CHAPTER 7. 1968, Return to Glacier

On 9 September 1968, we arrived back in GNP in the newly established Resources Management Ranger position (GS-11, annual salary $10,203). During our year at Fort Collins I was a GS-9 ($9,590 per annum). We moved into a different house than the one which we had left a year previously. It was again a Mission 66 house, but with a different floor plan than the previous house. Our new abode had been the home of Willie and Jos Colony, who had just moved to their new house outside the Park, near West Glacier. Our new house was in a much better location than the earlier one, where we were surrounded by buildings. Now, across the street to our east was the base of the Belton Hills, a steep forested slope with western larch, Douglas-fir, and western redcedar. This area was a great wildlife area that included travel corridors of bears and mule deer, and wintering “yards” of white-tailed deer. It harbored territories of many bird species, including pileated woodpecker (*Dryocopus pileatus*), barred owl (*Strix varia*), and goshawk (*Accipiter gentilis*). Within a day or two after our return, while we were visiting Management Biologist Wasem and family at Park Headquarters, Terence (5 yrs old) was bitten on the face by Snuffy, the Wasem’s unpredictable dog. Terence’s nose was split open on one side; I drove him to Kalispell, where Dr. George Gould used 15 stitches to sew his nose back together. A few weeks later, Bob Wasem and family departed GNP for Bozeman, Montana, where Bob would be undertaking graduate work. He was a good friend; I missed his support on the job.

My new job sounded great. I soon found that my enthusiasm and expectations of a new age in resource management were not shared in GNP. Not long after our return, I volunteered to give a presentation to all GNP rangers. Most were skeptical of a management emphasis on “ecosystem management.” Old timer and well-respected field ranger Ed Olmstead was consistently unimpressed with the environmental concerns surfacing in the late 1960s. After I had discussed the accelerating rate of extinction resulting from human impacts, Ed belittled the concern as a trumped-up fabrication of irrational environmentalists. He argued that extinction was a “natural” process (no doubt about that) and because humans are part of Nature, it was illogical to worry about it. I respected Ed's field abilities very much, but he certainly did not help an attempt to apply a more sensitive approach to resource management. Another indication of how far GNP was from an “ecosystem” approach to management was evident when Biologist Bob Wasem and I drove by the Avalanche Picnic Area (13 September). A park bulldozer was in Upper McDonald Creek (1-24). The operator was in the process of dozing rocks from the Creek, pushing the rocks against the creek bank to create a Creek barrier. The project was unilaterally implemented by the maintenance division with no input from resource management personnel.

One of my first assignments was to write GNP’s first Resources Management Plan. Ranger Jerry DeSanto volunteered to help by doing historical research to determine the characteristics of the Park’s major ecosystems before Europeans substantially altered them. As anticipated, my duties included attending Wilderness hearings and meetings. During 9–17 October I was assigned to attend the World Parks Conference, in Calgary, Alberta. It included discussions on wilderness management and ended with an inspiring address by Stewart Brandborg, eliciting a standing ovation. In December 1968, I had the privilege of representing GNP at the Montana Wilderness Association meeting in Billings. Participants included Mardi Murie, Ken and Florence Baldwin, Tom Edwards, Brock Evans and
Loren Kreck. It was an inspiring group. Unfortunately, the assignment proved to be awkward. I felt a real kinship with the pro-Wilderness groups, but the NPS was giving little more than lip service to involvement in the Wilderness Act.

I had sent Lyle McDowell (Chief of Resource Management, in the D.C. Office) a copy of my professional paper (The Ecosystem Concept) from Fort Collins, but I had not received an acknowledgement that he received it. In late October, I sent him a note inquiring whether he had received it. He replied (D-16):

---

United States Department of the Interior  
National Park Service  
Washington Office  

FOLLOW-UP SLIP

To: B. Riley McClelland  
Date: November 5, 1968

The mail service must have broken down somewhere between here and there. I sent you a note in a blue envelope to acknowledge receipt of your paper which did in fact arrive in good shape. I took the paper home and read it in the peace and quiet of my living room. I think it is an excellent paper and one of the best I have read in a long time. I believe you achieved what you started out to do. I hope CSU will reproduce it and make copies available. It should be required reading for all NPS personnel.

I expect to be in Omaha the second week in December for a couple of days to discuss resource management plans with HO and field personnel. I'm sure you will be invited.

Mac

Lyle H. McDowell

---


I appreciated the kind words, but I always wondered why the NPS didn’t reproduce the paper and distribute it. In 1968, the ecosystem paper was published in the Rocky Mountain-High Plains Parks and Recreation Journal (McClelland 1968b)(a publication mostly unknown outside of Colorado). I doubt that more than a few NPS employees ever read it. In the same issue, "Fire for Management in National Parks," by David Butts also was published. Butts had been in a similar training program at CSU the previous year. Strangely enough, or so it seemed to me, I never did see Lyle McDowell during the year of training or at anytime thereafter. I was not invited to the Omaha meeting to which Mac had referred.

Pat and I resumed the weekly counts of bald eagles along Lower McDonald Creek in the fall. We set up a small, temporary tent blind in the Oxbow. As well as observing eagles, we were treated to some unusual activity by other species. On 7 November, a coyote (Canis latrans) worked the shore of the Oxbow, collecting eight dead salmon which he carefully lined up near the water, then trotted off.
1-24. GNP bulldozer in Upper McDonald Creek, pushing up a gravel "dike" at the Avalanche Picnic area, 13 September 1968.
CHAPTER 8. 1969, A Change in Superintendents: an Ominous Foreboding

During 21–28 January 1969, I participated in Dr. Vincent Schaefer’s Ninth Yellowstone Field Research Expedition (YFRE 9). Drs. Frank and John Craighead attended that session, working on their elk project using radio telemetry. The group was still using the Old Faithful cookhouse and bunkhouse, but it was to be the last year for it. The NPS was going to demolish the buildings the following spring in preparation for the construction of the Old Faithful bypass road, a Mission 66 project. So, I had the privilege of being part of the final Expedition to be based at Old Faithful. As I had done in the 1968 Expedition (YFRE 8), I observed and recorded the activity of Seismic Geyser. On 28 January, when our group left Old Faithful, there were 78 inches of snow on the stake, nearly twice the maximum depth we had recorded during any of our four snowed-in winters. My report on observations during this trip is available in McClelland (1969).

Back at GNP, on 10 March, Jane (then 10 yrs old) and I skied the lower part of the Apgar Horse Loops, adjacent to Lower McDonald Creek. There were fresh grizzly tracks crossing the trail a short distance after we started. On the 13th, Kerry (then 9 yrs old) and I drove to the gate at the GTS Road/Lake McDonald Ranger Station Road and snowshoed to the Ranger Station (about a mile). I pulled a large toboggan loaded with overnight supplies (two sleeping bags, food, tripod and spotting scope, etc.). We spent the night in the living room of the Ranger Station. The large fireplace was a real attraction; we built a fire and roasted hot dogs and marshmallows. In the evening and the following morning we set up the spotting scope and looked for waterfowl. Midday on the 14th we snowshoed back to the car.

In mid-March, while skiing near the inlet of Lake McDonald, I found the remains of a raccoon (*Procyon lotor*) that had died during the winter. I can find no previous record of a raccoon within GNP. On 27 March, Kevin and I skied to the Fielding Patrol Cabin. There were 48 inches of snow on the stake including 6 inches of new powder. Coyote, snowshoe hare, and red squirrel (*Tamiasciurus hudsonicus*) tracks near the cabin. One set of elk tracks on the trail was between the cabin and the Park boundary. John Tyers took a photo of the Park staff after a meeting called by the Superintendent on 18 March (I-25).

In late March 1969, West District Ranger Jack Fewlass and I became embroiled in a controversy involving the inholders (owners of private property within the boundaries of the Park) at Lake McDonald. Jack had proposed, and I fully supported, the elimination of water skiing on Lake McDonald and St. Mary Lake, the only two Park lakes on which water skiing was permitted. The activity was totally inappropriate in a “Natural” area park, and more consistent with a recreation area (at the time, national park areas were classified as Natural, Recreational, or Historic, with policies and objectives supposedly consistent with the classification). Superintendent Neilson approved the recommendation and adopted it as an administrative policy effective 15 May 1969 (announced in the *Hungry Horse News*, 2 May 1969). A group of inholders, the GNP Landowners Association, led by R.V. Bottomly of Great Falls, reacted strongly in the press and through political channels. Some (not all) of the inholders treated the Lake as “their” property because their legal property was adjacent to Lake McDonald. Superintendent Neilson immediately reacted by “deferring” the ban. This decision reversal was announced in the 16 May *Hungry Horse News*. The ban was never implemented. NPS Director Hartzog may have considered this political uproar serious enough to set in motion Keith Neilson’s transfer.
Within this period of water-skiing controversy, on 8 April, Ranger Trainee Phil Koepp and I had been to the head of Lake McDonald to check on water quality along the shoreline near inholder cabins. With the exception of open water in some shoreline areas, and the inlet, the lake was entirely ice-covered. Between the shore and the lake ice (about 15 feet from shore), we found numerous leeches (*Hirudo* sp.) in algal beds in the shallow water. We were unable to definitively relate the algal beds to water pollution. We also observed dense clouds of air pollution drifting up the lake from the Columbia Falls Aluminum Plant. There were 40 whistling swans (*Cygnus columbianus*) at the lake inlet.

On 14 April, Jerry DeSanto and I went to the Lubec area (in the Park, east of Marias Pass) to look for spring flowers. We found kittentails (*Besseya wyomingensis*) and Douglasia (*Douglasia montana*) in bloom. As spring days grew warmer in April, we looked for the first 50° F afternoons under sunny skies. This was the cue for avalanches in the Upper McDonald Valley. One could always count on avalanches breaking loose from high on Mt. Cannon, in the big bowl best seen from the upper end of the Avalanche Lake Trail. On 18 and 19 April, the family snowshoed to Avalanche Lake to watch (and hear) avalanches come down (we were a very safe distance away). In bright sunshine, high temperatures were in the low 50°s F both afternoons. Kevin (11 yrs old) was obsessed with fishing for big bull trout that were making their annual spring run up the Middle Fork to tributary spawning streams. He often was successful. We also caught bulls occasionally in Lake McDonald (I-26).

William J. Briggle replaced Keith Neilson as GNP’s Superintendent on 20 July 1969 (D-17). Little did we know that our fate in the NPS was about to change big time.

---

**Missoulian**

*July 21, 1969*

**Briggle Succeeds Keith Neilson At Glacier Park**

WEST GLACIER - William J. Briggle, 43, new superintendent of Glacier National Park was slated to arrive here Sunday. He succeeds Keith Neilson, 64, who has been superintendent of Glacier since April, 1964. Supt. and Mrs. Neilson have left for Gatlinburg, Tenn., where he will head Great Smoky Mountains National Park. Chief Ranger Ruben Hart has been Glacier’s acting superintendent. Briggle, a native of Fort Worth, Tex., majored in forestry at the University of Idaho, receiving his degree in 1949. He started his National Park Service career that year at Theodore Roosevelt National Memorial Park, North Dakota. The new superintendent and his wife were expected to arrive from Page, AZ., where he was superintendent of Glen Canyon National Recreation Area and Rainbow Bridge National Monument in Arizona and Utah. The Briggles have two children, Kirk, 19, a junior at the University of Oregon, and Kristan, 15, who will attend Columbia Falls High School.

**D-17. Missoulian article, Briggle Succeeds Neilson, 21 July 1969.**

Note that Briggle was credited with a degree from the University of Idaho. That issue will reappear later. Soon after his arrival, Superintendent Briggle did something we very much approved of; he changed the pet regulations so that a family could have two pets. He made this change because he had two dogs. Our entire family had been missing our dog Laddie since we were forced to leave him in Fort Collins in September of the previous year.
1-26. Kevin with a bull trout he caught in Lake McDonald, from the shore, in June 1969. Jane and Kerry are looking on.
With the change in pet regulations, we made plans for Laddie’s return. Fortunately, our former neighbors in Fort Collins still had Laddie. Daughter Jane was anxious to visit her Fort Collins friend, Cary Barnes, and resume their horseback riding companionship. That prospect was the opportunity for Jane to visit Cary, and to return with Laddie in August.

On 15–16 July, I had a fine hiking trip with St. Mary District Ranger Bob Frauson and Ranger Joe Ries. We went from Logan Pass to Fifty Mountain, where we camped. The sky was clear and spring flowers were at their peak in the Fifty Mountain Meadows. On the 16th, we hiked from Fifty Mountain to Goathaunt, then out to Waterton Townsite by boat. Three weeks later, summer flowers carpeted the Fifty Mountain Meadows.

On 6 August, I drove daughter Jane to Great Falls, where she could take a direct flight to Denver. She was picked up by the Barnes family and taken to Fort Collins, where she stayed with the Barnes family, 6–21 August, riding horses and reestablishing contact with Laddie. On 21 August, I drove, with Mary T. and Kevin, to Great Falls to pick up Jane and Laddie from their flight back from Fort Collins. We were united with our faithful dog!

On a fire detection flight in late summer 1969, I experienced a frightening event. I was in the rear seat on a fire patrol flight in Cessna 182, with Dan O’Brian (fire observer) and the pilot up front. The pilot was a weekend flyer for the aviation company when an extra pilot was needed. At one point, Dan decided to go from Waterton Lake to Belly River via Street Creek. The pilot started a gradual ascent toward the divide; the plane strained to climb, but as we neared the divide, it suddenly became evident that we were not going to clear the ridge. The pilot went into a sharp 180 degree turn and the stall alarm immediately came on. We fell rapidly toward the rock slope below as he put the nose down to try to gain sufficient speed to avoid a stall. He managed it, and turned around, looked at me, and raised his eyebrows. He knew he had made a nearly fatal misjudgment.

Biologist Bob Wasem and I walked on the north side of Upper McDonald Creek to McDonald Falls, on 17 September. In the pool below the falls we could see numerous lake whitefish (Coregonus clupeaformis) and one huge bull trout. On 18 September, I noted hoary marmots (Marmota caligata) and pikas (Ochotona princeps) just above the GTS Road and the Piegan Creek Drainage. The family hiked to Avalanche Lake, hoping to be able to ice skate on 23 November. However, the lake was only one third frozen. There were 3 inches of snow at the lake, but the trail was mostly bare. Near the lake we saw lynx tracks.

On 3 November 1969, Superintendent Briggle sent a memorandum (that I drafted) to the Regional Director, describing an incident of herbicide spraying along the U.S./Canada Boundary within GNP and asking that the NPS file a formal complaint with the International Boundary Commission. During a patrol back in April 1969, Ranger Jerry DeSanto had discovered that numerous trees within and on both sides of the International Boundary near Chief Mountain Customs appeared to be dead or dying. Shrubs and some other vegetation within and adjacent to the boundary also appeared dead. Further investigation by Jerry revealed that the International Boundary Commission had contracted a helicopter service (Okanagan Helicopters, of Richmond, British Columbia) in June 1968 to spray Tordon 101 along the boundary. GNP officials had not been informed of the project. About 40 miles of the boundary swath had been sprayed and there had been considerable drift of the spray, resulting in dead trees outside the swath. It also was apparent that the spraying had taken place continuously in valleys, thus poisoning aquatic systems. If the issue was taken further than Briggle’s memo, the outcome was not made public.
This was not the first unnecessary and damaging aerial spraying of herbicide or insecticide within the Park. The Hungry Horse News, 26 July 1957, carried a story entitled: “Planes Spray McDonald Forest in Glacier.” Excerpts from that article, written by Editor Mel Ruder, follow:

“Scourge of the nation’s forests—even more than dread fires—are insects. This week saw the first major onslaught in history on insect infestations in Glacier National Park. United Heckathorn of Richmond, California, on contract had sprayed 802,000 acres in Montana this year, and now winding up their 1957 schedule were to spray 6,500 acres in Glacier’s McDonald Valley. In most of Montana the enemy is the spruce budworm (Choristoneura occidentalis). In Glacier it is a hungrier cousin, the black-headed budworm (Acleris gloverana) [both are native insects]. We saw the C-82 ‘flying boxcar’ taking on a load of 1,200 gallons of DDT in diesel oil from a tanker and trailer [at the Kalispell Airport]. We later saw a swath of DDT mist spread out in a white cloud for about 500 feet as the plane flew from 200 to 600 feet above the tree tops.” “The DDT will destroy budworms and save trees. There is some controversy about DDT spray use, but how fortunate it is that we can save Glacier National Park trees through an aerial spray. This same spray that kills budworms also kills mosquitoes and other insects—the food for fish. Coming down on a lake or stream, it may also affect fish. But there’s been very little fish loss. Fortunately, suckers and shiners are more susceptible than trout. An inspection of 4 miles of McDonald’s shore Tuesday all day [one day after spraying] didn’t reveal a single dead trout, but there were dead shiners, suckers, a few whitefish and frogs. A smaller biplane—a Stearman—sprayed the Avalanche Basin . . .. Another interesting report was that there was no noticeable lack of birds in the area sprayed this week. They are still singing.”

The Forest Service used DDT extensively in the period 1947–74. According to Escano (1983), the Forest Service aerially sprayed DDT on 13 million acres in the western United States to “control” outbreaks of spruce budworm and the Douglas-fir tussock moth (Orgyia pseudotsugata), both native insects. Clearly, Rachel Carson’s “Silent Spring” (1962) insights and science were desperately needed.

Superintendent Briggle’s disdain for a priority of natural resource preservation in park management gradually became apparent. Both the Leopold Committee and NAS Committee in 1963 had chided the NPS for its lack of direction and adherence to preservation of naturalness. Briggle’s plans for the first winter of his superintendency heavily emphasized recreational use. In an interview that appeared in the Sunday Missoulian (14 December 1969), Briggle was quoted: “The potential for development [in Glacier] is tremendous.” At the time of Briggle’s arrival, several areas in the Park were open to snowmachine use by visitors, e.g., Kintla and Bowman Lakes, Upper McDonald Valley, Two Medicine, and Many Glacier. Briggle wanted to increase and expand that use. The Missoulian article continued: “The wildlife wintering areas are even identified and snowmobilers can drive within walking distance of them, Briggle said, adding that he expected a tremendous increase in snowmobile activity in the park.”

I ended the year (30–31 December) on a positive note, with an overnight ski patrol to Logan Creek Patrol Cabin with Jerry DeSanto. The snow stake read 19 inches.
I-27. Fifty Mountain Meadows, covered with summer flowers in the second week of August. **Top:** Vulture Peak is the major feature (clear sky above it) west of the meadows. Two Ocean Glacier is in view, along and below the long ridge to Vulture's summit. **Bottom:** Vulture Peak is obscured by an isolated, heavy rain shower.
CHAPTER 9. 1970, Glacier National Park: Managing “Natural” Ecosystems, or Facilitating Recreation?

I could not attend the Annual Winter Research Expedition in YNP in 1970 and logistical arrangements had become more difficult for Dr. Schaefer because there was no housing for the Expedition at Old Faithful. Dr. Schaefer and a small group on the Tenth Expedition stayed in West Yellowstone and commuted to Old Faithful by Bombardier for a few early morning experiments. They also visited Norris Geyser Basin to explore the possibility of using that area. Even if Old Faithful still had housing, the area rapidly was becoming a problem for their research because of increasing snowmachine activity. Snowmachine exhaust was elevating the number of cloud condensation nuclei (compared to the few snow coaches [Bombardiers] that came to Old Faithful during our four snowed-in winters there). On some days in recent years, there have been more than 1,000 snowmobiles at Old Faithful on a single day. There were 1,500 snowmobiles for rent at West Yellowstone in winter 1995–96. “… one snowmobile emits the same volume of hydrocarbons and nitrous oxide as 1,000 cars and as much carbon monoxide as 250 to 500 autos” (High Country News, 6 March 1995, p. 4).

Dr. Schaefer concluded that Norris would be a suitable site in which to continue his Expeditions. The NPS arranged for the Eleventh Expedition, in January 1971, to use the old mess hall and bunkhouse at Norris. This was Dr. Schaefer’s final year leading the Yellowstone Field Research Expeditions. The history of Dr. Schaefer’s Yellowstone Expeditions is summarized in two articles by Brock (2003, 2004).

During 4–8 January 1970, I was dispatched to assist with other GNP personnel in the search for five overdue climbers who had attempted an ascent of Mt. Cleveland (I-28). The search base camp was the Goathaunt Ranger Station, at the south end of Waterton Lake. Bob Frauson had the overall responsibility for coordinating search activities. Willie Colony was in direct charge of the field search personnel. My role was unimportant, primarily as an extra, to fill in wherever Bob Frauson wanted me. I helped keep time sheets for personnel stationed at the base camp. Other assignments included riding as observer in a helicopter, looking for tracks or any other evidence of the climbers on the north face, their original destination (we found none), and operating a snowmachine on the trail, ferrying supplies from Bertha Bay to Goathaunt. Evidence such as a backpack and other gear was found on top of major avalanche debris on the west side of the mountain, indicating that the climbers had changed course and were on the west slope of the mountain. The search included a probe line through the avalanche run out. The search for the bodies was unsuccessful and the effort was suspended until spring.

On 1 June, a helicopter transported Rangers Jerry DeSanto and Larry Faser to the avalanche area for a cursory walking search of the lower snow slide accumulation areas on the west side of Mt. Cleveland. Rangers DeSanto and Goodsell, and three other searchers found the first of the five bodies in the avalanche accumulation on 29 June (Jenkins 2000). The remaining four bodies soon were recovered.

On 17–20 March, I took my first ski patrol to Belly River Ranger Station, with Rangers Jerry DeSanto and Joe Ries. On the 17th, we drove the Birds-eye Ranch Road to the Chief Mountain Customs Road, then skied from the Canadian Belly River Campground to the Ranger Station in pleasant spring weather. We spent three nights in the station. During
the mild, spring days we skied to Cosley, Glens, and Elizabeth Lakes. Checked out the Cosley Cave on (numerous small bones) and the Cosley tree at Cosley Campground. We saw one moose, one dead deer, and tracks of grizzly, marten, wolverine, skunk, and red squirrels. On the 20th, we skied back to the car in a howling SW wind, temp 39 ° F.

In the upcoming summer and fall of 1970, Chief Ranger Ruben Hart told me that I should plan on doing some backcountry campsites evaluation and trail condition study. That would require many days of hiking Park trails. Information gathered was to be used in the Resources Management Plan that I was preparing. There were lots of “busmen’s holidays;” on my days off, some or all of the family wanted to do a hiking trip.

The following newspaper story (D-18) illustrates how Superintendent Briggle insisted (and Research Biologist Martinka complied) that the truth be stretched, or covered up, to keep from the public any news that might cast doubt on the abilities of GNP’s management:

**HUNGRY HORSE NEWS**
May 15, 1970, page 10

**Bear Control Sessions Theme In Glacier Park; trapped May 9, 1970**

“Park’s bear management plan was in process before 1970 training sessions. A young adult grizzly was trapped in the Fish Creek Campground area by Biologist Martinka Saturday. It was reported she was not doing any harm, but was frequenting an area not permitted. Removal was a matter of safety.”


My knowledge of the facts of this incident were:

(1) The campground was not scheduled to be open for a month.
(2) The trap was set so the biologist could experiment with tranquilizing drugs.
(3) After the sow was in the trap, its cub (3 months-old) showed up outside the trap.
(4) The sow was drugged and released on the site. It did not reunite with its cub.
(5) The cub was transported 15 miles and released, with low probability of survival.
(6) The above story was released because it was the belief of those making the decision that the truth would not have been well-received by the public.

Martinka undermined the status and work of Management Biologist Bob Wasem, leading to Superintendent Briggle’s decision that Wasem’s position was not needed in GNP. As a result, on 30 June 1970, Wasem was transferred to North Cascades National Park. In reality, Wasem had gathered most of the baseline scientific data that formed the basis for wildlife and aquatic management up to that time. Martinka seemed unable to deal with “competition” and strived to undermine any threat to his scientific authority. Where he saw opportunities to develop proteges who would not challenge him, he positioned himself as a mentor. He also seemed to get along well with his superiors by not challenging them. Martinka obviously had significant influence on many of Briggle’s management decisions.
I-28. Aerial view of Mt. Cleveland’s west side, showing the final search area for five missing climbers. Blue arrow (lower right) points to a probe line of searchers working the avalanche area, 6 January 1970.
Terence (then 7 yrs old) and I fished at the Lower McDonald Creek Oxbow on 23 May. He used a small “kamlooper” lure; “fly fishing only” had not yet been applied to the creek. He caught 3 very nice westslope cutthroat; one was 15 inches long (I-29). Terence hooked but lost three other good size cutthroats (12 inches plus). Catching that many cutthroat in the Oxbow is unheard of today, and a 15-inch cutthroat would be an unusually large trout in the Middle Fork drainage, not to mention Lower McDonald Creek.

Pat and I hiked to the Mt. Brown Trail junction on the Sperry Chalet Trail on 29 May. We were appalled to see the results of recent trail maintenance. In those days, a “small” trail bulldozer was used to widen and smooth trails at the discretion of the trail maintenance supervisor (I-30). The trail “cat,” as it was called, made large and long-lasting scars wherever it was used, hardly an example of a light touch on the landscape, as claimed by the NPS. Several years later, trail cat use finally was discontinued in GNP. In 1970, the NPS was routinely generating air pollution from an incinerator burning trash near the horse barn adjacent to Lower McDonald Creek. Again, the Chief of Maintenance just didn’t seem to “get it.”

Daughter Jane and I hiked the 3½ miles to Apgar Lookout to spend the night on 6 June. The Weather Bureau had predicted a high probability of lightning in the area during the night. Jane and I were on a mission to photograph lightning. We had a pleasant night watching the stars from our sleeping bags, but there was not a hint of lightning. Apgar Lookout was built in 1930 and last manned in 1970 (but for only part of the summer). It remains the site of the Park radio relay station.

Jerry DeSanto and Bill Scott (both had been Ranger-Naturalists in YNP, in the summers of 1963 and 1964) and I hiked from Two Medicine to Buttercup Park 8 July. The trail, no longer maintained at the time, actually went to Paradise Park and on to Two Medicine Pass (an old, abandoned trail to the Pass). The trail had many beautiful vistas. On 13 and 14 July, I took son Kevin with me on a trip to Quartz Lake. On day one it rained all day until evening. We ran into a small black bear between the Quartz Patrol Cabin and log jam. The bear was very aggressive could not be scared away. Kevin caught two 15" cutthroat and one about 9." On the 14th, we met the black bear again. He was busy tearing a log apart near the cabin. The log was full of ants on which he feasted.

I spent 15 July with Forest Service Researcher Clint Carlson, collecting vegetation samples for fluoride analysis. Beginning in 1969, I had been assigned to coordinate Forest Service and Anaconda Aluminum Company Columbia Falls research on fluoride pollution in the Park. The plumes from the aluminum smelter (it began operation in 1955) drifted into the Park (only 6 miles away) on the prevailing southwesterly winds (I-31). The Aluminum Company had been engaged in a major public relations effort to convince people that there was no air pollution of concern emitted by the plant, at least none that could impact GNP. It had already become obvious that many conifers on the Aluminum Plant side of Teakettle Mountain were dead and tree health Blankenship area of the Park clearly was being affected. On many days the pall of emissions from the plant extended far up Lake McDonald.

In September 1970, Dr. Loren Kreck and his wife Mary filed a class action lawsuit against Anaconda Aluminum asking for a major reduction in fluoride emissions from the plant. The suit put pressure on the Company. The Carlson and Dewey (1971) report of their field research left no doubt about the Plant’s emission impacts:

“Fluorides emitted from the Anaconda Aluminum Company were determined to be
the primary cause of the injury and damage to vegetation in the surrounding area."
Data indicated the fluorides were carried by air movement from the aluminum plant through a saddle in Teakettle Mountain to Glacier National Park, following the pattern of the prevailing winds in the area. Elevated fluorides (greater than 10 ppm) were found in vegetation ... in the southwest portion of Glacier National Park."
"Fluorides also were found to accumulate in insect tissue. All groups of insects studied contained high fluoride levels. Pollinators possessed the highest, up to 406 ppm."

New reduction technology from Japan, updated Soderberg pots, and the purchase of dry scrubbing pollution technology enabled the Plant to reduce fluoride emissions to new state limits in 1976. The Kreeks’ lawsuit was dismissed by District Court Judge Sykes in 1976, but Loren and Mary had accomplished their objective.

On 20 July, Jerry DeSanto and I hiked from the Cutbank Ranger Station to St. Mary via Triple Divide Pass. We noted pikas just south of the Pass summit. On 22 July, I hiked to Howe Lake with Becky and Larry Williams, and Tom and Joan Watson. We walked around both lakes and found old disassembled cabin logs near the north end of the upper lake. There were moose tracks all around both lakes.
I-29. Westslope cutthroat trout (15 inches long) caught by Terence in Lower McDonald Creek, 23 May 1970.
1-30. NPS trails supervisor driving a “trail cat” to widen the GNP Boundary Trail, May 1965 (photo by C. R. Wasem).
I-31. Viewing south from the GNP side of the North Fork of the Flathead River, one-half mile upstream from Blankenship Bridge. Columbia Mountain is in the center, upper part of the photo, with Badrock Canyon to its right. Emissions, including fluoride contaminants, from the Columbia Falls Aluminum Plant can be seen passing east through Badrock Canyon and denser emissions through the Fawn Creek gap, between Columbia and Doris Mountains (photo from July 1970).
On 23 July, I hiked to the summit of Elk Mountain and noted: "Flowers are lovely on top of the mountain." There were grizzly diggings along the crest of the ridge at the second switchback on the lookout trail. Along the trail, approaching the lookout site, there was an old weathered, wooden sign on a tree; the sign read: "Home of the Flying Ants." Carpenter ants (*Camponotus* spp.) go through a stage in their life history in which they have wings and are capable of flying long distances on favorable winds. These flying forms congregated on certain peaks during their spring emergence, when seeking mates. Elk Mountain was a site of consistent and large concentrations. The wooden lookout, on the summit, had been burned by the NPS on 27 May 1965. There was a considerable amount of rubbish left from the burning: cot frames, utensils, etc. The debris should have been packed out with stock. In a subsequent year, the NPS removed it via helicopter.

I hiked Many Glacier to Elizabeth Lake via Ptarmigan Lake on 29 July. At Ptarmigan Lake, the vegetation was badly trampled. There simply was no good spot for camping at Ptarmigan Lake. I noted many fresh bear tracks (at least one black and two grizzlies) between Redgap Creek and Elizabeth Lake. When I arrived at Elizabeth Lake, Boy Scouts were catching toads (*Bufo boreas*) and killing them. The Scouts and other campers were washing dishes, and themselves, in the lake, adjacent to camp. The campsite outhouse was filthy and without toilet paper. Seasonal Ranger Tom Watson’s father (Reverend) also was at the campground, leading a large group, with many horses. His horses were loose and grazing far up the hillside adjacent to camp. Rev. Watson told me that there were 190 people camping there two nights previously. There were about 100 people in the campsite this night. There were many complaints about a Canadian L.D.S. Boy Scout group that had departed earlier in the day. They reportedly had caught 200 fish and made a mess around camp with the fish entrails. The scouts also had chopped trees with axes. I camped overnight at Elizabeth, in the midst of chaos. Seasonal Rangers Larry Williams and Tom Watson, and their wives Becky and Joan, also were camped there.

The following day (30 July), the Williams, the Watsons, and I hiked Elizabeth Lake to Chief Mountain Customs. We met a riding group with sixty head of stock on their way to Elizabeth. On the way out, I checked Belly River and Three Mile Campsites, both badly abused by horses. I had no law enforcement authority at that time, but after the trip I made recommendations regarding the management of the Elizabeth Lake campsite: horses to be restricted to a corral away from the lake, in the woods northeast of the current campsites; campers limited to total of 25 per night and horse parties no larger than 10 and no more than two horse parties at the campsite at a time.

I had only one opportunity to hike with old-time ranger Ed Olmstead. On 3 August 1970, we hiked to Paradise Canyon on the Upper McDonald Creek Trail. I tried to glean as much insight into Ed’s thinking as I could. Ed was of the old school. He was an excellent outdoorsman, a schooled veterinarian it was said, and an excellent mechanic and building craftsman. However, Ed had little respect for ecological “theory” and was quite reactionary in being confronted with advances in resource management based on science. That’s just the way he was. He was human-use, rather than resource oriented. I respected him for his many abilities even though he seemed opposed to any changes I recommended in backcountry management.

One of the most exhilarating hikes I had the privilege of making in GNP was a climb of Vulture Peak, 7–12 August 1970. On the 7th, I hiked the Loop Trail to Granite Park and
spent the night in the Chalet. On the 8th, I hiked Granite Park to Fifty Mountain, arriving at 2:15 P.M., just before a hard hailstorm covered the ground. I spent the night in the tin shelter in the Campground. That same night, Jerry DeSanto and Fred Goodsell were planning to be in the Kootenai Patrol Cabin. On the next day (9th), they planned to bushwhack from the cabin to Kootenai Pass and then take the West Flattop Trail to the Shelter, where I would meet them. The three of us would then bushwhack back down from Kootenai Pass to the Kootenai Patrol Cabin, where we would spend the night. When Jerry and Fred arrived at Fifty they were not interested in repeating the bushwhack, so we took the Waterton Valley Trail down to Kootenai Cabin.

On the 10th, we departed Kootenai Patrol Cabin early and followed the old Waterton River Trail as far as we could find it (a mile or so), then continued cross-country up the Waterton River Drainage, paralleling the river. When we climbed out of the Waterton River Valley, we next reached Nahsukin Lake. Above Nahsukin, we were on glacier-polished and grooved bare rock that made traveling easy. We then crossed the Continental Divide just before arriving at Gyrfalcon Lake (the headwaters of Quartz Creek). Subalpine larch (*Larix lyallii*) were scattered about in the vicinity of Gyrfalcon.

We dropped our heavy packs at the lake, then proceeded to begin our route up Vulture Peak. We climbed up along the former southern lateral edge of Two Ocean Glacier, to the saddle southwest west of Gyrfalcon Lake. At the saddle, a long, generally southeast/northwest ridge begins that ultimately winds up at the Peak. However, we could see a vertical cliff section that appeared to “block” the ridge route at one point, about 1/4 of the way up from the start of the ridge. We continued along the base of the south side of the ridge and then along the base of the southwest face of the ridge. There were extensive stair-like cliffs all the way up this face. Starting at a point that looked as if it would take us to a point beyond the vertical cliff band, we headed up the “stairs.” Some traversing was required, but generally it was just a continual climb upwards on stairs with rises averaging 2 or 3 feet each. We arrived at the crest of the upper ridge, about ½ mile from the Peak. It was an easy stroll to the summit on loose plates of rock. This route was described by J. Gordon Edwards (1960). There were remains of a small cairn, with no register. The sky was blue, little wind. The temperature probably was in the 50°Fs. It was a breathtaking view in all directions (1-32), with Vulture Glacier to the west (1-33).

We took a different route down, descending on the southwest ridge until reaching the first saddle, then southeast down snowfields and stair-like cliffs on the east side of Vulture Glacier. We then descended through the same saddle (above Gyrfalcon Lake) that we had crossed on our ascent. At Gyrfalcon Lake, we rested. It was tempting to remain at Gyrfalcon for the night, but the next day would be a long one, with our plan to get all the way out to Goathaunt, so we felt the need to cover at least a little of that distance before camping. We picked up our heavy packs and headed north looking for a good camping site. We did not find a “good” site, but decided to stop near a small “toad pond,” the first one on the south end of the bench northeast of Vulture Peak, north of Gyrfalcon Lake, and east of Bighorn Peak. The area was covered with grizzly bear diggings, sufficiently numerous that rolling over in a sleeping bag inevitably encountered an excavation. Looking back on it, it’s hard to imagine why we chose that site, except that it really did have a super view. On the 11th, none of us got much sleep in the grizzly digging garden and we got going early. The sky was still clear and the sunrise on Vulture Peak was superb (1-34).
1-32. Views from the summit of Vulture Peak, 10 August 1970.
**Top:** Ranger Jerry DeSanto viewing northwest. **L-R:** Rainbow Peak with Rainbow Glacier, and Mt. Carter.
**Bottom:** viewing northeast. **L-R:** Mt. Cleveland, Stoney Indian Peaks, Chief Mountain (distant, blocky and bright), and Mt. Merritt (three summits).
1-33. Vulture Glacier, seen viewing west from the summit of Vulture Peak, 10 August 1970.
I-34. **Top:** Rangers DeSanto (hat) and Goodsell at our toad pond campsite, north of Gyrfalcon Lake, 10 August 1970. **Bottom:** Vulture Peak at sunrise, reflected in the toad pond; Two Ocean Glacier perched on this side of the Peak, 11 August 1970.
We proceeded north, cross-country, reaching Redhorn Peak. Jerry and Fred climbed the Peak and I decided to rest at the base. At this point we were just west of the Continental Divide. We then continued northwest, to the next peak (unnamed). There was a glacier on the east side of this peak and the only way to get past it was to walk the narrow snow band between the bergshrud and the vertical cliffs above. I was very nervous about this route. The snow was very firm, icy in places, and any slip would have put the person into an unarrestable slide down the glacier and over the ice terminus to rocks hundreds of feet below. I was very glad to get past that site.

It was then comparatively easy walking near the terminus of the Carter Glaciers. There were active cliff swallow nests on the vertical cliffs above the north Carter Glacier. We explored a short tunnel in the ice at the terminus of Carter Glacier (I-35). Then we took pleasant walk over to Jefferson Pass, on the north side of which is the Bowman Drainage. On the south side of the Pass we began the route we needed to take, the long haul down the Valentine Creek Drainage to the Waterton River, then down river to Goathaunt. The bushwhack from Jefferson Pass down Valentine Creek was covered with a dense “forest” of alders (Alnus tenuifolia), difficult and tiring to negotiate. From time to time we encountered bear trails, but they had alders lacing overhead so they weren’t much help, and they tended to go up and down the slopes, not angling to the east, as we had to do. We found no other animal trails. By the time we reached the Waterton River I was experiencing severe leg cramps. Jerry and Fred were not, so they decided to go on and let me get over the cramps by myself. I took some salt pills, drank lots of water out of the river, and within a couple of hours the cramps abated. I continued on to Goathaunt, arriving at 8:30 P.M. The next morning we got a ride in the NPS patrol boat, down Waterton Lake to the Townsite in WLNP.

On 14 August, Pat and I and all five children hiked the Garden Wall Trail from Logan Pass to the Granite Park Chalet and spent the night in the Chalet. Next morning we split up. I hiked with Jane, Kerry, and Terence to both Grinnell Glacier Overlooks (I-36), then down the Alder Trail to the GTS Road. Pat, T., and Kevin hiked from Granite Park over Swiftcurrent Pass to Many Glacier, where the three kids and I drove to pick them up.

Seasonal Naturalist Alan Nelson and I hiked from Logan Pass to Hidden Lake on 16 August. Strong wind was blowing sheets of water off of the whitecaps on the lake. From the lake we continued cross-country to Sperry Glacier (I-37), with the cold wind howling throughout the route. From the Glacier we descended Como Pass to Sperry Chalet, where we spent the night. On the 17th we hiked Sperry Chalet to GTS Road via Gunsight Pass, where mountain goats provided the usual photo opportunities, especially near the stone shelter.

On 21 August, I was scheduled to meet the NPS Master Plan team at Goathaunt. On the following days I accompanied the Team hiking from Goathaunt to Fifty Mountain, where we camped for the night. From Fifty we hiked to Sue Lake Overlook, Ahern Pass, then on to Granite Park Chalet for the night. On the 24th, we hiked from Granite over Swiftcurrent Pass to Many Glacier. One of the team members was Bill Rothschild, an NPS engineer who, with his wife Lorna, had been our neighbor in the NPS apartment at Lake Yellowstone, in the summer of 1961. He was amiable enough, and showed no indication of the hostile attitude he would exhibit when I met him in the NPS Denver Service Center three years later.
Mark Tyers and I hiked to Loneman Lookout on 25 August. The Middle Fork was easy to ford, about two inches below hip boots. Leonard Stutsman was on duty at the lookout. He had seen a grizzly at the lookout on the 22nd. We found evidence of the bears traveling all along the trail; many logs were torn apart all the way to the top. Huckleberries (Vaccinium sp.) still were good up high. The outhouse at the lookout was in terrible shape, with junk (old boards, hinges, etc.) scattered around. A lot of phone wire remained from the lookout to Nyack Ranger Station.

On 27 August, Pat, the five children, and I hiked from Lake McDonald Lodge to Sperry Chalet, where we spent the night. The trail was hot, dusty, and smelly (horse manure). The McDonald Valley was very smoky, from forest fires to the west. The entire vicinity of the Chalet smelled awful. We had not realized that sewage was stored all summer in a large concrete holding tank on the edge of the steep, rock cliff only a few hundred feet from the Chalet Dining Room. By the end of summer the smell of sewage permeates the area. In September, a Park crew opened a valve on the holding tank and the entire contents shot out and down the cliff into the headwaters of Sprague Creek. How's that for national park resource management! Unbelievably, this holding tank/discharge system remained in use until about 1992, when the Sierra Legal Defense Fund wrote to the Park stating its intention to sue over the annual septic discharge (see article by M. Jamison in the 25 July 1998 Missoulian). The Chalet was closed and work began on a new high-tech septic composting system in 1996. The Chalet reopened with full service in about 1999. The expensive, composting system was nonfunctional, primarily because temperatures at the Sperry elevation are too low for the needed biological decomposition activity. The NPS had to resort to hauling sewage sludge out by helicopter.

The next day (28th), we hiked to Sperry Glacier, and joined naturalist Jim Castren’s conducted trip. We saw 5 white-tailed ptarmigan (Lagopus leucurus), pikas, hoary marmots, and several mountain goats, then headed back to the Chalet for another night. On the 29th, Pat and Jane hiked from Sperry Chalet to GTS Road via Gunsight Pass, where they encountered a strong east wind, fog, and cold temperature. Mary T., Kevin, Kerry, Terence, and I hiked from the Chalet back down to Lake McDonald Lodge, then drove over Logan Pass and picked Pat and Jane up at the Virginia Falls Trailhead.

In August 1970, Olympic National Park District Ranger Jack Hughes (our former YNP ranger colleague), expressed the concerns of many national park rangers (D-19) by establishing the Professional Rangers Organization (PRO) (D-20).
Rangers DeSanto and Goodsell walking into a crevasse that reached to bedrock, Carter Glacier, 11 August 1970.
Terence, Kerry, and Jane, at Grinnell Glacier Overlook, on the Garden Wall. Grinnell Lake is in the distance, 15 August 1970.
I-37. Sperry Glacier viewed from the ridge between Hidden Lake and Lake Mary Baker, 16 August 1970.
A Park Ranger Views His Profession

Concern for the future of the Park Ranger has been growing for some time among "professional park rangers" working at the field level in an ever more complex job of protecting a park while making it available for even greater visitor use. Skills needed grow each year. Rescue has moved from summer to year around at many places. Advanced medical first aid, knowledge of meteorology, glaciology, physics, technical mountaineering, have all increased in importance to the working field ranger. Knowledge of the country under all conditions has become more important. Law enforcement has become so demanding and technical in many areas that it is a specialty in itself. Each year more people than ever are using the Park and needing more attention at a greater level of knowledge. From this we would expect that the era of a full professional status for the Park Ranger would finally be at hand. Such has not been the case, and signs seem to indicate the opposite, in fact!

FOST

Since 1967 word of a "FOST" [Field Oriented Study Team] study has been coming back from Washington. The optimistic view was that there were ideas coming that would help the Park operations and the working ranger to do his job. Much of the word was far from encouraging however when analyzed in light of past bureaucratic behavior.

An article from a recent issue of Civil Service Journal was especially disturbing. Entitled "FOST — an acronym for Change in the National Park Service" by Mati Tammaru. Chief of Employment, National Park Service. The article covers a brief history of FOST, what problems were found, and what recommendations were proposed to solve the problems. There is much there to analyze about the coming structure of the Park Service: Sections about Clusters and management units which are already starting with Clusters and a new region growing while Park positions are diverted to provide the office staffs.

ANALYSIS

I will attempt here to analyze only the section dealing with new occupations - that is Managers and Technicians. The article is filled with point-missing and ironic statements that would be funny if so much were not at stake. At one-point-we are to "provide attractive job materials with which to interest applicants and students in Park Service careers." And in another place we are told that technicians are to climb a career ladder starting at GS-1 and GS-2! GS-1 and 2!—Levels that fit into the poverty category for most areas of America! We are told that "Rangers spend too many years at the beginning steps of their careers because much of their work includes technical duties." Is it too much to expect them to learn these duties before going to the sacred office to do "programming, planning, supervising, evaluating, and instituting new management programs and practices?" While the "freed" ranger is planning, programming, supervising, evaluating, and instituting new management programs and practice, the GS-1 & 2 men (some disadvantaged, some recruited from local high schools) will be enforcing laws and regulations, controlling traffic, operating campgrounds and beaches, doing fish and wildlife management, soil and water conservation, protecting the visitor and the resources, and providing information. Not bad for an uneducated GS-2. This we are told will "provide even greater service to visitors and more effective management of park resources!"

Trends of such thinking can be traced back to the early 1930's and probably further. Early rangers were uneducated men of great skill in outdoor work. They knew the area and could get around in it under all conditions. They were, in fact, technicians. Men of this skill are rare today and where found can do much better in other lines of work than a GS-2 Park Technician. By 1930 rangers were recruited in numbers from Forestry Schools or "Ranger Factories," as the early technicians called them. At least two types of career followed for these new rangers: One group went very quickly into offices and became in amazingly (even by today's standards) short-time chief rangers and superintendents (managers). Many of the latter were sent to offices because they were not good with the field work. Thus, not measuring up to the job for which one was hired could predispose one to becoming a supervisor of those who did!

The office group gained control of parks, regions, and key staff jobs in Washington. Having never spent long enough in a field job or even area, to know the work, they had small regard for the standards of the working field ranger. This group encouraged new men to move often — two years or less per area was not uncommon. Now this "second generation* of managers is again selling short the skill and knowledge needed by a modern ranger for field work. Instead of encouraging top men to stay in field level jobs long enough to learn them and the areas in-depth, people are being pushed into offices and transfers.

**CASE IN POINT**

It is interesting to compare this "new idea" (FOST) with some other agency experience. New York City Police have been recruiting at top colleges for students to work at basic patrol work in the city streets where many of the real problems are. These and the usual high school graduate police recruit start at over $10,000 per year. Tacoma, Washington Police have recently changed policy. Where top police were before given first chance at specialist jobs, now the top men are forced to stay in patrol work to be right at the center of the problems. Police are not forced to train to be mayors or city managers, yet modern rangers are forced from the start to study more advanced management than basic protection.

FOST cannot take all the blame for these trends of course. Many factors are involved. The Training, Center is to blame for some. However, FOST which started out "kicking some sacred cows," has become one itself and may need the same treatment.

**PROFESSIONAL STATUS**

I feel it is time protection be treated as a full profession in itself. Even within protection there should be room for some specialties such as mountaineering, boating or law enforcement. Such a profession is at least the equal of others in the GS-9 and above level. If Civil Service does not see that, put us on wage board and compare with an equipment operator or plumber. Then with pay for overtime there will be no complaint about wages!

Maybe it is time for rangers to form a professional organization to lobby for recognition. As a group, the small band of men who came on duty to work at field level could resist efforts to go to the office they signed up to avoid. Such a group could lobby for standards of training and recruiting that would produce the men with field skills so much needed and often lacking in the modern park. Rangers have often been quiet and left the talking to administrators. It may be time to speak up while they still exist!

Jack Hughes
District Ranger
Olympic National Park

D-19 (concluded).
The P.R.O. is an informal group formed to preserve a high standard of field work in protection of our National Parks. This is not a labor union, but rather a professional organization. The founders of the group feel that being a ranger is a worthy profession in itself rather than just a starting position in the management field. We feel that field skills required are great and take time to acquire. We also feel that the judgment required in working in isolated places preserving life and property, as well as irreplaceable natural and historic objects, requires a versatile and highly qualified person. We feel that the training required and provided should emphasize field skills more than office skills. Education is important for a general background and for some specific jobs. Physical ability and condition are very important, also. Rangers should then be given time to acquire knowledge of the area and job by working experience free from excessive office and management duty and pressure to transfer into other work. Rangers with skill and in-depth knowledge of the park and the operation can be of great value to management by providing information and advice. This value is lost if they are forced into offices too soon or too often.

Some positions taken on specific issues include:

New positions - Managers and Technicians: We feel that protection is a key job in park operations. Management is necessary but should be provided for without converting men away from protection. Rangers should be generally directed by managers and, if needed, assisted and supported by technicians, but not replaced by a combination of the two!

Education and grade: A college education is not always required to make a good field ranger. However, this background is of great value to field rangers in many complex field situations and should be encouraged by the Service. Education plus aptitude and ability in field work as well as good physical condition produce the top caliber men needed to protect our parks. Grade levels for field rangers should be such as to attract and hold good college trained men at field level jobs.

The title "Ranger": Names have limited value, but we feel that the core of men working at field level with the park and the visitors in protection should be called "Rangers" and not the second line managers.

Training: Field skill training should be the main training rangers have. Physical ability and conditioning are of first importance. Scientific training can be of value as a general background in many areas. Social science and other fields are valuable in some areas. Special fields such as police science of forestry are also needed. Men with an in-depth knowledge of the area, when passing this information on to visitors, create better public relations than people trained in "public relations skills" trying to bluff along on limited knowledge of the park! We feel that the Service has fallen behind on skills training in recent years. More training is needed in such areas as mountaineering.

and rescue, medical first aid, law enforcement, wilderness travel and survival, ecology, boating and many more. Area and regional schools should be encouraged since training centers are limited and geared to classroom training. Urban area training is very valuable for men working in that environment. However, training men in urban area skills only to protect the people and wilderness from each other will only add to our problems in natural areas. The role of the Service is not changing but expanding. We need to add new skills, but not replace all the old ones!

Some things we propose to do in order to achieve the above goals include:

Lobby for objectives with Service management. Help in this can be sought from friends of the National Parks in conservation, education, user groups such as mountaineers, other professions such as law enforcement associations, and if needed, with other levels of government.

Publish a newsletter. Rangers are a scattered group and should have a medium to exchange ideas and new ways of doing things. We propose that by spring 1971 we start with as many areas as possible doing a page about the past winter's activities in protection plus any new ideas about protection problems or methods. Some space for policy ideas can be used, too. The prepared sheets can be combined, printed and sent out to provide an exchange of protection information all over the Park Service. After summer, we should have another issue.

If interested in the above new group, please send in the enclosed application with $1.00 to help cover expenses and postage. We will form a board soon with representatives from all regions, if possible. Jack Hughes, Olympic National Park, one of the founders, will begin as group chairman.
Jerry DeSanto and I hiked to Medicine Grizzly Lake from Cutbank Ranger Station on 4 September. We noted that the mountain ash (Sorbus scopulina) berries were beautiful, some orange and some red. We saw three spruce grouse (Dendragapus canadensis) on the trail. The sign at the Triple Divide/Medicine Grizzly junction had been chewed up recently, by a bear. A porcupine had done a lot of gnawing on the outhouse.

I noted hearing pikas in the rock boulders below the Baring Gorge parking area on 18 September. Kerry and I fished the pool in the Middle Fork Canyon between Quarter Circle Bridge and Blankenship Bridge on 19 September. Kerry caught a 16-inch bull trout. There were many 6- to 9-inch cutthroat surfacing and easily caught on a fly.

On 26 September, the family hiked to the Baring Creek inlet, at St. Mary Lake. The kids fished and we looked over the abandoned and rapidly deteriorating Baring Creek Ranger Station (near the lakeshore), where we had come close to living in the summer of 1967. On 4 October, Kevin and I, with Dave Shea and Richard Millsap, went spelunking in the cave located 600 feet down the road from the westside tunnel (GTS Road), and 300 feet downslope below the road (some refer to it as the Garden Wall Cave). The cave was very dry and the cave ceiling and walls were loaded with thousands of daddy longlegs (harvestman) (Phalangium opilio). There was much woodrat evidence throughout the cave.

The cave entrance is a narrow entry way for large adults. After entry, the tunnel descends several feet abruptly, before then regaining the entrance level. After passing through a “room” and progressing 100 feet or more, one reaches a vertical drop off that leads to rushing water, some 50 feet below. There are narrow ledges on both sides of the “fissure” and one can continue on by straddling the fissure. It was an exciting trip.

In the year prior to our entering the cave, three fellows (Seasonal Ranger Richard Millsap, Gary Graham, and Cory Shea) were trapped in the cave for 16 hours (30 June 1969). Heavy rain caused water to fill the low place in the tunnel a short distance inside from the entrance, preventing their exit. They had entered the cave at 5:00 P.M. on 29 June. It was raining at the time. When they returned from deeper in the cave to the entrance area at 7:30 P.M., the low portion was filled with water. Millsap tried to swim out but could not make it and returned; he and his two companions retreated to the first “room” inside the cave. Rescuers arrived early on Sunday morning. They pumped water and dug a ditch at the entrance to drain the low spot and free the trapped cavers (who showed little common sense by entering the cave during a period of heavy rain). On the following Tuesday, according to the story in the Hungry Horse News, 4 July 1969, road crew workers placed a masonry- and-rock plug at the cave entrance. A 12-inch pipe was included near the top of the plug for air exchange, and a 6-inch pipe at the bottom for a water drain. The cave plug is designed so that it can be removed, and is a safety feature.” Unidentified individuals removed this nonsensical plug shortly after the incident and there was no evidence of it the following year when we entered the cave.

Quoting from my log book (10 October): “Cloudy and cool. Hiked from Bowman Lake to Quartz Lake with Kevin and Jane. Five inches new snow on Quartz Ridge. Fishing terrific in evening at lake. Kids used small kamlooper lures.” Near the patrol cabin, we were again followed by the aggressive black bear that had given Kevin and me a bad time last July. On one occasion this morning he made a bluff charge, ran toward us, but stopped before reaching us. Makes one wonder if he had developed a strategy of chasing fishermen, resulting in the fishermen dropping their fish, providing the bear with a free lunch.
(11 October): “Cloudy—rain showers. Hiked from Upper Quartz to Lower Quartz and then to Bowman with Jane and Kevin. Fishing fabulous in Upper Quartz in the morning.”

On 14 November, the family drove to Bowman Lake. There were grizzly tracks on North Fork Road between McGee Hill and McGee Meadow; we saw ten spruce grouse on road. On 22 November: to John’s Lake with family in the afternoon, ice skating was good, but the ice was barely thick enough and a little rough; there were fresh grizzly tracks along Upper McDonald Creek. Pat and I skied to Coal Creek Patrol Cabin on 28 December. Snow depth at the cabin was 30 inches. We waded the Middle Fork with hip boots (ice extended 20 feet from shore), with Dave Downey, Loren Kreck, Chris Roholt, and Carol Nelson.

Seasonal wildlife researcher Dave Shea was doing most of his hiking alone, collecting bear scats for Research Biologist Martinka. I also was doing most of my backcountry work alone prior to fall 1970. Dave and I had taken a few trips together, but in fall 1970 we realized that we were planning to cover many of the same trails, although with different objectives. It made sense to team up whenever possible and hike or ski together. We made many trips together in fall 1970. Following are the most noteworthy:

20 September: Hiked to Fifty Mountain from Packer’s Roost via the West Flattop Trail. One recent grizzly bear scat just past Mineral Creek. A few recent elk-antler rubbed trees on the high area of the Flattop Trail. We spent the night in the Fifty Mountain Shelter. On the 21st there were two inches of new snow at the Shelter. We hiked back to Packer’s Roost via Flattop. There were fresh grizzly tracks in the snow a quarter of a mile below the Shelter.

29–30 September: Hiked from Bowman Lake to Brown Pass; one grizzly scat past the lake. Looking north, good view of “Hole-in-the-Walf”as one climbs up high on the west side of Brown Pass. Recent bear diggings at the Brown Pass sign. Then down east side of Brown Pass to Lake Frances (saw two grizzlies on slope above and south of Lake Frances). Then on to Goathaunt, where we visited with Ed Olmstead. Overnighted in the fire guard cabin. On the 30th we hiked to Rainbow Falls in the morning, then rode to Waterton Townsite in the NPS boat piloted by Ed Olmstead.

12 October: Hiked Upper Snyder Ridge Trail from Lake McDonald to Lincoln Lake. No views from top of Snyder Ridge. Then down Lincoln Creek Trail to Middle Fork, very open and interesting along this section of trail. Grizzly had been on Lincoln Creek Trail recently.

14 October: Drove to Canadian Boundary (24 miles from Polebridge) on North Fork Road. Crossed North Fork to east side (in Canada), then crossed back into U.S. and hiked to Kishenehn Ranger Station; much open dry meadow land on trail route, returned same route. The results of the 1968 aerial spraying (with Tordon) along the International Boundary was much in evidence; many conifers outside the swath were killed.

15 October: Waded Middle Fork and hiked from Nyack Creek to Harrison Creek on Boundary Trail; fresh grizzly tracks on Nyack Creek Bridge.

2 November: Waded Middle Fork, hiked Park Creek to Coal Creek on the Boundary Trail; grizzly tracks between Muir Creek and Coal Creek. Trail along Riverside Mountain and southern end of Double Mountain very interesting. Elk tracks in most sections of the trail.

3 November: With Dave and Jerry DeSanto hiked from Lubec to East Glacier. Two to 4 inches of snow on the trail in shady areas. Interesting trail with frequent openings and vistas of the plains and Summit and Dancing Lady Mountains. Lots of trembling aspen (Populus tremuloides) along trail. Grizzly tracks in frozen mud. Tracks of lion, lynx, bobcat, deer, and elk in the snow.
4 November: Waded Middle Fork and hiked Paola to Park Creek on the Boundary Trail. Looked at remains of Paola Patrol Cabin; a few burned logs remain. Lion tracks on trail.

9 December: Waded Middle Fork, then snowshoed to Coal Creek Patrol Cabin; snow hard packed so we stayed on top. Snow depth at cabin 14 inches, noted tracks of mink (*Mustela vison*), long-tailed weasel (*Mustela frenata*), elk, moose, deer, and coyote.

As 1970 drew to a close, it had become evident that an emphasis on ecosystem management, for which the NPS had funded my Master’s Degree at CSU, was not in Briggle’s play book. In his second winter (1970–71), Superintendent Briggle again focused on public recreation, the approach that consistently characterized his management priorities. Ecosystem management was not part of his agenda. A press release emphasizing recreation appeared in the *Hungry Horse News* and the *Missoulian* on 7 November 1970 (D-21):

**Glacier Park Features Variety of Winter Fun**

WEST GLACIER — Cross-country skiers and snowshoers are invited to see Glacier Park on nature's terms this winter. Supt. William J. Briggle said 10 miles of scenic Going-to-the-Sun Road, much of it along the shore of Lake McDonald, will be open to the turn-around at Lake McDonald Lodge. Beyond the lodge, Sun Road is to remain 'unplowed' for access to the McDonald Valley by snowshoer or cross-country skier. It is a winter area for moose, elk, deer, an occasional cougar and lynx. For the more adventurous, cross-country ski trips are possible, but Briggle encourages those taking such trips to check with a park ranger before departing. Mountain climbing is not encouraged, as the upper McDonald Valley as well as other areas are subject to avalanches. Oversnow vehicles are not permitted on plowed roads nor above Lake McDonald Lodge.

**However, Briggle extended an invitation to oversnow vehicle operators to use approximately 75 miles of unplowed roads in Glacier, including a variety of routes [emphasis added].** Snowmobile operators will be required to use only those designated roads and must register at a ranger station before traveling in the park, he said. On the west side, the park's North Fork Road will be open for snow vehicle use from McDonald Creek Bridge at Apgar down to Fish Creek Campground and northwesterly to Polebridge, and Bowman and Kintla Lakes. A loop road will be available by using Camas Creek Road for part of the outing, he said.

On the east side, snowmobile routes will be open from Babb to Many Glacier and from Two Medicine Junction to Two Medicine Lake. Going-to-the-Sun Road will be available for snowmobiling from St. Mary for 13 miles to Jackson Glacier Viewpoint. As drifting occurs, this route may be closed at Dead Horse Point or Rising Sun if conditions become hazardous, Briggle said. All roads designated for snowmobile use will be appropriately signed for safety of visitors and protection of park resources, according to the superintendent.

Curt Buchholtz (1976:77-78) summed up the general reaction to Briggle’s emphasis on recreational use:

“Park Service ‘troubleshooter’ William J. Briggle became the new superintendent. Briggle, an experienced Recreation Area superintendent and a forceful individual, was told to clear up the problems of bears, pollution, and charges of mismanagement which had hit the headlines and plagued the Park Service in previous years. But Briggle came under the now-sharpened eye of an environmentally awakened public. When he announced in December that Glacier lay dormant for nearly eight months of the year and that ‘the potential for development is tremendous, but there is no organized effort at the moment to do it,’ some environmentalists immediately took issue. Jim Rice of Whitefish, Montana, responded: ‘I’d like to remind Supt. Briggle that he is bound by law to protect Glacier and all that is enclosed by its boundaries. I for one frankly hope he devotes the bulk of his time to that goal, rather than promotion.’ Another Glacier Park-watcher, Dr. James R. Habeck of the University of Montana, an author of fifteen scientific studies on Glacier, concurred with Rice and . . . pointed out that Briggle was managing Glacier as a recreation area rather than a natural area and he felt that the Superintendent had trouble defining what was ‘appropriate use’ in Glacier.”

Briggle forbade participation of any on-duty GNP employee in the nationwide 1970 Audubon Christmas Bird Count, stating that it was a waste of government time. He also was unsupportive of my using government time to monitor bald eagle concentrations along Lower McDonald Creek in the fall. Supt. Briggle ordered that any monitoring would be done by volunteers and I was not to participate. Research Biologist Martinka was complicit in this lack of support for my involvement in the monitoring.

Martinka’s working relationship with Briggle represented a different paradigm for GNP. Briggle was not actually Martinka’s supervisor. At least on paper, Martinka worked under and was supervised by Supervisory Research Biologist Glenn Cole. Cole had been transferred from Grand Teton to YNP in 1967; from YNP, he was to supervise research personnel in Grand and GNP, as well as YNP (Sellars 1997:239). Thus, it would seem that Martinka could have chosen to avoid supporting Briggle when a scheme was unprofessional or unethical.
Skiing, downhill at Big Mountain and cross-country in the Park, were again major family activities. My participation in winter ski patrols continued in early 1971, but increasingly I had to use my non-work days for them. In February, Superintendent Briggle continued to expand the role of volunteers from outside the Park (the Volunteers in the Park [VIP] Program to do resource management projects. It was evident that Briggle had no intention of using the Resource Management Ranger position in the way that Lyle McDowell, or the position description, intended. On 12 February, Supt. Briggle, through Chief Ranger Hart, instructed me to terminate my involvement in any further bald eagle monitoring. Any work on eagles was to be done by Martinka and volunteers. As they were expected to do, Research Biologist Martinka and Chief Ranger Ruben Hart submitted memoranda to Superintendent Briggle supporting his conversion of several resource management functions to VIP responsibilities. Although my comments were not solicited, I wrote a memo (18 Feb 1971) in reaction to replacing park staff with (VIP)s, making the following points in my usual tactless manner:

1. The conversion of many resource management projects (for which I have been responsible) to VIP status is being made without my having the privilege of expressing my views. That is not a fair way to alter my long-term job duties.

2. There is no other resource management monitoring in the October-November period that is more important than the bald eagle studies, including censuses. This requires trained and professional personnel.

3. It should be noted that there always has been some degree of volunteer assistance with the eagle census. My wife has frequently provided valuable assistance in counting. She has volunteered her time on many occasions.

4. The suggestion that volunteers can make the eagle count under the supervision of a permanent NPS person is unrealistic. Volunteers for the weekly eagle counts would need the following qualifications:
   a. Adept with the canoe (or similar water craft).
   b. Experienced in bird identification.
   c. Willing to tolerate rain, snow, and sub-zero temperatures.
   d. Ready on an hour's notice to make the count when visibility is good enough to count. This often requires day-to-day postponements for two or three days.
   e. The same people must count every week to assure consistency. The only logical conclusion is that those who live here and have the responsibility of understanding and managing the park's natural resources must do it.

5. There is an increasing trend in Glacier to question beyond reason the necessity or usefulness of any and all outdoor activities. It seems that activities that are accomplished in a building, behind a desk, are professional. Duties accomplished out-of-doors are suspect. Nearly every back-country task (summer or winter) can be turned into valuable experience to be used as a basis for logical resource management decisions. Our Administrative Handbook says: 'Park Management looks first to the care and management of the natural resources of the park.' Logical action is impossible unless we know the resources intimately. We can learn about resources only by being away from the desk, actually in, and a part of, the ecosystem. This is particularly important for positions such as the Resources
Management Specialist. Increased interest and concern in summer back-country management by the current Superintendent is recognized and applauded. It is this ray of encouragement that gives yet a faint hope that our general course can be altered.

6. Bird counts, ungulate counts, etc., are really not the central issue. At the real core is whether or not we are capable of conducting activities which enable sufficient personal knowledge of ecological processes and resource conditions. Rangers, if they are professionally trained or at least ecologically aware, can make observations of plant succession, pollution damage to vegetation (such as fluoride effects), man-induced changes, and a multitude of other resource conditions. This is the only way to gain the perspective necessary in natural area management. This knowledge is at the heart of our capability to manage a natural area.

7. I do not believe that the problem is basically the reduction in manpower, although this obviously has hurt. The problem is emphasis and basic priorities. If we are unable to swim above the inundating tide of paperwork, we will have lost what little hope remains to manage as our policies require. We are spending more time "justifying" resource management programs than we are carrying them out. No professional resource organization can survive operating in such a nonprofessional fashion. If we are each given broad responsibilities and the tools to carry them out, the job can be done.

These comments are offered in the spirit of sincere concern for deteriorating resources which cannot be replaced and for deteriorating jobs which once held more appeal than a good place to live and a fair salary. I do not suggest that we return to the ‘good old days,’ which had their own share of bad management, wasted resources, and wasted people. I simply suggest that the changes that seem to be evolving in management direction are not progress or improvement. They represent replacing one kind of mistake with another.”

This dissent was clearly unappreciated by the Superintendent and throughout 1971 I found myself increasingly excluded from meetings involving resource management issues. Chief Ranger Hart assigned me to continue, during the summer, the backcountry study that I began the previous year. I wrote a detailed report on the work in both 1970 and 1971, presenting evaluations of trails and campsites and offering recommendations. This information became part of the Resources Management Plan, a first draft of which I completed in 1971.

Dr. James Habeck (1970) sent me copies of his University of Montana reports on fire ecology investigations and on the vegetation of GNP. They were valuable additions to the Park’s knowledge base. Within the next year, Dr. Habeck lost NPS financial support for his research, as a result of his criticism of park management. This was typical of Superintendent Briggle’s vindictive retaliations.

In May 1971, Olympic National Park Ranger Jack Hughes distributed an information sheet regarding the PRO (D-22). The NPS hierarchy were not pleased with Jack’s continuing effort. Within the next several years, Jack and the PRO would prove to be of great help to me.
S u p p o r t e r s  o f  N a t i o n a l  a n d  C o n s e r v a t i o n
R o u t e  3,  B o x  4 8 0
F o r t  A n g e l e s ,  W a s h .  9 3 6 2
M a y  1 9 7 1

D e a r  F r i e n d ,

F o r  o v e r  5 0  y e a r s  o u r  N a t i o n a l  P a r k s  h a v e  b e e n  p r o t e c t e d  b y  a  c o r e  o f  m e n  c a l l e d
R a n g e r s.  T h e s e  m e n  o f t e n  w o r k  u n d e r  t r y i n g  c o n d i t i o n s  i n  i s o l a t e d  l o c a t i o n s  p r o t e c t i n g
o u r  p r i c e l e s s  n a t u r a l  l a n d s  a n d  t h e  p e o p l e  w h o  v i s i t  t h e r e .  O v e r  t h e
y e a r s  a  h i g h  s t a n d a r d  f o r  r a n g e r  r e c r u i t m e n t  h a s  e v o l v e d  b e g i n n i n g  w i t h  c o l l e g e
t r a i n i n g  i n  n a t u r a l  s c i e n c e ,  i n  a d d i t i o n  t o  p h y s i c a l  a b i l i t y  a n d  a p t i t u d e  f o r
the  r a n g e r  l i f e .  F r o m  t h e s e  s t a n d a r d s  h a v e  e m e r g e d  t o d a y ' s  c o r p s  o f  v e r s a t i l e ,
d e d i c a t e d  r a n g e r s.  W a g e s  a r e  m o d e r a t e ,  b u t  w h e n  c o m b i n e d  w i t h  t h e  a p p e a l  o f  t h e
r a n g e r  l i f e  t o  o u t d o o r  p e o p l e ,  t h e  P a r k  S e r v i c e  h a s  a t t r a c t e d  a n d  h e l d  g o o d  m e n
i n  r a n g e r  w o r k .

F o r  s o m e  y e a r s  n o w  s m a l l  c h a n g e s  i n  t h e  r a n g e r  p r o f e s s i o n  h a v e  b e e n  t a k i n g  p l a c e .
T h e y  h a v e  b e e n  s o  r a p i d  a s  t o  d i s c o u r a g e  r a n g e r s  f r o m  k n o w i n g  a n  a r e a  w e l l,
o r  t h e i r  f i e l d  j o b .  O f f i c e  w o r k  a n d  t r a i n i n g  h a v e  b e e n  p u s h e d  b y  m a n a g e m e n t  a t
the  e x p e n s e  o f  f i e l d  e x p e r i e n c e .  A  r e d u c t i o n  i n  t h e  n u m b e r  o f  m e n  w o r k i n g  i n  p a r k
pro t e c t i o n  h a s  o c c u r r e d .  N o w  w e  a r e  f a c e d  w i t h  a  p l a n  t o  d o  a w a y  w i t h  r a n g e r s
com p l e t e l y .

R a n g e r s  a r e  t o  b e  r e p l a c e d  b y  t w o  g r o u p s  c a l l e d  m a n a g e r s  a n d  t e c h n i c i a n s .
M a n a g e r s  w i l l  b e  c o l l e g e  t r a i n e d  p e o p l e  w h o  w i l l  b e  g i v e n  t h r e e  y e a r s '  w o r k
t r a i n i n g  e x p e r i e n c e  i n  W a s h i n g t o n ,  D . C . ,  a n d  o t h e r  u r b a n  p a r k s .  A f t e r w a r d ,  t h e y
w i l l  b e  s e n t  e l s e w h e r e  t o  m a n a g e  p a r k s  a n d  u n i t s  o f  p a r k s ,  i n c l u d i n g  w i l d e r n e s s
p a r k s .  T h e  w o r k  w i l l  i n v o l v e  a l l  p h a s e s  o f  o p e r a t i o n s  i n c l u d i n g  m a i n t e n a n c e ,
b u d g e t i n g ,  a c c o u n t i n g ,  e t c . ,  s o  t h e r e  w i l l  b e  l i t t l e  t i m e  o u t s i d e  a n  o f f i c e  t o
l e a r n  a n  a r e a ,  m u c h  l e s s  t h e  s k i l l s  n e e d e d  f o r  p r o t e c t i o n  o f  w i l d e r n e s s .

T e c h n i c i a n s  w i l l  b e  r e c r u i t e d  f r o m  h i g h  s c h o o l  g r a d u a t e s .  C o l l e g e  p e o p l e  a r e
n o w  b e i n g  d i s c o u r a g e d  f r o m  e v e n  a p p l y i n g  f o r  j o b s .  P a y  w i l l  b e  l o w  f o r  t h e
t e c h n i c i a n  a n d  a d v a n c e m e n t  s l o w  a n d  l i m i t e d .  T h e s e  w i l l  b e  t h e  p e o p l e  d o i n g  t h e  f i e l d
w o r k  o f  p r o t e c t i n g  o u r  p a r k s  a n d  t h e  v i s i t o r s .

W e ,  i n  t h e  P r o f e s s i o n a l  R a n g e r s  O r g a n i z a t i o n ,  a r e  t r y i n g  t o  s t o p  t h i s  p l a n .  O u r
G o a l  i s  t o  k e e p  t o p  e d u c a t e d  m e n  w o r k i n g  i n  t h e  f i e l d  p r o t e c t i o n  j o b s .  Y o u  c a n
h e l p  u s  r e a c h  t h i s  g o a l  b y  w r i t i n g  t o  t h e  D i r e c t o r ,  N a t i o n a l  P a r k  S e r v i c e ,  U . S.
D e p a r t m e n t  o f  t h e  I n t e r i o r ,  W a s h i n g t o n ,  D . C . ,  2 0 2 4 0 .  E x p r e s s  y o u r  c o n c e r n  f o r
t h e  f u t u r e  o f  o u r  p a r k s  f a c e d  w i t h  l o w e r e d  s t a n d a r d s  i n  q u a n t i t y  a n d  q u a l i t y  o f
p e o p l e  c h a r g e d  w i t h  t h e  p r o t e c t i o n  o f  t h e s e  a r e a s .  S u c c e s s  i n  t h i s  w i l l  h e l p
p r e s e r v e  o u r  N a t i o n a l  P a r k s  a n d  p r o t e c t  t h e  v i s i t i n g  p u b l i c .

T h a n k  y o u  f o r  y o u r  c o n c e r n  a n d  s u p p o r t .

J a c k  H u g h e s
C h a i r m a n ,  P r o f e s s i o n a l  R a n g e r s  O r g a n i z a t i o n

CHAPTER 11. The Mismanagement of Logan Pass

It is difficult to decide where in this sequence to discuss the Logan Pass management issues. Treating them chronologically within the sequence I have been following would produce a disjointed and confusing story. Therefore, I have inserted the Logan Pass issues at this point and they will begin as early as 1967 and proceed past the point where we left the sequence, at the end of 1971. Michael Frome (1992) included a very brief summary of Logan Pass events in his book “Regreening the National Parks” (Chapter 8. Showdown at Logan Pass). I could find no better title for this chapter than to borrow from Dr. James Habeck’s (1972) article: “Glacier’s Logan Pass: a case of mismanagement.”

A. The Logan Pass Sewage Fiasco.

The method of dealing with human waste from the new restrooms at Logan Pass was showing major environmental impacts soon after they opened in 1965. A report (Waste Disposal Practices at Glacier National Park, Montana), prepared by Lawrence Sheridan, Sanitary Engineer, Federal Water Pollution Control Administration (based on field surveys done 8–10 August 1967), stated (page 2):

“Sanitary waste generated at the visitor center [Logan Pass] is treated by a septic tank and spray irrigation system.

(1) The 17,000 gallon septic tank [the NPS misinformed Sheridan; the tank actually was only 6,000 gallons capacity, not 17,000] is equipped with a dosing chamber and siphon which discharges the effluent to the spray field.

(2) The spray line of nine heads is approximately 75 feet long. Overburden in the immediate spray field area is extremely thin and was saturated as a result of snow melt and the discharge of sewage from the spray line. The sewage was staying on the ground surface as it drained towards Reynolds Creek [a tributary of St. Mary Lake], approximately 400 feet away.

(3) an average of 2,000 people per day passed through the visitor center during August 1967 according to a count made by park naturalists. The total count would be increased by the number of people who visit the area but fail to go inside the visitor center.

(4) The Montana water quality standards require a minimum of secondary treatment of sanitary waste. It is believed that the waste treatment facility [at Logan Pass] does not have the essential features required to adequately treat the wastewater generated.”

Although water pollution problems were perhaps most severe at Logan Pass, they were not confined to that site. Regarding the system of sewage treatment at Rising Sun, Sheridan reported (page 5): “Sludge drawn from the [septic] tank is discharged into a pit located about 50 feet from the shore of St. Mary Lake and approximately 250 feet from a picnic area. The pit has a surface area of approximately 400 square feet at an operating depth of two feet. The pit is not protected from surface runoff and contained two to three feet of water at the time of the visit.”

For the St. Mary area, Sheridan reported (page 9): “Oil drained from the crankcases of motor vehicles is collected and stored at the St. Mary Garage. The oil is applied to the unimproved roads in the Park to control dust.”
Sheridan provided ten recommendations (page 10–11) including the following: “That facilities be constructed at the earliest possible date to provide secondary treatment of sanitary waste generated at the Logan Pass Visitor Center.” Based on the urgency expressed in Sheridan’s Report, I had hoped that the problem would have been addressed in the summer of 1968, while we were in Fort Collins. However, the same Logan Pass polluting system (septic tank and spray field) continued to be used in the 1969.

In the 7 March 1969 issue, the Hungry Horse News brought a spotlight on the Logan Pass pollution issue. The page 1 story was headlined: “U. S. Facility Pollutes Center of Glacier.”

“Shortage of funds resulted in the new Logan Pass Visitor Center less restroom facilities than the old [facility had] . . .. There are half as many stools in the new facility erected in 1965–66 than in the old. Originally it was proposed to construct a 25,000 gallon septic tank but this was cut back to 6,000 capacity because of lack of money. An average of more than 20,000 gallons a day is poured into this small septic tank during July and August. The spray field is located half a mile [this is a wild exaggeration; it is more like 400 feet] from Reynolds Creek, but Supt. Keith Neilson of Glacier notes that volume of discharge is so great [that] Reynolds Creek is polluted, and this runs into St. Mary Lake. The idea of polluting this calendar picture lake should shock Americans. Neilson commented that the new comfort station addition to correct this situation and also take care of pollution had been programmed, ‘but unfortunately the project has been postponed from year to year because of inadequate construction funds.’”

The 6 June 1969 Hungry Horse News reported:

“Emergency measures are being taken to correct the pollution source on the continental divide in the heart of Glacier National Park. About $12,000 from regional maintenance reserves has been made available to construct a 20,000 gallon septic tank for the new Logan Pass Visitor Center . . ..”

And from the 4 July 1969 Hungry Horse News:

“Construction has started on a new 20,000 gallon septic tank to correct stream pollution in the heart of Glacier National Park . . ..”

The NPS claimed to have replaced the 6,000 gallon capacity septic tank with a 20,000 gallon tank during the 1969 summer. However, in late summer 1969, the tank continued to overflow and untreated sewage effluent continued to run directly into Reynolds Creek (a tributary of St. Mary Lake)(I-38). It was an awful sight. Saturated toilet paper made its way through the spray heads and was draped on adjacent small trees (I-39). Undecomposed fecal matter was sprayed on the subalpine vegetation, killing some of it, with the liquids then flowing into Reynolds Creek. In a small area near the spray heads, the high level of nutrients from the effluent produced prolific growth (I-40). We referred to the system as “The Fecal Fountains of Logan Pass.” The color of the spray was distinctly brown. We thought about suggesting that the spray be activated only at night and colored lights be installed to illuminate the spray in a show of various beautiful colors that would rival the floral display in the surrounding meadows.
1-38. **Top:** Logan Pass septic tank overflowing (untreated effluent).

**Bottom:** septic tank overflow entering nearby Reynold’s Creek, a tributary of St. Mary Lake, August 1969.
I-39. Logan Pass sewage spray field; untreated sewage is being sprayed from a non-functioning septic tank. In the background: Top: Clements Mountain; Bottom: Flank of Pollock Mountain.
I-40. Bloom of Lewis' monkeyflowers, benefiting from nutrients in the Logan Pass sewage effluent spray, August 1969. Note that nine spray heads are operating.

I-41. Unlined pit (about 100 by 200 feet) into which raw sewage from Logan Pass was dumped by tanker trucks, in the Lower McDonald Creek area. The pit was excavated in glacial gravel (photo July 1971).
The excuse for lack of attention to the problem was the usual fall back position: "We don’t have the money." Strange how there is always money for emergency repair of roads, or suppression of fire, or preparation for visits of VIPs. However, destruction of natural resources (even with long-term consequences) just don’t qualify as the same type of emergency. I considered it my responsibility to continue to call to the attention of Superintendent Briggle, the urgency of the issue. Although the problem began under the superintendency of Keith Neilson, Briggle was constantly supplied with conclusive data on the negative impacts of the Logan Pass spray field.

During the 1970 visitor season, the Logan Pass sewage spray field again was used. In September 1970, Dr. Lawrence Sonstelie, Environmental Biologist, issued a report entitled: "The Disposal of Sewage Effluents from the Visitor’s Center at Logan Pass, Glacier National Park." The report included the following statements:

"The comfort station at Logan Pass is now serving about 5,000 people per day. The problem of sewage disposal at this site is unique because it consists principally of the removal of soluble forms of nitrogen and phosphorus and solid waste contributed by toilet tissue. The problem is complicated further by the low temperature of the effluent. At this time the contributed yearly contribution of plant nutrients from this source includes 2,800 lb. of nitrogen and 650 lbs. of phosphate. Both of these nutrients are in a soluble form and are carried from the point of release into Reynolds Creek and on into St. Mary Lake."

"The effluent is released through a spray-bar into an area supporting plants typical of an alpine zone and has eliminated most of the higher plants from the water course between the spray-bar and Reynolds Creek. The higher plants at Logan Pass are adapted to a thin layer of top soil having a low level of nutrients and to a short growing season with a relatively high level of insolation. The continuous release of water onto the area limits oxygen in the root zone and lowers the temperature of the soil. The level of nitrogen and its level in the form of ammonia are toxic to the plants."

"Recovery of vegetation in this type of area is very slow and scars created will be in evidence for many years." "Blue-green algae are present in abundance upon the substrate from the spray-bar on down the course of Reynolds Creek. In the Creek the genus Nostoc predominates. This genus has the ability to convert free nitrogen from the atmosphere to nitrates. Consequently, the load of nitrogenous nutrients received by St. Mary Lake is several times as great as the quantity released from the comfort station [effluent]. The consequences to St. Mary Lake from eutrophication due to these nutrients are unacceptable."

"Present plans for disposal of the effluent include incorporation of a newly constructed septic tank with a capacity of 20,000 gallons into the line, construction of four large sand filters, and extension and relocation of the spray bar. The septic tank will retain the solid waste [theoretically perhaps—when I photographed the spray field in summer 1969, fecal material and globs of toilet tissue were being ejected out of the spray bar, but nutrients will remain in the effluent. It will be necessary to remove the contents of the septic tank periodically. I [Sonstelie] do not consider the facilities which are presently projected to be adequate or justified."
Construction of treatment facilities at this site would also detract further from its natural beauty."

Sonstelie recommended: "Due to the limitations discussed in the preceding section, I believe that the effluent must be collected and removed from the site." Superintendent Briggle was furious with the report and wanted Sonstelie banned from further work in the Park. Briggle then began talking about disposing of sewage effluents in a deep well that would be drilled at Logan Pass. Given the subsurface rock types, this was an obviously absurd idea.

Sonstelie’s report generated immediate interest from UM Plant Ecologist Dr. James Habeck and from Senator Lee Metcalf. Finally, after persistent pressure, Briggle adopted a new strategy for the Logan Pass sewage problem.

An article in the 16 October 1970 Hungry Horse News outlined the approach, announced at a level above Briggle:

“In a letter to Senator Lee Metcalf, Edward A. Hummel, assistant director of the National Park Service said ‘Next summer Logan Pass sewage will be pumped into tank trucks and hauled to lower elevations for disposal. This will make unnecessary any additional engineering improvements to the existing system and will obviate further intrusion on the natural environment.’ Senator Metcalf has been concerned with pollution on this pass since it was brought to his attention early in 1969 by a Public Health Service report. Being contaminated were headwaters of St. Mary Lake. Enlarged sewage facilities on Logan Pass still didn’t correct the problem. Spray field on Logan Pass is being eliminated and there will be only holding facilities.”

In the 11 December 1970 issue of the Hungry Horse News, Briggle announced the purchase of two 2,000 gallon tank trucks to be used in the summer of 1971 to haul sewage from Logan Pass. In the 2 July 1971 Hungry Horse News:

“... all sewage disposal from the Logan Pass Visitor Center is being hauled by two new 2,000 gallon tank trucks that are making two trips during late afternoon and evening hours. Logan Pass has a 20,000 gallon holding tank ... the sewage, mostly liquid, is being brought to a large pit in a utility area between West Glacier and Apgar, where similar disposal has taken place through the years.”

In reality, the disposal pit was a freshly excavated (by bulldozer) hole near the horse barn, off the Quarter Circle Bridge Road. The “pit” was unlined (I-41, p. 113) and the tank trucks simply ran sewage directly into the pit. In the 23 July 1971, Hungry Horse News:

“The West Glacier sewage pit, into which the effluent from Logan Pass was dumped by tank trucks [is located in] ... the utility area near park headquarters ... This disposal location is temporary with drawbacks, but apparently best available. Alpine conditions at Logan Pass result in septic tanks and other facilities not performing adequately.”

In the Hungry Horse News, 21 July 1972, p. 10: “This year tank trucks are hauling the Logan Pass comfort station effluent outside the park to a modern facility.”
In the late 1960s, University of Montana Professor Dr. James Habeck was alerting the public concerning management problems at Logan Pass. Dr. Habeck and his students were conducting various research projects in GNP—vegetation descriptions, and alpine, fire, and forest ecology. In the following 1969 Missoulian newspaper article: “Glacier Goofs at Logan Pass,” Dr. Habeck described management decisions that subverted GNP’s purpose:

“It recently came to my attention, while on a routine ecology field trip with students from University of Montana Biological Station to Logan Pass in Glacier National Park, that a very serious conflict has arisen between the management of the park for the use and recreation of man and the maintenance of the park’s beauty in a natural state. Logan Pass is one of the most heavily visited points in the entire park, it is the rare individual that does not stop at this scenic wonder. As the number of visitors increases year after year, this main attraction area nearly singularly bears the increased pressure of human presence. When the magnificent chalet-like visitor’s center was completed a few years ago, it was accorded a great deal of praise and functioned to further focus public attention on Logan Pass, and no doubt even enticed a few visitors to stop at the pass who might have simply remained on the road. The great number of people strain the facilities of the chalet-center. Restroom facilities and sewage treatment methods quickly proved inadequate. Pollution of the alpine streams and lower lakes has taken place and has been the subject of news coverage this summer. The other impact of a million visitors has been the trampling of the alpine meadow vegetation. Picking the alpine flowers causes much less permanent damage than does compaction of the alpine soils by the thousands of feet that do not remain on the paved trails.

As one solution to the problem of bare soil at Logan Pass, park officials decided to gather alpine turf elsewhere and transplant it around the visitor’s center, exactly as one might in developing a new lawn in the city. The source of this alpine sod unfortunately is a short distance from the visitor’s center, just out of the line of sight of the center. Several different adjacent areas have been completely denuded of vegetation, and collectively the sites represent an area as large as a football field. The sod was positioned in areas near the center in the form of squarish clods, since the sod doesn’t lend itself to being rolled out like lawn sod. As an alpine plant ecologist with extensive background in the Logan Pass area, I claim that the Park Service should never have undertaken this transplantation project. The alpine plant communities represent the most sensitive ecosystem in the park: even small disturbances cause scars and disruptions that take years to correct. The trouble, however, is that the high country ecosystems in Glacier Park simply cannot absorb the disturbance inflicted upon them by increasing numbers of people. The park’s policies towards public use of the resources in the park need to be constantly reviewed, but the formulation of such policies requires the inclusion of sound ecological concepts. The absence of ecological thinking is evident in the current Logan Pass situation.”

D-23. Missoulian Local Comment by Dr. James Habeck, 4 August 1969 (excerpts).

Ecologist Steven Arno had expressed similar criticisms in a Missoulian article. Ernie Hartley followed with a Local Comment in the Missoulian (15 August 1969). He wrote (in part): “My studies have shown that a plant stepped on this year may not flower next year. The public needs to know this, and it is the obligation of Logan Pass management to educate the people and to incorporate this concept into all its activities.” “Natural reestablishment of the disturbed habitat will probably take over 100 years . . . .”
B. The Logan Pass Sod–stripping Project

When the Logan Pass Visitor Center was built (opened in 1965), there was a great deal of soil disturbance and vegetation destruction. No attempt was made to save the sod and plants before construction began. To get vegetation established on what had become bare ground around the visitor center, the landscape architect and maintenance division invoked a “Rob Peter to Pay Paul” revegetation scheme. In 1967, a front-end loader was used to scrape up “strips” of sod and vegetation in the subalpine meadow along the access road to the visitor center water tank (located near the base of Mt. Oberlin, west of the visitor center). About four acres of sod were stripped in this fashion, leaving bare mineral soil (I-42). The sod strips were taken to the visitor center and placed on bare ground that had been created by construction activities (I-43). In subsequent years an NPS architect on assignment to GNP actually proposed stripping four acres of subalpine sod up the Lunch Creek drainage (east of Logan Pass) to replace the initially stripped area. He argued that it would be better to create bare ground where fewer people would see it, rather than the area stripped near the visitor center.

In summer of 1969, Ernest Hartley, a PhD student from Duke University, was continuing field research (started in 1967) at Logan Pass for his dissertation: “Man’s Effects on the Stability of Alpine and Subalpine Vegetation in Glacier National Park, Montana.” I had gotten to know Ernie through my interest in all Park research projects. Ernie and I decided to collaborate with an experimental seeding of the plundered meadow site west of the visitor center. Ernie was intimately familiar with the plants in the area. We decided to run an experiment on revegetation with native seeds. We collected seeds at Logan Pass to use in the planting experiment, using the following species: windflower (Anemone occidentalis), sedge (Carex nigricans, Carex phaeocephala, and Carex tolmei [now C. paysonis]), tufted hairgrass (Deschampsia caespitosa), aster (Erigeron peregrinus), glacier lily (Erythronium grandiflorum), wood rush (Luzula glabra [now L. hitchcockii]), alpine timothy (Phleum alpinum), sibbaldia (Sibbaldia procumbens), and speedwell (Veronica alpina) (I-44). To make sure that the project got some public attention, we asked for volunteers. Several West Glacier women (Mmes. Bradsher, Evenson, Lundgren, Miles, and Seibel) acted as seed collectors at Logan Pass in the fall. Ernie and I established several trial planting sites (meter square plots) and followed the germination success for several years. However, Superintendent Briggle had no interest in the project. Following orders from Supt. Briggle, in October 1970, Chief Ranger Hart instructed me to terminate involvement in any re-seeding experiments near the Logan Pass Visitor Center, or elsewhere.

In late summer 1971, I used my own time, working with Ranger Ben Ladd, to establish additional seed plots. These new plots were covered with agronomy blanket (wood fiber) to reduce erosion from spring runoff. Alpine timothy in particular showed strong germination and potential for establishing an initial cover of vegetation over the denuded areas (I-45). I wrote detailed reports of results and recommendations (to Superintendent Briggle) regarding the 1969 and 1971 Logan Pass revegetation experiments, but he did not acknowledge the reports or respond. Pat and I continued monitoring of the seed plots for several additional years, but there was no opportunity to apply the results. In subsequent years, Plant Ecologist Rachel Potter resumed and expanded the experiments. Dr. Ernie Hartley (2000) continued his excellent plant studies at Logan Pass, with a final evaluation of all of his vegetation plots on the 40th anniversary (2007) of their initiation.
I-42. Janet Downey and Pat McClelland at the summit of Clements Mountain, looking down (with trepidation) at 1.5 acres of sod-stripped subalpine meadow (to the right of Pat’s head). In view are: the GTS Road, Logan Pass Visitor Center and parking area, and the Hidden Lake Trail before the boardwalk was installed (photo from 28 August 1971).
1-43. Logan Pass Visitor Center.
**Top:** September 1967, three years after construction, with bare ground surrounding the building. **Bottom:** after placement of subalpine sod that was stripped from a nearby area (photo in 1975).
I-44. Dr. Ernest Hartley working in a sod-stripped area 1,000 feet west of the Logan Pass Visitor Center, August 1969.

**Top:** placing a meter square frame to establish a revegetation test plot.

**Bottom:** planting native seeds in the test plot (100 seeds of ten species, each species in a single row).
1-45. Meter square revegetation test plot within the 1.5 acre sod-stripped area at Logan Pass, in 1974. The dense growth of alpine timothy arose from seeds planted in 1971. After planting exclusively timothy in this plot, it was covered with agronomy blanket to reduce erosion. This strong growth response indicated that revegetation research would have been worth continuing, but Superintendent Briggle was uninterested.
C. The Logan Pass Boardwalk Controversy

The Boardwalk [Hidden Lake Trail at Logan Pass] project in 1971 developed into a major controversy for Briggle. Because the boardwalk issue illustrates so well, the illogical and ecologically unsound manner of Briggle’s decision making, as well as his arrogant style of personnel management, this controversy will be presented in detail.

On 22 July 1971, I received a copy of an informal memo that had been written to Chief Naturalist Edwin Rothfuss by Superintendent Briggle. It read:

Ed, I don’t know whether or not you are acquainted with the proposed Hidden Lake Overlook Trail that is in the 1972 construction program. It is our intention to resurface a portion of this trail and also reroute some of it. I believe that under the criteria of the Environmental Impact Statement, we should prepare such a statement prior to construction. I would like to have you get together with Martinka, Hart, McClelland, and Bunney and determine if such a statement is needed and, if it is, begin to initiate action to prepare a statement prior to construction. If you have any questions concerning this, please see me."

If Briggle had followed the paradigm he outlined in this memo (preparation of an EIS), it may have avoided charging ahead with this ill-conceived project. This process would have illuminated the potential serious negative impacts. However, note in the memo that Briggle sees the EIS as only a formality that would precede the construction that apparently was already planned and budgeted. Edwin Rothfuss, to whom the memo was addressed, had been appointed Chairman of Briggle’s “Environmental Management Coordinating Committee.” Prior to the above memo, I had heard nothing about this Logan Pass Hidden Lake Trail project, even though I was in the capacity of Resources Management Ranger. The next event in this project’s evolution was recorded in a memo of 12 August 1971 from Chief of Park Maintenance Elliot to Briggle. The memo was titled “Hidden Lake Trail Reconstruction Guideline.” Copies of the memo went to Morey, Fauley, Frauson, Rothfuss, Hart, Martinka, and Gannaway. I was not on the distribution list, but Rothfuss’ secretary saw to it that I got a copy of anything in which she thought I would have a legitimate interest. The memo began:

“On August 10 and 11, Morey, Fauley, Frauson, Rothfuss, Hart, Martinka, Gannaway, and myself inspected the Hidden Lake Trail to consider the best method of reconstructing this route. The following is offered as a general consensus [sic] and by copy of this memo each is invited to offer special comments.”

The memo detailed a plan for the Hidden Lake Trail reconstruction. Because I was not on the distribution list, I obviously was not invited to comment. This was an issue in which, according to my position description and responsibilities, I should have been intimately involved. Briggle tried to minimize any input I might have because he had already decided, in concert with the Chief of Maintenance, what he wanted to do and sought to avoid any dissenting opinions. Elliot’s memo concluded by stating, in part:

“It is proposed to put men and equipment to work on the first 3,200 feet [of the trail] as soon as funds are received. Another crew using hand tools would begin on the second section beyond.”
Obviously, the project planning was well advanced and I had not yet been asked for any involvement. There had been no environmental analysis whatsoever. Briggle's memo of 22 July regarding preparation of an Environmental Impact Statement (EIS) apparently had been simply for the record, without intent to actually do an environmental analysis. Then, on 16 August 1971, Ed Rothfuss called a meeting of the Environmental Management Coordinating Committee. Because the project was well advanced, he apparently saw no reason to exclude me at this point. The meeting summary produced by Rothfuss follows (D-24):
“A meeting of the ENVIRONMENTAL MANAGEMENT COORDINATING COMMITTEE was held in the Conference Room, Headquarters, Glacier National Park on August 16, 1971 at 3:00 p.m. Present: Ed Rothfuss, Chairman, Riley McClelland, Claude Tesmer, Lew Gannaway, Frank Elliott, Clyde Fauley, Ron Patterson (Glacier Park Incorporated), Helen Sowl, Secretary, [St. Mary District Ranger Bob Frauson also was present, but was not listed], Absent: Bob Morey

The primary subjects of discussion were the Hidden Lake Trail and Snyder Creek flood damage. With regard to the Hidden Lake Trail reconstruction proposal, the Committee recommends that the proposal in Frank Elliott’s memorandum of August 12 be adopted with the following exceptions:

1. That there be a detailed design of the trail at each major bridge crossing.
2. That Ed Rothfuss and Lew Gannaway will inspect the detailed plans on site and approve the design [The Chief of Interpretation and the Trails Supervisor, neither with any ecological training or background],
3. That this trail be ultimately hard surfaced and that the design, therefore, be recommended by a landscape architect and a representative of the park staff [it was never clear what this meant].

This group, plus Martinka, reviewed the pros and cons of gravel, asphalt, and boardwalk, and the majority felt the boardwalk offered the better alternative in being most acceptable environmentally yet serving the purpose in keeping visitors off the fragile alpine meadows.

The Environmental Management Coordinating Committee, upon reviewing the Hidden Lake Trail proposal after the boardwalk decision was made, felt that an Environmental Impact Statement was not needed. (Refer to Superintendent Briggle’s memorandum to Rothfuss dated July 27, 1971 requesting a determination and memorandum dated May 20, 1971 from Acting Director, Midwest Region, on the subject of Environmental Impact Statements establishing criteria.)

The justifications for not preparing a statement are as follows:
1. This is a relatively small construction project.
2. Project is an improvement of an existing facility (trail) and not a new facility.
3. The effects of the trail, if any, would have only very local application.
4. The final selection of a boardwalk does not in any way alter adversely the environment. It does not add foreign materials that might alter vegetation. It does not alter natural drainages nor have any other detrimental quality as determined by this committee.

Edwin Rothfuss, Chairman APPROVED: William J. Briggle, Superintendent”


There were two dissenters to the conclusions written above. District Ranger Frauson and I both offered the following opinions:

(1) As originally proposed by Superintendent Briggle (memo of 22 July), an EIS or an Environmental Assessment (EA) should be prepared prior to a final decision and prior to
beginning any aspect of reconstruction on the trail.

(2) If the group desires to try a boardwalk version of the trail, it should be done on an experimental basis, with a very short section installed and then evaluated.

(3) If a boardwalk were ultimately chosen as the trail surface, the wood should not be treated with a preservative (decay inhibitor). The high elevation would make any decay process very slow, without treatment. Any preservative would pose contamination problems in this fragile area.

Our suggestions were summarily overruled and discarded. It seemed apparent that Briggle, Rothfuss, and Elliot had made their decisions prior to the meeting; the only purpose of the meeting was to rubber stamp the decision. I was not unfamiliar with the use of boardwalks in national parks. When we were in Yellowstone, they were used effectively to protect hydrothermal features. However, use at Logan Pass had different issues that needed to be recognized.

I was not invited to be involved in any further discussions on the boardwalk and, although I was not aware of it at the time, Briggle had already asked the Regional Office to transfer me out of GNP. On 10 September 1971, Briggle’s boardwalk decision was announced in the Hungry Horse News (D-25):

---

Building Board Walk On Logan Pass Trail

WEST GLACIER - With objective of less disturbance to the ecology, Glacier National Park is constructing a 3,720 foot-long board walk on the Logan Pass to Hidden Lake Overlook Trail.

Supt. William J. Briggle pointed out that the trail is much used passing through fragile alpine meadows. He added that use of asphalt or red rock introduces foreign materials and changes water drainage. In contrast a board walk is removable, doesn't introduce new materials into the soil, and planks will weather to a natural color. There is also feeling that a board walk will provide more encouragement for persons to keep off the fragile meadows.

Part of the board walk will be eight feet wide with the remaining 720 feet, six feet.

Supervising [sic] construction by a park crew will be Frank B. Elliott, chief of maintenance, and Lewis J. Gannaway, trails maintenance supervisor. A helicopter already based in the park will be used for part of the lumber transportation with the idea that there would be less damage to the terrain than by using trucks. Successful bidder for supplying 107,000 board feet of penta [pentachlorophenol] treated No. 1 Douglas-fir was Dant and Russell, Portland, asking $26,000 with lumber delivered to Logan Pass. First of the 3 x 12s, eight-foot lengths, and 4 x 6s, 16-foot, are to arrive next week.

D-25. Hungry Horse News article announcing the Logan Pass Boardwalk.

Apparently, Superintendent Briggle did not comprehend the contradiction within the article: “... a board walk is removable, doesn't introduce new materials into the soil, and planks will weather to a natural color” and “... 107,000 board feet of penta treated No. 1 Douglas Fir [sic] ...” Penta is highly toxic and its use would prove to be a predictable blunder.
This unilateral decision, without any EA oversight, did not sit well with many people, from a variety of perspectives. The NPS trail crew assigned to work on the project fired the first public salvo (D-26)

**HUNGRY HORSE NEWS**

September 24, 1971

Letters to the Editor

**Objects to Walk on Pass**

For the following reasons, we the undersigned strongly protest the construction of a board-walk on the Hidden Lake Trail on Logan Pass:

1. Of primary concern is the obvious damage to the aesthetic value of this alpine area. We feel that an 8 ft. wide, 3700 ft. boardwalk through this meadow is nothing short of an atrocity, and not at all consistent with the wilderness motif of the park.

2. We do not feel that this board-walk will fulfill the purpose for which it was intended. For one thing, the snow drifts that cover the present trail until well into the summer will also cover the board-walk. Visitors cannot walk on something that they cannot find. Furthermore, a boardwalk is no more a guarantee that people will stay off the meadows than the present trail.

3. For the aforementioned reasons, we feel that the $49,000 being spent on the Logan Pass boardwalk is being wasted. There are a good many well-used trails in Glacier Park that are in dire need of repair and maintenance and this money could be put to much better use on these trails.

4. Finally, we feel, as do all park employees, that visitor impressions are important. So far, all comments from visitors viewing this project have been negative.

For these reasons, we the undersigned members of the trail crew who are working on this project (construction of the boardwalk on the Hidden Lake Trail) protest the continuation of same and suggest that the money be allocated more efficiently.

Signing the letter were the following: Foremen William L. Hutchison, Peter M. Dramer, Gary M. Martin, John Gray, William Spiller; Leadmen Paul A. Roney, Donald W. Burgess, David Krake, Thomas M. Campbell, Leslie G. Carpenter, Murph P. McMahon, T. E. Heyes, trails clerk; Packers Bill Morton, Tim Sullivan.


Some of the trail crewmen previously had submitted the letter, as a memorandum, within the park hierarchy. They had been told to keep their opinions to themselves and just do their work. As was consistently the case, Briggle’s initial response to the public letter was to fire the outspoken employees. Briggle believed that he had the authority and the right to fire and hire as he chose; he operated on the basis that employees had no rights of any kind. Fairness was not part of his operating procedure. This tends to produce loyalty from the majority, at the cost of honesty and truth. The summary dismissal of the trail crewmen that had signed the letter aroused the public. To defend himself, Briggle conjured up lack of materials, and then snowy weather as his excuse for firing the trail crew. Neither was at all relevant.
Numerous letters and articles appeared in the local newspapers. The Missoulian editorials supported the position of the trail crew and the concerns I had raised. Hungry Horse News editorials supported Briggle. In both papers, there were some letters supporting Briggle, but most were similar to the following examples (D-27, 28, 29, 30):

---

**HUNGRY HORSE NEWS**

October 1, 1971

Letters to the Editor

**On Board Walk**

Father Best

To the editor:

I for one was glad to see the controversy about the boardwalk on Logan Pass come to a head and thank the young men on the trail crew for their courage of environmental convictions. I'm also sorry that park management wasn't stable enough to respond with interest rather than be defensive about their authority and power. This reaction is just what creates so much unwarranted tension in our society. The power structures refuse to listen.

The difficulty on Logan Pass began with the massive paving of the area and the large visitors center which in itself was destructive of this great beauty spot. From this mistake is compounded the heavy people use that can eventually destroy everything up there. It seems that the best answer is not the boardwalk which is unsightly and dangerous, but to further limit the area use, just as is being done in the backcountry campsites.

There should be consistency in the total, protection within the park. The better solution is ripping out at least half the parking lot and restoring it back to nature. Make the center less a toilet center and more an observation spot. Finally, have strict rules about using the area and if necessary eliminate or control any off trail use on the pass. Persons like myself who have had unlimited use of this wilderness are the first to admit the damage being done by people and are willing to see these controls. In the last few years I've cut back my backcountry camp size so as to be less destructive to the backcountry.

I might even cease taking groups if this is necessary to protect the area. As people, we are going to have to discipline ourselves. Logan Pass represents the ultimate to visitor enjoyment in the park. Let's not crud it up with more junk. Let's also have more grass roots discussion within and outside the park rather than being always told. I've never seen employee morale and communication as low as it was this summer. Glacier has some of the finest ranger staff in the N.P.S. and generally everyone I know has a passionate love for Glacier and her values. Management has threatened this virtue to silence.

Tom Best
Kalispell

Wilderness Assn.

To the editor:

We would like to take this opportunity to comment on the controversial boardwalk being constructed in Glacier Park on the Hidden Lake Trail. We believe Park administrators made the decision to construct the 3,700 ft of boardwalk with sincere concern for the delicate alpine environment of the Logan Pass area. However, as the executive directors of the Montana Wilderness Assn., Flathead Chapter, we find the construction of the boardwalk in conflict with the wilderness dignity of the Park.

A boardwalk may increase the quantity load on the Hidden Lake Trail, but its very presence detracts from the wilderness quality of the trail. We recognize that fragile areas do need some type of protection. Our support will be directed toward restrictive directives that will achieve resource protection. For example, limiting the size and number of parties using the Hidden Lake Trail, or restricting all parties to guided tours during July and August.

We must support the park employees who courageously spoke out against a project that they believed to be in conflict with the "wilderness motif of the park." We find it an unacceptable breach of personal freedom that they were released from their jobs immediately following their published protest.

Bob Muth, President,
Flathead Chapter,
Montana Wilderness Association
Barton Pettit, Secretary


Bob Friedman

To the editor:

I was listening to the news report concerning the dismissal of several park employees for reasons to put it bluntly which seem phony and a bit on the shady side.

The official reaction of course states the employees’ objection to the proposed boardwalk had nothing to do with the dismissals. Brother what a sense of timing if this is so.

When a person or group of persons can no longer state their objections to official policy without the possibility of reprisals of this sort, I believe it's time to get to the bottom of this.

Bob Friedman
Route 1A
Columbia Falls

Logan Pass
Abuse is Severe

Reference is made to the recently reported terminations of a group of Glacier Park seasonal employees who protested the ecological sense of constructing a 3,700 foot boardwalk over the Logan Pass alpine area. The nine men fired from their jobs for voicing their objections to being a part of further degradation of this beautiful alpine spot have my heartiest congratulations for their actions. As for those permanent supervisory officers in Glacier in any way responsible for the perpetration of this latest ecological atrocity to Logan Pass, including Supt. William Briggle and Acting Supt. Frank Elliott, I suggest that they be suspended from their positions pending a detailed review of their actions in this matter.

The construction of a 3,700 foot long, chemically treated wood boardwalk in the Logan Pass area has absolutely no merits to it. Ecologists who have made detailed examinations of the alpine terrain in that heavily visited spot in Glacier, including myself, have recommended to the park that some trail maintenance was badly needed. Paving the present trail and constructing a low-profile rock barrier to direct foot travel was suggested. The park, in its earlier announcement of the proposed boardwalk, indicated that it did not want to introduce unnatural materials to the alpine ecosystem; but chemically treated Douglas-fir is just that.

I have reported to Missoulian readers since 1969 the problems that have plagued the Logan Pass area. The construction of the visitor's center there in 1967 led to a variety of despicable management "acts" on the part of park's supervisory officers. They removed virgin alpine meadow sod to landscape the disturbed area around the center. They built a spray system of disposing of the human sewage; this involved spraying directly on the alpine vegetation. Through my efforts, and those of Sens. Mansfield and Metcalf, the sewage from Logan Pass is now removed by tank trucks. The sewage is currently dumped into an unsealed pit near McDonald Creek, and for the most part drains into that stream. Management action dealing with visitor impact on the park's vegetation is not well founded in basic field research. Funds to make the needed studies are nearly nonexistent; even with over 10 years of experience in studying Glacier Park vegetation, including alpine plants at Logan Pass, my own efforts to obtain small research grants have been unsuccessful. Yet $49,000 is somehow available to construct another eyesore on the pass.

Any western Montanans sincerely interested in the preservation of the natural beauty of Glacier Park (whatever is left) should submit their protests to their congressional representatives immediately. Include in your protests mention of the unwarranted dismissal of the nine trail crew members who placed their jobs on the line to stop this boardwalk project. I can assure you their objections are based on sound ecological information.

I must again emphasize that a detailed investigation is needed of how management decisions in Glacier Park are made. If something is not done soon we can all say farewell to Glacier Park; and Logan Pass? I guess we can kiss that pass goodbye.

— James R. Habeck, 200 Agnes Ave., Missoula.
Glacier's Boardwalk

The controversy surrounding the inexcusable way Glacier Park officials treated the maintenance crew that protested the building of a boardwalk at Logan Pass in Glacier Park has obscured the real issue — whether or not that boardwalk should be built. It's unfortunate that park officials were so inept and inconsiderate in dealing with a group of men who were sincere enough about the basic park resource, and its ecology, that they spoke their mind in a supposedly-free society. It is equally as unfortunate that the boardwalk incident demonstrates another failure of the present management in Glacier National Park.

Commercial Concern

We need only look at the long, sad story of over-concern in our national park system — Glacier included — for the commercial side of the coin. Thus, it becomes more important to ram a million or more people through a fragile alpine pass each year than it does to first protect the basic land resource itself. That, in a nutshell, is the real issue at Glacier's Logan Pass. Bad decisions in the past have resulted in a situation that is untenable, from both a people and an ecological perspective.

First, the costly and unnecessary visitor center was built at Logan Pass—an engineering intrusion into an area that should have been kept in as natural a state as possible. Secondly, as the visitor use of the area naturally grew because of the plush visitor center, park officials showed themselves to be largely inconsiderate of the basic land resource as they tried first one and then another engineering solution to an ecological problem.

Making Way for People

The problem at Logan Pass boils down to one basic thing: too many people.

And as the people pressure has magnified, park officials have responded proportionately to attempt to solve the problem in people terms rather than land terms. And the result has been that the land is unforgiving. The ecology of high mountain terrain is harsh, with growing seasons short and the susceptibility to ecological damage high. This is the case at Glacier's Logan Pass, which University of Montana Professor James Habeck attempted to protect over the past few years with admonitions that the area's ecology was being destroyed by over-use. Habeck's recommendations to park officials regarding the area have been largely ignored.

Must Control People

The problem at Logan Pass is just the beginning of similar situations throughout Glacier Park. People pressures have grown beyond the point of control — as long as people considerations come first. It is tragic in regard to the park resource itself that Glacier officials have not attempted to solve the problem by controlling the pressures that are creating the problem — foot traffic over the alpine meadow that extends from the Logan Pass visitor center toward the Hidden Lake overlook.
Instead of asphalt sidewalks and boardwalks several thousand feet long, park officials should be drawing up plans to control visitor use of the area. It is people control that is needed, not makeshift contraptions that do nothing but continue existing situations or even tend to increase them.

**Let's Protect Resource**

The controlling rationale should be one of protecting the basic park resource, not of providing visitor access to that resource at the expense of the land itself. To be fair, one probably must concede that the boardwalk solution is an attempt to solve the human impact at Logan Pass. But it is a solution that does nothing to get at the heart of the problem, and it ignores basic land considerations in favor of giving preference to people who have shown that they care little or nothing of the land they come to visit. Park officials have no mandate to provide the public access to any place in Glacier Park when that access endangers the park resource itself. Indeed, they have a responsibility to first protect, the park resource and then meet the demands of the people who come there.

**Sad Day for the Park**

It is indeed a sad day to see that those charged with protecting our park resource have decided that it's more important to bow to people pressure than it is to take care of the land at Logan Pass. Rather than sticking an ugly boardwalk across the natural beauty of the alpine meadows at Logan Pass, it would be better to control people use of the area until the area had healed from its overuse. If that means keeping everybody out of the area until such time as an adequate trial could be established using natural materials, then well and good. The important thing is that we maintain the park's integrity as a park and that the NPS not turn Glacier into an engineering monstrosity like it has done in Yellowstone. Asphalt trails and boardwalks are not solutions, but only escapist alternatives to facing up to the real problem.

It will take courage and foresight to establish people use controls in the Logan Pass area, and even deny access to the area above the visitor center if necessary. However, if that's what is needed to protect the land up there, that's exactly what should be done. We must be sure that today's sacrifice to people pressure isn't tomorrow's death song for Glacier Park.


Briggle caved to the pressure and rehired the trail crew men who wished to return the following year. However, they were penalized with a shorter season of work and location assignments that were selected to impose personal difficulties.
Briggle Fires Back at Glacier Critics

(In this letter to Sen. Lee Metcalf, Glacier National Park Supt. William J. Briggle responds to criticism directed against construction of the boardwalk across the alpine meadow at Logan Pass, and replies to other criticisms as well. A Local Comment critical of the park administration by Prof. Habeck appeared Oct. 4 on this page [Local Comment]. The Missoulian received the statements by Briggle and Linn from Sen. Metcalf. — The Editor)

Dear Senator Metcalf:

Thank you for your inquiry in behalf of Mr. James R. Habeck [the use of Mr. rather than Dr. is clearly Briggle’s attempt to minimize Dr. Habeck’s qualifications] concerning Glacier National Park. We in Glacier are well acquainted with Mr. Habeck but still find it difficult to understand his disjointed and unfounded attack on the management of this park. I appreciate the opportunity to put the record straight regarding the work status of seasonal employees working on the Logan Pass project and to respond to the environmental issues raised by Mr. Habeck.

To begin with, we did not fire the seasonal employees because they protested the construction of the boardwalk. We did, however, take issue with the manner by which they chose to bring their protests to light, i.e., releasing it to the newspaper and other media before giving their supervisors an opportunity to discuss it with them. Our discussion after the fact focused on their cooperativeness and their interest in supporting the decisions of the National Park Service. The channels for which grievances or protests are made were well known to these men. It is entirely reasonable to expect that a supervisor would want assurances that an understanding would be reached on such matters before committing himself to consider them for rehire next season. The right to protest was not the issue but the method by which it was done.

Termination of their seasonal employment was related directly to weather conditions (four inches of snow on the ground and freezing weather at the work site) and lack of supplies and materials to continue the job. Adverse weather often cuts short a construction job of high elevations like Logan Pass and seasonal crews understand that their employment can be substantially affected by weather. Moreover, funds were such that we could not afford the luxury of holding a crew that size waiting for a break in weather. These men will be considered for re-employment next summer.

NO DOOMSDAY FOR LOGAN

As for the environmental issues raised by Mr. Habeck, he makes some rather startling statements for one of his professional background and scientific learning. For instance, his doomsday statement of "Goodbye to Logan Pass and eventually the entire park" is irresponsible and not supported by fact. It is in this same frame of reference that he implies that members of my staff and I are responsible for past ills and mistakes perpetuated at Logan Pass.
The facts are that the present facilities at this location and the access to the area are according to an approved Master Plan conceived and carried out long before I arrived in the park. To my knowledge, in the two years that I have been superintendent, not one thing has been done to create an adverse condition in this area. While on the other hand, the present park administration conceived the idea of removing the sewage from the pass and hauling it to a lower elevation. We presented the proposal to our Washington office and you and Sen. Mansfield, who assisted us in getting the funds.

Moreover, Mr. Habeck claims that sewage from the pass was dumped into an unsealed pit near McDonald Creek and for the most part drains into the stream. The disposal pond is unlined and was left so on the best advice of Public Health Service officials and the Environmental Protection Agency who inspected it. The effluent did not drain into the stream, and I invite Mr. Habeck to prove differently. This stream was monitored at regular intervals and we found no evidence of seepage. Since Mr. Habeck claims interest in Glacier environmental problems dating back to 1967, he should be aware of the forward steps that have been taken throughout the park to bring our sewage and water treatment programs in line with the President's executive order. Mr. Habeck does not speak of the action initiated to monitor fluoride in the park, the giant steps that have been made to reduce bear-people confrontations, or the decision to ban combination car-trailer units of 30 feet from using the Going-to-the-Sun Road. This action helped greatly in reducing the people problem at Logan Pass.

Also, Mr. Habeck does not understand the funding process when he refers to the $49,000 for construction being better utilized for research. Construction funds cannot be utilized for this purpose and he should be aware of this. These funds are justified separately to the Congress and appropriated accordingly. I believe that you are personally aware of most of our programs and the dimensions of my concerns to stay on top of them.

SIDEWALK SUPERINTENDENTS

We recognize, of course, the direct impact of people on the alpine tundra and the corresponding impact on their ability to enjoy the Logan Pass area. Our most recent decision to move on this problem by constructing a walkway was not undertaken in a vacuum or without research as Mr. Habeck would like one to believe. It was noted for instance that he suggested paving the trail and constructing a low profile rock barrier to direct foot travel, while others take the position that the area should be closed to the public and visitation sharply curtailed. I have also heard it expressed that the best solution is to do nothing and when the area is worn out then the problem is no longer relevant. There are many sidewalk superintendents these days, all articulate and educated and all with ideas on what is wrong, but few of these people offer any real solution to the problems.

For instance, I do not consider Mr. Habeck's suggestion to pave the trail and construct a rock wall to be in the best interest of the area. His suggestion, if followed, would bring further destruction of the alpine tundra, the same action that we have been accused of. He certainly does not make a point that a boardwalk will not solve the problem. To my knowledge, he has not seen the walk: therefore, I question how he can be so positive about its adverse impact on the area, esthetically or otherwise. Making an educated guess, I would say that the walk will very likely be the one man-made structure in the entire area that will afford protection to the natural scene. Logan Pass is not a wilderness unit to be
encased in a time capsule; it is a developed area and receives intensive use.

THOUSANDS USE IT

Over one million visitors travel the Going-to-the-Sun Road which bisects the pass, and on an average weekend in August, one will find upwards of 6,500 visitors concentrated within a radius of less than one square mile. Of this number, half will walk out toward Hidden Lake across the fragile tundra area using a maze of trails that cut deep into the soil. In an eight-hour period, 400 persons an hour will be on the trail and in a 45-day season, 235,000 persons will stop, look and become acquainted with the alpine environment.

The physical damage to the alpine tundra indicated that some management action had to be taken in order to protect the natural resources from further depredation. Mr. Habeck admits there is need for action so there seems to be no disagreement on this point. Thus, we come to the best method to be applied to achieve our objectives which is to interpret the area while protecting the fragile grounds. Since Mr. Habeck has questioned the wisdom of my decision, I am enclosing a statement from Dr. Robert M. Linn, chief scientist of the National Park Service, who addresses himself [sic] on the issue.

I realize this response to your inquiry has been lengthy; however, I felt that it was necessary to provide you with our views and rationales for the decision to construct a boardwalk.

Similar replies have been made to Sen. Mike Mansfield and Rep. Richard G. Shoup who also inquired on behalf of Mr. Habeck. Your interest in Glacier National Park is appreciated.

— William J. Briggle, Superintendent.
that some management action had to be taken in order to protect the natural resources from further degradation. The further statistic of up to 400 persons an hour hiking the trial across this fragile tundra area convinces me that you had to take some kind of management action, and quickly.

3. It does not seem unreasonable to me for one of the many such tundra areas in Glacier National Park to be used for the enjoyment and education of the visitors to the park. It would seem to me to defeat the purpose of the park to completely exclude people from coming into close contact with all fragile areas. At the same time, I would insist that, in the wilderness areas of the park, foot traffic across tundra should be avoided as much as possible. Studies — notably by Dr. Beatrice Willard in Rocky Mountain National Park—have indicated that such areas simply cannot be subjected to any great trespass by man. There must be many such areas within Glacier National Park.

4. Boardwalks, of one kind or another, have been successfully used in similar circumstances. A boardwalk permits light to penetrate to the ground beneath, assuming that generous cracks between the boards are allowed, and boardwalks do not obstruct the flow of water and air, such as would some other types of walkways. Boardwalks are also more flexible in that they can be removed, with little additional damage to the environment, when and if they are no longer required.

In view of these points, it seems to me that you were justified in constructing this type of walkway. I can say little regarding the construction method and its impact on the environment without an on-the-spot viewing; I would be happy to investigate this further if you believe that it is required. — Robert M. Linn.

D-33. Dr. Robert Linn’s memorandum of support for the boardwalk, 12 October 1971.

Local Comment

Missoulian

Briggle’s Strange Tale

December 1, 1971

Reference is made to Glacier Park Supt. Briggle’s reply (Nov. 15) to Sen. Metcalf regarding my complaint that the park is being mismanaged. I had requested of Sen. Metcalf that the letter be made public even though on the surface it appears to be a strong challenge to my viewpoints. Mr. Briggle claims the Logan Pass boardwalk construction crew was fired because the men did not give their supervisors the opportunity to discuss the matter before voicing their objections publicly. The Missoulian news coverage at the time indicated that the men were fruitless in their efforts in doing just that and made their complaints known publicly as a last resort. Frank Elliott, acting superintendent at the time, was quoted by the Missoulian to the effect that the crew’s protest letter did not prompt the job terminations. And then yet later the park admitted the firings were the result of the protest action. Just in this matter alone, the public has good reason to feel a lack of confidence in the park’s current administration.

Another point Mr. Briggle raises is his clean two-year record as superintendent of Glacier Park. He was not responsible for the construction of the visitor’s center at Logan Pass, but he should have assessed shortly after he arrived that the tremendous human congestion on the pass stemmed from “this development.” He should have seen it as an "attractive nuisance" that would lead to unusually high visitor concentrations. If he had
consulted the administrative handbook governing Glacier Park he would have discovered on page 15 the following: "Physical developments shall be limited to those that are necessary and appropriate, and provided only under carefully controlled safeguards against unregulated and indiscriminate use, so that the least damage to park values will be caused."

When sewage disposal problems erupted at Logan Pass, Mr. Briggle went along with plans to expand the system that led to the direct dumping of the sewage on the alpine vegetation. With my protests, and with the help of the Montana congressional delegation, these expansion plans were halted. The decision to use trucks to carry the sewage to lower elevations was made at the Midwest office of the Park Service at Omaha, Neb. I will accept much of the credit for keeping Mr. Briggle's record clean in that incident, but it took a real effort. Mr. Briggle's error, as Dale Burk correctly assessed a few weeks ago in his editorial column, was his decision to make every effort to accommodate the ever-increasing numbers of people visiting Glacier Park in one of the most ecologically-sensitive areas in the park. The boardwalk construction is a further-extension of this error in judgment, and violates the management principles applicable to natural areas within the Park Service system.

I am currently making an attempt to examine and evaluate the environmental impact studies that of necessity preceded the boardwalk construction. I have not been successful in obtaining these from Martinka, research biologist in Glacier Park; he is responsible for the park's overall research program. It seems strange that Mr. Briggle should request Dr. Robert Linn, sitting at his Washington desk, to give justification for the boardwalk after construction had already begun. Dr. Linn gives only feeble support for the project and does not comment on the boardwalk's environmental impact. I intend to continue my investigations into this entire matter, and keep western Montanans informed. I will appreciate the help of anyone interested in the welfare of Glacier Park; the park must not be allowed to develop into an ecological slum.

— James R. Habeck, 200 Agnes Ave., Missoula

D-34. Dr. Jim Habeck's Local Comment article in the Missoulian, 1 December 1971.

In winter 1971–72, Research Biologist Martinka prepared a document entitled: "A PLAN TO REDUCE ADVERSE ECOLOGICAL IMPACT OF HUMAN TRAVEL ALONG THE HIDDEN LAKE TRAIL ON LOGAN PASS."

This belated document was purported to be a management plan as well as a study plan. The Plan included "sections" on Management Objectives, Management Procedures, Study Design, Evaluation Techniques, Personnel, and Reporting, all in less than two pages. Research Biologist Martinka, the author, was to be the "director" of the project. The primary objective of the document seems to have been to quiet criticism. Dr. Jim Habeck, at the University of Montana, the most vocal critic of Logan Pass management, received a personal copy. The document gave Jim some hope. However, the "Plan" was never applied, except in a short-term, piecemeal fashion. Jim Habeck's hope that the Boardwalk would be halted (D-35) was not realized.
Logan Pass Boardwalk Halted

I have received information from Glacier Park headquarters that seems to clearly indicate that a moratorium has been called on further boardwalk construction activity at Logan Pass. This is good news for those of us that have strived to maintain the natural integrity of that great national park. The information is in the form of a written plan that outlines the procedures for studying the impact of the boardwalk portions that were constructed last summer and fall. As with many federal documents one sees these days, this plan is neither signed nor dated.

When reading the boardwalk impact study plan, one gets the distinct impression that it has always been the park's intention to build just a few hundred feet of the proposed 3,700 foot boardwalk, and then make a three-year study of the first efforts. The boardwalk sections that are now on Logan Pass are referred to in this plan as "test sections."

During the study period, extending through 1974, park investigators will be checking the safety features, the effectiveness of the boardwalk in protecting the alpine vegetation, structural deficiencies, and any contributions the boardwalk may make to environmental or aesthetic degradation. If negative features in any one of these appears, this will be sufficient grounds, according to the plan, to reject further boardwalk construction.

This is a victory for myself and those few others that actively voiced objections to this ridiculous project. I am presently convinced that the whole project will gradually fade into nothingness, and the boardwalk segments at Logan Pass will be dismantled board by board and stacked upon that tremendous pile of boardwalk materials stored at West Glacier that cost the taxpayer $26,000.

What about those 14 seasonal park employees who put their jobs on the line last fall when they publicly voiced their objections to the boardwalk? They were, as you recall, abruptly dismissed from Park Service employment. Although recent action on the part of Glacier's superintendent in establishing a delay on additional boardwalk construction is tantamount to admitting that a gross error was made at Logan Pass, the trail crewmen are not likely ever to be federal Park Service employees again. It has been announced that much of the trail maintenance in Glacier Park for this coming summer will be done through a private contract arrangement.

If the 14 men work in Glacier again, it is likely they will not be directly on the federal payroll. If this proves to be the case, then the sanctity of the unwritten rule for public employees, "thou shall not voice your opinions, lest you lose your job," will remain intact. This is a pretty sad commentary on the state of some of our federal agencies.

— James R. Habeck, 200 Agnes Ave., Missoula

D-35, Dr. Habeck's Local Comment in the Missoulian, 4 April 1972.
In May, Jim Habeck’s (1972) article “Glacier’s Logan Pass: A Case of Mismanagement,” appeared in the National Parks and Conservation Magazine. In the summer and fall of 1972, boardwalk installation continued, with a maintenance crew having replaced the trail crew. The penta in its petroleum carrier leached from the boardwalk under the warm summer sun. The penta in carrier “pooled” on top of the walking surface of the boardwalk. On a number of days the boardwalk was closed because of this problem (I-46). On those days, an NPS maintenance man was assigned to spread sweeping compound on the walk where penta had pooled, then sweep the compound (which had soaked up the pooled penta) off the walk and onto the adjacent alpine vegetation (I-47). With no ecologically sensitive supervision, the maintenance crew stored Penta-treated boards directly on subalpine vegetation. Sawdust from the construction was scattered widely adjacent to the building zone (I-48).

Missoulian

October 6, 1972

Local Comment

Logan Pass Teaching Device

It seems appropriate at this time to submit to the public a progress report on Glacier Park's boardwalk project at Logan Pass. During this past summer I had several opportunities to closely inspect and study the environmental impact of this structure. I have submitted a detailed report to William Briggle, Glacier's superintendent, and what I will present here is a capsule summary.

I discovered, as did everyone else, that the chemical used to treat the boardwalk timbers shows a high degree of mobility, that is, it freely leaks out of the wood. Snowmelt water and rainfall dripping over the boardwalk causes or assists the chemicals in this movement. During warm, sunny days at Logan Pass, the chemicals caused a sticky surface and produced a highly pungent smell. It was noted that plants directly beneath decked boardwalk materials were being killed by these chemicals. Further testing of this phenomenon is in progress.

I noted several construction design defects which were corrected by park personnel. The stored materials, not yet utilized in boardwalk construction, were harming alpine plants simply because they were placed on the alpine meadow. The great weight of decked planks was causing direct physical damage to plants and soils. Mr. Briggle assured me that such stored materials would be moved, and he transmitted this same assurance to his superiors at the Washington office. Several weeks later I discovered that such removal had not been completed in several areas where the alpine soil was soft and wet. Thus, his boardwalk materials have caused damage of the type that was to be prevented by the boardwalk.

People do not remain on the boardwalk. When snow lies adjacent to the boardwalk, visitors simply will leave the boardwalk to collect snow or to walk on it. Based on the commonness of food wrappers seen along the boardwalk, I concluded that visitors still are not receiving the correct educational messages from the Park Service, or the messages are not being presented with sufficient forcefulness. Small alpine mammals were noted near the
boardwalk, and on one occasion, a marmot sought refuge beneath the boardwalk as visitors approached. People, food, small mammals and boardwalk might add up to a highly artificial setting. It would indeed be unfortunate if Logan Pass and the alpine ecosystem there were to be degraded into a feeding zoo.

On my last visit to Logan Pass I noted that further boardwalk construction was under way. The section being built was traversing a rocky ledge area. In order to accommodate construction it was necessary for workmen to dislodge and remove portions of this rock ledge.

At that moment it struck me that the boardwalk project had reached and exceeded, the point of no return. Regardless of whatever future studies might reveal about this boardwalk and its impact on the alpine ecosystem, it could not be removed at a later date without revealing the chopped-up rock and excavated soil beneath it.

Recall the original promise extended by Mr. Briggle. The boardwalk was better than other trail designs because it did not introduce foreign materials. And furthermore, he promised, if the boardwalk proved unsatisfactory, it could be removed without showing permanent damage. You may judge for yourselves the merits of these promises.

At this point the Logan Pass boardwalk matter should be viewed by all as an elementary lesson in park management practices. Because of this lesson we are all better educated in current park management policy. Perhaps in the near future we will be informed of other new management plans; when such are revealed publicly, apply the wisdom you have learned from this past lesson.

— James R. Habeck, 208 Agnes Ave., Missoula

D-36. Missoulian Local Comment by Dr. James Habeck, 6 October 1972.

Apparantly, Superintendent Briggle had forgotten that his original press release, 10 September 1971, stated that the lumber would be treated with penta by the supplier. When the lumber arrived, it was marked that it had been treated with penta. It was long after the occurrence of severe leaching problems, with petroleum solvent and penta actually pooling on the walkway, that Briggle wrote to the supplier. On 10 November 1972, the lumber plant manager responded to Briggle's 27 October 1972 letter of inquiry (D-37):

“This lumber was pressure treated by the empty cell process in accordance with American Wood Preservers' Association Standard C-1 and C-2 to a net retention of 5 lbs. of Pentachlorophenol (5% solution by weight) in a Mobil (Certrex 50-C) heavy petroleum solvent all in accordance with AWPA P-8 and P-9. Due to the extreme contrast in weather conditions at this site could cause this tendency of extruding of the treatment solution. However this condition should stabilize and I can think of no reason where this condition would cause significant harm to the ecology in the area.

Very truly yours
DANT & RUSSELL, INC.
G. B. Latimer
Plant Manager”

D-37. Letter from Logan Pass Boardwalk lumber supplier, 10 November 1972
On 15 January 1974, GNP Biologist Roberta Seibel released her report entitled: "Logan Pass wooden walkway study, National Park Service progress report, 1974." This was three years after the NPS began boardwalk construction. Among Roberta’s findings were the following:

"The wooden walkway passes through a grove of sub-alpine fir (Abies lasiocarpa). Two trees are immediately adjacent to the walkway, and in winter the snow laden branches come in direct contact with the walkway. In the spring of 1972, the needles of those branches were observed to be dead and photographs were taken. It is known that the wood treatment material (pentachlorophenol dissolved in diesel oil) is toxic to vegetation on direct contact (Thomson, 1967), thus it is reasonable to assume that the penta and/or oil was responsible for the dead branches. On the north side of the walkway, chlorosis was observed to occur on subalpine fir about 10 feet from the walkway and only on the south sides of the trees. On the south side of the walkway, chlorosis was observed for nearly 60 feet from the walkway and on all sides of most of the trees within about 35 feet. Wind is usually from the northwest. Because of the strong odor of the penta and diesel oil all summer, it was hypothesized that the chlorosis was a result of fumigation from the treatment material.

Another concern is the possible cumulative effect of the presence of penta and oil on the surface of snowmelt and rain runoff. The treatment material is not soluble in water, thus as the waters soak into the soil, the surface film is left on the ground. What effect this may have on the alpine vegetation is unknown as is the concentration necessary to have any effect. It is known that penta interferes with mitosis in plant cells. Penta has long residual effects and is used as pre- and post-emergence herbicide.

There are a few areas where the penta and oil mixture has dripped onto vegetation and killed it or sawdust impregnated with treatment material from construction has been left and killed vegetation with which it came in contact. These areas ... may recuperate in time. However, they are in direct view of the visiting public. It was felt that there was sufficient evidence to warrant replacing treated wood with untreated wood for all further construction. Additionally, the section passing through the trees was replaced with untreated wood and eventually all treated wood already constructed into walkway will be replaced with untreated wood.

Some structural difficulties were noted after the first winter. There were several sections that were sagging due to improper support and in one case there was a broken stringer. These appeared to be a result of inadequate construction. At the upper end of the walkway the upright supports were observed to be leaning downhill at approximately a 20-degree angle. It will be several seasons before any significant evaluation can be made concerning the effects of snow load, snow movement and frost heaving on the stability of the wooden walkway.

Some sawdust from the 1971 construction remained on the ground. The sawdust was impregnated with the penta/oil material which through direct contact had an adverse effect on the 1972 vegetation. As much sawdust as possible was removed. It is probable that eventually these spots will recover. While construction
was in progress, visitors were forced to leave the established trail in order to by-pass construction. Little permanent damage results from this occurrence, however, the situation was a paradox from the standpoint of visitors who are constantly admonished to stay on the trail. Both the odor of the treatment material and sight of an oily surface film on runoff water are esthetically displeasing and were voluntarily remarked about by many visitors. The oily leachates have not diminished as has been predicted at the beginning of the season, thus the problem can be expected to continue until replacement of treated wood is completed."

Dr. Gary Beaver (Eastern Montana College) studied the effects of penta from the Logan Pass Boardwalk beginning in 1973. He issued his Final Report on 1 September 1974. This was printed by the NPS a year later (Beaver 1975). His report made clear the seriousness of the effects and potential effects from the penta-treated boards at Logan Pass. Following are excerpts from his report:

"The degree of damage to *A. lasiocarpa* caused by fumigation was moderate to severe depending on position and distance from the wooden walkway. Growth was retarded by as much as 50%. Chlorosis and necrosis was most severe nearest the walkway and generally improved as distance increased.

Broadleaf plants adjacent to the walkway were also affected. Plants directly under the walkway were usually killed from vapors or from direct contact with oil/PCP which dripped from the treated lumber on warm days. Vegetation along a 1-m-wide path on either side of the walkway was affected. Species of *Saxifraga* and *Anemone* were most severely affected, showing typical herbicide damage of curling and necrosis. None of the grass species showed any damage but other broadleaf species were reduced in size within the affected area.

The spread of oil/PCP mixture was not limited to areas adjacent to the walkway. Sub-toxic amounts were visible as an oil film in runoff water from snowfield. The source was from the constructed walkway, as well from piles of treated lumber stacked along the trail. The oil film could be found as far as 1000 m from the source of contamination.

Observations of the feeding habits of animals in the area showed that marmots and ground squirrels would use plant material adjacent to and near the wooden walkway. Frequently they feed among plants affected by vapors from the walkway. Thus, continual contact with PCP vapors emitted from the wooden walkway will cause the death of all adjacent subalpine fir within 3-5 years. Death of the subalpine fir could lead to a major change in the ecology of the area. Loss of windbreaks could prevent the reestablishment of the subalpine fir either as groves or krummholz. A succession of cushion plants and grasses would follow. A period of 300-400 years would pass before the probability of any tree species establishing.

The cushion plants and grasses would continue to stabilize the soil. This would prevent any severe erosion problems, with the exception of areas within 1 m of either side of the walkway. In this area vegetation would be nearly, if not entirely, eliminated by the direct leaching of PCP/oil into the soil. Here, erosion could increase, possibly influencing the stability of the walkway. Such erosion, however, could create barren areas which might take 10-100 years to recover after erosion was
halted. The climate of the area would become more severe with the loss of the subalpine fir as a windbreak.

Although trees located on the perimeter of the affected area probably would not be killed from the volatilizing PCP, the growth rate and vigor would be reduced. The affected trees would therefore be more susceptible to winter kill and disease, thus enhancing the possibility of ultimately losing these trees as well.

Although no specific data are available, speculation suggests that long-term damage results from the use of PCP/oil-treated lumber in the subalpine area. Visual evidence indicated the movement of PCP/oil in runoff water. Since soil microbial activity which breaks down PCP appears to be at low levels, PCP could collect in pockets, concentrate, and remain present for many years. If sufficient quantities concentrated in areas where animals feed or drink, it is possible that toxic or lethal amounts could be consumed, especially by rodents.

Humans are also subjected to possible effects of PCP-treated lumber comprising the wooden walkway. During the tourist season many individuals walk barefoot on the walkway. Since PCP or its sodium salt penetrates the skin by repeated and/or prolonged contact in quantities sufficient to cause death, skin contact must be avoided. Case histories of death due to contact with PCP have been reported by Menon (1958). In this study, workers handled treated lumber.

The chances of individuals absorbing sufficient PCP to cause death by walking on seasoned, treated lumber is remote. On the other hand, under the conditions presented by the use of treated lumber in the wooden walkway, skin rashes and lesions are entirely possible.

In addition to environmental dangers present, esthetic degradation of the area was noted. In tourist interviews, 88% of those interviewed found the odor of the walkway offensive (Seibel 1974). Also, the oozing of oil from the treated lumber on hot days presented a hazardous, slick surface on which to walk. Furthermore, the oozing oil carrier was picked up on shoes and clothing, causing stains or permanent damage.

Based on personal judgment and opinions of other environmentalists and ecologists, I feel that the wooden walkway best fulfills an important need to control random movements of tourists over the delicate alpine ecosystem. I believe the treatment of lumber in this environment is unnecessary since untreated material would decay only very slowly. By using untreated lumber, all environmental objections to the wooden walkway would be eliminated. Only personal bias and esthetic consideration would then have to be dealt with. It is my conclusion that it is essential to remove all treated material and that no serious long-lasting damage would be sustained.”

Briggie continued his efforts to defend himself and to justify the boardwalk decision process. During the winter of 1974–75, an EA for the Hidden Lake Boardwalk Project was prepared by his staff and released. This was four years after boardwalk construction began, and four years of controversy. There is nothing to be learned from the nine-page EA. All aspects were well known to the public by this time.

The deleterious effects of the leaching of penta in petroleum carrier from the boards
had been a continuing problem. The only solution was to replace all of the lumber that had been used with untreated wood. In the fall of 1974 the walkway planks were replaced, but not the supporting structures. Replacement cost for the lumber alone was about $28,000. Now, what should the NPS do with the treated boards removed from Logan Pass? They were packed by horse and mule, or helicoptered, into Park backcountry (Park "wilderness!"), where they were used as trail surfacing at wet areas. The leaching penta continued at the new sites and caused death of vegetation adjacent to the boards. Eventually, the underpinning lumber in the Logan Pass boardwalk was replaced and after many years even the treated planks were removed from the Park’s backcountry.

The deleterious effects of penta eventually were more widely recognized. In 2008, the Environmental Protection Agency reported: “...a reasonably strong argument can be made that exposure to pentachlorophenol is associated with increased risks of a number of diseases, namely chloracne, soft tissue sarcoma (STS), and non-Hodgkin’s lymphoma (NHL)” (EPA 739-R-08-008, Prevention, Pesticides and Toxic Substances, 25 September 2008, p. 27).

It would have been so simple to avoid the problems associated with the treated wood. At the 16 August 1971 meeting, Bob Frauson and I had stressed the importance of using untreated wood and the professional necessity of preparing an EIS or at least an EA. Those who have seen and used the boardwalk walk in recent years often are mystified why there had ever been such a strident controversy over the boardwalk. They either don’t know, or are anxious to overlook the fact, that the current boardwalk is the second boardwalk. The first, built entirely of penta-treated lumber, was completely replaced over time. That represented a substantial waste of money, compounded landscape abuse, subjected employees and the public to potential health problems, created poor public relations, and exemplified employee mismanagement. Briggle had only himself to blame.

Arguably, the boardwalk now tends to keep people on the trail to a greater degree than did the old unsurfaced and unmaintained route, at least when it is not partially or totally snow covered. However, the wooden surface is a safety hazard when wet or especially when icy. A scientifically sound and publicly-sensitive planning process could have created a plan that avoided the acrimony and mistakes, and produced an ecologically sound route delineation and trail surfacing. Whether that would have been a boardwalk will remain speculation.
1-46. Pentachlorophenol in oil carrier leached from the boardwalk lumber and pooled on the walking surface, making it slippery and toxic.
1-47. Maintenance crews spread sweeping compound on the boardwalk to absorb the penta and oil; the compound was then swept off the boardwalk onto adjacent vegetation and snow, July 1972.
1-48. The Logan Pass Boardwalk under construction in late summer 1972. Lumber impregnated with pentachlorophenol in an oil “carrier” was stored directly on the subalpine vegetation, killing or damaging plants beneath and adjacent to the treated wood. The lumber was cut on-site, scattering penta-soaked sawdust on vegetation and snow.