WILD TROUT IV

YELLOWSTONE NATIONAL PARK

September 18-19, 1989

SPONSORED BY:

Trout Unlimited

U.S. Department of the Interior
Fish and Wildlife Service
National Park Service

U.S. Department of Agriculture
Forest Service

Environmental Protection Agency

American Fisheries Society

Federation of Fly Fishers

AGENDA

MONDAY, SEPTEMBER 18

8:15 a.m. INTRODUCTIONS:
Frank Richardson, GA
Yellowstone Host: Bob Barbee, WY
KEYNOTER: Nat Reed, FL
Symposium Moderator:
Roger Barnhart, CA

9:00 a.m.- 12 noon
SESSION I - THE BIG PICTURE
Session Leader: Bob White, MT
Mother's Way - Luna Leopold, CA
Riparian Recipes - Wayne Elmore, OR
Greenhouse Fish - Doug Fox, CO
Acid Bath - Doug Britt, VA
Trout Water - Rebecca Hanmer, DC

12:00 noon LUNCH
Emcee: Charlie Loveless, CO
Speaker: John Turner, WY

1:30 - 5:00 p.m.
SESSION II - FISH FIXES
Session Leader: Steve Wright, VT
Atlantic Salmon Fixes -
Alex Bielak, Quebec
Brook Fixes - Steve Moore, TN
Brown Fixes - Mark Hudy, AR
Rainbow Fixes - Kevin Delany and
Mac Minard, AK
Steelhead Fixes - Pat Hulett, WA
Cutthroat Fixes - Pat Trotter, WA
Chinook Fixes - Jay Nichols, OR

7:00 p.m. EVENING PANEL
WILD FIRE AND DROUGHT
AND WILD TROUT
Moderator: Jim Brown, MT
Panel Members: Wayne Menchell, ID
Mark Novak, WY
Don King, OR
John Varley, WY
Pat Graham, MT

TUESDAY, SEPTEMBER 19

8:15 a.m.- 12 noon
SESSION III - LOOKERS
AND FINDERS
Session Leader: Gene Hester, VA
Watching Browns - Bob Bachman, MD
Looking at Silver - Jack Griffith, ID
Finding Rocks - Bill Thrush, CA
Proper Attire - Tom Weyche, OR
Lake Looking - Randy Eshenroder, MI
Saturated - George Liknes, MT

12 noon LUNCH
Emcee: Richard Mode, NC
Speaker: Tom Donnelly II, IL

1:30 - 5:30 p.m.
SESSION IV - DOLLARS
AND SENSE
Session Leader: Bill Horn, NJ
Big Sky Dollars and Sense -
Pat Graham, MT
Why-Why-Why - Bob Jackson, WI
How Much - Bob Wiley, WY
Water Sale - Don Chapman, ID
BC Spenders - John Cartwright, B.C.
The Big Spenders - Dick Talleur, NY

5:30 p.m. SYMPOSIUM SUMMARY -
Bob Behnke, CO

6:30 p.m. THIRST RELIEF - Dining Hall
HUNGER RELIEF - Dining Hall
Emcee: Gardner Grant, NY
Leopold Award:
Pete Van Gytenbeek, WA
Speaker: Ernie Schwiebert, NJ

CONTRIBUTED PAPERS/POSTERS
Rick Webb, VA
"Acid Rain in Virginia"
Jim Hanson and Bob David, NM
"Apache Trout"
Brandt Guthermuth, UT
"The Flaming Gorge Story"
Burchard Heedee and John Rinne
"Fluvial Responses"

KEYNOTE ADDRESS

FROM WILD TROUT TO WILD ECOSYSTEMS: FIFTEEN YEARS OF EVOLVING STEWARDSHIP

Nathaniel P. Reed

Presented at Wild Trout IV, Mammoth Hot Springs, Yellowstone National Park, September 18, 1989

As we assemble here for the fourth Wild Trout Symposium in Yellowstone, I am first impressed by how my personal and our collective perspectives have changed in the past fifteen years.

At Wild Trout I, we focussed upon managing just that: wild trout, the species. At Wild Trout II, Fred Eiserman summarized our growing perspective by stating that wild trout management was more than fisheries management, it was fisheries habitat management.

At Wild Trout III, Ben Dysart further broadened our viewpoint when he suggested that trout habitat management was really watershed management. And he went on to say that we needed to focus public attention on managing the ecosystem - for the benefit of fisheries, wildlife resources and a host of public values.

As we gather here in the aftermath of the previous summer's great fire, my second impression is that Ben's comments are even more appropriate today; nothing more graphically illustrates our failure to explain ecosystem management to the general public than their reaction to the Yellowstone fires.

Firestorms raged over the mountains and valleys; a towering inferno more captivating than any TV movie! The fires made a mockery of man's most valiant efforts - the brawn of thousands was backed by the evolved technology of millions and to no avail. Extraordinarily dry conditions, overall below average precipitation for more than a decade, high winds, and the first spark brought forth a scenario that was predictable, but awesome nonetheless. It is not that Yellowstone could have burned - or could be burned - at will. The natural burn cycles are immense - perhaps as much as 250 years. It takes just the right combination of events to produce a great fire.

While we lacked the technology to stop the fire, we did possess a heretofore untopped ability to promote it, into virtually every living room in America. Fire line by fire line, it was carried by print and video to the American public.

The tragedy of the Yellowstone fires in not what they did in the park, but rather what happened outside the park. Our tendency to accept simple cause and effect is a keystone of the media's "sixty second summaries." As you all know, understanding ecological complexities takes a tad more time. The failure to accurately convey to the American public the true biological

implications of the Yellowstone fires reflects the concern Ben expressed here fire long years ago....

I don't believe that Yellowstone National Park can ever be destroyed by wild fire. But the park and its fisheries can be destroyed by ignorance, greed, lack of care and concern, and unwise development within the park. They can also be destroyed by insensitive, stupid decisions made both within the agency and by other agencies on the park's boundaries.

As we gather here today, I'm convinced that the ecological equation within Yellowstone is the healthiest it's been this century.

It seems appropriate as we gather here in the grandeur of our "mother" park to address ever more complex issues, to think back to two key men - neither of them fisheries biologists - who have influenced the direction of much of our scientific endeavors.

I speak of Starker Leopold and Durward Allen. They provided the foundations for the rebirth of Yellowstone and an ecological blueprint for conservation into the next millennium.

Can you imagine Starker Leopold's reaction to the so-called experts and their pronouncements on last summer's fires and on the state of fish and wildlife in Yellowstone? How would he have characterized the headline grabbers and their fabricated nonsense purveyed so shamelessly? Starker knew bullshit as bullshit - as well as any man.

I share with a host of mutual friends the joy of Luna Leopold's presence here today. Twice in my career in Washington - at Big Cypress and in Redwoods - Luna Leopold stepped forward and literally took command of two impossibly difficult situations. Luna works - I underline works today - as did Starker - to solve problems - in the finest sense of the dedicated scientist and human being. Luna - welcome and thanks!

Such fine work contrasts to the mean spiritedness that has characterized so much of the public debate over the management of Yellowstone.

I cherish my memories of Starker Leopold. I had the pleasure of working with Starker as a grand mentor to solve problems.

In that huge human frame was the most thoughtful, brilliant, kind, understanding, patient man - a giant among men. In recent years, many of Starker's legacies have been ineffectively pummelled by park commentators, men who can only flicker in Starker's long shadow. I understand jealousy, but good solid science commands my respect. Starker was so respected, so famous, so useful to government (and even to industry) as we all grapple with myriad environmental issues, that I can readily perceive that lesser lights swimming in small whirlpools off the main current might be jealous.

There is another difference between Starker and some current croppers: Starker was willing to work to solve the problems and serve Secretaries of Interior, the Assistant Secretaries and the Directors of the Park and Fish

and Wildlife Service. Many a park superintendent received thoughtful counsel from Starker - just for the asking. So many of the present critics could never dare to serve - their role is limited to critic at large - gadflies. Starker liked to roll up his sleeves and plunge into the maelstrom.

Many of his devoted friends and admirers are in this room. Those who knew him learned to love and respect him.

My perspectives on the recent fire actually date to one crisp September day in 1974. I flew by helicopter with Starker and then-Yellowstone Superintendent, Jack Anderson, from Mammoth Hot Springs to Grand Teton to visit with then-Superintendent Gary Everhardt, who was at his wits end coping with a large fire that had burned down to Jackson Lake. The fire refused to burn itself out. I had invoked the so-called "let it burn" concept for our parks and poor Gary was the first guinea pig!

On the flight to Grand Teton, high over Yellowstone, I asked Starker and Jack what would happen if the combination of a low snowfall winter, a very warm, dry spring and summer, and a lightning strike occurred.

In response, Starker ordered the helicopter pilot to land us in a meadow high up on the Yellowstone plateau within easy walking distance of a lodgepole pine thicket. Starker plunged into the midst of this horizontal and vertical jungle - it was filled with dead trees, snags and deadfalls. The forest floor resembled a giant's residue of the game "pick up sticks." It was piled six feet high with tinder-dry poles. Starker just picked up a handful of dry tinder and passed it to me. "What will Americans think when this fire in the making ignites?" I asked.

Jack and Starker weren't sure. The implications, though obvious, were complex. It depended, they thought, on education and public sophistication and on how many knowledgeable, influential American ecologists and environmentalists would stand up and speak for the benefits of the predictable fire.

Starker made this profound point - fire was neither good nor bad. Fire was like hurricanes, tornadoes, and earthquakes - fires were natural occurrences, beyond the power of puny man to control. Fire was a happening - a natural sequential happening. It had to be carefully explained or the idiots would have their day.

In the ensuing controversy over the Teton fire, I learned a great deal about fire: the issue of the economic return the parks represents to parasitic local communities - and I hasten to add I use this term in the technical sense as "any organism that grows, feeds and is sheltered on or in a different organism" - and not disparagingly - I recognize the strain and public relations backlash on the public that only a fire in our parks can have.

I lost a friend in the ensuing embroglio - the Chairman of Grand Teton Park's Advisory Board who could not understand why a fire should not be

promptly controlled during the tourist season. I was vigorously reminded by Wyoming's Senators of the depressing economic impact that fires have on adjacent communities whose income is so dependent on visitation. Nevertheless, with the Secretary's support, I stuck to my guns and refused to order the fire "controlled." I must admit to a great sense of relief when the last flickering flame was smothered by a September snow storm.

In essence, the reaction of the American public depends on the Park Service's devotees and the scientific community. I want to commend the articulate spokesmen of the past year from the conservation community, such as Tom McNamee of the Greater Yellowstone Coalition and Professor Norman Christensen of Duke University and his post-fire assessment committee, as well as Professor Henry Wright of Texas A&M, the father of modern fire ecology.

During the approximate same time frame that we first confronted the public flames of fire management, we embarked on what was to prove one of the most successful restoration programs in park ecology in America: the recovery of Yellowstone's fisheries. Again, Starker and many of you in this room were integrally involved and played major roles in this phenomenal success story.

In the late 1960s, we recognized the collapse of Yellowstone's cutthroat fishery. Superintendent Jack Anderson led the charge and, with your ardent support, we began to overhaul the management of the rivers in the park in 1973. On the periphery of the park and throughout the west, Starker's plea to look at watersheds as an ecosystem bore fruit.

Bill Platt's studies have confirmed Leopold's theory that unrestricted livestock grazing and/or recreation use can seriously degrade streamside areas. We now know that the condition of riparian areas is central to the survival of wild trout and their habitat. In the park, we began to overhaul our fishing policies in Yellowstone Lake in 1975. The condition of the park's fisheries was so bad that it took seven long years to work our way out of ecological collapse to a return to healthy populations.

Since the mid-1980s, Yellowstone's fisheries have been restored to their historical health and abundance to the enjoyment of thousands and thousands of anglers and, I might add, contributing substantially to the economy of surrounding communities.

There are two chapters to this story that are too seldom read to the public. First, it was this group gathered here today that propelled and supported the implementation of restorative policies. Back in the early 1970s, you were the small minority proposing intelligent, biologically based management. What you proposed was heresy. It was not supported by the general public, by the state fish and game agencies, or by many in the Park Service and other federal agencies. The only vocal and forceful constituency for no-kill fishery management policies was the fly fishing community.

Within some limits a system can and will heal. We have seen it heal and you have helped to achieve it. We do not know the exact point of destruction - but what is important is that healing will occur if we allow it to occur. We need to repress our driving desire to manage, to control. Yellowstone did quite well without any of us for thousands of years. It made it without us. As a matter of fact the world may have been a far better place before biologists, bureaucrats, gurus, philosophers playing biologists -- even before former Assistant Secretaries.

Rereading the symposiums, I am reminded of how far we have come. The vast majority of the state fish and game commissions gradually have become sufficiently enlightened and have implemented restrictive limits on many blue ribbon trout streams. Many fisheries across the West have responded from these restrictions and more enlightened land and riparian management policies and have rebounded with robust fish populations. Today, I feel as if I stand at a reunion of Robin Hooders reliving days gone by; it is hard to believe how heretical our programs once were.

The second chapter is even more impressive, but perhaps not known to you, whose primary responsibility is fisheries management. That is the recovery of those other wildlife populations in the park dependent upon the fishery. Osprey populations have rebounded; nesting pairs are up 70 percent from the late 1960s. Bald eagle populations have more than doubled; nesting pairs now over fifty, up 131 percent. The eradication of DDT obviously was also a major factor in the recovery of these two species. White pelicans nesting in the park during the 1980s have recorded the highest nest productivity in this century.

To the general public, no species is more closely associated with Yellowstone than the grizzly bear and the grizzly has been a major beneficiary of Yellowstone's restored fishery. This has been a major chapter in the successful recovery of grizzly populations in Yellowstone today.

Let me pause in my telling of grizzly events - and no issue has given me such a mauling, and I still bear the scars - the puns are intended: to pay tribute to another giant in our ecological pantheon, Durward Allen. Durward has a greater understanding of the role of major predators in the ecological community than any man alive in America. His pioneering work and that of his grad students on the wolves of Minong on Isle Royale is a towering monument of Eiffel proportions in the world of biological science.

Durward always has a twinkle in his eye, like an Irish leprechaun, which masks an unparalleled sagacity not only for the creatures of the biological world but also for the dynamics of humankind. Durward has always had his finger on the human pulse and over the years has provided insightful advice to Interior officials at every level.

In his address to the 50th anniversary conference of the North American, he stated:

> "When we look closely at major issues of today, they quickly broaden out into what we properly call human ecology. This intermingle of

causes and effects has components ramifying into environmental biology, population dynamics, sociology, human behavior, economics, living standards, - divisions and subdivisions without end."

In so speaking, Durward must have had the story of Yellowstone's grizzlies in the past two decades in his mind's eye. It is a story too complex to retell, but again, there are two chapters that bear relating.

The recovery of the grizzlies of Yellowstone can be traced from my informal interagency discussions held each September here in Mammoth Hot Springs. Starker and Durward would join me for five days of work and fishing. The meetings were open - public workshops. There were structured morning sessions - a notable biologist would give a paper, then would be questioned and debate initiated. What fun! Many of the great biologists of our time came at their own expense to join the fun, and what fun it was.

The informal gathering did not continue, especially after Starker's untimely death. But the foundation had been built and our successors finally realized that a formalized Interagency Grizzly Bear Committee had to be formed and supported. How intelligent, how sensible - oh, but so very difficult. To those persistent, nameless champions - we give thanks, grateful thanks. Those of you in this audience who made it work - thank you - thank you - thank you.

Founded in 1983, the committee, as in the case of the fly fishing community's involvement in the Yellowstone fishery, began as a lone wolf, to borrow a metaphor from Durward. It faced opposition, suspicion, and rhetoric from the scientific community, the environmental community, and many segments of the state and federal agencies. And yet it has been an unparalleled success story and a model for other contentious wildlife issues such as the spotted owl.

The recovery criteria for Yellowstone's grizzlies is a three-tiered equation: (1) A minimum of 15 females with cubs on a running six-year average; (2) occupancy by females with young in 15 of 18 bear management units, and; (3) mortality of no more than two adult females per year, or seven bears total. Last year, in 1988, we came within a hair of meeting these criteria; we met the first (female with cubs) and the third (five bears lost but no adult females) and had occupancy in 14 of 18 units, with occupancy by bears in two additional but non-designated areas.

So far this year we have another excellent report card: as of August 29, we had 14 unduplicated females identified and no human induced mortalities in the Yellowstone ecosystem. The occupancy units have yet to be determined but I am optimistic and enthusiastic. The bears are doing very well this year. Last year's fires combined with the first normal winter of precipitation in six years have provided a bounty of carrion. Further, this year has produced a bounty of white-bark pine nuts, in fact, the highest crop and production levels recorded since study began. The bears are doing well - they are preying on elk calves and cutthroat trout throughout the recovery zone.

The extent to which the cutthroat spawning streams have become a major food source for grizzlies has been documented thoroughly in recent years. We have known since the early 1970s that grizzlies feed extensively on cutthroats, although the Craigheads reported no such feeding as part of their studies in the 1960s. Today, at least 60 individual bears are known to feed on the 140 spawning streams in the park. One of the reasons the bears are doing so well today is because of the recovery of the Yellowstone Lake fishery. The National Park Service is managing the ecosystem better.

Steve and Marilyn French, with their marvelous camera work and patient study, have documented this feasting behavior and the bear's almost gluttonous enthusiasm. One bear was observed to eat 28 fish averaging a pound and a half apiece, in twenty minutes. It has not been uncommon to observe bears consuming as many as 80 to 100 fish over a three hour period. Grizzlies prefer to feed early in the morning or in the early evening, but they also are feeding at night when it is difficult to document the numbers of fish taken. Over a 10-day period the Frenches have observed bears feeding on five to seven different spawning streams twice each day. These are streams that are only a desk top wide and ankle deep. Concentrations of nine bears have been observed feeding during the same ten day period, although unlike in Alaska, they do not feed shoulder to shoulder, but rather spaced as far as a kilometer or two apart. Teaching catch and release to grizzlies may be somewhat more difficult than teaching it to the average Yellowstone fly fishermen.

As Durward and his students have shown with their magnificent studies, predator-prey relationships are anything but simple equations; they can be highly variable and the menu can change from year to year. Nevertheless, in the case of Yellowstone, there is a clear parallel between the recovery of the great cutthroat fishery and the recovery of the grizzlies of Yellowstone. In the closing remarks of his speech at the North American, Durward said,"

> But we will leave our record for anyone to see. It will be written on the land, in the rivers, and in the sky. The people who care will read it and they will know how well we did."

Look around you today in Yellowstone - at the fisheries and other components. While the park's critics churn out their pulp critiques and bewail the demise of dozens of species and the whole ecosystem, I ask you to tell me what you see. Eyes don't lie. And recent biological and empirical data substantiate the obvious. There are still problems with the park and they abound beyond the borders but significant progress has been made.

As the Washington Post's T.R. Reid took his fellow media writers to task in his superb article on July 23, 1989 over their handling of last summers' fires, I encourage the academic, conservation, and professional agency communities to stand up and be counted. I ask you to stand behind our parks and fish and wildlife resources in a positive and constructive manner and to defend them from ecological nonsense.

Who is playing "God" in Yellowstone?

Could it be that the advocates for hands-on management really believe they are equipped with the knowledge to order fires started - as if once started they could be put out at will; or that they have the Godlike wisdom to supervise the execution of bison and elk that they decide are in their personal view "surplus?"

Is that not playing at being God?

I prefer the real acts of God. They require patience and discipline, virtues Yellowstone critics do not have as long suits.

That frantic need to manage at all costs has been so carefully taught in the university systems that the thought of letting nature take its course - of letting God play God - which is the principle behind the Park Service's mandate - is driving the critics "nuts". Before we even think of giving up this mandate we must carefully review the many recommendations of the two wise men mentioned earlier.

As one grows older, some things become more precious. I still treasure each fish, and the fishery, and the habitat, and the ecosystem. I need not kill a trout to have a wonderful outdoor experience, but I desperately need to know that a continuum of intelligent, caring men and women are working to restore depleted fisheries and to safeguard those that are in good shape. It is the act of caring - people filled with care - that I want to see continued. You represent those caring people who finally are being heard from coast to coast.

The growing environmental crisis will soon become readily visible even to the most doubting of Thomases.

A younger, more environmentally attuned American, who is more than willing to sacrifice for wild trout and the health of ecosystems - yes, even just for aesthetics - will play a prominent political role in years to come. The question will be timing - will their collective efforts come in time to protect the great wildlife legacy and the ecosystems on which wildlife depend?

That's the test of wills that Durward spoke of. That's the goal that we share with Starker and Durward and Jack Anderson.

We now know there are no forevers - only the constant need to better manage man's rapacious appetites. But you, my friends, by your presence here, are the caring vanguard that will save planet earth and the wild trout that seek to share space with us - demanding mankind.

You have all earned my sincere admiration and respect for your dedication and good solid science in the past fifteen years, and I already look forward to seeing more extraordinary results in five more years. Thank you for the honor of being your keynote speaker at this superbly crafted conference.

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