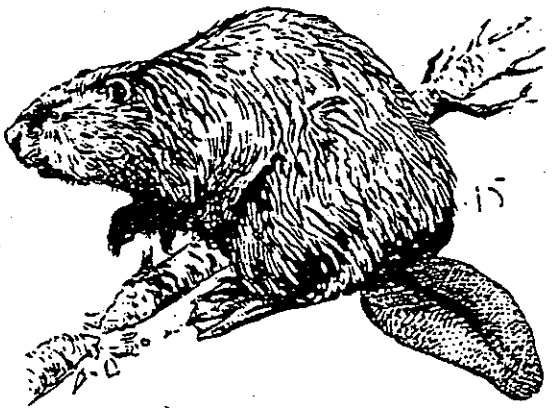
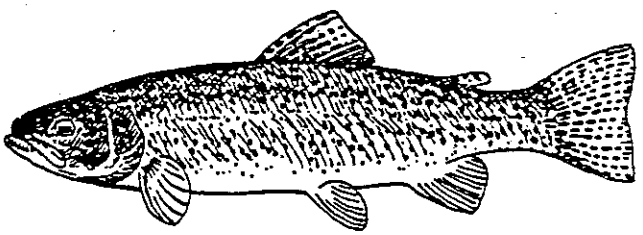
BEAVER MANAGEMENT PLAN

November 19, 1990



BEAVER PROJECT TEAM

Wisconsin Department of Natural Resources



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PURPOSE

Beaver populations have been an issue of great interest for the past several years, on a problem solving basis. Efforts to deal with these problems have created controversy and difficulty in agreeing on how to properly manage beaver. A multidisciplinary team from several Wisconsin Department of Natural Resources (DNR) programs, as well as one member from the Great Lakes Indian Fish and Wildlife Commission (GLIFWC), known as the Beaver Project Team (members listed on page 14), have developed this final plan over the past 18 months with extensive involvement of Department field managers. Many of the ideas in this report are provided as the project team's best shot at a balanced approach addressing solutions to immediate problems and the long-term plan for management of beaver.

BACKGROUND

Beaver were found throughout Wisconsin before 1800 and attracted trappers to this territory for the valuable fur resource. By 1900, habitat changes and excessive trapping gradually reduced the population to near the point of extinction. At the turn of the century, statewide beaver populations didn't exceed 500 animals. Beaver populations increased rapidly by the early 1950s with restricted trapping and expansion of aspen stands, a favored beaver habitat.

By the early 1980s beaver populations had increased dramatically in large areas of the midwest. Causes of this regional increase are unclear. In Wisconsin, beaver population densities are greatest in the north-central and northeast counties where the highest beaver/people conflicts occur. Complaints about beaver have also become common in agricultural areas of southern Wisconsin even though aspen and other preferred foods are largely absent.

We recognize beaver as a valuable species in their own right. They have a special place in Wisconsin's natural environment and belong here. But beaver management is difficult because of the animal's unique behavior; it's the only creature, other than man, that can alter habitat to meet its own special needs. This is a good news - bad news situation.

On one hand, beaver ponds provide habitat favorable to a wide range of birds and mammals including ducks, otter, eagles, osprey and woodcock. Even the threatened great egret is increasing in northern Wisconsin, due in part to high numbers of beaver flowages. Beaver are particularly beneficial at this time to waterfowl populations. Recent rapid declines in waterfowl breeding populations, make the pond-building activities of the beaver even more important. Since opportunities to manage waterfowl populations are necessarily limited, in some cases the best management practice may be to allow beaver to create waterfowl habitat for us.

On the other hand, the beaver's dam building activities can result in considerable time, effort and money spent by counties, townships, and municipalities to tear out beaver dams, unplug road culverts, and restore the extensive damage as a result of beaver-induced flooding. Beaver activities also result in a decrease in trout populations in many of Wisconsin's quality trout streams by increasing water temperatures, blocking migration of trout, and by causing increased sedimentation, which results in low egg survival. Beaver-caused flooding of forests results in losses of valuable timber and also prevents loggers from getting to timber stands because of flooded forest roads. Landowners frequently complain about beaver cutting down ornamental trees on their properties. Finally, beaver flood agricultural lands and damage crops, much to the anger of the farmer.

In deciding how to deal with beaver/people conflicts, we considered the full range of values of beaver and the habitat they create. We are applying management judgement to weigh the multiple benefits of beaver and those of the resources with which they are in conflict.

With population increases there are many concerns about impacts on habitat for other species and conflicts with human land use. Property owner complaints and habitat impacts were serious enough by the mid-80's to require actions to control and reduce beaver populations. Those actions are outlined below.

The most effective method of controlling beaver populations is trapping and the most important factor affecting beaver trapping is pelt price. Beaver trapping is the most physically demanding of all types of trapping, especially during severe winters. Some trappers are reluctant to go after beaver if there is a heavy snowfall, thick ice or very cold temperatures prevail. Despite low pelt prices, favorable weather conditions have resulted in sizeable harvests in northern Wisconsin during the 1987-88 and 88-89 trapping seasons. Even though beaver harvest levels were high, it is still necessary to reduce populations to a lower level to reduce beaver damage to roads, trout streams, and forests in northern Wisconsin.

Members of the public who have expressed interest in helping to decide acceptable beaver population levels include trout anglers; forestry interests; county, township and municipal officials; national forest administrators; trappers; and private landowners experiencing beaver problems. Most decisions to date have been motivated by complaints, numbering over 2,000 per year during 1987 and 1988. Representatives John Volk, Wabeno and Thomas Ourada, Antigo are actively involved in the issue and have sponsored increased funding and legislation to allow the Department to develop a more comprehensive control and management program for beaver.

in brief, here are recent DNR actions to deal with beaver problems:

1. Trapping seasons. Variations of an October through April trapping season with no bag limit have been in use since 1980. Rule changes approved in September, 1989 allow the use of snares for beaver trapping, trapping within 15 feet of a beaver lodge and alteration of a beaver dam for trapping (however you must be at least 15 feet from the dam to make a legal set).

2. Contracts and permits to trap or shoot beaver. Various versions of paid contracts for beaver removal and permits allowing problem beaver to be taken during the closed trapping season have been used during the 70's and 80's. Since 1983, an annual appropriation of $112,000 from the fisheries account has been used to reduce damage to trout habitat. Beaver contracts subsidized by the Department from 1983 to 1987 resulted in removal of 25,558 beaver from high quality trout waters in northern Wisconsin.

3. Removal of beaver structures.
Landowners or occupants are now allowed to remove beaver dams without a DNR permit. This has made it possible for people experiencing beaver damage to resolve their own problems without any red tape. Initially removal was allowed only in Beaver Damage Control Areas. Recent rule changes allow land owners in any part of the State to remove problem structures. A State statute change now allows the Department to use explosives to remove vacant beaver lodges.

4. Beaver Damage Control Area subsidies. A bill authorizing $100,000 annually of Segregated Fish and Wildlife funds was passed in 1987 and implemented in 1988. It provided payment of $7.50 for each beaver trapped or shot by contract holders in Beaver Damage Control Areas (in northeastern Wisconsin) from April through September. During 1988, 5,400 beaver were taken under this program.

5. Consolidated funding. Statutory language approved in the 1989-91 budget consolidates funding from #2 and #4 into a single appropriation for use in a coordinated Departmentwide effort, which allows funds previously authorized for the $7.50 subsidy and the Fisheries management appropriation to be used for other control efforts and information gathering. Revamped subsidies, stream specific control, trapper contracts, county match grants, research, harvest monitoring, and other approaches to beaver management can be pursued.

6. Landowner hunting and trapping privileges. Landowners are now allowed to hunt or trap beaver on their own property without a license.

7. APHIS beaver control. The United States Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) has been cooperating with DNR on a 50/50 cost share basis to provide intensive beaver removal from selected high quality trout waters in northern Wisconsin. This service provides full time professional help to trap and shoot beaver. The Nicolet National Forest and several counties have supplemented this effort, funding 100% of costs for additional APHIS trappers.

8. Aerial surveys. Fall aerial surveys are flown by DNR fisheries managers to locate beaver colonies for later trapping efforts. Survey information is provided to people interested in trapping beaver during the open season, and is used to evaluate control efforts.

9. Trapper questionnaires. Beaver trappers are asked the number of beaver trapped during the season.

10. Fur buyer questionnaires. Fur buyers are asked about the number of beaver pelts purchased and pelt values.

We have excellent cooperation with staff on the Nicolet National Forest where contracts, LTE trappers, APHIS trappers, and aerial flights of beaver colony locations are used to provide beaver control on roads and quality trout streams within the forest. Nicolet National Forest staff also conduct aerial surveys, eliminating the need for DNR flights on water within the forest.

We need to continue efforts to control beaver problems while recognizing the positive attributes of beaver and respecting their value as a species. The recommendations that follow are results of a multidiscipline effort on the part of Department staff to refine beaver control strategies and develop a long range beaver management plan that will balance the needs of resources and people.

BEAVER MANAGEMENT ZONES AND SEASONS

The beaver trapping season is the principal tool used to limit beaver populations in Wisconsin. Because beaver densities and attitudes toward beaver vary in different areas of Wisconsin, it is necessary to develop beaver trapping zones that are biologically and sociologically compatible with varying human needs in different areas of the State.

Three critical factors impacting current/future management considerations are changes in beaver damage laws, rules, and policies which were enacted concurrently and apart from the deliberations of the beaver project team. They are:

1. Landowners now can trap or shoot beaver doing damage on their property without a DNR permit.

2. Landowners can remove beaver dams on their property without a DNR permit. (They must use a licensed dam blaster if explosives are to be used).

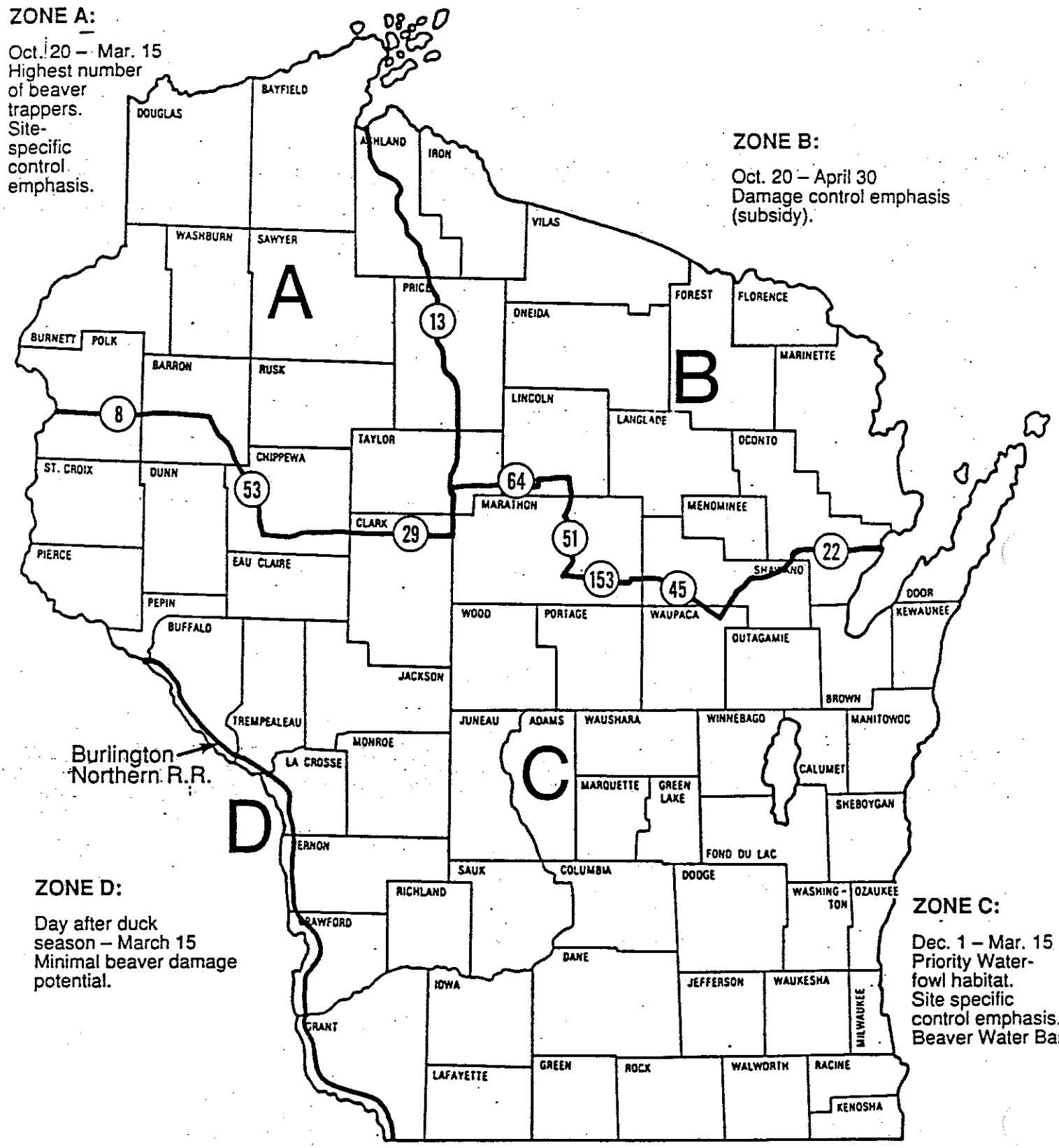
3. Stream specific contracts to remove beavers and beaver dams at any time of the year can be used statewide by DNR fisheries managers, APHIS, local governmental agencies, and private organizations.

The beaver project team gathered and analyzed several sets of data that demonstrate the positive and negative aspects of beaver. These included areas where beaver negatively impact trout populations; survey information on damage to roads, culverts, timber, and railroads; counties where beaver trapping recreation is extensive and important; and priority waterfowl breeding areas. Opinions gathered from Department managers at four beaver management forums in different parts of the state were also used along with this data to develop proposed beaver management zones.

We have kept the zone framework simple so the policy can be reasonably easily applied and understood. At the same time, we need to provide for flexibility to adjust beaver management as the situation changes. The proposed approach is to keep zone definitions consistent and for the Department to adjust seasons and funded activities as needed to respond to beaver population changes.

Figure 1 is a map of the zones that are proposed for implementation in 1991 (except Zone D). Following the map is a brief synopsis of our reasoning in developing these beaver management zones. After we gather data on beaver densities (see page 7), we will establish beaver population density goals for each of the four zones described in Figure 1.

FIGURE 1. Beaver Management Zones to be implemented in 1991.*



* Zone D is currently a Beaver Management Zone; Zones A, B, and C will be implemented in 1991.

Zone A season- October 20th to March 15

1. Various Zone A DNR personnel indicated that a long, liberal season was not needed to control beaver damage, especially when considering the liberalized landowner beaver damage control procedures and stream specific control measures.

2. Zone A has the largest number of beaver trappers in the state; therefore pelt primeness should be emphasized in this zone. At the same time numerous comments were received regarding an opening date that would allow at least some open water trapping opportunities.

Zone B Season- October 20th to April 30

1. This zone contains the highest beaver densities and the most beaver damage to roads, forests, trout streams and private residences. Therefore, with damage control as the primary goal, a long and liberal beaver trapping season is recommended.

2. The southern boundary was carefully drawn to include the highest density of trout streams. The western boundary follows state highway 13 in order to serve as an easily recognizable boundary for the public. This revision over the earlier proposed county boundary was made due to the request of several organizations at the public hearings concerning the zone changes.

Zone C Season- December 1st to March 15th

1. This zone has more localized beaver damage to trout streams, roads, and private property than Zone B, and less timber than Zones A and B. Liberalized beaver damage control rules and stream specific contract trapping can control beaver damage here.

2. As beaver flowages contribute to wetland wildlife habitat values, proposed management for zone C reflects a greater tolerance for beaver. The northern and eastern portions of zone C are considered to be particularly valuable waterfowl habitat areas. The zone boundaries reflect priority areas for waterfowl production developed in the North American Waterfowl Management Plan.

3. The eastern tier of counties in Zone C contain the lowest beaver population densities in the state.

Based on the above 3 factors, a short season emphasizing pelt primeness is proposed.

Because of the lengthy DNR rule-making process, Zones A, B, and C can be implemented only by 1991 at the very earliest.

Zone D Season- Day after the duck season to March 15th (This is a current beaver management zone as described in the 1988-89 regulations, not a change.)

1. Beaver damage problems of all types are minimal here due to low beaver populations and the predominantly river bottom habitat type.

2. The Mississippi river is a high quality duck production area.

3. Mississippi Zone Waterfowlers are concerned over possible beaver trapping conflicts with duck hunters; therefore open the trapping season after the duck season closes.

REGIONAL POPULATION ESTIMATES AND POPULATION DYNAMICS

Accurate estimates of regional beaver population levels and dynamics are an absolute necessity for the development of a long-range beaver management plan. Previous attempts to obtain this information in Wisconsin have been based on aerial counts of houses and dams in selected areas, beaver registration records, trapper questionnaires, and a few isolated studies dealing with beaver behavior and population dynamics in relatively small areas.

The main problem with past and current beaver management programs has been the lack of beaver population estimates of any kind. We have to know the regional population estimates of beaver in order to accurately assess the effects of beaver trapping seasons and subsidy programs on these populations.

The current Department beaver research effort, which will run from 1989-90 through 1994-95, is designed to provide immediate and future information needs for developing and implementing beaver population management policy. The effort involves:

1. Reviewing status and quality of existing data on distribution and population levels of Wisconsin beaver,

2. Developing and evaluating a statewide aerial survey system for beaver that will accurately reflect beaver population levels.

3. Developing a beaver population model for each beaver management zone, and

4. Providing technical information and interim reports for use by Department managers and interested members of the public.

The beaver population model will be developed and validated for each of the population zones using sufficient harvest (collected from refined beaver trapper surveys), sex, age, and reproductive data (taken from examining a sample of trapped beaver carcasses). This beaver research will provide the information needed to fully evaluate proposed management strategies. As better population information is developed, we may see a need for trapping season and other policy changes. For the next three years of the study period it's important that these policies remain as stable and consistent as possible.

TRAPPER SUBSIDIES

Subsidies are offered to provide a financial incentive for trappers to increase their harvest of beaver in areas where the management objective is to reduce beaver populations and existing trapping has not been sufficient to do so.

The 1989 subsidy period extended from March 16 until September 30th, but very little trapping of subsidy beaver took place in the summer months. Over 90% of the subsidy harvest occurred in March and April. For this reason the subsidy period should end at the end of April.

Proposed Subsidy Policy

A spring subsidy of $10.00 will be paid from March 16 to April 30, 1990 in Zone B.

For 1991, the Department will offer a $10.00 subsidy on every beaver taken from March 16th to April 30th in zone B as shown in Figure 1. These dates where chosen to encourage greater trapper activity in periods when access is not normally a limiting factor.

If season change recommendations are accepted for 1991-92, the Zone A regular trapping season will not be open during the time period subsidies are offered in Zone B. This will discourage illegal transport of beaver from Zone A to Zone B in order to collect a subsidy.

While for 1990-91 the use of subsidy payments is proposed for Zone B it may become necessary, depending on future beaver population trends, to apply subsidy trapping in all or part of zone A as well. The Department should review subsidy policy annually and adjust as needed, including using a fall subsidy, and adjusting the dollar value of the subsidy payment annually based on projected fur prices.

The Harvest Subsidy Program

The subsidy program requires that trappers sign an "agreement to participate". Trappers carry this agreement with them when they trap in the appropriate zone and time period. They must possess a valid trappers license. Each beaver taken in the subsidy zone must be presented at a designated location for verification by a DNR employee. The whole, fresh beaver carcass is presented and the tail is notched by DNR staff. The trapper receives a voucher at each visit to a subsidy registration station specifying how many beaver were caught and the location of the catch. At the end of each subsidy time period the trappers may redeem their vouchers and are paid for each beaver harvested.

Applications for subsidy participation as well as an information sheet explaining the program will be available at most DNR field stations.

BEAVER WATER BANK

It's important that we recognize the beneficial effects beaver ponds have on other forms of wildlife, especially waterfowl. The importance of the beneficial aspects of beaver was brought out by Department staff discussions and public comments. A lot of people feel that the Department should do more to publicize benefits of beaver, rather than focus entirely on problems.

The federal governments of The United States and Canada, and other agencies including the Wisconsin DNR, are joining forces in a large scale waterfowl habitat venture known as the North American Waterfowl Management Plan. The primary focus of this plan is to increase wetland acreage for breeding waterfowl. Recognizing the contribution beaver flowages make to waterfowl production, we recommend that where possible, beaver policy should be consistent with the efforts of the North American Waterfowl Management Plan, while still addressing the concerns of those who have to deal with beaver damage.

The proposed Zone C is the area in which more tolerance for the beaver would be fostered. Within this zone, proposed trapping seasons are more restrictive and an effort is proposed to encourage private landowners to maintain beaver flowages on non-trout water. This incentive program would offer payment to landowners who allow beaver dams to remain in place, providing waterfowl habitat and other values as outlined earlier in this report.

The concept of paying landowners for conservation practices is not new. Government subsidized tree and shrub planting, food patches, water bank and more recently the CRP program all offer private landowners monetary incentives for conservation practices. Such a program would be consistent with the increased Department effort being made for private lands management.

Once this concept is endorsed, a DNR program team consisting of waterfowl managers and the Department's Private Lands Committee would work out the final details.

Two possible trial areas for this program could be the western end of Zone C consisting of St. Croix, Dunn, Polk and Barron Counties and the southeastern portion of Zone C, including Dodge, Fond du Lac and other Lake Winnebago counties.

The Department will need to pursue funding if we are to get this incentive program off the ground. We should seek financial help from sports, environmental and other interest groups. This would be an excellent opportunity for local public/private cooperative projects. It is possible that the Conservation Reserve Program, along with the current USDA WaterBank program, and county conservation aids could be used to implement this program.

There are a lot of details to be addressed before this program could be implemented including using a grandfather clause to make sure that landowners don't abuse the system. Department staff are looking into legal considerations and are beginning the policy making process to develop the program.

NEGATIVE HABITAT MANAGEMENT

Negative habitat management for beaver is the practice of removing desirable sources of food such as aspen and favoring long-lived hardwoods and conifers. The Nicolet National Forest currently utilizes a 200 foot setback on Class I and selected Class II trout streams with an old-growth designation. Negative habitat management should be encouraged within 200 feet of high quality trout streams inhabited by beaver. In the exceptions where it may be necessary to cut to the water's edge, the site could be converted by planting conifers. Underplanting should be considered as an alternative to cutting. Foresters and property managers should be encouraged to use negative habitat management on county, state, and national forest lands whenever possible.

STREAM SPECIFIC CONTROL

Department fisheries managers have identified the high quality trout fisheries in all areas of the state where beaver dams result in long-term damage to trout habitat. An intensive effort is being undertaken to remove beaver and beaver dams on specific priority trout streams. Methods to accomplish stream specific control include the following ongoing and proposed activities:

1. <u>APHIS (Animal and Plant Health Inspection Service)</u>

Professional trappers employed by U.S. Department of Agriculture Animal Damage Control unit have been contracted to remove beaver and their structures form a limited number of targeted trout streams. APHIS/DNR cost share contracts are developed each year for beaver and beaver dam removal primarily during the closed season for beaver. During 1990-91 efforts are targeted to large, heavily impacted streams in beaver management Zones A and B. APHIS contractors could be used in Zone C if needed in the future. Department managers are in close communication with APHIS staff and receive a monthly accounting of beaver and dams removed.

2. <u>DNR Fisheries Management Statewide</u>

The Department employs a few limited term employee (LTE) trappers, supervised by local fisheries managers, to assist with beaver and dam removal where necessary. These trappers remove beaver from targeted reaches of trout streams that don't have adequate trapping pressure to keep the stream free of beaver activity. These trappers provide Department managers a field log of trapping activities.

3. Contract Trappers

An expansion of trapping on targeted trout streams is proposed through contract trappers. Contracts would be awarded on a bid system for removal of all beaver and beaver dams on specific stream reaches. Contracts would be administered by a local fisheries manager, with streams and time period specified in the contract. A field log of trapping activities would be required. Landowner permission for beaver removal would be the responsibility of local fisheries managers.

4. Evaluations

Fall aerial flights and ground checks are used to map locations of beaver dams and colonies. This information is provided to trappers during the regular season, provided accurate maps of colony locations on priority trout water. Field logs are summarized to show:
- Number, locations, dates of beaver taken and dams removed.
-Cost accounting, time and expenses separated for beaver and dam removal.
- Miles of stream affected by the control effort.
We propose that evaluation efforts be expanded as possible to provide more accurate information to trappers and Department management.

5. Private and Local Government Cooperation

Private individuals and firms, sports clubs and local governments are also able to undertake control measures where needed. Local governments are able to contract with APHIS for trapping to deal with local problems like road damage. Contract trapping is also a viable alternative for local and private problem-solving. Department contracts could be used as a model. Administration of such contracts is the responsibility of people, groups or government units entering into the contract.

6. St. Croix Scenic Waterway Trapping Closure

The St Croix river was trapped for beaver and other furbearers until it was designated as a Scenic Waterway in 1986. Now this river serves as a reservoir for nuisance beaver in Zone A. Every effort should be made by DNR to restore trapping on this waterway in order to control nuisance beaver and to provide trapping recreation.

COUNTY COST SHARE

The Department has received requests from local governments for funding to share costs for trapping or shooting beaver or removing beaver dams damaging roads, culverts, private property and timber. Entering into agreements with counties for beaver control measures beyond department administered harvest subsidy programs is allowable under current state law.

With current funding, we recommend the Department pursue such agreements only with counties within the proposed beaver management zone B, to be administered by the local wildlife manager. The current source of beaver control funding and any possible county costsharing is fishing, hunting or trapping license revenues. We believe the highest priority for these funds is addressing beaver damage to high value natural resources such as trout streams or endangered, threatened and rare habitats and species. Costsharing with counties in Zone B would compliment the department ongoing intensive (stream specific removal) and extensive (harvest subsidies) beaver control programs for that zone. While cost shared projects in other areas of the State would be desirable, we recommend that it be pursued only if other funding sources can be made available.

A draft county cooperative agreement has been developed to formalize the costsharing process. Eligible activities for costsharing include, but are not limited to, beaver removal, providing maps to trappers showing identified beaver colonies; conducting beaver trapping workshops to improve trapper skills; youth apprenticeship programs to encourage additional trapping; organizing cooperative pelt marketing programs to obtain the highest price for participating trappers; payment of subsidies and providing a landowner/trapper referral service.

FUNDING OPTIONS

The burden of paying for beaver-related damage should not come out of the pocket of the hunters, fishers, and trappers of Wisconsin, as is the case now. The Department should pursue new options for funding many of the activities previously described including using Department of Transportation monies for paying subsidies. For example, counties suffering from beaver damage could have a proportionally higher amount of road tax money allocated to them for help in repairing roads, fixing culverts, etc. The USDA and/or the state Department of Agriculture, Trade, and Consumer Protection could also contribute funds to pay subsidies in agricultural areas. County, state, and national forests suffering from beaver damage should also contribute to beaver subsidies.

EDUCATION

Many Wisconsin citizens need to be informed about the positive and negative aspects of beaver activities in Wisconsin. The Department will prepare such a beaver slide show that will be completed by June 1, 1990. This slide show will be available at the District DNR offices and at the Central DNR office in Madison.

BEAVER DAMAGE GUIDELINES

Department staff will update and publish an existing damage guide, an information handout for landowners who experience beaver damage on their property. This publication will review Department management policy and explain why rules regarding beaver causing damage or a nuisance were liberalized. The guide will give some

background on beaver history and biology in the state; it will outline the benefits and liabilities associated with the species and will list sources where more information can be found. The guide will explain options available to landowners who experience damage, including living with the problem, using physical or chemical deterrents, and methods of beaver removal. The guide will be available by December 1, 1990.

CONCLUSIONS

Beaver are one of the most difficult wildlife species to manage in Wisconsin because of the positive and negative effects of their structures. We find that members of the public have become polarized into either loving or hating beavers. We believe this draft plan addresses positive and negative aspects of beaver behavior and lays out a constructive, comprehensive and properly balanced approach to beaver management.

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