The Outdoorsman

Bulletin Number 1 **Winter feeding Issues - Part 1 of 2** March 2004

Big Game Feeding in Idaho

by George Dovel

Elk fed properly by IDFG in Garden Valley during 1948-49 wiinter.

Dead elk IDFG refused to feed in Garden Valley in 2001-02 winter.

Early reports from the State Game Warden to Idaho's elected officials reveal that emergency feeding of deer and elk during an abnormally severe winter was an important biological tool used to restore big game populations. IDFG records in my files document F&G cutting evergreen boughs to feed whitetails in north Idaho, as well as significant emergency winter hay feeding to mule deer and elk in every Region.

A report published by Chief Deputy Game Warden Turner Sparkman included a March 4, 1927 inspection of deer that had been fed (in current Unit 33) along the South Fork of the Payette River. Sparkman described "thousands of deer coming through the unusually hard winter in splendid condition, with very few dead."

On May 18, 1927 he inspected approximately 650 elk that were fed hay in the Lowman Game Preserve near Grandjean Ranger Station, 28 miles above Lowman. Sparkman wrote, "Out of this herd there was a loss of only thirty head, consisting of approximately twenty-five calves and five old bulls, which is an extremely small loss considering the severe winter."

In 1927, Sparkman reported seeing more deer and elk in the Lowman Game Preserve (Unit 35), and many times more deer outside the game preserve in Unit 33 than exist there today. From the late 1920s through the 1940s, USFS estimates of total deer wintering along the South and Middle Forks of the Payette River varied between 15,000 and 30,000.

In 1941, several years before the Lowman Game Preserve was first opened to hunting, IDFG checked 3,441 deer through big game check stations that were killed by hunters in the Garden Valley area (Unit 33 and a small portion of Unit 34). The recorded deer check station totals generally amounted to about half of the estimated total hunter harvest.

The Idaho winter of 1948-49 was one of the most severe in the 20th Century, yet IDFG successfully fed 15,000 deer and 1,750 elk in several critical areas. With a few minor exceptions, the Department declined to feed in the Clearwater and Panhandle Regions that winter and the elk death toll was heavy along the Lochsa and South Fork of the Clearwater Rivers

The following winter provided even more snowfall in January but conditions moderated by February. IDFG had more hay stored and increased feeding in some areas but it was not enough.

The Upper Sportsmen, a group of 200 outdoorsmen from towns along the upper St. Maries River, established 32 feed sites and organized loggers, ranchers, merchants and even railroad crews to donate hay, machinery and equipment for experienced volunteers to feed. IDFG agreed to reimburse the ranchers for the hay. *continued on page 2*

continued from page 1

The next winter was relatively mild but the 1951-52 winter produced record snowfalls in December, January and February. Although IDFG barns were filled with hay, Director Murray refused to feed, insisting that feeding caused more death losses than not feeding.

Organized sportsmen argued that IDFG had previously fed too late, using large quantities of trash hay that was wet and black with mold. Charging that Murray should be fired, they requested a show cause hearing before the F&G Commission.

Concerned sportsmen from all Regions rallied and organized emergency feeding programs. Meanwhile, Garden Valley Game Warden Karl "Babe" Dresser was fired and two other Game Wardens were demoted by Murray for insisting that thousands of starving animals on the South Fork of the Payette be fed. Dresser was highly respected by sportsmen and a *Statewide* editorial by Ted Trueblood blasted Murray and the Commission for betraying the public trust.

After IDFG Director John R. "Dick" Woodworth was hired, a series of mild winters allowed the Department to avoid the issue of emergency winter feeding in most parts of Idaho for a few years. Then a fairly deep snow winter hit southern Idaho beginning early in November 1964 and IDFG refused to feed at most locations.

Woodworth responded to heavy criticism by publishing a pamphlet claiming "deer can't be fed hay – it will kill them." He referred to limited studies conducted in the 1930s and 40s in Colorado and Utah using poor quality hay, and occasionally cattle supplements, as emergency feed for deer. These studies lacked control groups and included severely malnourished animals that died with undigested hay in their rumen.

At that time, we provided Woodworth and IDFG with the deer pellet formula used successfully In Washington's annual deer feeding programs. Extensive studies conducted by the same state wildlife agencies in the 1970s and 80s point out the errors in the earlier studies and conclusions.

Then the severe winter of 1968-69 caused another feeding disaster in southern Idaho. Although pressure from sportsmen and the media ultimately forced IDFG to feed, its effort was again "too little too late". Most of the animals that were saved had been fed by private citizens.

Following that winter, deer and elk populations were approaching record lows and **The Outdoorsman** was created to provide facts to help restore biological management. Director Woodworth was replaced with Joe Greenley, who cooperated with local residents and insisted that IDFG employees show their appreciation to those who provided money and labor to feed during two severe winters.

Less than four years after Greenley's retirement in 1980, his replacement, Jerry Conley, encountered his first severe Idaho winter (1983-84). But instead of feeding the thousands of starving deer, elk and antelope, Conley and his regional supervisors claimed feeding was too expensive, was not needed and did not work.

Southeast Idaho sportsmen, in conjunction with area landowners, started a feeding program with private donations of money, material and labor. Outdoorsmen from other Regions did the same and mitigated what would have been extreme losses.

In response to the IDFG claim that it couldn't afford to feed the starving animals, the Southeastern Idaho Rod and Gun Club voted to support F&G legislation adding $1.50 to each deer, elk and antelope tag sold to be used for winter feeding emergencies. IDFG said this would provide surplus money to fund future feeding and depredation control, and would also be used to improve winter ranges and control predators affecting deer, elk and antelope.

Despite passage of the legislation and creation of the dedicated fund in March 1984, IDFG again refused to feed in Southeast Idaho during the severe 1988-89 winter. Five years of summer drought caused the animals to enter the winter in poor condition and Rep. Pete Black finally forced IDFG to feed. But it spent less than $5,000 for feeding in the Southeast Region and admitted losing 20,000 deer to starvation that winter.

Following eight consecutive years of drought in southern Idaho, deer, elk and antelope had little or no fat reserves going into the 1992-93 winter. It was the most severe in 41 years, yet IDFG again refused to feed, claiming it was "monitoring the situation".

Garden Valley resident Sandy Donley established a Private Wild Game Feeding Account at KeyBank and solicited thousands of dollars in cash, hay, transportation and equipment donations from concerned citizens. To a lesser extent, this scenario was repeated in other Regions as hundreds of volunteers attempted to mitigate the Department's failure to feed starving wildlife in time to save them.

Private citizens who fed early enough saved a nucleus herd of deer and elk. But with continued excessive hunting seasons for the next nine years and no attempt to restore predator-prey imbalance, neither deer nor elk populations had recovered when the extreme 2001-02 winter hit.

Once again IDFG failed to feed properly and severe losses were documented across southern Idaho. The Southeast Region Supervisor admitted losing more than half of their mule deer population but the Southwest Region is still trying to conceal the extent of deer and elk deaths resulting from its failed feeding program.

The April issue includes a revealing documentary of the IDFG feeding effort on the South Fork of the Payette River during the 2001-02 winter. It illustrates why costly IDFG feeding efforts do not succeed. Don't miss it.

Wildlife Energy Supplement Blocks

by George Dovel

Early efforts to feed malnourished deer and elk using poor quality hay or mineral supplements designed specifically for cattle met with limited success. This was especially true when emergency feeding was not started until the animals had already reached an advanced stage of malnutrition during a severe winter.

As a Feeding Advisory Committee member in October 1994, I collected samples of drought stressed forage on the South Fork of the Payette winter range, along with some that had received adequate moisture. Bar Diamond, Inc. a feed research and testing laboratory in Parma, found that all of the samples were deficient in phosphorus, zinc and copper.

The drought stressed forage would provide only 63% of the normal "carrying capacity" per plant and was deficient in protein and magnesium. Regardless of the quantity of forage that was available, deer and elk eating this drought stressed natural forage would be less likely to survive even a moderately severe winter and would probably experience abnormal losses to grass tetany the following spring.

I hired experts in mule deer and domestic ruminant nutrition to design and test a wildlife energy supplement block to be used wherever small groups of deer, elk and antelope have access to poor quality winter forage. The blocks provide energy from fermentable carbohydrates, along with a proper mineral, electrolyte and pH balance to maintain a healthy rumen. Consumption is carefully controlled by ingredient as well as by texture.

State Veterinarian Dr. Bob Hillman promptly recommended using these blocks in lieu of feeding large concentrations of deer or elk so we used private funds to purchase several tons of blocks and began testing.

The blocks have a hollow core and Garden Valley big game feeding expert Sandy Donley slipped them over metal rods driven into the ground, with elevated metal trays attached to the rods to hold the blocks above the snow.

After two years of testing, USFS and BLM officials verified that, unlike salt or trace mineral blocks, there is no leaching into the ground and no evidence of excessive forage use in the vicinity of the blocks developed by Rohwer and Hurst. They approved placing the blocks directly on the ground on federal land.

Where deep snow will probably occur, Donley recommends driving rebar into the snow or soil and threading one or two blocks on the rebar, with a short cross bar welded on midway to prevent the blocks from later being covered by snow.

Deer and elk visit the blocks briefly in small groups, eating approximately ¼ to ¾ pound each daily, and then leaving the area to consume natural forage elsewhere.

2002 Block stations utilized by 200 elk that IDFG refused to feed.

Animals on poor quality forage continue to utilize the blocks as long as there is no high-energy feed available. But they will consume little or none of the blocks once they are fed pellets or high quality alfalfa hay, or when new high-energy natural forage becomes available.

When signs indicate a severe winter, the blocks are put out late in the fall after normal hunting seasons end. They provide the minerals, vitamins and energy that deer and elk need to survive so long as some edible natural forage can be found. Later on, if abnormally deep snow covers the natural forage that can be digested, the blocks enable both deer and elk to immediately digest high-energy supplemental feed.

At the current daily cost of about 4 cents per deer and 11 cents per elk, the blocks are substantially cheaper than feeding, which also entails more labor and higher transportation costs. Unlike a feeding program which must continue until spring green-up, if winter weather moderates and emergency feeding is not indicated, the blocks can be discontinued.

When the blocks are first put out, dropping several flakes of certified weed free alfalfa hay nearby as a visual attractant will guarantee the animals start using them immediately. One attempt to change the annual movement of an elk herd to supplemental feeding grounds in the Magic Valley Region was unsuccessful because the blocks were placed out without hay as bait and the elk trailed by them without stopping.

During the past eight years, literally dozens of well documented efforts proved that blocks provided by both IDFG and private citizens prevented deer and elk from moving down to ranches and subdivisions in search of food. Instead of having several hundred malnourished animals milling around in the valley floor committing depredations, the blocks alone enable them to survive all but the deepest snow winters on their normal winter range.

Yet some IDFG officials continue to ignore their own successes on the Boise WMA and along the South Fork of the Payette River winter range. Their claim that "the jury is still out" on the effectiveness of the blocks is admittedly based on lack of personal experience and a philosophical prejudice against "interfering with nature".

Examining IDFG Excuses for Not Feeding

by George Dovel

In 1984, *High Country News* published an article by U of I Wildlife Biology Professor Jim Peek entitled "Feeding wildlife kills wildness". In their long term study, "Emergency Feeding of Deer", Colorado Research Biologists Baker and Hobbs responded to Peek's article and one other alleging detrimental effects from emergency winter feeding as follows: "Although many have strong, well articulated opinions on these detrimental effects, few have data supporting them."

Excuse No. 1 – Emergency feeding prevents deer and elk from migrating to their historical winter range.

Fact – During a normal winter, snowfall at higher elevations covers the available forage and deer and elk move to lower elevation transition ranges. If the snow melts, the animals go back uphill. If the snow gets too deep on the transition range, the animals move further downhill to winter range.

In most areas, that is not a long distance "migration". Such abnormal movements normally occur only once every 6-12 years when deep snow covers most or all of the available forage on winter ranges. When that happens, experienced outdoorsmen who live among elk herds observe large numbers of hungry elk moving in single file, stopping only when they find something to eat.

Unfortunately, that is usually where livestock are being fed and serious depredation will occur unless the large group of elk is fed adequately. If the smaller groups of elk had been provided either energy supplement blocks or full feed on their respective winter ranges before they joined together in the massive downstream movement, it would have prevented the crowded feedlot conditions that undoubtedly create more potential for disease transmission.

Pressure from hunters during extended hunting seasons often displaces both deer and elk, forcing them to occupy areas outside of their normal winter range. This sometimes results in their joining local herds and creating larger concentrations than would normally occur.

Part of 433 elk and deer fed at the Donley site in 1992-93 winter.

Excuse No. 2 – Emergency winter feeding creates "welfare" deer and elk herds that will return to the same feed sites year after year.

Fact – During the 1992-93 winter, Garden Valley resident Sandy Donley and his family were forced to feed 176 deer and 257 elk twice a day at Hanks Creek because IDFG failed to feed smaller groups of hungry animals upriver on their normal winter ranges. Yet the following winter, only a dozen local deer and no elk showed up at Donley's Hanks Creek feed site.

Oregon, Washington and Wyoming feed many thousands of big game animals every year: (a) to prevent them from committing depredations on farms and ranches, and/or (b) to maintain larger populations than reduced winter range can support. Most of those animals return to the same feed sites year after year because they have become accustomed to being "shortstopped" and fed.

But the claim that this occurs with properly conducted *emergency* feeding only once every 6-12 years defies logic. In Idaho's heavily hunted populations, most deer and elk do not live long enough to experience even one severe winter, much less several.

Excuse No. 3 – Emergency feeding takes the "wild" out of wildlife.

Fact – Although it is relatively easy to entice deer up close with limited feed during a severe winter, their wariness becomes evident when their survival is threatened by predators or man. In 1933, Aldo Leopold wrote that all wildlife is, to some extent, "artificialized" and exists at human behest.

In the truly remote areas of North America that I have been fortunate to work in or visit, wild animals that have never seen humans display less fear and more curiosity than most Idaho big game, pursued by hunters for up to 150 days each year.

Excuse No. 4 – Emergency winter feeding prevents the natural winter culling of weak animals, thereby harming the genetic quality of deer and elk herds.

Fact – Just the opposite is true. If supplemental feeding does not occur during a severe winter, a high percentage of prime breeding age males die. This duplicates the result when too many breeding age males are killed by hunters (i.e. delayed/reduced conception and inbreeding from related young adult males that survive).

Numerous studies have documented that severe winters result in stunted yearling females surviving, which affects herd health and reproduction for several generations. Even when deer and elk are fed during a severe winter, the natural selective processes continue to cull some weaker juveniles and older animals that are past their prime.

Excuse No. 5 – Emergency feeding of deer and elk can accelerate transmission of communicable disease.

Fact – Although this certainly sounds plausible, hard data supporting this theory has not been offered. When small groups of animals are provided free-choice supplemental feed that is properly distributed to assure that all animals receive feed, there is significant improvement in herd health and increased potential for reproduction.

It is the failure to feed timely that creates large concentrations of malnourished animals at too few feed sites. If a serious communicable disease threat exists among specific deer or elk herds (e.g. brucellosis, CWD, etc.) it should be promptly addressed and corrected rather than wrongfully blamed on occasional emergency feeding.

Excuse No. 6 – Emergency feeding is too expensive, a waste of sportsmen's money and affects only a small percentage of total populations.

Fact – Some of the animals saved from death resulting from malnutrition by emergency feeding will still die from predation, accidents or other natural causes. This prompted Idaho wildlife managers to recently claim that winter and predation losses are "compensatory" rather than "additive".

The 1985 Colorado study calculated the number of additional fed deer that survived until summer by subtracting the percent of surviving animals in a control herd that was not fed from the percent of surviving animals in fed herds. Then they divided the total cost of feeding the deer herds by only the number of *additional* deer that survived when fed.

The resulting cost was less than the established carcass value of a deer, and substantially less than the economic value to the local area of each deer harvested. Although this and other similar studies concluded that emergency feeding of deer was always cost effective in terms of providing more deer to harvest the following hunting season, it did not address the more important loss of future production if the deer were not fed.

Southern Idaho mule deer populations had not recovered from the extreme 1992-93 starvation losses when the 2001-02 winter hit. Without proper emergency feeding, the death losses from both of these winters created unhealthy age-sex gaps in each herd, which require several years to correct under ideal conditions.

When reduced populations produce too few surviving juveniles to replace the animals that died from malnutrition and the animals that will die from all causes the following year, populations will continue to decline. Failure to reduce both predator kills and hunter harvests accelerates that decline.

The statement that only a small percentage of Idaho deer and elk benefit from local emergency feeding programs ignores several factors. Varying weather and climatic conditions may dictate emergency feeding in one or several areas while other areas are not affected.

Some areas in Idaho's "snow belts" provide excellent forage and can sustain large herds of deer and elk in most years. But when record snow depths cover the forage on transition and winter range, regardless of the number of animals, most will die from malnutrition unless they receive supplemental feed.

Allowing a natural disaster to destroy most of the game in some areas automatically redistributes hunters, increasing hunting pressure in other areas that may never require emergency feeding. This "robbing Peter to pay Paul" management scenario is the situation that presently exists in Idaho deer and elk herds, with some regions scrambling to protect their declining big game from hunters who live in another region with too few animals to provide reasonable harvest opportunity.

Fat mule deer doe and twin fawns fed properly in Garden Valley during the severe 1948-49 winter.

Female mule deer in Garden Valley starved to death above feed sites after IDFG cut feed in half during mid January 2002. Like many others, this animal died when slopes were baring up, shortly after additional feed reduction on March 1st..

Emergency Winter Feeding Biology

by George Dovel

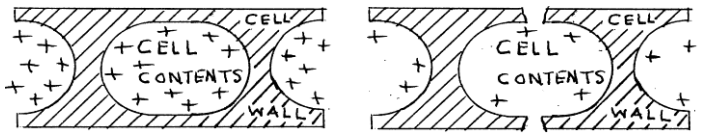
In the ongoing debate over whether or not to feed big game animals during a severe winter, the physiology of wild ruminants and their energy requirements are rarely mentioned or completely understood by either side.

In Idaho, and neighboring states with similar climates, the natural forage that is normally available to deer and elk from late spring through early fall provides a surplus of TDN (total digestible nutrients, a measure of energy) in the animal's daily diet. This extra energy enables the animal to begin storing fat reserves in order to survive a normal winter, and allows it to burn extra energy escaping from predators and hunters.

Every plant is made up of cells, which contain digestible nutrients, and cell walls held together by lignin (a "glue"), which range from indigestible to moderately digestible. The more "woody" plants have a higher ratio of cell walls and lignin to digestible cell contents.

It requires more time for the bacteria and protozoa in the rumen (forestomach) to process the less digestible cell walls into material that can be digested. Therefore, increasing the ratio of cell walls to cell contents, which occurs naturally beginning in the fall, reduces the digestibility of the plants and the TDN (energy intake) that is available.

Experienced outdoorsmen recognize that period late every fall when animals display an urgency to feed which overcomes much of their natural wariness. The lush green north slope grasses freeze and turn brown or are covered with snow, and the cell walls of grasses, forbs and shrubs deteriorate when they go dormant, allowing high energy cell contents to escape (see illustration).



Summer forage Winter forage

In the summer, a 120 pound mule deer may consume about 4 pounds of high quality forage per day, consisting of about 1.5 pounds of cell walls, 2.5 pounds of digestible cell contents, and TDN of perhaps 2.6 pounds. If that deer's daily energy requirement is only 2.2 pounds per day, this will provide an energy surplus of +0.4 pounds per day.

In the winter, that same deer's rumen can still only hold about the same bulk amount of poor quality forage with cell walls still weighing about 1.5 pounds. But the reduced cell contents may now weigh less than 2.0 pounds and reduced TDN may total only 1.0 pound. If that deer's daily energy requirement is still 2.2 pounds, it now has an energy deficit of -1.2 pounds per day.

Unlike domestic ruminants whose weight is either maintained or increased during the winter with high energy feed or supplements, wild deer and elk begin a period of gradual weight loss at that point in the fall when they are unable to meet their total daily energy requirement.

Normally, if they have easy access to poor quality natural winter feed and remain undisturbed, the warming action of the rumen and the insulation from hair and external body fat will reduce their daily energy requirement. This allows them to make up the deficit by gradually consuming stored body fat and tissue until spring green-up.

But if the animals are exposed to excessive rain and wind, sub zero temperatures, abnormal snow depths requiring them to search for food, or harassment by predators or humans, their normal winter daily energy requirement can increase by 75%-150% or more. This exceeds their ability to make up the deficit with stored body fat and they will eventually die unless they are fed or provided energy supplements.

6-point bull elk near death with its fat reserves used up and its rumen full of indigestible woody branches on March 9, 2002. This is one of several hundred elk that died in the Garden Valley area when IDFG and USFS prohibited feeding by private citizens on public lands during the 2001-02 winter.

During the past 47 years I have observed a number of highly successful emergency big game feeding operations, and several that were doomed to failure. The latter resulted from the inability of IDFG personnel to recognize animal condition and weather, and from their refusal to follow established criteria concerning when to begin and how to feed.

When drought, wildfires, excessive snow depths or other natural disasters force deer and elk to consume poor quality forage with high cell wall and lignin content, it stays in the rumen many hours before it is broken down.

With an acidic pH and delayed availability of new plant material to attach to, protozoa numbers in the rumen quickly decline.

When this happens for several days or longer, it may render the rumen incapable of processing high quality forage. This condition is observed when a malnourished animal arrives at a feed site too late and scours within hours after eating, from the effects of acidosis and feed it is not accustomed to digesting.

This could have been prevented by: (1) feeding that animal sooner while the rumen was still healthy; (2) providing only small amounts of high energy feed over 7-10 days to build up healthy microorganisms in the rumen; (3) providing wildlife energy supplement blocks to maintain or restore healthy microorganisms and pH balance in the rumen before the animal reached a state of advanced malnutrition; or (4) using a pellet designed to be fed under those circumstances.

When to feed

In a February 3, 1993 *Idaho Statesman* article titled, "Deer starving needlessly group says," the sub headline read, "F&G says it's not true, that deer and elk herds are in good shape." The article quoted (former) F&G Commissioner Richard Meiers "and other Fish and Game officials" who "said big game herds are in good health and not in any danger of dying."

The article included a photo of 13 mule deer captioned, "Mule deer line up for feeding at Danskin near Garden Valley." Despite the F&G claim, every one of the 13 deer in the photo was obviously in an advanced stage of malnutrition, a fact that qualified big game managers would have known at a glance. The thick, woody bitterbrush stem ends depicted in the photograph also confirmed the fact that these animals had exhausted their natural low energy winter forage.

During the extreme winter of 1983-84, the Colorado Division of Wildlife conducted the most comprehensive study of emergency big game feeding ever attempted. That agency fed 30,000 mule deer, 10,000 antelope and 5,000 elk.

Colorado research biologists learned to inspect mule deer at a glance to determine the stage of malnutrition (comparable to the matrix used by many veterinarians). They also developed a computer model providing herd specific and location specific recommendations on when to begin supplemental feeding based on site specific weather conditions.

The study conclusions were: (1) increasing the quantity of available winter forage will not improve energy balance and winter survival; (2) reducing the population size will not improve energy balance and winter survival for the remaining animals except in extremely rare circumstances; and (3) small improvements in the condition of animals at the beginning of winter, by providing feed with greater energy intake, will pay large dividends in reducing winter mortality (emphasis added).

This study, linking energy balance in the fall to winter survival in mule deer, was published in the *Journal of Wildlife Management*, Vol. 53, No. 2, April 1989. However it and similar comprehensive studies proving the effectiveness of proper emergency feeding, have been generally ignored by Idaho wildlife managers who have long embraced the destructive philosophy of "hands-off" wildlife management (never interfere with "nature").

Following the 1992-93 southern Idaho disaster, knowledgeable outdoorsmen, county governments and Regional Winter Feeding Advisory Committees worked with IDFG Regions to establish specific criteria for determining when to begin emergency feeding. Yet when the severe 2001-2002 winter hit nine years later, IDFG ignored the criteria and again allowed thousands of malnourished deer and elk to die by waiting too long to feed.

During a normal Idaho winter most deer and elk lose about 10 percent of their optimum body weight achieved in late summer/early fall. Mature males may lose that much weight during the rut so they, along with juveniles, are especially vulnerable during a severe winter.

When an animal has lost fat and muscle tissue totaling 20-25% of its optimum body weight, its odds of surviving are poor, even if adequate nutrients are provided at that point. Ideally, emergency feeding should begin long before that advanced stage of malnutrition is reached.

Elk can forage in deeper snow than mule deer but they cannot survive on a diet of pine needles (2002 Garden Valley photo).

How to feed

Nearly a century of deer and elk feeding operations in several states dictate that feeding must entail adequate distribution of feed over a large enough area to insure that the lowest animals in the "pecking order" receive adequate feed every day. Cattle ranchers have fed this way for generations and most try to distribute just enough at each feeding so that it is cleaned up to minimize waste.

During the deep snow winter of 1948-49, IDFG employees fed a combination of hay and pellets to several

Continued on page 8

Emergency Winter Feeding Biology

Continued from page 7

thousand deer and several hundred elk along the South Fork of the Payette River that same way. They used ex-military 4-wheel-drive vehicles to spread the feed over several miles of deep snow, which prevented unhealthy crowding in the Garden Valley area. They adjusted the amount fed so that all visible animals, including deer fawns and elk calves, were able to eat.

When the snow melted in the spring, IDFG counts identified only 124 deer that died from all causes, far fewer than were found in a normal winter. Both the Department and local citizens considered the operation a success.

Deer and elk were fed properly during the 1948-49 winter, with feed spread out to provide every animal access.

During the 1992-93 winter, depending on the area, IDFG eventually provided deer pellets and troughs for the citizen volunteers to feed deer, and provided hay to be fed to elk. Where both species were present, the citizens who fed properly generally spread the hay in a long "fish hook" pattern away from the deer troughs and then remained near the troughs to prevent the elk from chasing the deer away.

The hay provided by IDFG varied from "hot" high protein alfalfa to unmarketable hay that contained weeds and mold. Feed waste, digestive problems and noxious weed infestations in the vicinity of the feed sites caused IDFG to switch to #2 alfalfa hay pellets for elk in 2001-02.

Theoretically, the deer pellets are provided for deer and the elk pellets for elk. But where both species occupy the same area, the dominant elk take over most, or all, of the limited feed troughs as soon as the volunteers leave, and eat whatever type of pellets are in the trough, leaving less dominant elk and deer without feed.

Studies indicate that deer normally consume about 30% of their daily feed intake during two hours in the morning and another 30% during two hours in the evening. The remaining 40% is consumed during the remaining 20 hours of day or night. It is unnatural for hungry deer or elk to rush feed troughs and gorge themselves but that is what happened at most of the IDFG feed sites in southwest Idaho during the 2001-02 winter. This caused many less aggressive animals to starve when the troughs were emptied before they were allowed to eat.

"Full" Feeding

If feed sites are in close proximity or in timbered locations, if there are continuing new arrivals or animals moving between sites, if the animals are not fed at about the same time each day, or if there are not enough troughs or they are not spaced far enough apart, the number of animals being fed can easily be underestimated and too little feed provided. The only successful way to feed in these circumstances is to provide enough feed at each site to last 24 hours.

This is easily accomplished by observing the troughs daily before each feeding. If the leftover feed in all the troughs at one site totals more than one sack, the feed should be cut accordingly. If there is one sack or less, the amount of feed is just right. If the troughs are empty, more feed must be added until a sack or less remains the following day.

With feed in the troughs around the clock, there is no unnatural rushing and gorging by hungry animals. Small groups are able to feed naturally at various times of the day or night, with deer fawns and elk calves eating beside their mothers instead of being pushed away from crowded troughs.

The 1980s Colorado study used three similar groups of wild free ranging mule deer with a high percentage of fawns and bucks. One group was fed 2 pounds of deer pellets per deer per day (about 2% of the *average* body weight of bucks, does and fawns combined). The second group was fed ad libitum ("free choice" with feed available at all times) and the third (control group) was not fed. Careful monitoring to determine winter/spring losses was accomplished through June 15th with the following results.

Although the study documented that more natural forage was accessible to the control group that did not receive deer pellets, buck losses in that group totaled 54%. The group that was fed an average of 2.0 pounds of pellets per day recorded 46% buck mortality, while the group fed free choice recorded only 16% buck mortality – three times as many bucks saved as those fed 2.0 pounds per day.

Adult and yearling does recorded similar variations with 38% loss in the unfed group, 22% in the group fed 2.0 pounds, and only 14% loss in the group fed free choice.

Fawn losses were 74% in the unfed group, 39% in the group fed 2.0 pounds per day and 38% in the group fed unlimited rations. Because each deer in the 2-pounds-per-deer group was provided 2 pounds of pellets in a separate yard-long strip, each fawn was provided more than it could eat in either fed group. According to the study, this explained the negligible difference in percent of loss between fawns in the two fed groups.

Despite the results of this well known study, IDFG continues to waste feeding money and starve thousands of

breeding age males and replacement juveniles by refusing to feed them enough to survive.

The 2001-02 winter in Garden Valley resulted in the second highest snowfall in 50 years yet IDFG abruptly cut the feed in half in mid January. This starving fawn, at the bottom of the "pecking order", could no longer get enough feed and died on a pile of yellowpine needles as the slopes began to bare in March.

What to feed

Deer or elk generally consume 2-4% of their body weight in dry matter each day. With reduced activity during the winter, a 2% daily intake would equal 1.3 to 4.0 pounds per deer and 4.0 to 12.0 pounds per elk based on juvenile and adult male weights. The actual amount fed per pound of body weight will vary according to the type of feed (alfalfa hay, timothy or other grass hay, alfalfa pellets, or the IDFG pelletized deer formula containing 23% alfalfa and 45% grain).

The current IDFG high-energy deer pellets were designed to produce weight gain in healthy deer. While they have been successfully fed to a number of wild deer, and to a smaller number of wild elk, their use resulted in gastrointestinal distress and death in at least 12 percent of the elk at one feed site in 2002.

Colorado research biologists developed a deer pellet that was tested extensively on both captive and free ranging mule deer. Some were fed natural winter forage as desired for several weeks and then starved for five days. Then they were abruptly fed the deer pellets for four weeks and then abruptly switched to green grass, all with no sign of digestive upset. This study, "Emergency Feeding of Mule Deer During Winter - Tests of a Supplemental Ration," was published in The Journal of Wildlife Management Vol. 49, No. 4, October 1985.

In January 2002, Nutritech, Inc. P.O. Box 144, Carmen, Idaho 83462, formulated a generic elk/deer supplemental feed pellet, which can be full fed in the troughs safely when both deer and elk are eating pellets at the same site.

Origin of the Myth

The 1985 Colorado study report by Dr. Dan Baker and Dr. Tom Hobbs was critical of several earlier deer feeding studies in Colorado and other states, because the biologists used improper foods that deer on poor quality natural forage could not abruptly switch to and convert into energy. "Low quality hay caused acute digestive impaction and ulceration, and limited intake to levels insufficient for maintenance of small bodied ruminants like mule deer."

"At the other extreme, feeding high-energy concentrates to animals adapted to natural forages caused ruminal acidosis and death. These observations (from such flawed studies) led to the widespread belief that wild deer 'cannot be fed'.

"Our ration struck a balance between these constituents by providing high levels of energy in an easily digested form and containing sufficient fiber to prevent overeating and acidosis. This balance allowed the ration to be fed safely to animals adapted to low quality forage diets."

Nine years after the Colorado study was published, Dr. Baker sent our Feeding Advisory Committee a letter including the following comments: "It's my opinion based on our studies and experiences, that the long held view of most wildlife managers that you cannot successfully feed big game is largely a myth. There may be other reasons not to feed starving deer in winter (economical, social, philosophical) but from a biological standpoint, it works. The general attitude here in Colorado is that winter feeding is no less valuable than any other wildlife management tool when applied to the right circumstances at the right times in the right places."

Supplement blocks

Early use of wildlife energy supplement blocks can compensate, to some degree, for errors in judgment on when to start emergency feeding.

Representative Mike Moyle replenishing blocks where feed was withdrawn from 200 elk by IDFG.

Why Resurrect The Outdoorsman?

by George Dovel

As a youngster growing up in the mountains, I spent all of my spare time fishing, hunting or trapping and carefully observing the wild creatures that were my passion. College courses in zoology and forestry were a small part of my lifelong study of wildlife management dating back to the fifth century.

In 1956, when I returned from tours in Korea and Japan as a U.S. Army helicopter pilot, I established a helicopter and fixed-wing flying service in Boise. During the next 14 years I frequently worked as both a hired contractor and a volunteer wildlife technician with the Idaho Department of Fish and Game.

I watched misguided IDFG supervisors and Commissioners exploit our wild game by continually expanding hunting opportunity when big game was most vulnerable, while ignoring management history and biological facts. Idaho deer hunting went from easily legally harvesting four mature bucks and one doe in a single season to the lowest statewide mule deer populations in 50 years. Elk were so overharvested that 30-year record low kills were recorded by the mid-1970s when elk were a rarity in many rural areas.

The extent of IDFG mismanagement was exposed in a *Life* magazine article by former Idaho Bighorn Sheep Biologist Jim Morgan. He described how the Department had become expert at making excuses, influencing the media and developing vocal support groups rather than manage wildlife properly.

Channel catfish and other non-native warm water species are still abundant in some Idaho rivers, manmade lakes and reservoirs.

Frustrated by our inability to restore responsible wildlife management, we published irrefutable facts in *The Outdoorsman* publication from 1969-1973. With much help from the Idaho Legislature, other knowledgeable outdoorsmen, and a few IDFG employees with the integrity and courage to supply hidden information, the destruction of our wildlife resource was halted.

The IDFG Director was replaced with Joe Greenley who spent the rest of his career working to restore healthy big game populations in the 1970s. Following our suggestions, the Legislature mandated radically reduced big game hunting seasons, a moratorium on cow elk harvest and reduced doe deer harvest, increased control of out-of-balance predator populations, a strict limit on nonresident big game hunters and the elimination of bonus hunting opportunities for special interest support groups.

When Greenley retired, out-of-state fisheries biologist Jerry Conley inherited his legacy. From 1980-1992 Idahoans continued to enjoy reasonable big game harvests. But, once again, overharvesting resulting from continued expansion of hunting opportunity exceeded the ability of the game herds to produce a sustained yield.

Following a severe drought in central and southern Idaho, the 1992-93 winter produced the highest snowfall in 42 years. But instead of using dedicated emergency feeding funds to prevent catastrophic losses, IDFG allowed over 100,000 deer and thousands of elk and antelope to starve to death.

IDFG officials and F&G Commissioners harassed and ridiculed concerned citizens, veterinarians and county officials for conducting private feeding which saved several thousand animals. They fired an IDFG employee who reported extreme deer and elk starvation losses after the snow melted, and refused to reduce the season lengths and halt female harvest in 1993, despite the massive losses.

Thousands of angry citizens signed petitions demanding Conley's resignation, and newly elected Governor Phil Batt vowed to "straighten out a Fish and Game agency that is out of control". He replaced Commissioners as their terms expired and the new Commissioner majority hired former Boise National Forest Supervisor Steve Mealey to replace Conley who moved to Missouri.

With a Masters degree in wildlife management, Mealy was able to work closely with a cross section of outdoor experts to replace the Department's hands-off management with sound game and fish management policies.

These included: establishing biological quotas for deer and elk in each big game management unit based on year-round carrying capacity; recognizing the importance of maintaining healthy predator-prey balance; and conducting successful emergency feeding operations during the occasional severe winter when insufficient natural forage is available to prevent excessive losses.

Meanwhile, the hard core extremist element in the Department collaborated with the urban media, traditional support groups and the remaining Andrus Commission appointees to undermine Mealey's efforts. Despite his success at implementing scientific management and restoring confidence with mainstream Idahoans and their legislators, he was abruptly fired in March 1999 by a split vote of the Commission.

One disgusted Commissioner immediately resigned and another commented that this signaled the end of responsible wildlife management in Idaho.

During the past decade, I, and other knowledgeable outdoorsmen, have devoted a great deal of time and money attempting to restore scientific wildlife management and thereby preserve our hunting and fishing heritage for future generations. Despite a handful of minor successes, we have failed.

The countless hours we have spent on assorted citizen F&G advisory committees have not resulted in better management.

A majority of the present Commissioners simply rubber-stamp whatever the Department Bureau Chiefs recommend, which is usually designed to add income to the bloated agency.

By creating a series of special draw hunts and special weapons deer and elk hunts during the five months from mid summer through December, F&G still provides a few hunters a reasonable opportunity to harvest a mature animal, if they're willing to pay the price and are lucky enough to draw a coveted permit.

However the average Idaho big game hunter is more likely to see only a handful of spooky, harassed animals if he or she hunts during a general rifle season on public lands. Wildlife on the 70 percent of Idaho that is public land has been so mismanaged that most hunters are forced to negotiate with private landowners for a reasonable chance to harvest wild game.

Upland bird hunting in Idaho is generally very poor. Instead of managing wild pheasants, IDFG uses license dollars from all hunters to subsidize releasing tame male pheasants on WMAs (Wildlife Management Areas) each fall for a handful of bird shooters. Almost none of these pen-reared birds survive past four days so they must be restocked each week.

Managing wild trout and other cold water species for propagation and sustained harvest in Idaho streams has been significantly reduced. Raising sterile hatchery trout to "catchable" size and restocking them frequently in selected ponds or streams is not cost effective.

These expensive put-and-take programs offer recreational opportunity, but they are no substitute for the Department's mandate to "provide for the citizens of the state…continued supplies of…wild animals, wild birds and fish…for hunting, fishing and trapping."

For 40 years, the Clearwater Region provided 45% of Idaho's elk harvest. Then IDFG allowed the harvest of too many mature bulls, which were needed to breed cows, and set off a chain reaction. Elk cows that weren't bred until the second or third estrus produced late calves with poor winter survival. This also increased the period of black bear predation on newborn elk calves by several hundred percent, which in turn reduced elk recruitment far below the number needed to maintain a viable healthy population.

The biologists' simplistic "solution" of killing off several thousand productive females to correct the male:female imbalance has reduced the Clearwater elk harvest to only 13% of the statewide total which is also declining. Of that 13%, more than one-fourth are either breeding age females or replacement calves needed to restore healthy herds.

Contrary to IDFG claims, statewide mule deer populations and harvests have reached record lows, yet the Commission is doing nothing to rebuild the herds or even halt the decline in most hunting units.

Of the 25,601 mule deer that were reported harvested by hunters in the 2002 Idaho hunting season, about one-third were breeding age females or replacement fawns!

A basic biological rule in both deer and elk management is, that antlerless animals are killed only when populations reach or exceed the management objective and it is necessary to kill some females to maintain healthy animal/habitat balance. No such condition exists in Idaho.

Historically, mule deer hunting has provided more Idaho families the opportunity to enjoy an outdoor experience together, while harvesting delicious wild meat, than all other game species. Deer hunters also contribute more to Idaho's economy than hunters of all other species, yet this valuable renewable resource is being rapidly destroyed.

In a recent IDFG article published in the *Idaho State Journal*, Harry Morse and Carl Anderson wrote the following: "After extensive winter-feeding efforts in 2002, aerial surveys showed almost no difference in fawn survival in areas that were fed and in areas with no feeding sites." Don't they realize this is proof that their feeding was not done properly?

The *Journal* article repeats IDFG biologists' favorite sound bite to excuse their failure to use all of the available tools to manage wildlife: "The bottom line for deer and other wildlife is habitat, habitat and habitat."

I applaud Mr. Anderson's candid earlier admission that the Southeast Region lost more than half of its deer herd during the severe 2001-02 winter. The Southwest Region is still trying to cover up its massive losses from that winter, and from increasing wolf kills in several units.

Continued on page 12

Why Resurrect The Outdoorsman?

Continued from page 11

But blaming the catastrophic loss of half of a deer population on "habitat", without offering any biological evidence to substantiate the claim, defies logic.

In the IDFG 1998-2003 Deer and Elk Management Plan, each Region was responsible for establishing population objectives that were substantially less than the existing habitat would support during the five years.

Has the habitat in the Southeast Region suddenly been cut in half? Or is that just a convenient excuse used to cover up the Department's failure to conduct a proper emergency feeding program with dedicated money set aside for that purpose?

Following 1992-93 winter losses, we convinced the Wildlife Bureau Staff to stop blaming winter losses on too little winter forage when it exists, but is covered by record amounts of snow. Apparently regional officials did not get the message.

The *Journal* article implies that hunters are not killing enough coyotes and lions and admits that the only big game management tool IDFG will consider using to restore deer herds is reducing hunter harvests.

Idaho game managers choose not to obey their mandate in the Idaho Code to manage wild animals and wild birds to provide continued supplies for hunting. When a natural disaster such as drought or wildfire threatens the winter survival of deer and elk, IDFG expands hunting opportunity to kill off even more breeding females rather than temporarily provide supplemental nutrition to minimize the losses.

And when severely reduced deer or elk populations create an unhealthy predator-prey ratio, IDFG uses money appropriated for predator control to "study" rather than correct the imbalance.

With the exception of fish propagation, much of which is funded by federal agencies and private industry, the public perception is that we are paying our wildlife agency $70 million to manage people – not wildlife.

Name_____

Mailing Address_____

City_____State_____Zip_____

Amount Enclosed_____

Transplanted wild turkeys are now flourishing in many parts of Idaho due to cooperative efforts between the Turkey Federation and private landowners who voluntarily feed them when winter conditions prohibit their survival without feeding.

As this issue of *The Outdoorsman* goes to press, a proposed Constitutional amendment purported to protect harvest by hunting, fishing and trapping has already passed the Idaho House. Unfortunately the lawful mandate to provide continued supplies of wildlife has been changed to provide only "hunting *opportunity*" in the proposal.

Having 400,000 deer again would offer hunters a reasonable chance for harvest and guarantee the survival of hunting. But providing only 4,000 deer and guaranteeing only the opportunity to hunt them would destroy the average Idahoan's chance to harvest wild game.

Each month, Outdoorsman articles will print facts about a variety of management issues ranging from how sportsman money is spent to wolf recovery. The cost of printing and distributing this issue was paid by Concerned Sportsmen of Idaho and United Sportsmen Alliance.

To receive future Bulletins, please fill out and clip the coupon below and mail it with your donation to:

The Outdoorsman
P.O. Box 155
Horseshoe Bend, ID 83629

A donation of $20 or more will pay the cost of printing and mailing all bulletins to you for the next 12 months, and will guarantee they will also be sent to the Senator and Representatives in your district.

Please help distribute facts to halt the destruction of our billion-dollar wildlife resource and restore sound management for future generations.