MINUTES OF THE MEETING
AGRICULTURE COMMITTEE
MONTANA STATE
HOUSE OF REPRESENTATIVES

January 30, 1985

The meeting of the Agriculture Committee was called to order by Chairman Schultz on January 30, 1985 at 3:10 p.m. in Room 317 of the State Capitol.

ROLL CALL: All members were present.

CONSIDERATION OF HOUSE BILL NO. 486: Rep. Thomas, District 62, sponsor of the bill, stated this bill is an act to add Spotted Knapweed, Diffused Knapweed and Dalmation Toadflax to the state list of noxious weeds. He would like to see a do pass on this bill.

PROPONENTS: David Donaldson, representing the Montana Association of Conservation Districts, stated that Spotted Knapweed and Diffused Knapweed take up over 2.3 million acres and are spreading at an alarming rate. The average loss of rangeland is 4.5 million dollars per year. He stated that the weeds are becoming a severe problem and there is a need to recognize these weeds in the state definition. (Exhibit A attached hereto)

Doug Johnson of the Montana Weed Control Association said they support this bill. He went on to say that 24 counties have Spotted Knapweed and Diffused Knapweed with 12 of those counties reporting the knapweed as the number 1 problem. He stated that he would like to see Spotted Knapweed, Diffused Knapweed and Dalmation Toadflax on the state list of noxious weeds. He handed out Exhibits B and C, which are attached, to the committee.

Alan Eck, representing the Montana Farm Bureau Federation, stated that they support HB 486, but would also like to see "Tansy" and "Musk Thistle" added to the definition of noxious weeds. (Exhibit D attached hereto)

Keith Kelly from the Montana Department of Agriculture stated they support this bill because it prevents them from having to go through the rule making authority. They would like to see an immediate effective date added to the bill if passage is approved.

OPPONENTS: George Oberst, representing himself, stated that he opposes this bill because he felt knapweed is not sufficiently threatening. He informed the committee that knapweed is economically used by sheep, bees and wildlife. Knapweed is also a vital erosion preventer, and the weed only grows in dry sites where it doesn't have to compete for vegitation. He went on to say that knapweed is preventable, and can be controlled by several means; for example: 1) sheep grazing, 2) single chemical applications with replanting, 3) mechanical spot checks, 4) biological manipulation. Mr. Oberst asked the committee to hold this bill until the other bill, which is similar to this one, comes out. His testimony is attached as Exhibit E.

There being no further proponents or opponents present Rep. Thomas closed stating that he would like this bill passed out of committee so that the weeds can get on the program. He briefly commented on Mr. Oberst's remark about sheep grazing being a means of controlling knapweed, saying that the sheep eat the weed only until early summer and after that the weed is left alone.

DISCUSSION OF HOUSE BILL NO. 486: Rep. Jenkins asked Mr. Oberst why he only spoke on Spotted Knapweed. Mr. Oberst replied that the reason why was because he didn't really know much about the other weeds.

Rep. Patterson questioned Mr. Eck about "Tansy" and "Musk Thistle" being added to the list. Mr. Eck referred the question to Rep. Thomas who stated there were no objections.

Rep. Rapp-Svrcek asked Doug Johnson if these weeds were spreading. Mr. Johnson said that by adding these weeds to the list it would make more counties aware of them.

There being no further questions the hearing on House Bill No. 486 was closed.

CONSIDERATION OF HOUSE BILL NO. 459: Rep. Switzer, sponsor of the bill, stated this bill has had a lot of surgery done on it. He then went through the bill and discussed the amendments.

PROPONENTS: Les Graham, representing the Department of Livestock, stated that what this bill does is eliminate some of the loopholes which will allow for a quicker dealing with the bad check penalties. The department requested this bill because of the many

problems they have had in the past. He stated the department has approximately 1.7 million dollars worth of bad checks and none of these cases went to court. They need the ability to prosecute these people under the law. On page 4, line 7 & 8 they want the original language restored because it will give them more control over who is able to get a license.

Allen Eck, Montana Farm Bureau Federation, testified that this bill adequately addresses the problem that livestock producers sometimes have collecting money from buyers of their products. His testimony is attached as Exhibit A.

Ed Butcher, President of the Montana National Farmers Organization (NFO), stated that he feels that the industry has been victimized and certain prosecution of offenders is critical under present circumstances. He went on to say that NFO does not have a personal concern with the amendment since the original law is not tampered with as long as the original intent defines NFO as not under the dealer and licensing definition; and that NFO maintains a separate distinction because of its uniqueness in the industry. In conclusion he stated that NFO urges support of this bill and just asks that NFO's unique situation not be infringed upon.

Stuart Doggett from the Montana Stockgrowers Association of Grazing testified in support of House Bill No. 459. They believe that this bill helps remedy the problems of livestock markets.

There being no further proponents and no opponents present Representative Switzer closed.

DISCUSSION ON HOUSE BILL NO. 459: Rep. Schultz asked Mr. Graham what kind of action does a person have to go through to have someone apprehended . Mr. Graham replied saying that the injured party would have to sign a complaint and then an arrest warrant would be issued.

Rep. Rapp-Svrcek questioned Mr. Graham why this doesn't go under the felony bad checks. Mr. Graham answered that it is so complex and that so many people are involved. He further stated that if the

county attorneys were doing their job this would work, and that they have tried it both ways.

Rep. Devlin asked Mr. Graham how does the department and other states recognize whether a dealer is registered. Mr. Graham said that a dealer does not have to be double bonded.

Rep. Spaeth asked Mr. Graham how they know if it is an in-state shipment. Mr. Graham stated that the brand inspection shows the destination.

Rep. Cody asked if there was any way a person can call and see if the check is creditable. Mr. Graham replied to the question saying there is no way to find out.

There being no further questions before the committee, the hearing on House Bill No. 459 was closed.

EXECUTIVE SESSION

DISPOSITION OF HOUSE BILL NO. 459: Rep. Rapp-Svrcek moved to DO PASS the first amendment (Exhibit B). A question was called for and the amendment passed unanimously. Rep. Schultz moved for the second amendment (Exhibit C) to DO PASS. Question was called for and the second amendment passed unanimously. Rep. Rapp-Svrcek made a motion to DO PASS AS AMENDED House Bill No. 459. Rep. Fritz seconded the motion. House Bill No. 459 PASSED UNANIMOUSLY.

The committee then decided to wait for a similar bill to House Bill 486 before they took action.

ADJOURN: There being no further business before the committee, the meeting was adjourned at 4:50 p.m.

JAMES SCHULTZ, Chairman

lcb

DAILY ROLL CALL

~~Agriculture~~ COMMITTEE

49th LEGISLATIVE SESSION -- 1985

Date 1-30-85

NAME	PRESENT	ABSENT	EXCUSED
James Schultz, Chairman	X		
Gay Holliday, V-Chairman	X		
Bob Bachini	X		
Dorothy Cody	X		
Duane Compton	X		
Gerry Devlin	X		
Robert Ellerd	X		
Orval Ellison	X		
Harry Fritz	X		
Ramona Howe	X		
Loren Jenkins	X		
Vernon Keller	X		
Francis Koehnke	X		
John Patterson	X		
Bing Poff	X		
Paul Rapp-Svrcek	X		
Gary Spaeth	X		
Dean Switzer	X		

Please attach to minutes.

STANDING COMMITTEE REPORT

January 30 19 35

MR. SPEAKER

We, your committee on AGRICULTURE

having had under consideration HOUSE Bill No. 459

FIRST reading copy (WHITE)
color

REVISING THE LIVESTOCK MARKETING LAWS RELATING TO LICENSES & JURISDICTION, ETC.

Respectfully report as follows: That HOUSE Bill No. 459

BE AMENDED AS FOLLOWS:

1. Title.
   Following: line 10
   Strike: "30-2-401,"

2. Page 2.
   Following: line 11
   Strike: section 2 in its entirety
   Renumber: subsequent sections

3. Page 7, line 9
   Following: "adopted"
   Strike: "under 81-8-231"
   Insert: "to implement those sections"

~~XXXXXX~~
DO PASS

Continued

Rep. Schultz Chairman.

STATE PUB. CO.
Helena, Mont.

COMMITTEE SECRETARY

January 30 19 85

4. Page 16, line 22
Following: "department"
Strike: "under 81-8-231"
Insert: "to implement those sections"

AND AS AMENDED,
DO PASS

Rep. Schultz Chairman.

STATE PUB. CO.
Helena, Mont.

Exhibit 17
Dave D.
HB 486
1-30-85

January 30, 1985

TO: The Honorable Jim Schultz, Chairman
House Agriculture, Livestock and Irrigation Committee

TESTIMONY ON HOUSE BILL 486 ON ADDING SPOTTED AND DIFFUSE KNAPWEEDS AND DALMATION TOADFLAX TO THE DEFINITION OF "NOXIOUS WEEDS".

The Association has, at the past annual meeting, expressed a need to add Spotted and Diffuse Knapweeds, and Dalmation Toadflax to the definition of "Noxious Weeds".

There are presently five noxious weeds in the present definition. They include:

Canadian Thistle	2,289,879 acres
Leafy Spurge	595,270 acres
Field Bindweed	429,711 acres
White Top	103,726 acres
Russian Knapweed	102,571 acres

The added weeds are very significant also. Spotted and Diffuse Knapweed take up over 2.3 million acres.

All the Knapweeds are spreading at an alarming rate. They spread annually at a rate of 27%. At this rate, in 14 years, 60 million or 86% of rangeland will be taken. The average loss of rangeland is 4.5 million dollars/year.

Dalmation Toadflax has infested 57,830 acres and is also spreading rapidly.

The weeds of Montana are becoming a severe problem and there is a need to recognize the Spotted and Diffuse Knapweeds and Dalmation Toadflax in the state definition.

The Association would ask for your support on HB 486.

Thank you for the opportunity to express our need.

Dave Donaldson
Montana Association of Conservation Districts
7 Edwards
Helena, Montana 59601

Exhibit B
HB 486
1-30-85

Potential Spread and Cost of Spotted Knapweed on Range

Robert F. Bucher
Farm Management Specialist*

Spotted knapweed can invade 33.9 million acres of Montana range within the next nine to thirty years and cost cattle and sheep ranchers $155,7 million of gross revenue annually, about one-fourth of their income. Spotted knapweed control on 33.9 million acres, if completely infested, would cost about $1,719 million, 2 3/4 times the current annual gross income from cattle and sheep. To avoid these costs ranchers must recognize the first patch of spotted knapweed to establish itself and eradicate it berore it can invade the rest of the ranch.

Spotted knapweed was first discovered in Ravalli County in the 1920's. It is now found in all 56 Montana counties on an estimated two million acres. The current annual forage loss caused by knapweed is estimated at $4.5 million.

Spotted knapweed is a short-lived perennial; the plant lives for two to five years and it reproduces by seeds. It will grow on croplands but can easily be controlled by cultivation that kills the plants and buries the seeds or by annual application of herbicides.

The weed is a strong competitor in rangeland and grazeable woodlands. Its leaves contain a chemical compound that may suppress the germination and growth of other plants if released into the soil in sufficient concentration. Spotted knapweed is

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*This information was abstracted from Robert F. Bucher, "The Potential Cost of Spotted Knapweed to Mountain Range Users", Bulletin 1316, Montana Cooperative Extension Service, Nov. 1984.

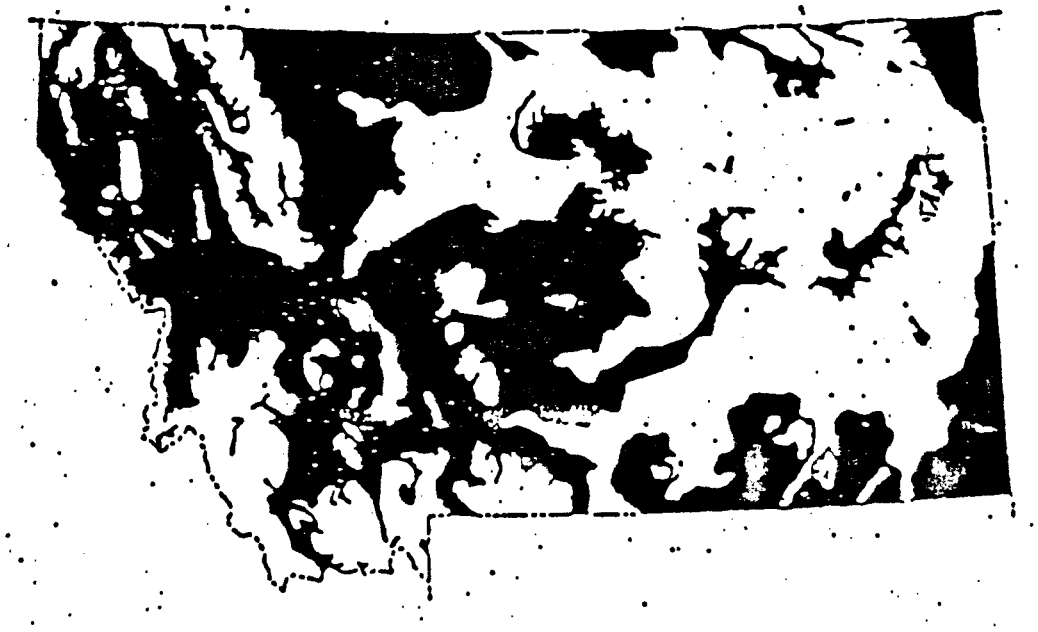
grazed by sheep, other kinds of livestock and possibly by deer and elk while it is green and growing. Cattle and horses have been observed eating the flower heads. However, grazing animals tend to avoid mature plants if other forage is available. The flowers are an important source of pollen for honey production.

When the soil type, elevation, annual precipitation, evaportransporation, frost-free season and July temperature for 116 spotted knapweed infestations was matched with land cover maps developed from images taken of the state by satellite it was found that 46.5 million acres, 50 percent of Montana, are vulnerable to infestation. Separation of the vulnerable cropland from the total land indicated that 33.9 million acres of range and grazeable woodland is vulnerable to infestation. Woodland dominated by Ponderosa pine or Douglas fir and range dominated by blue bunch wheatgrass, needle and thread grass, or Idaho fescue is nearly always vulnerable. Lands with other dominant vegetation may also be vulnerable to knapweed infestation.

Spotted knapweed infestation of rangeland may reduce other forage production by nearly 100 percent. Conservative research estimates indicate that average forage production is reduced at least 63 percent.

Figure 1 shows the location of vulnerable range in Montana. The vulnerable area predominates in the western half of the state but some of it is present-in the eastern half. All counties are vulnerable.

Figure 1. Areas of Montana where any 4 of the 6 climatic and edaphic characteristics indicate a high probability of spotted knapweed growth based on a survey of 116 selected knapweed infestations.



Range produces about 74 percent of the forage required by Montana cattle and sheep. If 56 percent of the range is infested by spotted knapweed and if range forage production of infested areas is reduced by 63 percent total range feed would be reduced 26 percent. If Montana's cattle and sheep production must be reduced to fit the available range forage the loss of gross revenue would be about $155,777,000 annually.

Range and grazeable woodland provide winter feed for deer and elk. Reduction of range forage would probably reduce their numbers in proportion. This could result in reduced recreation for in-state and out-of-state hunters.

Spotted knapweed can spread rapidly. It has infested 2,000,000 acres since 1920. This is estimated to be a 27 percent annual rate of increase. Canadian researchers estimate that it has spread at a rate of 10 percent per year in Alberta. These estimates indicate that spotted knapweed can infest all vulnerable land in Montana between the years of 1993 and 2014.

Control of the weed in range is more difficult than control on cropland where cultivation can be practiced.

Evidence exists that sheep will eat it while it is green and growing. Research is needed to determine the conditions in which sheep might control it. Other biologic controls are being researched, however, this type of research requires long time periods and it will be many years before biologic controls are available.

Range management aimed at keeping vigorous stands of desirable forage plants may reduce the opportunity for spotted knapweed to invade range lands.

Treatment with herbicides is the only method presently available for controlling established strands. Table 1 estimates the costs of two herbicide programs with three methods of application. Since it is known that seeds will survive for at least five years and possibly longer an eight-year time span was assumed.

Table 1. Per Acre Cost of Controlling Spotted Knapweed With Herbicides

Type of Herbicide and Application	Cost Including Interest: No Interest	10% Interest[a/]
	<--dollars/acre-->	
1. 2,4-D, 2 treatments @ 1 lb each, per year		
a. Field spraying by rancher		
2,4-D, 2 lbs x 1.75/lb.	3.50	
Application, 2 x $.58	1.16	
Cost per year	4.66	5.13
Cost per 8 year period	37.28	53.29
b. Field spraying by custom aerial operator		
2,4-D	3.50	
Application, 2 x $2.93	5.86	
Cost per year	9.36	10.30
Cost per 8 year period	74.88	107.04
c. Spot spraying by rancher-hand gun		
2,4-D	3.50	
Application, 2 x $17.36	34.72	
Cost per year	38.22	42.04
Cost per 8 year period	305.76	437.04
2. Tordon applied @ 1/4 lb. once every 4 years		
a. Field spraying by rancher		
Tordon, .25 lb x $44.48/lb	11.12	
Application	.58	
Cost per 4 year period	11.70	17.13
Cost per 8 year period	33.40	42.21
b. Field spraying by custom aerial operator		
Tordon	11.12	
Application	2.93	
Cost per 4 year period	14.05	20.57
Cost per 8 year period	38.10	50.68
c. Spot spraying by rancher - hand gun		
Tordon	11.12	
Application	17.36	
Cost per 4 year period	28.48	41.69
Cost per 8 year period	56.96	102.73

a/ Cost per year is one year's interest. Cost per 4 or 8 year period is compounded annually and added to the other costs.

Tordon applied by the rancher with his or her own equipment is the least costly method. Unfortunately it is not always practical. Rough lands or woodlands may require aerial or hand gun spraying.

Rancher spraying is estimated at an eight-year cost of $42.21 per acre, including 10 percent interest compounded annually. This averages $5.28 per acre per year. If the range has a carrying capacity of .37 animal unit months (AUM) per acre, and if an AUM is worth $10, the forage is worth $3.70 per acre. The rancher would be spending $5.28 to get $3.70 worth of forage, providing the forage production increased to "normal" immediately. It is likely that forage increase would be delayed a year or more.

If the control works, it will require about 12 years to pay the cost. A rancher with 1,000 acres infected would have $42,221 eight-year control cost and could not recover it completely until the end of the eleventh year after control became effective. If the forage improvement occurred to that land after the second year of the program, cost recovery would be complete at the end of the thirteenth year.

More productive range will pay for control costs sooner. Range with a carrying capacity of .74 AUM's per acre will produce $7.40 forage value each year. About six years of increased forage value will cover the control cost.

Less productive range will require more years for increase forage to pay for control costs. Range with a carrying capacity of .19 AUM per acre will produce $1.90 forage value each year,

which will pay for control costs in 22 years.

Large infestation on less productive ranges may never be controlled economically with chemicals. Control by sheep, insects, diseases or other biologic agents may be the practical methods after they are perfected.

The cheapest control will always be to prevent infestations by eliminating the spotted knapweed before large scale infestation occurs. A rancher with 1,000 acres of range with one acre of small patches can spray the weed with a hand gun at a cost of $102.73 for an eight-year control program, an annual cost of $12.84. When spread over the 1,000 acres the cost amounts to less than two cents per acre, cheap insurance for protecting the total forage production.

If all vulnerable range in the state becomes infested, the cost of control with Tordon applied by air would be $1,719 million, 2 3/4 times the annual gross revenue from grazing animals.

FILE UNDER: WEEDS
A. Range and Pasture

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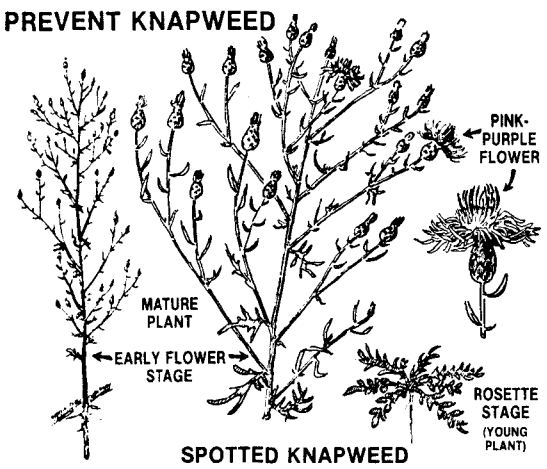


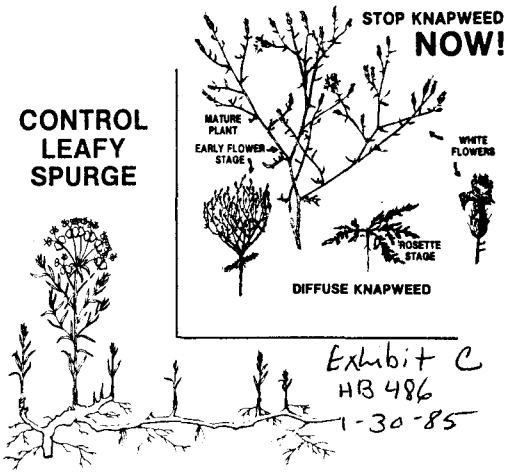


Exhibit C
HB 486
1-30-85

The following is an excerpt from an editorial which appeared in the Great Falls Tribune *August 24. 1984 and is reproduced by permission.*

State must mobilize against weeds

Weeds probably do more damage to Montana resources than forest and range fires. but pernicious plants aren't as exciting or dramatic. Max Peterson, chief of the U.S. forest Service. has compared the spreading weed problem in Montana to a forest fire that's raging out of control — with no fire boss or even a plan to contain it. let alone put it out.

A biological inferno of knapweed has rendered many western Montana valleys and hillsides more useless than they would be if a fire had charred the foliage down to the roots. Burnt rangeland will grow back; land overgrown with knapweed will grow more knapweed. as the plant poisons the soil with toxins that kill other plant species.

Control of weeds is as important as keeping fires in check. but the organization of the effort is hit-and-miss at best. When a fire breaks out. crews are sent in and federal. state and local government agencies and volunteers work together to first contain the fire. then put it out. With weeds. an agency or individual may fight the battle alone while winds blow seeds across a fence or unmarked border and destroy those efforts.

The problem with weeds is a problem with people; it's a form of pollution.

The weeds on our public lands are not just a bane to ranchers who may graze their cattle there during the summers. The worst weeds — spotted knapweed, leafy spurge — are inedible by wildlife and the weeds' spread is going to harm the wildlife and big-game resources that are part of the Montana way or life. Thick knapweed infestations also invite erosion. which translates to muddy mountain streams and worsened fishing prospects.

It's time to appoint a "fire" boss.

A statewide coordinated effort must be organized that would act as a clearinghouse for local weed districts' efforts and coordinate them with federal. state and private projects. . . .

East of the Divide. there are small hot spots everywhere. To the West. disaster already has struck and it might be impossible to put out the noxious weed flame that burns brightly.

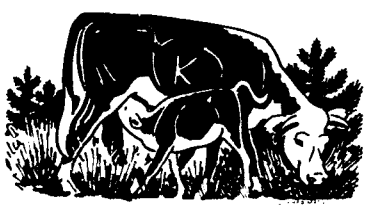
Fire lines must be drawn and the smoldering infestations of weeds must be extinguished before eastern Montana finds itself consumed by weeds.

It's not as exciting or as picturesque as battling flames, but controlling weeds before they control us should become a high priority. All of us who enjoy hiking. hunting. fishing or photographing wildlife must buck up to our responsibility.

Surely all of us would put out a small fire if we found one; we've got to become educated enough to recognize weeds which can be as harmful as spreading fire and cooperate to eliminate the threat. . . .

IF YOU LOVE THE INLAND NORTHWEST'S FOREST-RANGELANDS

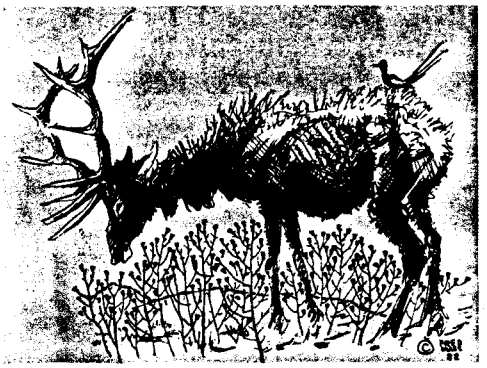
PLEASE HELP STOP (AND VOTE TO CONTROL) KNAPWEED and LEAFY SPURGE



Plus Goatweed, Yellow Star Thistle, Dalmation Toadflax and all other such exotic "Disaster Plants" that can destroy large areas of otherwise healthy, uncultivated native forest-rangelands.

PROTECT THE SOIL HEALTH OF YOUR FOREST-RANGELANDS

KNAPWEED*
THAT IS NOT CONTAINED
ON
YOUR FOREST — RANGELAND



MEANS LOSS OF:

- NATIVE VEGETATION, GRAZIN
- WILDLIFE
- BIG GAME HUNTING
- RANCHING — CATTLE & HORSE
- TIMBER TREE SEEDLINGS
- EROSION CONTROL
- CLEAN SCENERY
- QUALITY ENVIRONMENT
- QUALITY WILDERNESS AND RESERVES
- TOURISM — OUTFITTING
- BUSINESS — JOBS
- "WAY OF LIFE" IN THE INLAND NORTHWEST

Knapweed Spread and Damage Is "Out of Hand"[1] in the Inland Northwest

Knapweed poses a grave crisis. *It is already damaging over two million acres[2] of quality environment, timber and forage production in western Montana,* on which cattle, horses, big game and other renewable resources are dependent; and it is spreading rapidly in Idaho, Washington, Oregon and British Columbia.

Knapweed is WORSE than a weed! It is a pollutant that adds growth inhibiting toxins[3] to the soil in which it grows. These toxins weaken most native grass, forbs, and low shrub plants which are then crowded out by knapweed's very competitive root and seed, aided by time and apathy of people. Therefore, even the best cattle, horse or sheep grazing systems cannot prevent knapweed damage on mountainous, "open" non-cultivated forest-rangeland. *At best, these systems may briefly delay knapweed invasion from an adjoining seed source.*

No effort is being made on the ground to contain knapweed spread or damage on thousands of miles of its free-spreading front. Almost every mile of new road construction and other land disturbances in some areas[1] now result in fast spread of knapweed. For the past half century or more, for instance, firelines annually re-plowed and untreated along hundreds of miles of railroad have left an almost perfect seed bed for knapweed. Many other easily preventable causes of its robust growth contribute to its continued rapid spread.

Easily preventable causes of knapweed's rapid spread and damage are more obvious than the causes of "acid rain" but likewise they help worsen a "mainstream" vegetation crisis, mostly shielded from the news until recently.

By 1993, knapweed damage on one western national forest (currently $58,850 plus intangibles) is conservatively predicted to *increase by more than eleven times, and by 1998 to increase by over twenty times to over $1,140,000 and comprise more than 95% of the total damage of all noxious weeds.*[1]

Losses from knapweed damage in western Montana within the next ten to fourteen years (based in part on projections made for the above national forest in 1983) are projected to include:

1. **Loss of Ranch-Cattle-Horse Grazing Base:** Loss to forage production averages 63%[3] and that loss of carrying capacity of non-cultivated forest-rangeland pastures for cattle, horses and dryland hay production.

2. **Loss of big game hunting** (grazing capacity): Elk-Bighorn-Deer-Other: 35 to 80%[1] of browse and grass-forb forage respectively on winter ranges is being crowded out by knapweed, while big game damage to cultivated crops is increasing. Big game loss due to knapweed damage on the one national forest reporting is projected to be *the equivalent of over 200 elk annually by 1998.*[1] (Meanwhile less big game will be available for regular hunting as this annual loss, comprised partly of still fat, strong animals in conflict with cultivated crops or damaged range, are transplanted or otherwise removed to balance continuing loss of native forage crowded out by knapweed.)

3. **Loss of timber tree seedlings:** Knapweed competition delays survival — lower wood production volume[1] — allowable cut — jobs.

4. **Loss of erosion control:** A stable, rich variety of native perennials is being replaced by a single less stable biannual weed monocology.

5. **Loss of quality environment:** Native plants and wildlife communities — fishing and hunting habitat — road, trail and street-side vistas — pride — "way of life" in Montana and adjoining states.

6. **Loss of quality wilderness and reserves:** Cabinet — Mission Mountains — Bob Marshall — Scapegoat — Bitterroot Selway — Glacier National Park — National Bison Range — national and state forests — Indian reservations. Most are already invaded by knapweed and *Charlie Waters Park is already overrun.*

7. **Loss of tourism and outfitting:** Motels — hotels — restaurants — outfitters — vehicle sales and service — stores — galleries — schools — taxes — values — business — threatened to be limited.

People Become Concerned When They Become Aware

Not only informed environmentalists but almost every big game hunter, rancher, outfitter, sawmill, shop, store, garage and service worker, trucker, ecologist, biologist, Chamber of Commerce and service club member, other business people, school staffs and students, and most other men and women in each community find that they have a stake in containing knapweed as soon as possible.

Help your hometown "Inquiry Forum." Invite speakers: landowner, industry, county, state and federal representatives. Coordinate area efforts to action.

On Containing Knapweed — Now

Knapweed cannot be contained by proclaiming boundaries of new and additional wilderness areas, parks, forests and reserves.

In Montana and the Inland Northwest, it may still be possible to contain knapweed within the next ten years if people will:

1. **Actively support legislation to fund a knapweed control program starting in 1985 that will:**
   - A. **Assign a "Knapweed-Spurge Fire Boss"**
   - B. *Delete possibly outdated laws, such as those requiring annual "fireline" re-plowing, etc., and add some regulations, such as requiring knapweed seed and spread prevention treatment on road and trail construction, maintenance, and other soil disturbance sites.* These sites include but are not limited to: timber cutting, yarding and hauling, mining operations, subdivision disturbance, idle cropland, and off-road vehicle use. Elimin easily preventable causes of knapweed rapid spread.
   - C. *Prevent knapweed spread on public lands and provide leadership and coordination between ownerships.*
     Starting in 1985, provide continuous workshops and classes explaining knapweed consequences to all the people, (its schools, text books, and local and national publications) *until knapweed is fully understood and contained.*
     Provide inventory, map and projections of knapweed invasion, intensity and damage to the year 2000 by 1985, and keep information updated as a current basis for the overall control plan.
   - D. *Provide federal-state cost-share (90% or the legal maximum) to stop spread on privately and industry owned lands.*
   - E. *By 1990, process and transplant about five or more of the best additional biological agents to infested sites in the Northwest from Europe and Asia, specifically targeted to contain spotted knapweed.* Also transplant similar agents targeted to diffuse knapweed, leafy spurge, goatweed, toadflax and star thistle.
2. **Until assistance is provided, stop knapweed spread on and from your own land by the best method you know.**

Knapweed Control Will Require Full Funding to Match its Magnitude, Importance and Consequence

Knapweed damage by year 2000,[1] [2] [4] if not contained before that time, *would apparently cost several times more annually than the cost to control it now; and renewable resources would have then suffered irreversible loss.*

Cost-share funding to help prevent "knapweed-spurge" spread and damage on private and industrial owned lands in Montana (until biological agents contain it) *could cost well over one million dollars annually, and that plus biological research and support staff could cost 20 million dollars or more before 1993. This appears to be a good investment. The alternative: the cost of indecision (as in the past) is startling, shocking and tragic. It is "out of hand"! The choice is to contain it now, or accept forest-rangeland disaster by year 2000 or before.* Vehicles spread it. A gas tax, for example, can really help stop it.

Ask your legislators to fully address knapweed and spurge now and provide adequate funding to contain it in Montana coordinated with Inland Northwest states in a firm schedule of ten years or less, start in 1985.

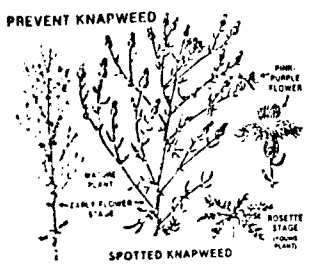
Fred

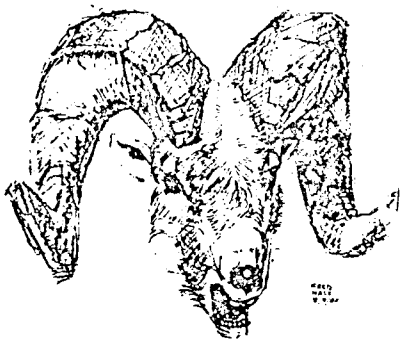
FRED H. MASS, Montana Knapweed Action Committee Member

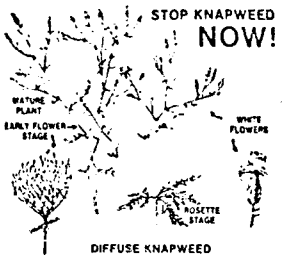
[1] From: "Noxious Weeds on the Lolo National Forest," 6/83, USDA Forest Service Northern Region.
[2] "A Complete Takeover by Knapweed in 2001?", 7/83, by Dr. John R. Lacey in Montana Farmer-Stockman.
[3] "A Growth Inhibitor Found in Centaurea ssp.," 3/7/63, by R.E. Fletcher and A.J. Renney.
[4] "Knapweed is Noxious on Rangeland," by Roxa A. French in Montana Farmer-Stockman

* To include for control: Spotted, diffuse, Russian knapweed, plus leafy spurge, goatweed, yellow star thistle, dalmation toadflax and all other exotic weeds that can destroy large areas of otherwise healthy uncultivated native forest-rangeland

Exhibit C







SOME QUESTIONS AND ANSWERS ABOUT KNAPWEED

Q: Can Knapweed be prevented and/or eradicated over a very large area and where is there an actual example?

A: YES. Definitely. The province of Alberta, Canada, continues to control and eradicate Knapweed. There it is classified as one weed to be eradicated and it is currently reported, attacked, controlled, and eradicated (like "Foot and Mouth" or "Brucellosis" diseases are eradicated currently in the U.S.A.).

Q: Do any responsible U.S. agencies recognize the damage and magnitude of Knapweed spread and need for prompt action?

A: YES. Spokesmen for the United States Forest Service and the Montana Department of Fish, Wildlife, and Parks and others are publishing reports calling for a top-level public awareness program to make people aware of this forest-rangeland disaster crisis now.

Q: What is the great important difference in the disaster potential of "Knapweed" and Leafy Spurge and locally other strong invaders (such as Goatweed, Dalmation Toad Flax or Yellow Star Thistle) from all of the hundreds of other weeds in the Northwest?

A: Knapweed and Leafy Spurge (and locally the few additional listed worst weeds) are very competitive invader plants from Europe, with no natural enemies in the Northwest America. They are thus capable of and do consistently invade even good condition rangeland being grazed under even the best practices.

Q: Which of these very competive weeds are the most damaging in the Inland Northwest now and why?

A: Spotted and Diffuse Knapweed and Leafy Spurge. The Knapweed transfer toxins into the soil that weaken and permit the Knapweeds to crowd out the native perennial plants. Spurge is the most difficult to eradicate once it is established.

Q: Why can't Knapweed be controlled on livestock ranges by following good grazing practices similar to those followed to eliminate other weeds on the range?

A: None of our native grasses, forbs, or low shrubs can avoid being crowded out and destroyed by Knapweed even where completely protected from grazing. Special Knapweed control measures must therefore be a key ingredient of the management plan wherever it adjoins a Knapweed seed source.

(continued on reverse side)

Q: How much area in the Inland Northwest is now infested with Knapweed alone?

A: Over 10 million acres in Montana, Oregon, Washington, and Idaho; North and South Dakota, Wyoming, and British Columbia are also infested, and it is spreading rapidly (at a rate of 27.4% compound interest annually in Montana). At this rate, it could exceed 40 million acres by 1990 and practically saturate the native forest-rangelands in the Inland Northwest before year 2000.

Q: Can Knapweed actually destroy large areas of native rangeland forage on which livestock and big game animals depend?

A: YES. Definitely. The forest service (USDA) in Montana reports that over 60% of the carrying capacity of cattle and horses and 80% of the grassland and 30% of the browse forage winter range carrying capacity for big game is destroyed where infested by Knapweed.

Q: What is the major cause of Knapweed spread?

A: Initial spread is caused almost entirely by motor vehicles (including railroads) scattering seed along the edges of travel corridors by picking up parts of mature plants with seed heads that catch on bumpers, under carriages, car beds, etc. from yarding and storage areas, parking lots, turnouts, rest areas, etc.

Secondary spread away from vehicle travel routes is relatively slow.

Q: What is the most important work that needs to be done first and right now to stop Knapweed, in addition to controlling it on your own land?

A: Ask your legislators to find a way to provide prompt, aggressive top national leadership for a Knapweed-Spurge invasion public awareness program so that the crisis magnitude of this will be adequately explained to all the people and properly managed now. This program will need to be promptly made part of each community school curriculum and library and be the key topic of quality workshops and public forums in each community until the "grass roots people" in this northwest region are fully informed.

Q: Why is a very high cooperative cost-share program necessary to control the Knapweed-Spurge invasion on private owned lands?

A: It is imperative that all landowners, including industry, utilities, municipalities, ranchers, small parcel owners, etc., participate in the invasion prevention and control program. Assuming that most landowners are willing to participate up to a reasonable fair share of control costs, while knowledgeable that motor vehicle travel is responsible for a very high share at the initial spread, that cost to landowners must be one that fully recognizes the circumstances for a fair solution. Our war here is with the invasion, not with landowners.

Q: Will this program increase crop production?

A: NO. This vitally needed cost-share program is mandatory to stop critical damage to basic resources, not to add to crop production. Control of this invasion now can prevent otherwise increasing great irreversible losses to the forest-rangeland resource.

Fred H. Mass
Montana Knapweed Control Action Committee

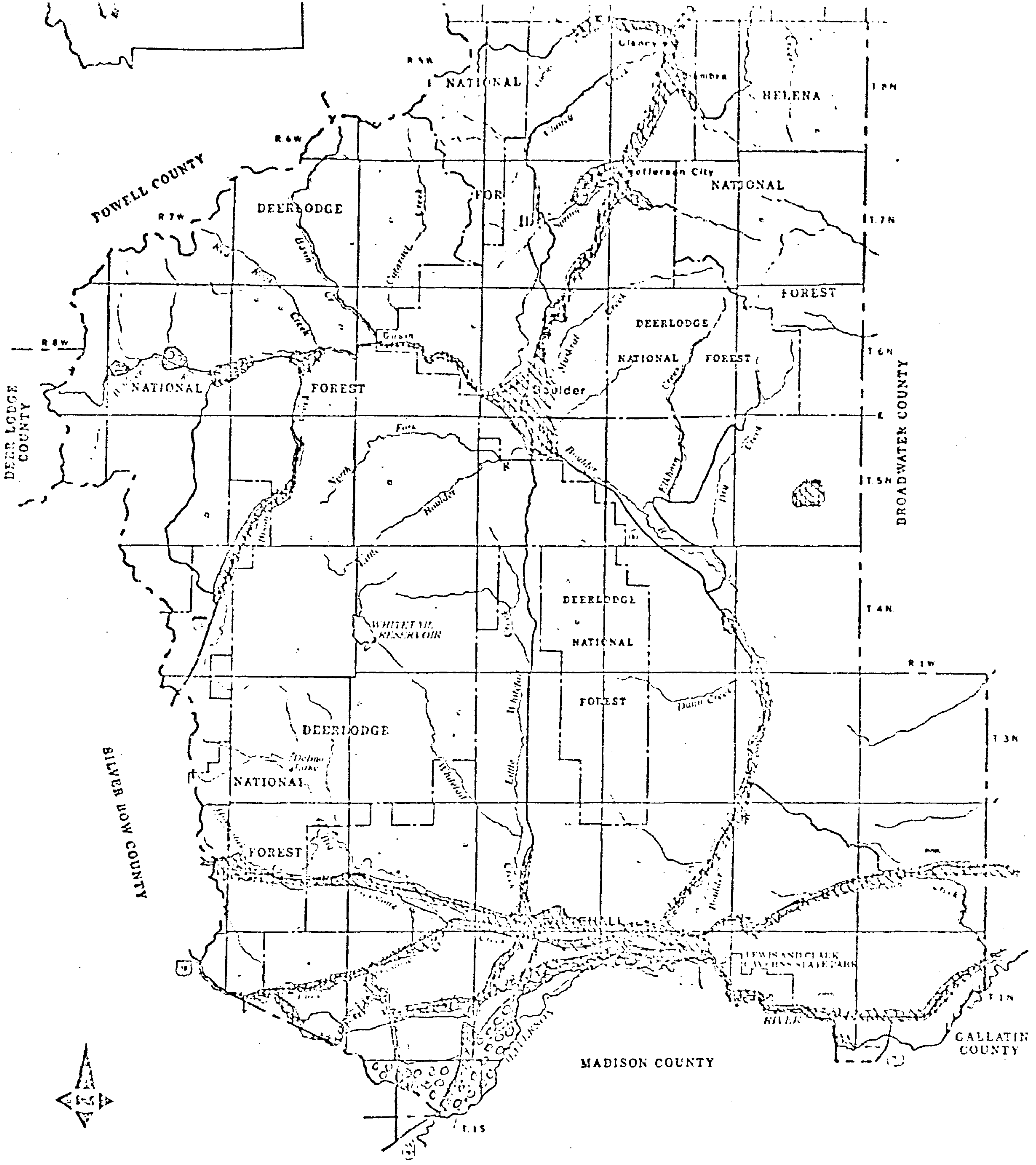
TYPICAL INITIAL MOTOR VEHICLE SEEDING PATTERN
OF KNAPWEED-SPURGE INVASION
(ON REVERSE SIDE)

From this initial spread pattern caused by motor vehicles carriers from weed seed on infested areas carried on bumpers, under carriages, etc., these European weeds with no natural enemies in North America (but shunned as forage by cattle, horses, and big game) spread slowly but surely across the landscape on "a thousand fronts," crowding out our native grasses, forbs, and low shrubs on which livestock and big game grazing and stable water sheds depend.

The Knapweed-Spurge invasion may therefore be spread by anyone operating a motor vehicle in the Northwest. The invasion is caused initially by motor vehicle operation. Costs to control it should be funded not primarily by landowners but by a motor fuel tax levy.

This initial Knapweed-Spurge invasion pattern by motor vehicles also documents the mandate that the main starting point for invasion control must be the eradication of the target plants and seed source on traffic corridors accessible to motor vehicles so that motor vehicles can operate on local and interstate traffic without spreading the seed and the initial invasion.

Fred H. Mass
Montana Knapweed Control Action Committee



KNAPWEED AND LEAFY SPURGE

1984* INFESTED AREA--Knapweeds (all species)

INFESTED AREA--Leafy Spurge

1984*

JEFFERSON COUNTY

MONTANA

*Dalmation Toad Flax, Goat Weed, and other noxious rangeland weeds show same GENERAL patterns of initial spread.

5 0 5 10 MILES

SCALE 1:250,000

NOTE: This base map was prepared from the Jefferson County Highway Map at 1:253,440. Thematic detail was supplied by the Jefferson County Weed Board and the ...

Exhibit D
HB 486
1-30-85

MONTANA
FARM BUREAU
FEDERATION

502 South 19th Bozeman, Montana 59715
Phone (406) 587-3153

TESTIMONY BY: Alan Eck

BILL # HB 486 DATE 1/30/85

SUPPORT XXX OPPOSE

Mr. Chairman and members of the committee; for the record my name is Alan Eck. I'm representing the Montana Farm Bureau Federation. We would like to go on record as supporting House Bill #486. We would, however, also like to see "Tansy" and "Musk Thistle" added to the definition of noxious weeds. With those additions we would like to see the committee give HB #486 a "do pass" recommendation. Thank You.

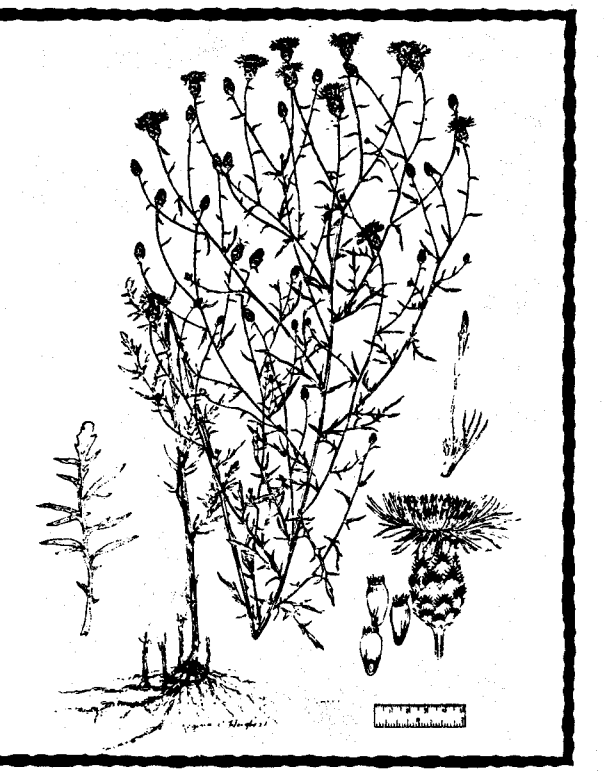
Alan Eck
SIGNED

Exhibit E
HB 486
January 30,

WANTED

SPOTTED KNAPWEED

*REWARD OFFERED



DEAD • DEAD • DEAD

If you see or find the above ROBBER of RANGE and CROP LAND, please notify your nearest:

WEED CONTROL DISTRICT
443-5672

COUNTY EXTENSION SERVICE
443-1010 Ext. 346

CONSERVATION DISTRICT
449-5278

REWARDS

• RANGE GRASS • CROP LAND

WITNESS STATEMENT

NAME GEORGE J. Oberst BILL No. HB 486

ADDRESS Box 609 Noxon, MT 59853 ~~438 Dearborn #4 Helena, MT~~ DATE 1/30/85

WHOM DO YOU REPRESENT Self as farmer, timberowner, ag consul

SUPPORT _____ OPPOSE X AMEND _____

PLEASE LEAVE PREPARED STATEMENT WITH SECRETARY.

Comments: I am opposed to this bill because knapweed:

Does not meet the criteria of being sufficiently noxious, uneconomical
- (a) Economically used by
  1. Sheep
  2. Bees
  3. Wildlife
- (b) Vital erosion preventor and organic matter source. (Dr. A. Martin, USF&WS)

Does not pose sufficient economic or environmental threat to add to the prevailing weed control system,
- (a) which is 98% chemical
- (b) which is failing
- (c) which is not the best approach (Dr. J. Lacey, MSU)
- (d) Knapweed is site specific "thriving on disturbed rangeland where productivity and revenues are low," (Dr. R. Kelsey, UM)
- (e) it is preventable
- (f) non-invasive against healthy plant communities (Dr. R. French, MSU)
- (g) is controllable by
  1. mechanical
  2. biological
  3. sheep grazing
  4. single chemical application with replanting (Dr. Lacey & Dr. French)

Defining knapweed as noxious within the state control system will severely limit options
- (a) in control techniques used
  1. chemical rather than others
- (b) for farmers and land managers who may beneficially use knapweed as they take land out of crop production or change land use.

Under existing and proposed statutes a farmer might be legally and financially force to control his beneficial weeds solely because an adjoining landowner abuses his land and runs cows.

* * * *

Any legislator wishing to review this or other data, may contact me at 449-3891.

FORM CS-34
1-81

Knapweed - How to Control It ... R. A. French MSU pest mgm agent

"...However, they do not always eliminate seed production..."

nance treatments with herbicide, should follow the treatment to minimize re-invasion. Herbicide treatments, followed by seeding well-adapted perennial grasses such as crested wheatgrass and Russian wildrye, allow an economic return on the initial investment sooner than chemical treatment alone.

Annual spring applications of two pounds active ingredient of 2,4-D amine per acre reduce spotted knapweed infestation on some Montana sites. Because 2,4-D provides no residual control, yearly spraying is required until there is no longer knapweed seed in the soil to germinate. It is not known how long knapweed seed remains viable in soil, but this is one subject of research at Montana State University.

Biological control of spotted knapweed, with the aid of host-specific insects from Europe and western Asia, is also being studied. Jim Story, at the Western Montana Agricultural Research Center, Corvallis, has worked with a seed head fly, *Urophora affinis*, since the early 1970s. The female mosquito-sized fly positions her eggs within the immature knapweed flower bud in early June. After the eggs hatch, the larvae mine their way into the base of the reproductive flower parts. The stress from this feeding causes the plant to divert energy from producing seed to forming gall tissue around the larvae. Thus, seed production is reduced. However, there are enough seeds produced, combined with the seeds previously in the soil, to keep pace with the flies.

A second seed head fly, *Urophora quadrifasciata*, recently became established in western Montana. This natural enemy was introduced in British Columbia in 1972, and subsequently migrated as far south as Stevensville. It is similar in appearance to *U. affinis*, but has important behavioral differences. *U. affinis* has one generation per year, forms thick galls and attacks immature knapweed flower heads, while *U. quadrifasciata* normally has two generations per year, forms thin galls and attacks more mature flower heads. Therefore, the activities of the two flies are complementary. It has been reported that seed reduction of 95% is possible where both fly species exist in British Columbia.

Although the seed head flies have reduced knapweed seed production, they have not reduced the knapweed density to an economic threshold. However, they are successful in reducing the vigor of individual spotted knapweed plants. This contributes to making the weed less aggressive, hence less competitive with desirable forage species.

It is estimated that four to six bio-control species will be required to reduce knapweed to an acceptable population threshold. Two new root-mining moths are scheduled to be released on spotted knapweed in Montana this summer.

Because the natural enemies that keep the weed in check in its native habitat don't exist in North America, it will take many years to properly screen and introduce effective biological agents. Some researchers think that the establishment of such agents will greatly reduce the density and aggressiveness of knapweed.

Few studies describe rates at which spotted knapweed invades rangeland that is in excellent, good, fair or poor condition. However, most land managers agree that good range management slows knapweed's invasion. Proper stocking and forage utilization, as well as correct season of use, help to sustain desirable forage species and to maintain and protect the soil. Good land management makes it more difficult for knapweed to become established, because it has to compete with well-established vegetation.

Cultivation, mowing, irrigation or grazing by sheep are cultural methods used to control spotted knapweed. Deep plowing, where the soil, moisture conditions and terrain are appropriate, followed by seeding a competitive crop such as a grain or alfalfa, will control knapweed. Due to the extreme soil disruption and loss of native vegetation, however, this practice is not recommended for rangeland.

Mowing or grazing by sheep, prior to flowering, reduces knapweed seed production on some sites. However, they do not always eliminate seed production because the weed can produce flowers near the base of the plant.

In areas that have continuous high sub-surface moisture, spotted knapweed cannot compete against plants more suited to this environment, and does not survive well. This suggests that an irrigation system and seeding perennial forage may be an additional remedy for controlling spotted knapweed.

Perhaps the most important method of controlling spotted knapweed is enlisting the assistance of the public to prevent further spread. Creating a public awareness of how knapweed spreads, its costly effect on rangeland and livestock production, its low aesthetic value and how it can be controlled is an important step in preventing further damage to valuable land resources. Long term land-use plans that emphasize wise plant management should also be encouraged. Assistance with management plans is available at county Extension Service and Soil Conservation Service offices.

1984 Weed District Survey

Total budget of the 44 responding weed districts was $3,614,572.

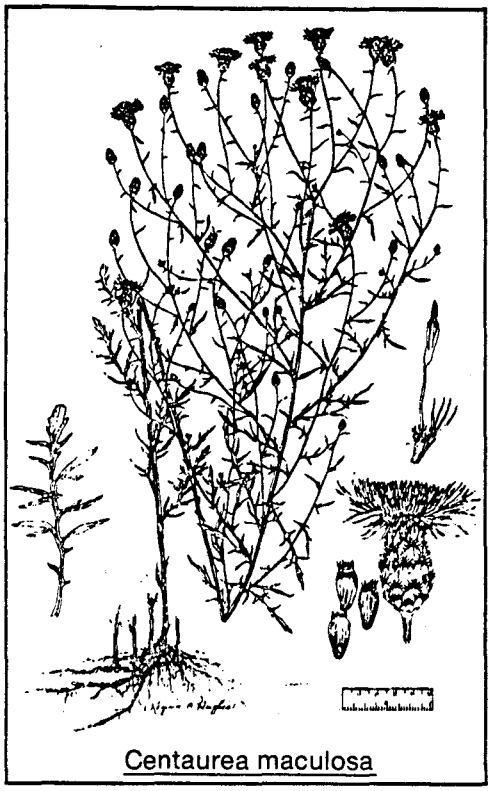
Seven (7) of the 44 counties did not respond to questions concerning expenditures for weed control in the county. Of the 37 counties responding a total of $1,484,505, or 45% of the total budget ($3,285,550), is spent on actual control costs. Of this, $1,448,395 is spent on chemicals, $12,900 is spent on biocontrol methods and $23,212 is spent on mechanical control methods.

98% spent on chemicals

B. Mullin
Botanist
Dept of Ag

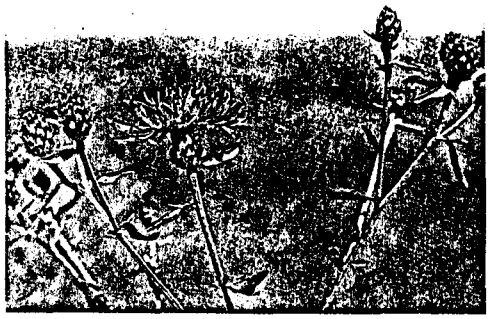
COMMON KNAPWEEDS OF MONTANA RANGELAND

SPOTTED KNAPWEED



Centaurea maculosa

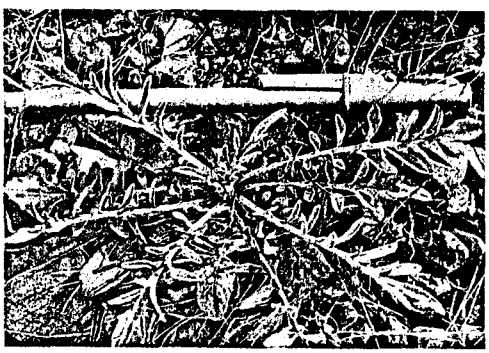
Showy purple ▶ flowers held in spotted bracts



◀ Average height 1-to-3 feet

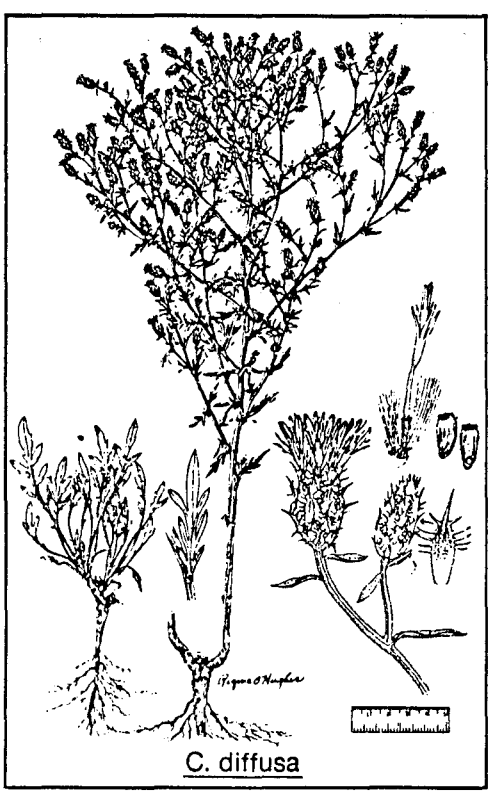
◀ Short-lived perennial forb

Overwintering ▶ rosettes have deeply lobed leaves that die back as flower stalks develop



◀ Prefers dry site

DIFFUSE KNAPWEED



C. diffusa

White flower ▶ on tip of branch

◀ Average height 1-to-3 feet

◀ Biennial or short-lived perennial forb

Rosette leaves ▶ are cleft or parted about one-half inch or more in the mid-rib

◀ Tough competitor on very dry sites

erative Extension Service
ana Sate University
1983

Photography: R. Fr
Copy: J. L

KNAPWEED CONTROL ON RANGELANDS

Spotted and diffuse knapweed are native plants of Eurasia. They now infest over 2.5 million acres of rangeland in Montana. Knapweeds are a major threat to most of Montana's rangeland. All infestations are a source for the establishment of new infestations. An intensive control program is needed because they have no natural enemies and are competitive on a wide range of sites.

1 CHEMICAL

Knapweeds can be controlled on rangeland with low rates of the herbicide Tordon 22K (picloram). Established plants and new germinants can usually be controlled for a three to four year period after one application of 4-6 ounces per acre picloram, i.e., 16-24 oz/acre Tordon 22K product. Residual control periods are shorter on gravelly soils and in areas of high annual precipitation. Although Tordon can be applied anytime during the growing season, best results are usually obtained with either a spring or a fall application. Take care to avoid applications which would allow drift, leach, or wash onto cropland, it is a restricted use herbicide because of its effect on alfalfa, trees, vegetables and ornamental plants. Although Banvel, 2,4-D and other herbicides are safer to use along water-ways, these herbicides require annual application. For effective control with herbicides, spraying must be followed by sound range management.

2 BIOLOGICAL CONTROL

A seed fly (Urophora affinis) can be used to reduce knapweed populations. Fly populations can be collected from knapweed sites on which they are established and transplanted to other knapweed infested areas. The female fly deposits her eggs inside of the flower buds, and when they hatch, the larvae feed inside the flower heads. The knapweed responds by diverting energy from seed production to forming a gall around the larva. This stress causes a large reduction in the number of seeds produced. Unfortunately, it would take several agents working on the knapweed plant to obtain effective control. Researchers are continuing to search for additional biological control agents that can be introduced into Montana.

3 CULTURAL

Good range management helps prevent knapweed from becoming established. Knapweed will not compete well with a strong, healthy perennial vegetative cover. Proper stocking rates, distribution and season of use are needed to prevent overgrazing. Seed a desirable forage species on all disturbed soil surfaces.

Don't drive through knapweed infested areas. Check vehicles for attached knapweed before leaving infested areas. Be sure not to buy knapweed infested hay.

Get rid of small knapweed patches before they spread and form thick stands. Isolated plants can be pulled or sprayed. Mechanical treatments are usually unsuccessful as they disturb soil surface and create an ideal seed bed. Prescribed burning is generally ineffective because there isn't enough fuel for a complete burn, or to get the burn hot enough to destroy the seeds.

The ultimate solution to knapweed does not lie in massive herbicide applications, or in waiting for bio-control efforts to be successful. It is believed that the long term solution will require a combination of biological control agents, the judicious use of herbicides and cultural practices to prevent further spread.

Exhibit A
HB 459
1-30-85

MONTANA FARM BUREAU FEDERATION

502 South 19th Bozeman, Montana 59715
Phone (406) 587-3153

TESTIMONY BY: Alan Eck

BILL # HB #459 DATE 1/30/85

SUPPORT XXX OPPOSE

Mr. chairman and members of the committee; for the record my name is Alan Eck. I'm representing the Montana Farm Bureau Federation. We would like to go on record as supporting House Bill #459. We believe this bill addresses the problem that livestock producers sometimes have collecting money from buyers of their products. The Montana Farm Bureau would like to see the committee give HB #459 a "do pass" recommendation. Thank You

Alan Eck
SIGNED

Exhibit B
HB 459
1-30-85

HB 459 Amendments

1. Title.
   Following: line 10
   Strike: "30-2-401,"

2. Page 2.
   Following: line 11
   Strike: section 2 in its entirety
   Renumber: subsequent sections

Exhibit C
HB 459
1-30-85

HB 459 Amendments (Code Commissioner)

1. Page 7, line 9.
   Following: "adopted"
   Strike: "under 81-8-231"
   Insert: "to implement those sections"

2. Page 16, line 22.
   Following: "department"
   Strike: "under 81-8-231"
   Insert: "to implement those sections"

VISITORS' REGISTER

Agriculture COMMITTEE

BILL NO. HB 459 HB 486 DATE 1-30-85

SPONSOR

NAME (please print)	RESIDENCE	SUPPORT	OPPOSE
Alan Eck	Bozeman	HB 459 HB 486	
Les Graham	Dept. of Livestock	HB 459 X	
Jack Sedgwick	Helena "	HB 459	
Clyde Peterson	" "	HB 459	
Doug Johnson	Great Falls (Mont. Weed Control Assoc)	HB 486	
George Ochenski	Helena	—	
George Oberst	Helena Noxon	—	
Jack Asay	Billings	—	
Stuart Doggett	Mt Stockgrowers Ass. of Grazing District	HB 459	
Ken Romo	Townsend, Mt		
Dave Donaldson	Mt. Assoc. of Cons. Dist.	HB 486	
Ed Butcher	Mont NFO Pres	HB 459	
Bill Coy	Mont NFO Director	HB 459	
Keith Kelly	Mt. Dept of Agr	HB 486	
Lavina Lubinus	W.I.F.E.	HB 459	
Carol Mosher	Montana CowBelles	HB 486 HB 459	
Ray Goodwin	Mont. NFO. Dist Pres	HB 459	

IF YOU CARE TO WRITE COMMENTS, ASK SECRETARY FOR WITNESS STATEMENT FORM.

PLEASE LEAVE PREPARED STATEMENT WITH SECRETARY.