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***SECTION III***

***THE MODERN ERA***  
***1975-1992***

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## IX. THE ALASKA DISTRICT IN THE MODERN ERA

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### GENERAL DEVELOPMENT OF THE ALASKA DISTRICT

**B**y the mid-1970s, the Corps had impacted nearly every populated area of Alaska. This impact reflected how the Corps had consistently implemented its mission — to plan and construct a variety of civil projects and to support the military and national defense — in the Far North.<sup>1</sup> During the modern era, 1975-1992, the agency's activities in Alaska continued to parallel the general progression of the state. In the mid-1970s, as construction of the Trans-Alaska Pipeline System (TAPS) stimulated the economy and attracted workers to the area, the Corps completed a number of civil projects to serve the growing population. These included hydropower development, flood control, construction and expansion of small boat harbors, and shoreline erosion control. During this period, the mission of the Corps expanded to meet the agency's growing permitting responsibilities. As a consequence, the Regulatory Branch of the Alaska District increased from a handful of employees to nearly 60, in order to ensure compliance with national environmental legislation and to mitigate against adverse environmental impacts to Alaska's coastal areas, navigable waters, and wetlands.

During the 1980s, the Corps assisted the buildup of military forces in Alaska by expanding and modernizing defense facilities. In the Far North, the Corps sought to "optimize the engineering, economic, social, and environmental aspects of the overall military construction program."<sup>2</sup> The agency served not only as the military's engineering and contracting arm, but also as its real estate agent. In the mid-1980s, the Alaska District's military construction set records, both in number of projects and in monetary value.<sup>3</sup> In designing, planning, and implementing these projects, the Corps again responded to Alaska's unique

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environment, addressing the problems created by extreme weather conditions, isolation and remoteness, and the state's vastness.

From the mid-1970s to the early 1990s, the Corps employed approximately 400 civilians in Alaska. These included engineers in the following fields: mechanical, electrical, hydraulic, sanitary, civil, structural, safety, and materials. During this period, the Corps remained the largest employer of engineers in the Far North. In addition, the agency retained biologists, geologists, architects, draftsmen, field inspectors, and personnel concerned with real estate and administration. Military officers, headed by the District Engineer, also worked for the Corps in Alaska. The Alaska District maintained its headquarters at Elmendorf Air Force Base, adjacent to Anchorage.<sup>4</sup>

Civil and military projects received assistance from the Corps' laboratories for research and development. Investigations for civil works included coastal engineering, flood control and navigation, remote sensing and topography, environmental quality, and ice-engineering. Military research and development focused on increasing efficiency for the Army construction program and furnishing new techniques and materials to assist facilities engineers in the operation and maintenance of Army installations.<sup>5</sup>

### **EXPANDED PERMITTING RESPONSIBILITIES**

Developments in the Alaska District reflected changes in the Corps at the national level. One noteworthy contrast between the modern period and earlier eras was the increased volume of regulatory work, in part owing to environmental legislation of the early 1970s. A significant development in the Alaska District during this period involved the Corps' increasing role in addressing a project's impact on the natural environment. As Deputy District Engineer Colonel Paul Bazilwich explained in 1973, "in this day and age of environmental considerations," the Corps was required to consider "environmental factors in as much detail as possible."<sup>6</sup> The agency assessed the effects of not only its own projects but also those of other agencies and companies. Due to its regulatory responsibilities under Section 10 of the Rivers and Harbors Act of 1899 and under Section 404 of the Federal Water Pollution Control Act Amendments of 1972 (the "Clean Water Act"), the Corps maintained jurisdiction over the placement of dredged or fill material in wetlands, as well as construction involving navigable and tidally influenced waterways.<sup>7</sup>

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One of the most prominent projects to be affected by the new environmental legislation was the Alyeska Company's TAPS, which was completed in 1977. Early in the decade, the Corps reviewed Alyeska's proposal for this project. According to historian Peter A. Coates, the Alaska District "surprised some conservationists by emerging as [a] powerful critic" of the Draft Environmental Impact Statement (EIS).<sup>8</sup> In 1971, Jack Anderson of *The Washington Post* reported the Corps' concern that this document had not complied with "the letter and spirit" of the National Environmental Policy Act. The Alaska District's 22-page review noted that the draft statement offered only "limited detailed analysis of the proposed construction and operation of the pipeline." Moreover, "conclusions on environmental effects" appeared "to be unsupported opinions."<sup>9</sup> The Corps, then, took NEPA requirements and its increasing regulatory responsibilities seriously. [For additional information see chapter 6]

For 22 years, from 1952 to 1974, Aurora Loss, who was also among the District's first employees in 1946, served as Chief of the Permits Section, predecessor to the modern era's Regulatory Branch. During the 1950s, Aurora Loss essentially equalled the District's Permits Section. Loss witnessed firsthand the change in the Corps' permitting duties, noting that initially, "we were just concerned if there would be obstructions to navigation." With the passage of national environmental legislation, however, she observed that the regulatory process became "more complex. Sometimes, we would have volumes in the files."<sup>10</sup>

Specifically, Section 10 of the Rivers and Harbors Act of 1899 required authorization from the Corps for any project that involved placing structures in, or work that affected, navigable waters. Examples of Section 10 projects for which permits are required include boat harbors, docks, or shoreline fish processing facilities. Section 404 of the Clean Water Act required that any project involving a discharge of dredged or fill material into waters of the United States, including wetlands, needed authorization from the Corps of Engineers. An applicant for such a permit could be a private or government entity; the purpose of a project could be private or commercial. Examples of Section 404 projects include roads, landfills, mining, oil and gas development, water and sewer systems and housing projects. The goal of the Corps' expanded permitting role is to foster greater control over water quality. As District Engineer Colonel Charles A. Debelius explained in 1975, "What we really are talking about is an activity everyone has, or should have, an interest in . . . protecting our water

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resources. This is very important to America's future and deserves full support of all citizens."<sup>11</sup>

During the permit process, the Corps first determines whether obtaining an individual permit is necessary. Existing nationwide or regional general permits sometimes preclude the need to apply for an individual permit. If this permit is found to be required, the Corps next conducts a public interest review during which the agency considers a project's potential impacts and solicits public comments. The Corps then prepares an "Environmental Assessment/Decision Document," which includes a statement regarding a project's compliance with the Environmental Protection Agency's Section 404 guidelines. Possible outcomes after this process include issuing or denying a permit, or modifying a proposal to mitigate against negative effects. The Corps usually makes its decision within 60 to 90 days of receiving an application, although more complicated or controversial proposals can take 120 days or more to complete an evaluation.<sup>12</sup>

During fiscal year 1993, the Alaska District processed 71 percent of 271 individual permit applications within 120 days or less. Of these, the District denied 17, or approximately 6 percent. The Corps denies a permit either because an environmentally less damaging alternative exists or because of overriding public-interest factors. Sometimes an applicant chooses to withdraw a permit request if that applicant has decided not to do the additional work that the Corps has demanded prior to issuing a permit, or if an applicant has determined that chances of denial are high, based on concerns raised during the evaluation process. Within a ten-year period, roughly from the early 1980s to the early 1990s, the District received nearly 6,000 applications.<sup>13</sup>

Because Alaska uniquely includes such extensive coastal areas, navigable waters, and wetlands within its borders, the permitting work for the Alaska District, since passage of these environmental laws and establishment of EPA guidelines for their enforcement, has become an important new area of concern for the District. In 1975, for example, the District employed only two biologists, two environmental resource specialists and one chemist. By 1992, these numbers had increased respectively to 31 biologists, 13 environmental protection specialists and 4 chemists.<sup>14</sup>

Occasionally, the regulatory work embroiled the District in controversy, placing the agency in the environmentalists-versus-developers debate. The District's permitting responsibilities, however, reflect a nationwide reorientation in the Corps' objectives since the 1970s that sought to balance economic

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development with environmental protection, as well as to obtain greater public involvement in the process of achieving this balance. The District, then, must attempt to determine whether a proposed project serves the public interest as conceived in the broadest possible terms.

Another development in the Alaska District concerned the establishment of Public Affairs in the Corps during the late 1960s.<sup>15</sup> These offices helped distribute information about the Corps' projects, some of which had come under close scrutiny, particularly by environmentalists.<sup>16</sup> The controversy concerning the proposal to dam Rampart Canyon had marked the beginning of organized opposition to a variety of projects designed to develop the natural resources of the Far North.

### **Meeting New Responsibilities in the Modern Period**

Phil Morrow, a retired geologist and materials engineer, recognized changes that new requirements brought to the Alaska District. Before the 1970s, he had conducted geological investigations that required explosives, which he obtained from Elmendorf Air Force Base and Fort Richardson. "I could go out there and sign for any explosives that I ... needed," he recalled. "You didn't have to have any permits or any licenses or anything to do this sort of thing. You'd go out and blast the holes in the ground, take the samples and come on back in."

During the modern era, however, employees sometimes were required to consult a variety of agencies before undertaking projects that would impact the natural environment. As a result, a task that once took only a day now could take weeks "just to do the paperwork." By the 1990s, Morrow concluded, it took "much, much longer to get something done," a development that fostered "a different working environment" in the Alaska District. Still, Morrow noted that "there's a lot of good in that too."

Corinne Walker, whose various positions with the Corps included General Service Chief, agreed with Morrow to some extent, looking back in 1993 to lament that "nowadays ... there's too much bureaucracy."

Sources: Morrow and Walker interviews.

## DISTINCTIVE CHARACTERISTICS OF THE ALASKA DISTRICT

Although the mission and the organization of the Corps in the Far North remained similar to that in the Lower 48, the Alaska District continued to face a number of distinctive challenges. To be sure, each of the Corps' almost 40 districts have unique characteristics. What distinguishes Alaska, however, is the combination of unusual elements, in addition to its rugged terrain and harsh climate.

Alaska also included a large amount of public land. "Alaska's different," noted Governor Walter Hickel. "The other states are basically privately owned. Alaska is owned mostly by the government."<sup>17</sup> During the late 1970s and 1980s, debate concerning the fate of much of Alaska's public land forced the nation to consider the values of protection and development, which affected perceptions of Corps projects.

### Innovations in Construction in the Alaska District

One of the distinctive challenges of construction in the Alaska District is contending with permafrost, or permanently frozen ground. Permafrost extends throughout much of Alaska, and is especially prevalent in the northernmost reaches of the state. If it remains frozen, permafrost forms a strong and stable foundation for construction. However, heat resulting from development sometimes melts the frozen ground, creating conditions that jeopardize construction projects. Placed on permafrost, some buildings can sink as rapidly as six feet per year.

Erwin Long, who became Chief of the Alaska District's Foundations and Materials Branch in the early 1970s, devoted extensive study to this problem. In his backyard in Anchorage in 1956, he developed the prototype for a device that would keep permafrost frozen, preventing the sinking of buildings and structures. Called the Thermo Pile, this device has been employed in construction projects throughout the Far North. In 1960, the Corps of Engineers installed these units at the Aurora and Glennallen communication sites. Long's patented device has become the most widely used refrigerated pile system for maintenance of permafrost foundation.

Coping with conditions in Alaska, including permafrost, required the Corps to devise innovative solutions to long-standing problems.<sup>18</sup> During the late 1950s, Erwin Long, who became Chief of the Alaska District's Foundations and Materials Branch, invented a device called a Thermo Pile that prevented frozen ground from thawing. It consisted of a hollow column containing propane gas, which operated on the same principle as a freezer. "The arctic ground is our frozen asset," Long explained. "It needs to be responsibly developed. It needs to be protected, enhanced."<sup>19</sup> Long, one of Alaska's authorities on permafrost, stabilized several structures built by the Corps. His Thermo Piles became widely used in construction on frozen ground throughout the state during the modern era.<sup>20</sup>

Similarly, Mason D. Wade, Jr., Chief of Flood Plain Management Services,



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approached the problem of ice jams with a new solution. Wade used World War II-vintage bombers to spread dark sand on frozen rivers before the spring thaw. He reasoned that darkened surfaces, which quickly absorb the sun's radiation, melted the ice faster, reducing its tendency to collect and block the rivers. While new snow can reflect 85 percent of solar heat, dirty ice reflects as little as 30 percent. First employed in the late 1960s, "ice dusting" continued to prevent flooding into the 1990s. By that time, the Alaska Division of Emergency Services had assumed responsibility for the task. To assist this agency, the Corps provided technical advice and conducted annual reconnaissance missions of river channels to mark the problem spots.<sup>21</sup>

Owing to the efforts of these and other engineers, the Alaska District became recognized as a leader in arctic engineering and construction techniques. In the early 1970s, the Corps contributed to a series of arctic engineering manuals for Army and Air Force building designs in cold climates. For the next two decades, this series, in part authored by the Corps' Cold Regions Research and Engineering Laboratory, which maintained a branch facility in Fairbanks, remained a "widely respected standard" throughout the state.<sup>22</sup>

Like permafrost and ice jams, severe weather continued to hamper the Alaska District's activities. Erwin Long remembered contending with winds that exceeded 90 miles per hour. Engineers were forced "to lay on the ground to keep from being blown away." Portage Pass near Anchorage, Long estimated, was blasted by gales of 300 miles per hour. According to Long, "most of the construction projects are built in areas where [the wind] isn't as severe, but it can be a problem."<sup>23</sup> Weather conditions affected transportation to remote sites, such as Dutch Harbor in the Aleutian Islands. "Some times of the year you can get in here, sometimes you can't," noted one pilot in the early 1990s. "The weather is always against you, even if it's clear." Fog, too, presented difficulties, particularly on the North Slope, where the construction season lasted only 90 days.<sup>24</sup> Similarly, Wendell Moore, who arrived in Alaska from Colorado in 1956, noted that the bitter cold complicated surveying activities in Alaska. "You had to learn to dress for it," he remembered. "Everybody would have to watch each other's face all the time to make sure they're not freezing up."<sup>25</sup>

Isolation and remoteness further hindered activities in the Alaska District. Engineers sometimes operated 500 miles or more from the nearest community.

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**Ice dusting prevents flooding on Alaska rivers.**



**Cutting holes to place ice-blasting charges for flood prevention, 1966.**



**Ice breakup.**

Because of the lack of roads, often the only modes of transportation available were air, boat, snowmobile, and foot. Moore conducted some of his surveys by dogsled. This lack of accessibility increased the difficulty of moving equipment to sites. Moore, who became Chief of the Survey Branch, recalled airlifting Caterpillar trucks. On one occasion a parachute carrying one of these vehicles failed to open, and the heavy truck crashed into a mountain, where it remained for years.<sup>26</sup> Even by the early 1990s, Alaska had less than 10,000 miles of paved roads.

These conditions also affected the distribution of supplies. Retired geologist Phil Morrow recalled working on a survey and soils crew in the foothills about 40 miles south of Fairbanks. "We went in by helicopter," he explained, and "it was two weeks later before we heard from anybody." At that time a twin-engine plane flew over the crew, dropping two parachutes of supplies. One of these, which contained food, failed to open. As a result, the potatoes "smooshed into the tundra," while the crew was reduced to "picking slices of bread out of the trees." Later the men learned that most helicopters in the area were engaged in

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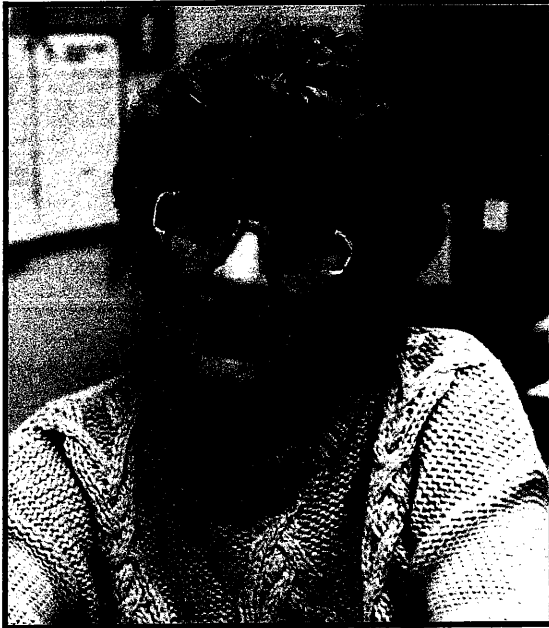
fighting fires. According to Morrow, the pilot that the crew had depended upon "had forgotten all about us." Eventually, worried employees at the Alaska District in Anchorage requested that the Air Force dispatch a helicopter to rescue the hapless crew.<sup>27</sup>

Unique conditions in Alaska encouraged an unusually high amount of interaction among the District's employees. According to Wendell Moore, "you learned real quick that what you did out there was your life. There was no transportation back maybe for another week or two." As a result, workers "depended upon each other an awful lot." He observed that the survey teams were like "family." Corinne Walker, too, recalled the friendliness of her colleagues in the Alaska District. "People kind of had a camaraderie," she explained in 1993. "They looked out for each other."<sup>28</sup>

Phil Morrow also described his coworkers as a close-knit group. He remembered daily volleyball games, attended by as many as 60 enthusiastic employees. "There were two courts going all the time," he explained, with "people waiting to jump in and replace the losers." Until the mid-1980s, Alaska District employees played volleyball year-round, even in sub-zero temperatures. According to Morrow, "the game became a little different" in winter conditions, and "the rules were ignored sometimes." Ruben Pack, a Corps hydrologist, organized many of the volleyball games. Pack himself played volleyball into his eighties.<sup>29</sup>

Dick Griffiths was another Alaska District volleyball player, noteworthy for his persistence and hardiness. During one game, Griffiths, who worked in the Soils Section, broke his finger. By the next afternoon, he "was out there playing volleyball again, hit the finger again and we had to make him quit playing." Griffiths was remembered in the Alaska District as a "rugged guy." One summer he embarked on an extensive journey across the North Slope, with "just two dogs and a rifle, and a tent." Although he had planned to shoot caribou along the way, Griffiths was forced to eat one of his dogs. "The other dog ran off," Morrow recalled. Griffiths, Morrow concluded, "would have been a fit companion for Jim Bridger," a 19th-century explorer and mountain man. After his retirement in 1990, Morrow continued to view the employees of the Alaska District as "an extended family."<sup>30</sup>

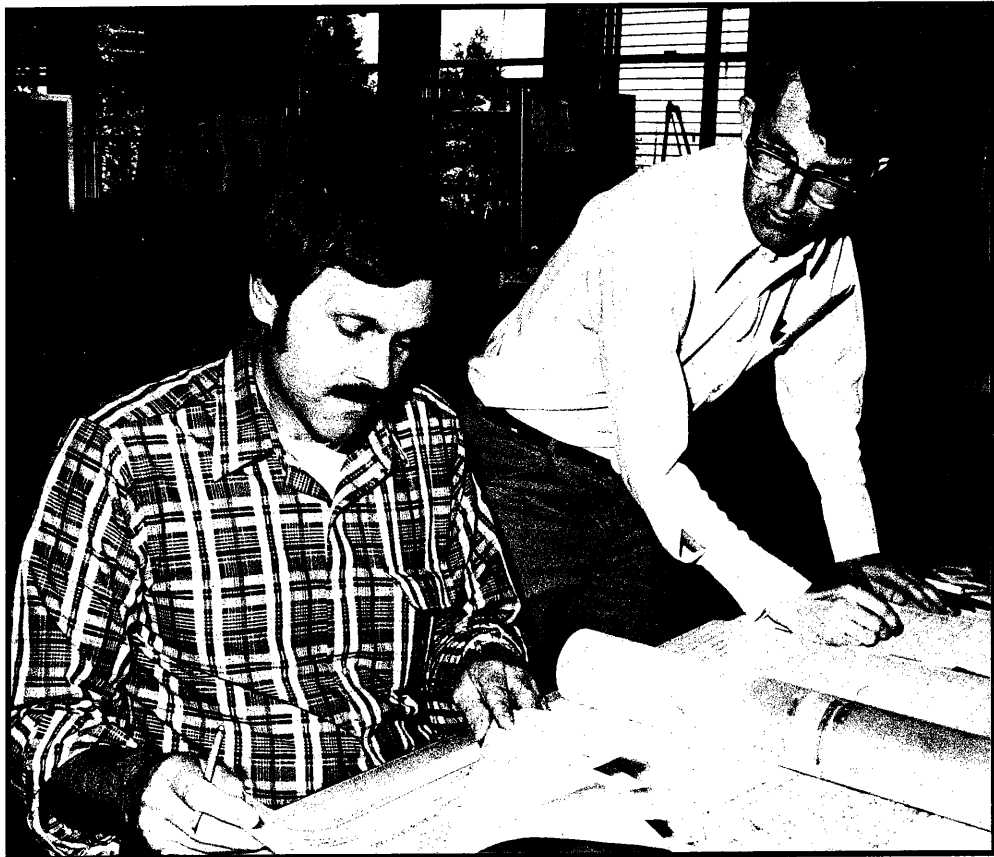
Another unusual characteristic of the Alaska District was the recent date of its establishment. "It started out in 1946," Morrow observed. "It's a much younger district than any of the other districts I've been exposed to. Of course,



**Corinne Walker, Chief, Administrative Services.**



**Wendell Moore, Chief of Survey Section.**



**Bill Oakes, Chief of Specifications, (right) and Steve Ahrens.**

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the state in general has a younger population than most states.”<sup>31</sup> Bill Oakes, Chief of Specifications, also noted the youthful nature of Alaska’s residents and Corps employees in the Far North. “People who came up here tended to be younger and more adventurous,” he explained. “Retirement time used to mean most people would move back outside ... to the Lower 48.” This trend, however, became less prominent by the 1980s and 1990s. Alaska’s longevity bonus, paid to people over 65, encouraged residents to remain in the state after their retirement.<sup>32</sup>

During the late 20th century, wildlife remained another distinctive feature of Alaska. To many Americans, Alaskan animals came to symbolize the presence of wilderness unparalleled in its vastness. When the writer John McPhee encountered a grizzly, for example, he observed that “What mattered was not so much the bear himself as what the bear implied. He was the predominant thing in that country, and for him to be in it at all meant that there had to be more country like it in every direction and more of the same kind of country all around



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**The Gulkana Roadhouse served as a center for post-war military and civilian road construction.**

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“Now you can get almost anywhere, you can rent a car even in most of the towns in Alaska. There’s a hotel to stay in in most of the towns in Alaska. These things just didn’t exist [30 years ago]. Let me tell you a story about Wasilla. Wasilla was a railroad station and a crossroads. There were three or four public buildings, which is all there was in Wasilla. There was a post office, general store, railroad station and Ma Brown’s Roadhouse. Ma Brown’s Roadhouse — there was a bar and a restaurant downstairs. Upstairs there was sort of a loft that was divided into rooms with burlap walls. There were studs with burlap nailed over and painted. That’s all there was between one room and the next. So you went upstairs and rented a room and the guy snoring in the bunk next to you — there was just this little burlap between you and him.”

...Source: Morrow Interview, 1993.

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that. He implied a world. He was an affirmation to the rest of the earth that his kind of place was extant."<sup>33</sup>

The welfare of animal and plant populations figured prominently in a number of Corps projects, including the proposed Rampart Dam and the Chena River Flood Control and Recreation Area. Wildlife affected small projects as well. Moose, for example, are especially prevalent in Alaska. Often these large, aggressive animals wandered onto roads, where they endangered startled drivers as well as themselves.

During the 1980s, the Alaska Department of Fish and Game proposed the construction of a "moose overpass" across the Glenn Highway, west of the Chugach Mountains. Leading these animals to the crossing remained a concern. As one observer put it, "moose are notorious for going where they please." To solve the problem, the Corps suggested construction of a net-wire fence to prevent the animals from walking onto the highway. Although other states provided underpasses for a variety of animals, few offered overpasses for wildlife. Fish and Game officials admitted that "the overpass idea sounds a little crazy."<sup>34</sup> In Alaska, however, the Corps contended with a variety of conditions not encountered in most districts.

