof and Clam Gulch in January. The sale was a cooperative effort between the Division of Forestry, the University of Alaska and Cook Inlet Region, Inc. The division proposed the sale of beetle-killed and infested spruce to combat the infestation.

In conjunction with the sale, Forestry put in 50 beetle attractant traps and felled 45 green trees to serve as beetle trap trees. The trees successfully drew a large portion of the emerging spruce beetles and were then removed in the spring, as part of the timber operation, before adult beetles could emerge and attack new host trees.

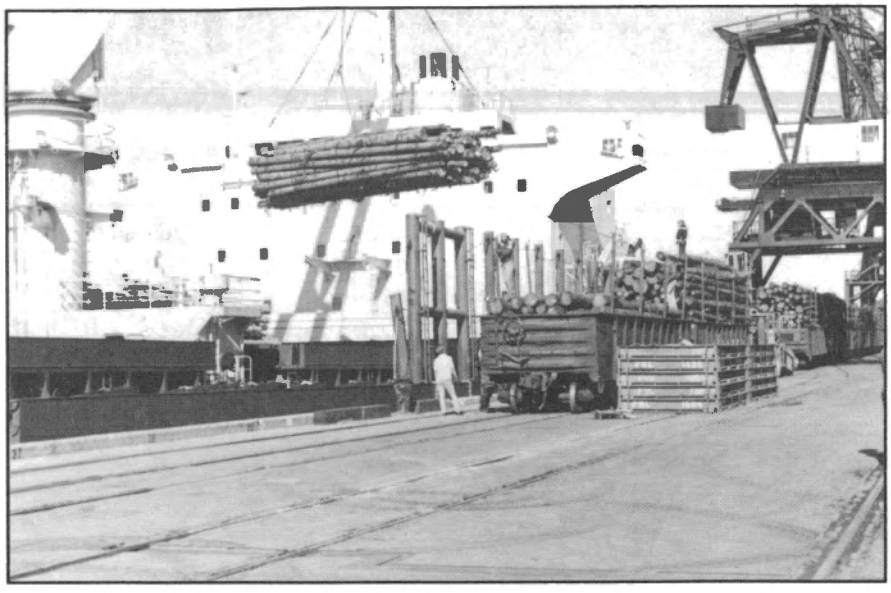
Salvage harvests provide ski trails

Fire salvage logging operations were completed in the Rosie Creek burn area near Fairbanks. The logging roads and skid trails have been transformed into a classic 10 km Nordic ski trail system by the University of Alaska and the Nordic Ski Club. Local skiers and the university's cross country ski team are benefiting from this example of multiple use in the Tanana Valley State Forest.

Harvest operations improve wildlife habitat in Southwest

The Division of Forestry, in cooperation with the Department of Fish and Game, has modified the timber sale contracts used in the Southwest Area to provide better habitat for fur bearing animals. The new contracts require the operator to leave small piles of small-diameter slash randomly throughout the sale area. The piles create habitat for mice and moles under the snow, which, in turn, provide a winter food supply for fox and marten.

The small-diameter of the slash (under four inches) minimizes the chance of creating breeding material for spruce bark beetles. This practice also reduces the cost of the operation by allowing the operator to leave some material in the field rather than moving everything to a landing and burning it.



There is a growing international market for interior and Southcentral Alaska timber, such as this white spruce being loaded onto a ship in Anchorage.

MBF = thousand board feet

MMBF = million board feet

CCF = hundred cubic feet

Board foot is the unit used to measure lumber. One board foot equals one foot square by one inch thick.

Cubic foot is the unit used to measure volume of wood for purposes other than lumber, such as pulp or firewood.

Cut and Sold on State Lands
1959 ~ 1992

Year	Annual Sales Volume (MBF)	Annual Cut Volume (MBF)	Cut Value ($)
1959-69	709,843	236,035	786,778
1970	14,926	53,568	229,101
1971	41,077	43,191	246,091
1972	23,110	50,591	401,133
1973	449,452	38,356	218,357
1974	21,146	51,241	376,450
1975	4,655	33,540	430,486
1976	2,358	41,714	73,043
1977	2,412	60,251	544,884
1978	6,932	30,301	638,806
1979	156,235	32,382	1,016,585
1980	4,949	47,547	1,254,500
1981	18,402	53,678	1,491,554
1982	24,154	35,198	488,512
1983	72,145	35,511	402,774
1984	21,087	28,044	833,793
1985	20,178	12,864	192,109
1986	10,469	18,995	233,862
1987	27,588	25,884	379,540
1988	27,475	25,177	515,980
1989	21,600	22,711	514,632
1990	35,783	18,603	477,580
1991	10,156	16,241	236,205
1992	9,969 (24,105 ccf)	26,802 (63,702 ccf)	1,090,164*

* Includes a back payment of $413,665.

Average Sawtimber Stumpage per MBF
1981 ~ 1992

Year	Aspen	Birch	Cottonwood	Hemlock	Sitka Spruce	White Spruce
1981	0	$32.22	$7.46	$14.53	$24.82	$35.96
1982	0	$27.27	$10.00	$10.92	$28.24	$25.65
1983	$14.47	$29.95	0	$3.50	$166.93	$39.95
1984	$10.60	$26.70	0	0	$32.72	$20.20
1985	0	0	$15.10	$21.85	$17.65	$26.52
1986	$20.13	$30.00	$15.10	$9.22	$19.44	$25.00
1987	$10.00	$8.76	0	$14.13	$18.78	$7.32
1988	$2.03	0	$9.42	$3.00	$97.80	$21.11
1989	$2.13	$7.01	$9.96	$5.88	$71.29	$34.25
1990	0	$6.86	$10.00	$3.67	$46.95	$17.14
1991	0	$24.76	0	0	$82.57	$14.32
1992	0	0	0	$3.59 ($1.47 ccf)	$66.42 ($30.41 ccf)	$34.17 ($14.24 ccf)

Cut and Sold Report by Region
Calendar Year 1992

Volume Cut

Region	Sawtimber MBF	Sawtimber CCF	Other Products[1] MBF	Other Products[1] CCF	Total Volume MBF	Total Volume CCF
Northern	4,462	11,676	6,673	16,282	11,135	27,958
Southcentral	605	1,289	815	2,012	1,420	3,301
Southeast	13,816	31,458	431	985	14,247	32,443
Total	**18,883**	**44,423**	**7,919**	**19,279**	**26,802**	**63,702**

Volume Sold

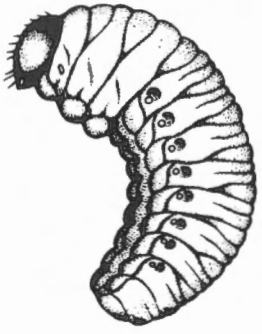
Region	Sawtimber MBF	Sawtimber CCF	Other Products[1] MBF	Other Products[1] CCF	Total Volume MBF	Total Volume CCF
Northern	6,305	15,383	2,143	5,230	8,448	20,613
Southcentral	840	1,787	596	1,519	1,436	3,306
Southeast	82	180	4	6	86	186
Total	**7,227**	**17,350**	**2,743**	**6,755**	**9,970**	**24,105**

[1]Other products include pulp logs, fuel wood, house logs, etc.

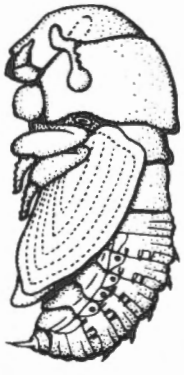
Contracts Issued by Type and Area
Calendar Year 1992

Region	COMMERCIAL USE Fuel wood Sales	COMMERCIAL USE Saw log Sales	COMMERCIAL USE Beach log Salvage	PERSONAL USE Fuel wood Permits	PERSONAL USE House log Sales	PERSONAL USE Saw log Sales
Northern Region						
Fairbanks	2	5	0	400	4	2
Delta	4	9	0	70	0	0
Tok	0	1	0	110	0	0
Total	**6**	**15**	**0**	**580**	**4**	**2**
Southcentral Region						
Anchorage/Mat-Su	0	1	0	79	5	3
Kenai/Kodiak	0	1	0	17	8	0
Valdez/Copper River	3	3	0	30	2	0
Southwest (McGrath)	0	4	0	0	0	2
Total	**3**	**9**	**0**	**126**	**15**	**5**
Southeast Region						
Juneau	0	1	11	0	0	1
Haines	0	0	0	0	0	1
Ketchikan	0	2	17	0	0	0
Total	**0**	**3**	**28**	**0**	**0**	**2**
GRAND TOTAL	**9**	**27**	**28**	**706**	**19**	**9**

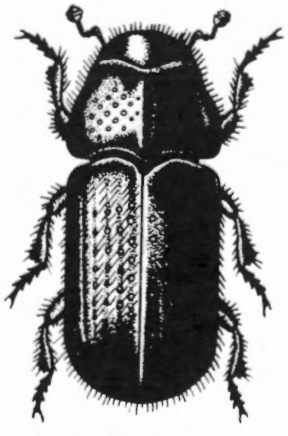
Spruce bark beetle



larva



pupa



adult

Forest Health and Protection

Forest insects

Forest insect and disease damage increased throughout Alaska's forests in 1992. Insect populations, including the spruce beetle (*Dendroctonus rufipennis*), exploded, especially in southcentral and interior Alaska. Aerial surveys conducted by the Division of Forestry, in cooperation with the U.S. Forest Service, showed that new and ongoing spruce beetle infestations now cover more than 600,000 acres, with more than half of the activity on the Kenai Peninsula. The 1992 statewide total is the greatest known acreage affected by spruce beetles in a single year.

Bark beetle activity also increased in the Copper River area near Chitina, the Clam Gulch/Tustumena Lake areas on the western Kenai Peninsula, and portions of the west side of Cook Inlet near the Skwentna River. A significant increase was noted for the first time in Sitka spruce stands along Turnagain Arm near Anchorage. Approximately 600 acres of spot infestations were detected from Girdwood to Hope. The Yukon River outbreak decreased significantly in 1992.

Hardwood defoliator activity increased for the third consecutive year throughout most of southcentral and interior Alaska, with willow defoliation accounting for most of the increase. Assorted leaf miners, noctuid, and rusty-tussock moth larvae defoliated more than 150,000 acres of willow.

Spruce budworm populations increased dramatically near Fairbanks, Delta Junction and along the Yukon River where more than 160,000 acres of white spruce were defoliated. Spruce mortality was not observed, but repeated heavy defoliation has slowed tree growth. Young spruce plantings may be most seriously impacted by successive years of heavy defoliation. State and federal pest specialists began monitoring the most accessible budworm defoliation areas in 1992 and will continue monitoring in the coming year.

Black-headed budworm defoliation decreased in Prince William Sound in 1992, however, it increased for the first time along Turnagain Arm in the Portage and Turnagain Pass areas south of Anchorage. Spruce budworm and black-headed budworm defoliate both spruce and hemlock.

In Southeast Alaska, three defoliating insects—the black-headed budworm, spruce needle aphid and hemlock sawfly—caused substantial defoliation of western hemlock and Sitka spruce. Black-headed budworm defoliation was observed on more than 87,000 acres of mature western hemlock and Sitka spruce located primarily near Frederick Sound. Budworm defoliation of this magnitude has not been seen in Southeast Alaska since the early 1960s.

Spruce needle aphids defoliated 25,000 acres of Sitka spruce and caused significant damage to ornamental spruce in several communities. Hemlock sawflies defoliated 6,500 acres of mature western hemlock on Prince of Wales Island and within Misty Fjords National Monument. Spruce budworm caused heavy defoliation of Sitka spruce and western hemlock for the third consecutive year along the Chilkat River near Haines. Spruce beetle activity within Glacier Bay National Park, near Gustavus, increased slightly and on state lands near Haines activity increased substantially. Spruce beetle activity in these two areas covers about 25,000 acres.

Forest diseases

The most significant diseases in Alaskan forests are those that persist on sites year after year—yellow cedar decline, wood decay of live trees and hemlock dwarf mistletoe. There are more than 526,000 acres of cedar decline in southeast Alaska in a broad band from western Chichagof Island through the Ketchikan area. Heart rot and butt rot fungi caused significant cull in all tree species in Alaska. Hemlock dwarf mistletoe continued to limit growth and kill trees in old-growth forests of Southeast Alaska. Its impact in young stands appears to depend on the presence of large infected trees left after harvesting.

An outbreak of hemlock canker killed small hemlock and the lower branches of large hemlock along more than 60 miles of unpaved roads on Prince of Wales Island for the third consecutive year. The canker is caused by a fungus, *Xenomeris abietis*, and is possibly aggravated by dust. The disease was also recorded for the first time along roads near Rowan Bay on Kuiu Island, Corner Bay on Chichagof Island and Carroll Inlet on Revillagigedo Island.

Spruce needle rust was at relatively high levels throughout Alaska but most other foliar pathogens occurred at low to moderate levels. Rizosphaera needle cast, however, was quite visible on Sitka spruce in the Girdwood, Twenty Mile and Portage valleys south of Anchorage.

Porcupines continued to damage spruce and hemlock in valuable young-growth stands in Southeast Alaska. Decay, canker and foliar fungi caused a large, but unmeasured amount of damage to hardwood species in the interior of the state.

Pheromone testing

The division continues to work with U.S. Forest Service entomologists in testing spruce bark beetle pheromones as a way to manipulate bark beetle populations. Bark beetles produce pheromones, chemicals used to communicate with other beetles, for mating, to locate susceptible spruce hosts, and to attract or repel other spruce beetles.

Tests of the anti-attractant pheromone, methylcyclohexenone (MCH), used to treat spruce log decks along a pipeline clearing between Tyonek and Beluga, was completed in August. A joint Division of Forestry and U.S. Forest Service publication with details of the MCH test is available upon request. Its title is "Evaluation of Potential for Spruce Bark Beetle Population Build-up in Right-of-Way Clearing Debris—Tyonek/Beluga, August 1991." A report on the 1992 follow-up evaluation will be published in 1993.

Pheromones may eventually prove useful as natural biological controls for reducing damage caused by bark beetles in selected areas. With continued testing there is the potential for manipulating low-level beetle populations that develop from spruce clearing activities. Improved methods of trapping beetles in specialized pheromone traps near log storage areas and reducing damage over large areas is also possible. The division will continue pheromone testing in 1993, using improved formulas.

Since 1970, spruce bark beetles have killed trees on 700,000 acres—about 35 percent of the forested land on the Kenai Peninsula.

Checking pheromone traps for spruce bark beetles.

Pest management assistance

The Division of Forestry provides technical pest management assistance to private non-industrial landowners using matching grants from the U.S. Forest Service.

In 1992 the division provided a grant to the Fairbanks-based Tanana Chiefs Conference, Inc. to survey spruce beetle impacts along the Yukon River. The assessment complements forest inventories on corporate and village lands along the Yukon River corridor. Two publications with details of the spruce beetle impact assessments were prepared by TCC foresters for the division and are available upon request.

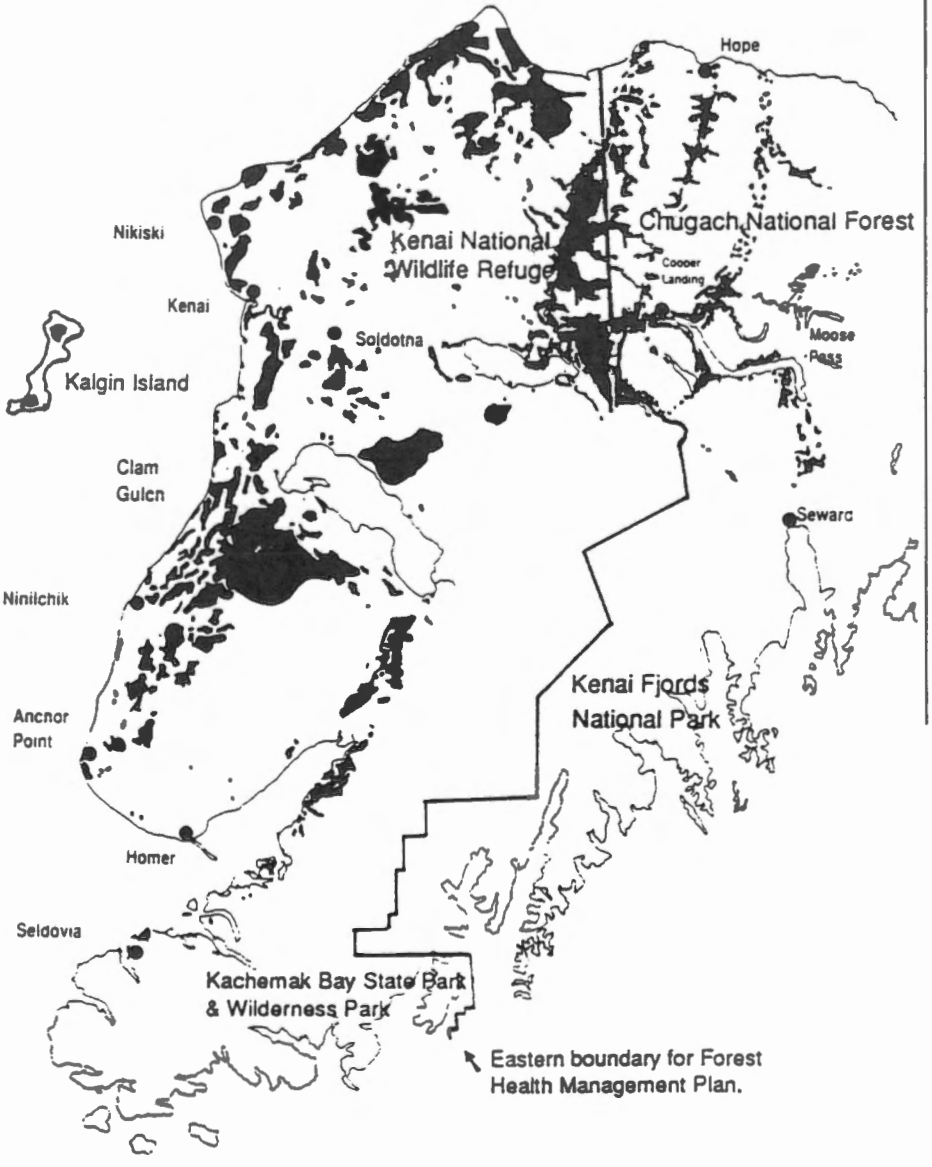
Spruce bark beetle surveys on the Western Kenai Peninsula

The Division of Forestry continues to survey the forests of the Western Kenai, where the beetle infestation is heaviest. In 1992, the division provided data collected over a two-year period on state and private lands between Kasilof and Ninilchik to the University of Alaska, Institute of Economic Research for analysis.

This data came from field surveys done to verify aerial surveys conducted in 1989 and 1990. The surveys were begun in 1990, however, due to the magnitude and rapid expansion of the infestation, it was extended in 1991 to areas where no activity had been seen in aerial surveys. A publication describing the ground survey, available in 1993, will include a case study of the survey, projected stand impacts, maps of key infested areas—both recent and historical, and a summary of ISER's statistical analysis.

The Division of Forestry's goals for the spruce beetle survey are to:

- document the large Kasilof-Ninilchik infestation and compare the current outbreak with past information;
- project information about stands impacted, damage levels, growth rates and volume impacts to determine the rate of increase, magnitude and intensity compared to surveys in other regions;
- rate the hazard of selected areas by comparing the stands with similar stands currently infested or at risk to infestation;
- provide a tool for public and private landowners and managers to use in assessing damage, or the potential for damage, from spruce beetle outbreaks in their forests.



This map shows areas infested by beetles at some time between 1970 and 1990, as detected in aerial surveys. Aerial surveys show only red tops, trees attacked one year earlier and now dead, not the level of the infestation or the volume of timber affected.

1992 Forest Insect Activity and Diseases in Alaska by Land Ownership[1]

The following figures are from the U.S. Forest Service, State and Private Forestry publication, "Forest Insect and Disease Conditions in Alaska - 1992."

Pest	State/Private	Nat'l Forest	Other Federal	Native	Total
Spruce beetle *Dendroctonus rufipennis (Coleoptera)*	231,856	28,816	225,343	118,794	**604,809[2]**
Larch beetle *Dendroctonus simplex (Coleoptera)*	— —	— —	2,000	— —	**2,000**
Engravers *Ips spp. (Coleoptera)*	811	182	— —	1,237	**2,230**
Spruce budworm Choristoneura spp. *(Lepidoptera)*	133,430	— —	— —	47,089	**180,519**
Black-headed budworm *Acleris gloverana (Lepidoptera)* affects w. hemlock, Sitka spruce	15,879	70,431	4,826	5,137	**96,273**
Hemlock sawfly *Neodiprion tsugae (Hymenoptera)*	— —	6,539	— —	— —	**6,539**
Large aspen tortrix *Choristoneura conflictana (Lepidoptera)*	16,076	— —	935	2,510	**19,521**
Spruce needle aphid *Elatobium abietinum*	7,317	14,945	778	2,180	**25,220**
Birch defoliation *various spp. (Lepidoptera)*	1,713	— —	— —	— —	**1,713**
Cottonwood defoliation . *various spp (Coleoptera, Lepidoptera)*	311	5,060	934	— —	**6,305**
Willow defoliation *(Coleoptera, Lepidoptera)*	57,256	1,090	55,712	39,621	**153,679**
Alaska yellow cedar decline[3] (cumulative)	10,430	541,349	— —	17,667	**569,446**
Total Acres by Ownership	**475,079**	**668,412**	**290,528**	**234,235**	**1,668,254**

[1] Table does not include many of the most destructive diseases, e.g., wood decays and dwarf mistletoe because those losses are not detectable in aerial surveys.

[2] More than half of ongoing spruce beetle activity mapped in 1992, over 300,000 acres, is on the Kenai Peninsula.

[3] Figures for yellow-cedar decline are not restricted to acreage with high concentrations of dying trees in 1992; it represents stands that have long-dead, recently-dead, dying and some healthy trees.

Like all resources, forests are a function of socio-cultural appraisal. Their utility is what society perceives them to be, hence, the meaning and value of forests change over time and space.

Pinchot Institute of Conservation - Monograph Series

Forest Health Initiative

The Alaska State Legislature first funded the Forest Health Initiative as a capital improvement project in 1991. The division's goal is to improve the condition of forests as a means of suppressing insect infestations and preventing their spread. It also intends to capture the economic value of beetle-killed trees when feasible. Spruce killed by beetles remain usable for about three years after they die, depending on their location and condition.

Project Manager Pete Buist was hired in the fall of 1991 and began examining ways to improve forest health for a wide array of uses and values. A Working Group consisting of state and federal agency representatives, land managers, private landowners and others interested in forest health on the Kenai was formed. The group met regularly through the winter and spring and, after a series of public meetings, the final plan was published on November 1.

Dan Golden joined the division late in 1992 as Forest Health Initiative Coordinator. He transferred from the Department of Commerce and Economic Development and acts as liaison with other agencies and the DNR Commissioner's Office.

The division began a planning process for the Copper River Basin in November, modeled after that used on the Kenai Peninsula. Spruce beetle infestations in the area are similar in intensity to those on the Kenai and are of concern to local residents. The division intends to involve the public in the planning process by late winter and complete a management plan for the area by the end of 1993.

Forest health summit

In mid-July the division, in conjunction with the Lieutenant Governor's Office, held a summit in Cooper Landing. An orientation tour was given in areas where various bark beetle suppression and prevention measures had been taken and of logging and reforestation projects. The tour was followed by a discussion of the group's observations and ideas. During the Lt. Governor's visit the division provided a helicopter flight over the western Kenai Peninsula where approximately 365,000 acres of spruce are now dead or infested with bark beetles.

Timber salvage priority areas

Within the Forest Health Management Plan for the Western Kenai Peninsula and Kalgin Island are seven prioritized areas to consider for timber harvest. These are state-owned lands infested by beetles. They are identified as South Soldotna, Point Possession, Falls Creek, South Ninilchik, Corea Creek, Kalgin Island and Fox River. The areas include 36,000 acres of state land and an estimated 100 million board feet.

As more site-specific examinations are made, portions of these areas could produce wood by-products to support forest health measures and management practices that benefit other uses of the forest.

The division began work on these priority areas by proposing to salvage approximately 20 million board feet from 5,300 acres near Falls Creek, inland from Clam Gulch. Many issues surfaced as the proposed harvest was reviewed by the public and other agencies, including questions about whether or not to harvest, protection of fish habitat, access development, the effects of harvest on scenic and recreational values, regeneration of harvested areas, and the economic return to the state.

The division continues to evaluate and address the public's comments and concerns as it moves forward in developing management options to deal with the ongoing infestation and tree mortality on the Kenai Peninsula. A volume and value sawmill recovery study for timber in various stages of beetle-caused decay is scheduled to be conducted by the division and U.S. Forest Service during July and August of 1993.

Fur Rendezvous spruce beetle display and cabin demonstration

The division participated in a project during Fur Rendezvous in Anchorage to promote awareness of the spruce bark beetle and demonstrate the usefulness of recently-killed trees. A log cabin built by the Division of Parks, using beetle-killed trees provided a warm spot for visitors to look at maps, photos and displays on the bark beetle, its biology, prevention methods and control options. Department of Natural Resources employees staffed the cabin and answered questions. The cabin, located near the Snow Sculpture exhibit, was later moved to Eagle River Campground to house campground hosts.

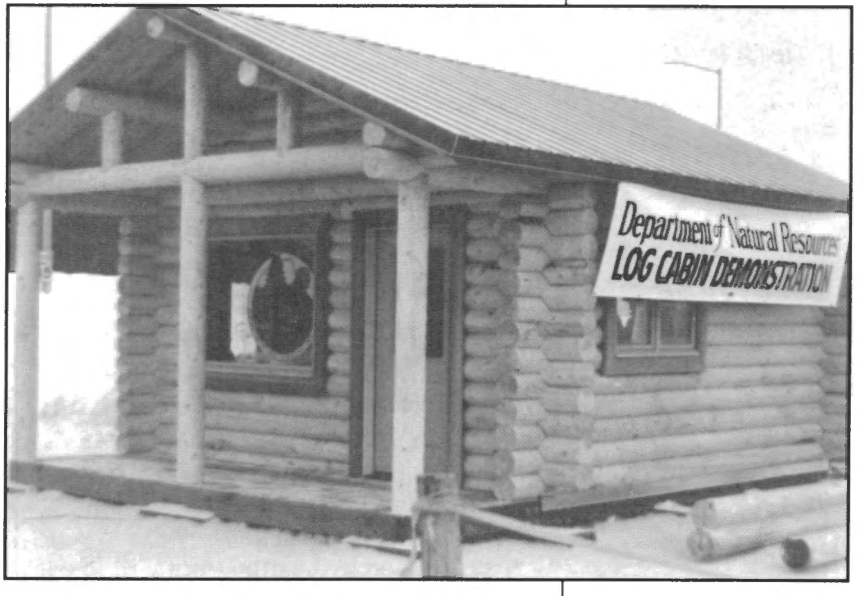
While the cabin was being built, students from the Anchorage School District's King Career Center helped DNR staff fell 30 beetle-killed trees near Anchorage. The Anchorage Telephone Utility and the International Brotherhood of Electrical Workers provided a truck, equipment and labor to move the trees to the cabin site.

Foresters used the logs to show beetle damage to the public and to demonstrate peeling, slabbing and notching logs for construction of a log cabin. During the two weeks of Fur Rondy, over 4,000 people visited the cabin and demonstration site.

Removal of hazardous trees at Camp Kushtaka

The division entered into a contract with Ultra Light Logging to remove hazardous spruce trees killed by beetles within Camp Kushtaka near Cooper Landing. The camp, located on state lands leased to the Campfire Chugach Alaska Council, is used by the Kenai Peninsula Borough School District as an environmental education camp, as well as by Campfire. Over 90 percent of the spruce trees within the camp had been killed by bark beetles and posed a hazard to campers and buildings.

Ultra Light Logging uses a zig-zag cable yarder to remove trees, so no heavy equipment is used. As a result no skid trails are developed, no erosion results, no streams have to be bridged and the trees that are left have little or no damage.



The Fur Rondezvous log cabin demonstration and bark beetle display were successful due to the cooperation of, and assistance provided by, the following organizations and agencies:

- Anchorage Telephone Utility
- ARCO, Inc.
- Cooperative Extension Service
- Division of Parks
- DNR employees
- International Brotherhood of Electrical Workers
- King Career Center

Stewardship starts with landowners who care about their forest lands. They view their land as a source of family enjoyment and a chance to leave something special for future generations, as well as a potential source of income.

Forest Stewardship Program Guidelines

National Tree Program

The National Tree Program, begun in 1991, calls on the public, private businesses and local governments to work together to plant, improve and care for trees and forests in communities and rural areas nationwide.

In rural areas, the Forest Stewardship Program addresses tree planting and forest improvement on private lands through technical assistance and cost shares for private landowners. The Community Forestry Program addresses the planting and care of trees and forests in cities and communities by assisting local governments, businesses and volunteer groups.

The U.S. Forest Service provides national guidance and funding for these efforts through the State Forester's Office in each state. The division has one coordinator and two stewardship foresters to implement the Forest Stewardship Program, and two coordinators for the Community Forestry Program. Two citizen advisory groups, the Alaska Community Forestry Council and the Alaska Forest Stewardship Coordinating Committee have been appointed by the state forester to support and advise on the development and delivery of each program.

Benefits of trees

The National Tree Program was initiated because of the decline in the number and health of trees in communities and on private land throughout the U.S. This decline contributes to pollution and deprives communities of the important environmental, social and economic benefits provided by healthy trees and forests, including:

- providing wildlife and fish habitat;
- conserving energy by providing summer shade and winter wind protection;
- improving air, soil and water quality, and reducing soil erosion;
- acting as natural air cleaners by removing carbon dioxide and other impurities from the air and by releasing oxygen;
- providing valuable wood products and associated jobs, which strengthen local economies;
- improving quality of life in neighborhoods and business districts, which increases community pride and property values.

Forest Stewardship Program

The goals of the Alaska Forest Stewardship Program are to:

- help private landowners to more actively manage their land and resources to achieve healthy and productive forests;
- increase the number of trees planted and cared for;
- enhance the economic, environmental and aesthetic qualities of rural areas;
- help reduce global carbon dioxide levels.

To meet these goals, the division provides technical assistance to owners of non-industrial private forest land—forested land owned by private individuals, groups, associations, corporations, Indian tribes or other private legal entities, including Alaska Native Corporations—not involved in wood product manufacturing.

Landowners, with the help of a natural resource professional, prepare a forest stewardship plan that meets their personal land management objectives. Each plan must address management practices that protect, and maintain or enhance:

- soil and water quality;
- wetlands and riparian areas;
- timber potential;
- protection from fire, pests and disease;
- recreation opportunities and aesthetics;
- fish and wildlife habitat.

The Stewardship Incentive Program (SIP) is a financial assistance program for non-industrial, private forest landowners who own a maximum of 1,000 forested acres and who develop, and agree to maintain, a Forest Stewardship Plan. SIP allows up to 75 percent cost-sharing for certain management practices that achieve the landowner's objectives as stated in the stewardship plan.

The Forest Stewardship Program was first implemented in Alaska in 1992. The state's Forest Stewardship Plan was completed and approved by the Stewardship Coordinating Committee, state forester and U.S. Forest Service. Standards for individual landowner plans were developed and approved, a planning grant was made to an ANCSA corporation for a stewardship plan on several hundred thousand acres, 25 forest stewardship plans were begun and four were completed and approved by the state forester.

Community Forestry Program

The goals of Alaska's Community Forestry Program are to:

- increase the awareness of, and appreciation for, the value of trees within the community;
- encourage citizens, community groups, local government and professionals to work as partners to sustain healthy people and communities by planting and caring for community forests and trees;
- increase the contribution of trees and forests in cities and communities toward energy conservation and overall aesthetic, economic and environmental viability and livability;
- provide opportunities for all communities to participate in the program;

To reach these goals the program:

- provides information and training in proper techniques for retaining, planting and caring for community trees;
- supports local volunteer efforts to plant and maintain trees;
- encourages local governments to develop effective, long-term community forest and tree management programs;
- encourages local governments and the private sector to support and fund community forestry programs;
- provides information and training in methods of retaining, planting and caring for trees during construction;
- encourages and supports research and the introduction or trials of new tree and shrub varieties in Alaska.

Community forestry grants

The division awards federal grants to communities to encourage and support the development of local ongoing programs to plant and care for trees. It also provides information and technical assistance to help the projects succeed. Projects must have the support and involvement of community volunteers, accomplish a specific goal or remedy a problem, and include a five-year maintenance plan for any trees planted.

Plant a tree. Plant a dozen of them, and then you will have done something for the generations who follow you, even as someone did something for you ages ago.

Fort Lauderdale Herald

In 1992, the division funded projects in Eagle, Homer, Healy, Palmer, Anchorage, Gustavus, Nelson Lagoon and Unalaska. Federal funds totaling $29,000 were matched by $70,000 in donations and in-kind services from communities. Projects included: tree plantings on the grounds of public buildings and along streets; wildlife habitat enhancement; creation of an outdoor classroom for interpretive programs; demonstration of appropriate species and techniques for northern conditions; and creation of living windbreaks.

The division also administers tree planting grants from the Small Business Administration. Grants totaling $32,000 were awarded to Wasilla, Anchorage, Fairbanks and Soldotna to hire small businesses to plant trees on public lands. Communities matched these grants with $57,000 in donations and in-kind services.

Educational Programs and Services

Arbor Day

Each spring communities around the country set aside a time to celebrate the beauty and usefulness of trees by holding special tree planting ceremonies and activities. In Alaska, Arbor Day is the third Monday in May. Planting trees is just a starting point; Arbor Day is an opportunity to educate people about the value and importance of trees and their ecological, social and economic roles in communities.

The division supported Arbor Day activities in 1992 by providing tree seedlings to the Society of American Foresters and other groups to distribute to the public, and by helping communities plan Arbor Day activities and celebrations.

Project Learning Tree

Project Learning Tree (PLT) is an environmental education program for kindergarten through 12th grade school teachers. It provides lessons, materials and activities for teachers, and training in how to use them in the classroom. The goal of PLT is to help students develop the skills, knowledge and attitudes needed to make wise decisions about the use and management of natural resources and the protection of environmental quality.

The program is introduced into schools by teachers who have completed the required course and received curriculum guides. In 1992 Dan Ketchum and Cindy Forrest were instructors in a 15-hour graduate level PLT course attended by 25 teachers in Anchorage, and Pete Simpson lead two PLT workshops in Fairbanks.

PLT is co-sponsored by the American Forest Foundation, Western Regional Environmental Education Council, Division of Forestry, Alaska Forestry Association, Cooperative Extension Service, Department of Education and U.S. Forest Service.

Forest management training for Fairbanks youth

The Fairbanks Area participated in a pilot training program for youth last summer by hiring a crew of five high school students. The crew was sponsored by the Alaska Federation for Community Self Reliance and funded by a grant from the Private Industry Council.

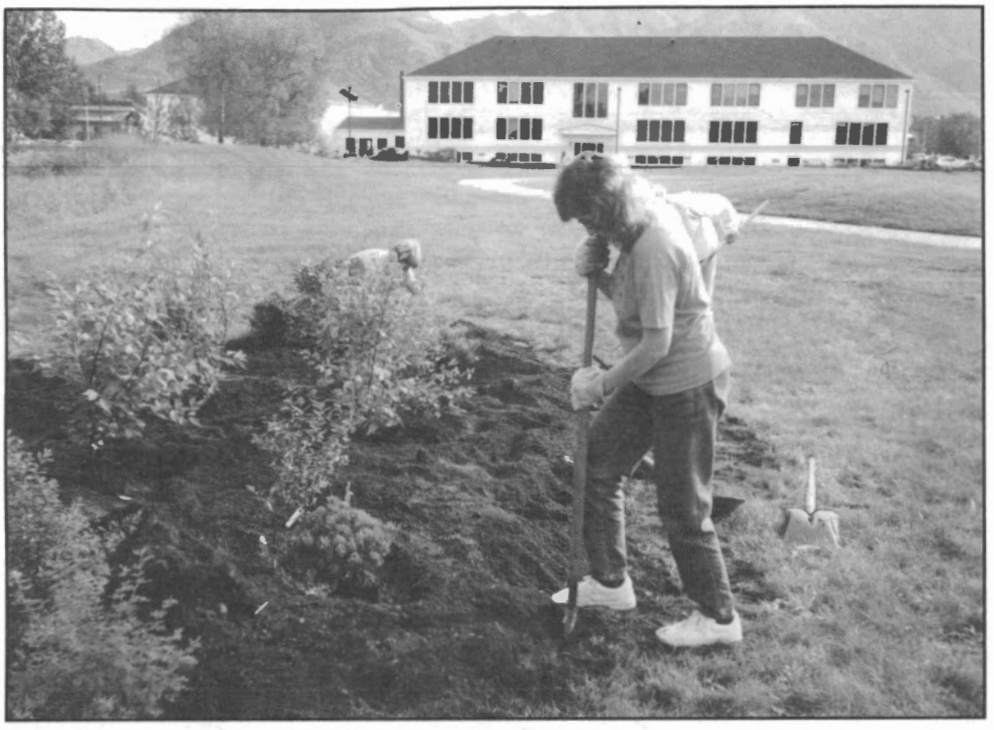
The crew received on-the-job experience in many aspects of forest management from reforestation to timber sale layout. The division considered the program a success and hopes to build on it next summer.

The area also benefited from the work of three University of Alaska Fairbanks interns. The students supported division staff in a variety of forest management programs with major emphasis on reforestation of harvested sites. Duties included conducting seedling survival surveys, identifying and marking previously planted areas, planting quality control plots, maintaining seedlings and traversing and marking future planting areas. Interns also examined stands in harvested areas to determine if there was a correlation between residual basal area and current regeneration stocking.

Arboretums established in Soldotna and Kodiak

The Division of Forestry helped the Department of Transportation beautify the highway maintenance facility in Soldotna by planting an arboretum. DOT spread top soil and grass seed and the division planted 18 species of trees. The arboretum is located in a highly visible greenbelt along the Sterling Highway. As the trees grow they will provide the public with a beautiful display of trees that adapt well to local conditions. Each tree is labeled with its name and origin.

A second arboretum was established in Kodiak, in cooperation with a local nursery owner, to provide the public with a demonstration of trees that grow well in that area.



Tree-planting project sponsored by Palmer Pride and funded by a Community Forestry Grant.

Homer Demonstration Forest

The Homer Demonstration Forest covers 360 acres of state-owned land just northwest of Homer. It was established in 1986 and is managed by the Division of Forestry.

In 1991 a draft plan was prepared by the USDA Soil Conservation Service and the division, in cooperation with an interagency steering committee and members of the Homer community. The draft plan was reviewed by the public in 1992 and adopted by the steering committee. Detailed implementation plans will be developed that specify how the land uses described in the plan will be carried out.

The demonstration forest provides an area where schools, organizations and the general public can:

- observe demonstrations and field trials of various ways to use and manage forests;
- learn first-hand about forest ecology;
- observe and learn about wildlife;
- recreate in ways compatible with other forest management objectives.

The forest will be managed so that the quality of its soils, waters, plants, animals and air is maintained for future generations; and the potential productivity of its resources is not diminished by their use.

Forest Resources & Practices Act

Incorporating ecological knowledge into management systems, for the compatible production of commodities and protection of ecological values, is critical.

Jerry F. Franklin
Forest Ecologist

The Division of Forestry administers the Forest Resources and Practices Act by reviewing notifications of timber harvest, conducting forest inspections and taking appropriate enforcement action when necessary. An important aspect of the program is educating forest landowners, operators and the public about the requirements of the Forest Resources and Practices Act and responsible forest practices.

Draft regulations implementing revisions made to the Forest Resources and Practices Act in 1990 were adopted by the Department of Natural Resources in 1992. The regulations were submitted to the Department of Law for review in September. When the review is completed the regulations will be sent to the Lieutenant Governor for filing.

The Forest Practices notification and review process is not the typical permitting process in which a permit is required before an activity is begun. Rather, timber operators submit harvesting plans (notifications) to the Division of Forestry for review. The division coordinates the review of all notifications with the departments of Environmental Conservation and Fish and Game. When Forestry has completed the review (within 30 days after notification) the operator may begin.

Operators generally submit notifications well in advance of when they anticipate beginning operations. Forestry then coordinates the field inspections with the operator, DEC and Fish and Game. Field inspections are usually scheduled so that several notification areas can be inspected during one visit.

Some operations may have more than one field inspection due to the location or relative importance of the site. Other areas for which notifications have been submitted are not harvested within the one-year notification period. These areas require a renewal notice the following year before operations can begin. For these reasons, there is a difference in the number of notifications and the number of field inspections listed in the chart below.

Forestry assists in oil spill studies

The Division of Forestry assisted the Exxon Valdez oil spill settlement working group on several occasions in 1992. A tour of harvest activities during a forest practices inspection on Afognak Island gave members a look at harvest operations, successional changes and forest regeneration following harvest.

The division also helped develop maps of coastal areas in southern Alaska, including historical maps of timber harvest areas and locations of harvests planned for 1993. The Oil Spill Trustee Council is using the maps for public meetings and other settlement activities.

Statewide Forest Practices Activities

Activity	1990	1991	1992
Number of notifications of timber harvest	201	193	225
Acreage under notification	55,091	57,237	83,886
Number of field inspections	146	222	169
Alaska coastal management project reviews	78	70	90
Number of agency/operator training sessions	*	*	2
Number of site specific variation inspections	*	*	21

* new category

Kenai winter road study

Winter roads have long been used in Alaska for timber harvest operations because it is usually far less expensive to cross bogs and muskegs when they are frozen than to develop summer access. The use of ice roads to protect vegetation and other resources has proven effective for the North Slope. However, the same standards of construction are not always appropriate outside of tundra and permafrost zones. The division is developing the methodology and equipment needed to evaluate construction standards and winter road use in Southcentral Alaska.

One item the study will consider is the best combination of snow and ice to use in winter road construction. The division will track snow levels and measure ground frost depths on undisturbed sites and compare them with frost levels on nearby logging roads. The study will also monitor the duration of frost levels in the roads in the spring to help establish when road use should be discontinued to prevent damage to underlying terrain and vegetation. The study is being done on the Kenai Peninsula in cooperation with an active timber operator on land owned by Cook Inlet Region, Incorporated.

Alaska Board of Forestry

The nine-member Board of Forestry advises the state on forestry-related issues and regulations. Board members are appointed by the governor from organizations that represent a wide range of forestry interests.

Board members during 1992 were State Forester Bob Dick; Ralph Malone, non-governmental forestry representative; Andy Miscovich, mining organization representative; Loisann Reeder, recreation organization representative; John Sturgeon, forest industry trade association; William Thomas, native corporation representative; Stephan Planchon, environmental organization representative; and Carl Yanagawa, non-governmental fish/wildlife biologist.

Forester Wade Wahrenbrock measures frost depths at this undisturbed control point station and compares them to frost depth measurements taken from winter ice roads.

Log brands

This was an active year for log brands, with new registrations up substantially from 1991. Most new brands were registered to beach log salvage operators and aerial logging companies. Following is the activity reported for five-year log brands issued in 1987.

Renewed	37
Older brands renewed	3
New brands registered	34
1987 brands that expired	17
Total 1992 Log Brands	**74**

Fire Management

Wildland fire suppression in Alaska is the responsibility of the Division of Forestry, the Bureau of Land Management's Alaska Fire Service and the U.S. Forest Service. Each agency protects specific geograhic areas under cooperative agreements. Without these agreements the state would need to spend an additional seven million dollars each year to provide comparable protection for state land.

Alaska is the only state with an interagency fire plan. The plan divides the state into fire protection levels based on major natural fire breaks and the objectives of land managers. This allows attack forces to be deployed to the highest priority areas, those where communities and valuable resources are located, and gives options for lower cost tactics in remote and unsettled areas.

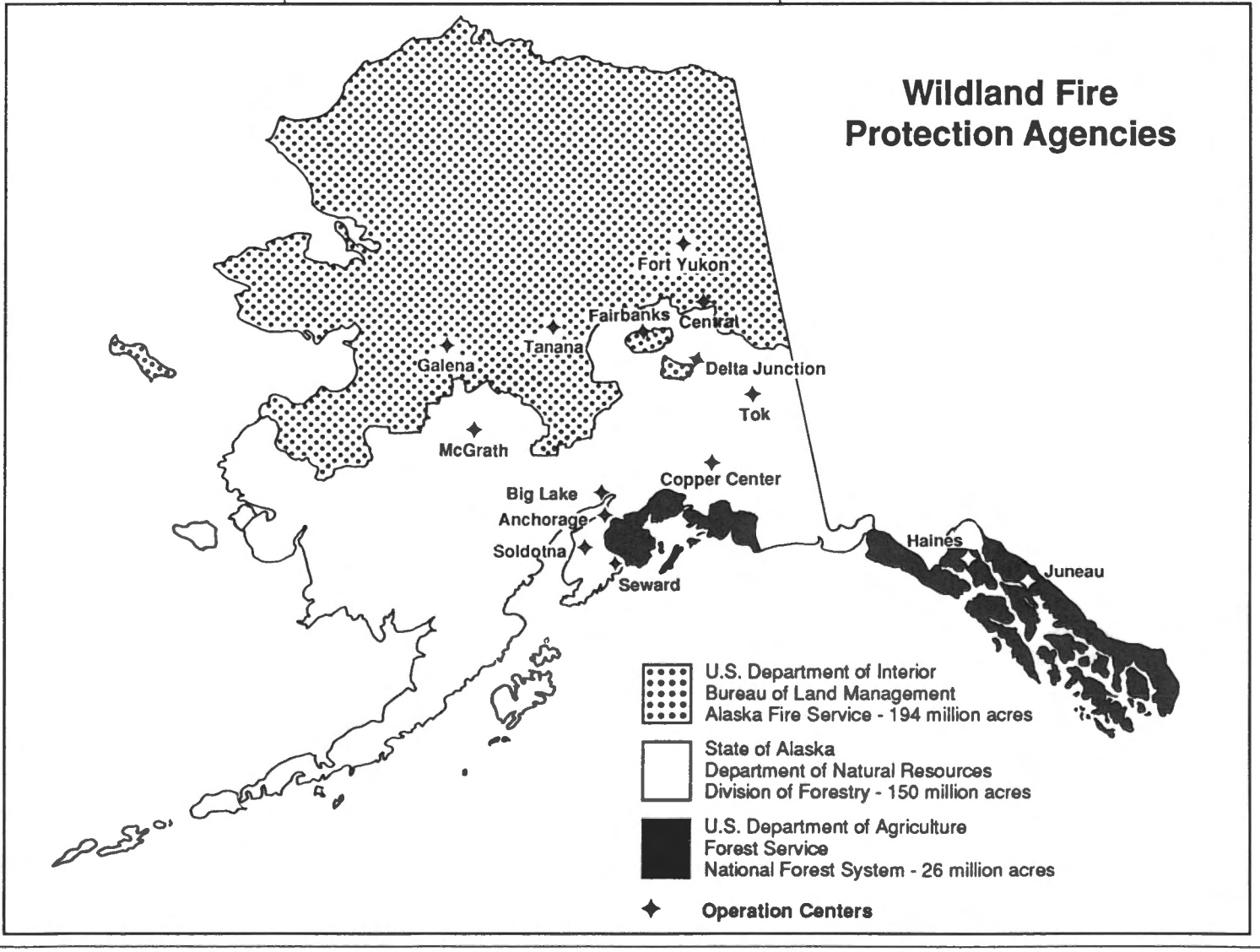
Fire protection levels

Critical Protection: Areas where life and property are present receive immediate and aggressive suppression efforts.

Full Protection: Areas with high value resources where fire may adversely impact resource management objectives also receive immediate suppression efforts.

Modified Action: Areas of high value resources where land managers may consider the trade-off of acres burned versus suppression costs. Fires are attacked immediately but resource managers guide the suppression effort.

Limited Action: Areas where fire is beneficial or fire fighting costs are greater than fire damage. Fires are monitored but no suppression action is taken except to prevent the fire from burning onto higher value land.



1992 Fire Season

The 1992 fire season was very quiet. A total of 474 fires burned 135,360 acres, compared to 1991 when 760 fires burned 1,750,653 acres. Heavy snow pack in the interior and southcentral regions and record-breaking interior snow storms in May and September resulted in a short, wet fire season.

In areas protected by the state, 332 fires burned 36,666 acres. One fire crossed into Canada and burned an additional 14,697 acres in the Yukon Territory. Of the 332 fires, there were only seven in Limited Action areas but they burned 33,865 acres of the total.

There were 117 fires on Alaska Fire Service-protected land, which burned 98,642 acres. However, 48 fires and 85,070 acres burned in Limited Action areas and required little or no suppression action. In areas protected by the Forest Service, largely in Southeast Alaska, 25 fires burned 51 acres.

Fires in state-protected areas

There were more than the average number of fires during the spring but all were extinguished while small in size. Only 11 fires were started by lightning, with the largest burning 1,000 acres near Tok.

The first fire began on April 6 in the Mat-Su, followed by 16 other fires during the month. May was average, for that month, in numbers of fires with 138 reported. More acres burned in June than in any other month of the year, but the number was lower than average for June. There were 82 fire starts in June, with only three caused by lightning. July and August fire numbers were also far below average, for those months, with 44 fires in July, six caused by lightning, and 23 in August.

There were 21 fires in September, the first five in the Fairbanks and Tok areas. Nine fires started on the Kenai on September 15 when high winds blew trees onto power lines. Five fires in the Mat-Su area on October 6 were all related to high winds. The last fire of the year in a state protection area began in the Mat-Su on October 21.

The quiet fire season resulted in considerably reduced earnings for fire crews in rural areas. The financial hardships this caused have potential social impacts.

Training for emergency fire fighting crew bosses in McGrath. Properly trained and equipped crews are crucial to an effective suppression program.

Paradise Hills Fire

Paradise Hills was the only large fire in a state protection area in 1992. It was human-caused and began north of the Alaska Highway near Northway on June 11. The fire began in a Limited Action area but soon burned into a Modified area and threatened structures and Native allotments along the Alaska Highway.

On June 13 an Alaska Interagency Type II Overhead Team and six crews were assigned to the fire. The strategy used was to contain the fire on the south and west flanks and permit it to burn to the north and east into Canada, with the approval of the Canadian government.

The fire was declared out on September 1, with a total of 48,087 acres burned, including 14,697 in Canada. This fire demonstrated the importance of the interagency and international fire suppression cooperative agreements.

Alaska fire statistics

Averages, 1988 to 1992

Number of fires statewide	625
Acres burned statewide	1,455,795
Fires by protection area:	
Division of Forestry	63%
Alaska Fire Service (BLM)	32%
U.S. Forest Service	5%
Human-caused fires by protection area:	
Division of Forestry	80%
Alaska Fire Service (BLM)	11%
U.S. Forest Service	9%

1992 Fire Statistics

Number of fires: 474

Acres burned: 135,360.3

Fire activity by landowner

Landowner	No.	Acres
State	78	34,950.0
Borough/City	19	46.6
Private	213	156.8
Bureau of Land Mgmt.	43	22,649.8
National Park Service	7	199.0
Fish & Wildlife Service	33	64,579.6
Bureau of Indian Affairs	10	235.5
Native Claims Act Lands	33	2,279.0
Military	16	2,807.1
Canada	1	7,410.0
Forest Service	21	47.0
Total	**474**	**135,360.3**

1992 fires by cause on state protected land

	Number	Acres
Lightning	11	1,292.8
Smoking	16	1,053.7
Campfires	48	250.5
Field/debris	88	143.3
Children	35	12.7
Fireworks	23	8.1
Equipment use	10	1.5
Incendiary/arson	7	1.2
Other*	94	33,902.7
Total	**332**	**36,666.5**

*Includes one 33,390-acre fire of unknown origin

Emergency firefighter wages

Year	State	Federal	Total
1980-85	4,689,081	71,117,288	14,551,014
1986	2,515,750	2,832,208	5,347,958
1986[1]	561,770	——	561,770
1987	646,674	5,352,799	5,999,473
1987[2]	643,932	——	643,932
1988	4,474,107	5,146,861	9,620,968
1988[3]	907,865	——	907,865
1989	1,805,955	2,276,175	4,082,130
1990	7,398,211	5,765,547	13,163,758
1991	5,344,384	3,741,521	9,085,905
1992	786,747	612,048	1,398,795
Total	**$29,774,476**	**$35,589,092**	**$65,363,568**

[1] Special appropriation due to Fair Labor Standards Act.

[2] U.S. Dept. of Labor ruling required payment at time-and-one-half when week exceeded 40 hours. Amount shown was paid in 1990.

[3] U.S. Dept. of Labor ruling required payment at time-and-one-half when week exceeded 40 hours. Amount shown was paid in 1991.

Emergency out-of-state crew use

Number of 20-person crews sent outside of Alaska to fight fires.*

Year	Crews
1970	40
1973	6
1981	18
1982	4
1985	39
1986	22
1987	59
1988	54
1989	61
1990	7
1991	0
1992	5

*Wages are paid by other states or suppression agencies.

1992 Fires by Area and Protection Level

State Protected

Area[1]	Critical		Full		Modified		Limited		Total	
	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres
AMS	96	93.9	15	61.4	0	0	0	0	111	155.3
KK	77	22.9	15	51.9	0	130.0	2	0.2	94	205.0
VCR	0	0	9	4.5	3	0.3	0	0	12	4.8
SW	2	12.1	14	1,332.1	3	2.4	3	0.1	22	1,836.6
F	62	11.4	6	1.1	1	3.0	1	0	70	15.6
D	12	18.1	1	0.1	3	9.9	0	0	16	28.1
T	2	3.1	3	1,042.0	0	0	1	33,375.0	6	34,420.1
SE	0	0	1	1.0	0	0	0	0	1	1.0
Total	**251**	**161.5**	**64**	**2,494.1**	**10**	**145.6**	**7**	**33,865.3**	**332**	**3,666.5**

U.S. Forest Service Protected

Area	Critical		Full		Modified		Limited		Total	
	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres
Total	**1**	**2.0**	**20**	**48.4**	**2**	**0.2**	**2**	**0.6**	**25**	**51.2**

Alaska Fire Service Protected

Area[1]	Critical		Full		Modified		Limited		Military Land[2]		Total	
	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres
GAL	1	0.1	7	726	15	503.1	14	3,552.0	0	0	37	4,781.2
TAL	0	0	12	956.7	6	64.7	5	26,185.0	16	2,807.0	39	30,013.5
UYK	2	1.1	1	0.5	5	1,100.7	29	55,333.3	4	7,412.3	41	63,847.9
Total	**3**	**1.2**	**20**	**1,683.2**	**26**	**1,668.5**	**48**	**85,070.3**	**12**	**10,219.3**	**117**	**98,642.6**

Statewide

Area	Critical		Full		Modified		Limited		Military Land[2]		Total	
	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres
Total	255	164.7	104	4,225.7	38	1,814.3	57	118,936.2	12	10,219.3	474	135,360.3

[1]Area key

AMS — Anchorage/Mat-Su
KK — Kenai/Kodiak
VCR — Valdez/Copper River
SW — Southwest
F — Fairbanks
D — Delta
T — Tok
SE — Southeast
GAL — Galena
TAL — Tanana
UYK — Upper Yukon

[2]Military land has no designated protection levels

The average costs for controlling an escaped fire is $2 to $5 million—four times the estimated annual cost of maintaining a viable workforce to control fires while they are small.

Up to $25 million has been spent on a single escaped fire in the urban/wildland interface.

Fire Protection & Prevention

Grants for rural communities

The division administers Rural Community Fire Protection grants from the U.S. Forest Service. Volunteer fire departments serving communities of under 10,000 people may apply for grants of up to $5,000 on a 50/50 cost share basis to organize, train and equip fire protection units. In 1992 the division approved 20 grants, which funded training and purchased pumps, radios, protective clothing, fire extinguishers, smoke detectors, self-contained breathing apparatus, fire hose and other supplies.

Department	Grant Amount
Pelican VFD	$2,925
Petersburg VFD	500
Klehini Valley VFD	750
Big Lake VFD	5,000
Talkeetna VFD	900
Willow VFD	5,000
Butte VFD	5,000
Greater Palmer VFD	5,000
Bear Creek VFD	5,000
Anchor Point VFD	4,875
Cooper Landing VFD	1,482
McGrath VFD	2,500
Russian Mission VFD	5,000
Togiak VFD	5,000
Chefornak VFD	4,818
Egegik VFD	5,000
Bethel VFD	3,500
North Pole FD	5,000
Eagle VFD	5,000
Savoonga VFD	4,300
Total	**$76,550**

New Kenai Peninsula fire crew

The Kenai-Kodiak Area held Emergency Fire Fighter training classes open to the public in 1992. Fire crews from those who attended were organized on four occasions during the fire season. During a period of alert readiness when the fire danger was extreme, the crews built a memorial trail for state parks using techniques and tools used in fire line construction.

Division upgrades aircraft

The Division of Forestry upgraded its fire fighting aircraft this year by replacing the aging fleet of 1955 military surplus single engine lead planes with three contracted Beechcraft twin engine aircraft. The Beechcraft are much more efficient as they are able to move personnel as well as support aerial retardant operations. They have a superior safety record and are more cost effective to operate than the older models.

In addition to these improvements, the state saved $265,200, or 18 percent (over the life of the contract), by expanding the contract from three to five years, asking for input from the aviation industry and using the state, rather than the federal government, procurement system.

The division continues a training and education program that has resulted in an exceptional safety record and has proven to be efficient and cost effective.

Fire prevention in Fairbanks

The Fairbanks Area received the Prevention Plan of the Year Award from the Interior Fire Chiefs Association in recognition of its assertive prevention program. The association also elected Forestry's Fire Management Officer Tom Kurth secretary-treasurer.

The prevention program includes burn permits, public service announcements, fire investigations and public awareness. More than 2,500 students and 250 teachers were educated in early spring about the dangers of wildfire. The area office issued 1,500 burn permits, 29 warning notices for illegal burning and 11 citations. Of those citations, eight went to court and resulted in an average sentence of 20 days of jail (suspended), $900 in fines, $1480 in restitution and 140 hours of community service.

The division helped form a task force in Fairbanks that is working to reduce the number of fires set by juveniles. The Fairbanks Area Juvenile Firesetters Task Force promotes communication, training and good working relationships among those involved in this problem. Participants include The Division of Forestry, the Fairbanks North Star Borough School District, U.S. Forest Service, Fairbanks Fire Department, Interior Fire Chiefs Association, Division of Family Services, Attorney General's Office, Fire Marshal's Office, and Juvenile Intake.

Training Highlights

Fire operations in the urban/ wildland interface

Because of a growing concern nationwide about the danger of wildland fires burning into communities and urban areas, the was top training priority in 1992 was the course, Fire Operations in the Urban/ Wildland Interface (S-205). It was offered in both Anchorage and Fairbanks for fire departments and other wildland fire suppression agencies. The course helped meet the training needs of initial attack incident commanders and company officers confronting wildland fire that threatens life, property and improvements. The lead instructors in the class, and its developers, were Mike Dannenberg of the Missoula, Montana Rural Fire District and Gil Gray of the Rapid City, South Dakota Fire Department.

In addition, the division developed the Alaska Wildlands Engine Fire Fighter course to train fire department cooperators to suppress wildfire in the urban interface. Fire departments around the state participated in this training.

Hazardous materials awareness

The course, Hazardous Materials Awareness for the First Responder, was given for all Forestry field personnel statewide in the spring. The division serves as initial responders to incidents that may at times contain hazardous materials. The course provided staff with the basic information necessary to safely and effectively deal with incidents involving hazardous materials.

Shaker III

The Division of Forestry sponsored the Basic Incident Management training session (I-220) for the Department of Natural Resources, Pipeline Coordinator's Office, Department of Environmental Conservation and the Division of Emergency Services. The course was in preparation for the multi-agency Shaker III exercise, a simulation of a disastrous earthquake. Most of the exercise was managed under the Incident Command System.

Helitorch training

The Kenai/Kodiak Area Office co-sponsored a session to train commercial helicopter pilots in the use of helitorches for controlled burning and to meet the suppression needs of the state. The session included personnel from the Division of Forestry, the Office of Aircraft Services, the Forest Service, Fish and Wildlife Service, Kenai Helicopters and the Cook Inlet oil spill response team.

Training in 1992

Type	# of courses	Participants
Emergency fire fighter	9	562
Wildfire for fire departments	8	105
Initial attack	14	169
Extended attack	12	189
Fire management	40	323
First aid and safety	5	51
Forest management	6	85*
Totals	**94**	**1,484**

* 83 school teachers received Project Learning Tree training.

Fiscal Year 1992 Actuals[1]

Funding Sources	Forest Management	Fire Suppression	Total
General Funds	9,548.7	15,071.1	24,619.8
Federal Funds	705.7	4,126.0	4831.7
Other Funds	516.1	19.8	535.9
Totals	**$10,770.5**	**$19,216.9**	**$29,987.4**

Positions	Forest Management	Fire Suppression
Permanent-Full Time	88	2
Permanent-Part Time	127	3
Non-Permanent	17	750
Staff Months	1,836	1,545

	Northern Region	Southcentral Region	Southeast Region	Statewide	Total
Resource Management					
Forest Practices Administration	—	45.4	318.5	131.5	495.4
Small Timber Sales	527.2	239.5	186.2	27.3	756.0
Forest Stewardship	69.7	239.5	186.2	194.9	690.3
Board of Forestry	—	—	—	1.2	1.2
Forest Regeneration Center	—	—	—	399.4	399.4
Reforestation	375.3	71.5	47.4	—	494.2
Tanana Valley State Forest	3.4	—	—	—	3.4
Haines State Forest	—	—	63.9	—	63.9
Subtotal	**975.6**	**550.8**	**623.1**	**754.3**	**$2,903.8**
Fire Management					
Presuppression	1,734.8	2,784.1	15.1	445.2	4,979.2
Rural Community Fire Prot./Fed	—	—	—	287.9	287.9
Anchorage School District Interns	—	63.3	—	—	63.3
Subtotal	**1,734.8**	**2,847.4**	**15.1**	**733.1**	**$5,330.4**
Forest Administration					
Federal Coop. Forestry Assistance	—	—	—	417.8	417.8
Forest Administration	549.5	470.1	120.5	477.0	1,617.1
Unbudgeted RSAs	—	—	—	501.4	501.4
Subtotal	**549.5**	**470.1**	**120.5**	**1,396.2**	**$2,536.3**
Total	**$3,259.9**	**$3,868.3**	**$758.7**	**$2,883.6**	**$10,770.5**

[1]All figures are in thousands

Fiscal Year 1993 Budget[1]

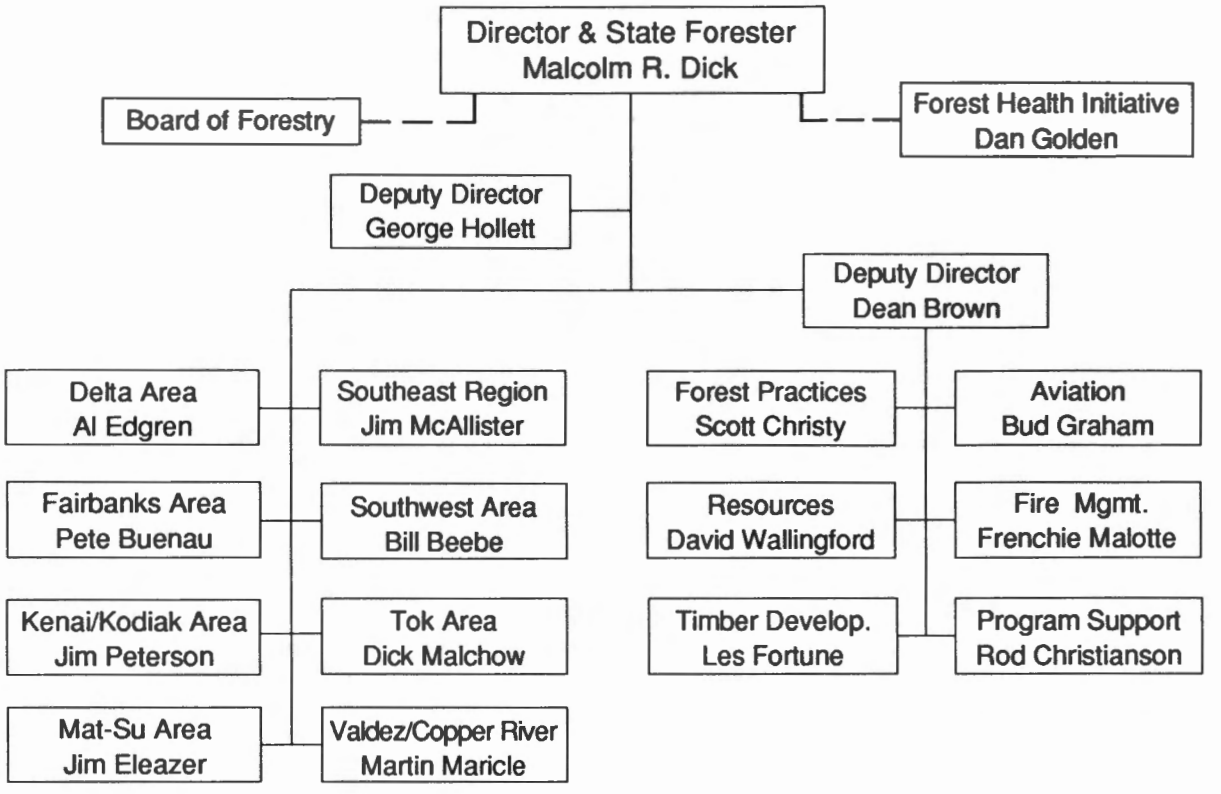
Funding Sources	Forest Management	Fire Suppression	Total
General Funds	8,825.4	1,997.4	10,822.8
Federal Funds	1,168.2	5,328.8	6,497.0
Other Funds	73.7		73.7
Totals	**$10,067.3**	**$7,326.2**	**$17,393.5**

Positions	Forest Management	Fire Suppression
Permanent-Full Time	78	2
Permanent-Part Time	125	4
Non-Permanent	17	750
Staff Months	1,710.6	1,552

	Northern Area	Southcentral Area	Southeast Region	Statewide	Totals
Resource Management					
Resource Management	884.1	420.8	651.0	423.3	2,379.2
Forest Regeneration Center	—	—	—	219.1	219.1
Board of Forestry	—	—	—	10.7	10.7
Subtotal	**884.1**	**420.8**	**651.0**	**653.1**	**$2,609.0**
Fire Management					
Presuppression	1,623.1	2,737.7	29.2	429.5	4,819.5
Rural Community Fire Prot./Fed	—	—	—	267.6	267.6
Anchorage School District Interns	—	41.0	—	—	41.0
Subtotal	**1,623.1**	**2,778.7**	**29.2**	**697.1**	**$5,128.1**
Forest Administration					
Federal Coop. Forestry Assistance	—	—	—	900.6	900.6
Forest Administration	481.2	353.1	127.3	468.0	1,429.6
Subtotal	**481.2**	**353.1**	**127.3**	**1,368.6**	**$2,330.2**
Total	**$2,988.4**	**$3,552.6**	**$807.5**	**$2,718.8**	**$10,067.3**

[1]All figures are in thousands

Division of Forestry Organization Chart - 1992



Division of Forestry Directory

Director's Office
3601 C Street, Suite 1058
P.O. Box 107005
Anchorage, Alaska 99510-7005
762-2501 fax: 561-6659

Director & State Forester
Tom Boutin, 762-2501

Deputy Director
Dean Brown, 762-2508

Resource Management
Dave Wallingford, 762-2511

Timber Development
Les Fortune, Fairbanks, 451-2666

Forest Practices
Michael S. Christy, 762-2131

Forest Health Initiative
Dan Golden, 762-2123

Aviation Supervisor
Bud Graham, 762-2509

Fire Management
Frenchie Malotte, 762-2505

Fire Operations
Joe Stam, Fairbanks, 356-5529

Program Support
Rodney *Chris* Christianson, 762-2502

Community Forestry Program
Dan Ketchum, 762-2125

Forest Health Management (Insects and Disease)
Roger Burnside, 762-2107

Forest Stewardship Program
Jeff Graham, 762-2110

Dutton Forest Regeneration Center
HC 01 Box 6147
Palmer, Alaska 99645
745-3562 fax: 745-3568
Joe Stehlik, Nursery Manager

Fire Management Office - Anchorage
3601 C Street, Suite 1008
P.O. Box 107005
Anchorage, Alaska 99510-7005
762-2121 fax: 568-3587
John See, Fire Mgmt. Officer

Fire Management Office - Fairbanks
3700 Airport Way
Fairbanks, Alaska 99709
451-2700 fax: 451-2690
Jim Lewandoski, Fire Mgmt. Officer

Delta Area Office
P.O. Box 1149
(Mi. 267.5 Richardson Hwy.)
Delta Junction, Alaska 99737
895-4225 fax: 895-4934
Al Edgren, Area Forester

Fairbanks Area Office
3700 Airport Way
Fairbanks, Alaska 99709
451-2700 fax: 451-2633
Pete Buenau, Area Forester

Haines Area Office
P.O. Box 263 (Gateway Building)
Haines, Alaska 99827
766-2120
Roy Josephson, Area Forester

Icy Bay Field Office - Seasonal
P.O. Box 460
Cordova, Alaska 99574
424-3933 Fax: 766-3225
Chris Foley, Forester

Juneau/Icy Bay Area Office
400 Willoughby Ave., 5th Floor
Juneau, Alaska 99801
465-2491

Kenai-Kodiak Area Office
HC 1, Box 107 (Mi. 92.5 Sterling Hwy.)
Soldotna, Alaska 99669
262-4124 fax: 262-6390
Jim Peterson, Area Forester

Ketchikan Area Office
2030 Sea Level Dr., Suite 217
Ketchikan, Alaska 99901
225-3070
Chris Westwood, Area Forester

Mat-Su Area Office
P.O. Box 520455 (Mi. 8.2 Big Lake Rd.)
Big Lake, Alaska 99652
892-6027 fax: 892-7958
Jim Eleazer, Area Forester

Southwest Area Office
Box 130
McGrath, Alaska 99627
524-3010 fax: 524-3932
Bill Beebe, Area Forester

Southeast Region Office
400 Willoughby Ave., 5th Floor
Juneau, Alaska 99801
465-2491 fax: 586-2754
Jim McAllister, Regional Forester

Tok Area Office
Box 10 (Mile 123 Glenn Hwy.)
Tok, Alaska 99780
883-5134 fax: 883-5135
Dick Malchow, Area Forester

Valdez/Copper River Area Office
P.O. Box 185
(Mi. 110 Richardson Hwy.)
Glennallen, Alaska 99588
822-5534 fax: 822-5539
Martin Maricle, Area Forester

Alaska Department of Natural Resources
Division of Forestry
State Forester's Office
P.O. Box 107005
Anchorage, Alaska 99510-7005
(907) 762-2501

This publication was released by the Department of Natural Resources to provide information about the operations of the Division of Forestry during 1992. Three hundred seventy-five copies were printed in Anchorage, Alaska at a cost of $3.83 per copy.