
Animal Damage Control Program

2006 Annual Report



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Executive Summary

The **Animal Damage Control Program** (ADCP) has been under the umbrella organization of the **Washington Forest Protection Association** (WFPA) since 1959, but has an independent budget and membership. The ADCP supervisor manages the program for nine months of the year. The program is a joint effort of private, government and tribal forestland managers in Washington and Oregon. In 2006, the ADCP had 33 participants in Washington and managed animal damage on 3,138,138 acres of forestland, of which about 0.8 million acres are vulnerable to black bear and other animal damage. The continuing primary goal of the ADCP is to protect forests in an economically feasible, socially acceptable and ecologically unobjectionable manner, from black bear damage.

Non-lethal approaches to damage control are the preferred options of the ADCP. Since 1985, our members have concentrated their efforts on the **supplemental bear feeding program** during the spring months to minimize black bear damage. In 2006, the ADCP used a total of 497,700 pounds of pellets for the supplemental bear feeding program. In western Washington we delivered 475,700 pounds of food pellets in about 860 feeding stations and in Oregon 22,000 pounds in 35 feeders.

Lethal control efforts have been used only in heavy damage areas and were not undertaken in areas with high bear populations but no damage. In 2006, the ADCP organized 188 **bear removal hunts** with hounds, providing hunting opportunities on private lands to 109 hunters. The Aldridge foot snare was used 18 times for damage control purposes. Requests for lethal bear removal increased again this year. Total bear harvest was 193 through Depredation Permits and 13 bears were snared.

The ADCP experienced an excellent working relationship with the **Washington State Department of Fish & Wildlife** (WDFW) and the **F&W Commission**. An electronic depredation permit process was developed in 2003 which streamlined the permit request process.

The **ADCP budget** in 2006 was \$112,910. The assessment per acre was \$0.032 plus a \$500 membership fee for large companies and \$100 for small companies. “Out-of-state” members paid \$750.

The ADCP gave 11 **presentations** to maintain public and regulatory support.

The “Supplemental Feeding Economy Study” was published in the Wildlife Society Bulletin in June (Volume 34, Number 2, June 2006). The “Supplemental Feeding Ecology Study” is currently in the review process with the European Journal of Forest Research. This trilogy of papers investigated the efficacy (Journal of Wildlife Management (Volume 68, Number 3, July 2004), economy and ecology of supplemental bear feeding programs used on industrial lands.

The ADCP financially supported the USDA/APHIS **research** team to learn more about mountain beaver ecology, biology and new damage management tools. The chemical compound Rozol was approved by EPA as an additional tool to be used by foresters to manage mountain beaver populations in reforested areas. New information will be used to facilitate operations in the field and for political processes such as amendments to Initiative 713 (anti-trapping).

In 2007 the ADCP will concentrate on research to investigate ungulate damage to reforestation. Main cooperator is USDA/APHIS in Olympia.

Program Background

With the beginning of intensive forest management during the mid-40s in western Washington came the increased need to protect these forests from animal damage. The principal objective of the ADCP is to reduce spring black bear (*Ursus americanus*) damage to Douglas-fir (*Pseudotsuga menziesii*), western hemlock (*Tsuga heterophylla*) and western redcedar (*Thuja plicata*). The ADCP also provides expertise and technical assistance in damage management for a broad range of other wildlife species, including beaver (*Castor canadensis*), mountain beaver (*Aplodontia rufa*), porcupine (*Erethizon dorsatum*), and ungulates (*Cervus and Odocoileus spp.*). The program supervisor is responsible for program management and administration, support of

individual member activities, research, surveys, monitoring, presentations and education.

During the spring, black bear partly strip or girdle the bark off trees to feed on the newly forming vascular tissue. Damage inflicted through this behavior can be extremely detrimental to the health and economic value of timber stands. Complete girdling is lethal, while partial girdling provides avenues for subsequent insect and disease infestation. The severity of timber loss is compounded because bears tend to select the most vigorous trees within the most productive stands or where stand improvements, such as thinning, have been implemented.

Bear foraging on vascular tissue occurs almost exclusively in spring, presumably because alternative forages are limited and spring sapwood provides a source of carbohydrates. Damage generally starts with bud burst as the relative abundance of carbohydrates increases. Preference of bears for a particular tree or tree species may change with the phenological stage of the tree. Hemlocks are generally damaged earlier in the spring than Douglas-fir because of an earlier bud burst. Damage generally declines during early July as berries and other alternative foods become more readily available.

Bears feed on the vascular tissue by removing the bark with their claws and teeth and scraping the sapwood (phloem) from the heartwood (xylem) with their incisors. Feeding generally takes place on the lower bole of the trees in stands between 15 – 30 years of age. Any age tree, however, is vulnerable and bears occasionally strip an entire tree. Damage within a stand can be extensive, as a single foraging bear may peel bark from as many as 50 to 70 trees per day.

Timber stands with girdled trees are readily identified through aerial surveys in the spring and early summer. Trees completely girdled appear red as their vigor declines and their needles become discolored. Partially girdled trees are generally physiologically stressed and their needles will appear light green to yellow. Gray trees are dead. Areas suspected to contain bear damaged trees are mapped from the air and later verified by ground proofing. A greater number of damaged trees are generally revealed during ground proofing than are originally detected from the air.

Damage inflicted by bears is easily identifiable. Stripped bark is on the ground around the base of the tree and vertical tooth and claw marks are generally visible on the bole. Beaver and mountain beaver also girdle the bole of similar age trees near the ground, though damage inflicted by these species is usually easily distinguishable from bear damage. Conical shaped stumps and large wood chips are good indicators of beaver activity. Mountain beaver girdling on a tree bole generally occurs within 50 cm of the ground and tooth marks are smaller and are horizontal with irregular claw marks rather than vertical. Porcupine damage generally occurs higher in the tree canopy with quills and fecal material often found at the base of the tree.

Activities and Accomplishments

1. Program Management and Administration

ADCP Committee

The ADCP chairman, John Todd of the Weyerhaeuser Company in Cosmopolis, along with a three-member committee, sets goals and objectives for the program and advises the program supervisor. Committee members are: Dick Carter, Rayonier, Gerald Lester, Green Diamond Resource Company and Kim Patton, The Campbell Group. The Animal Damage Control Program supervisor is Georg J. Ziegltrum.

The annual ADCP meeting was held on December 7, 2006 at the Green Diamond's Colonial House in Shelton. At this time, the full membership approved and adopted the 2007 budget unanimously. A financial commitment was made to cooperatively study ungulate damage to reforestations in western Washington. The contract went to USDA/APHIS in Olympia.

2006 Adopted Program Goals

The continuing goal of the ADCP is to protect forests of ADCP members in an economically feasible, socially acceptable and ecologically unobjectionable manner from animal damage. Maintaining and reestablishing forest health is the long term objective.

Program Purpose

The ADCP must actively create and maintain a political climate among land owners, regulatory agencies, the F&W commission and hunters to avoid wildlife damage proactively. Where wild animals cause ongoing stress to forest resources (ungulates, bears, mountain beaver, porcupine and insects) the ADCP must be enabled to respond quickly and use tools, processes and strategies to execute damage management objectives successfully.

Fundamentals

1. Maintain excellent working relationship with WDFW and the F&W Commission to achieve a stable regulatory environment.
2. Maintain cooperative working relationship with ADCP committee and members to achieve a united voice to protect ADCP and WFPA interests.
3. Maintain a competent and ethical force of temporary ADCP contractors and volunteer hound hunters.
4. Support the use of damage management tools (including non lethal approaches) through ADCP and cooperative research. Publish results in proceedings and scientific journals.
5. Raise public awareness of ADCP issues through presentations, publications and lectures.
6. Maintain or increase ADCP membership.
7. Create ADCP working budget.

Agency/Commission/Landowner Cooperation

ADCP's working relationship with the WDFW was excellent. Chief of Enforcement Bruce Bjork, program manager Sean Carrell and the ADCP appreciated the electronic depredation permit process which facilitated the process significantly.

WDFW data shows that bear sport harvest in Washington has increased annually since 1998 primarily due to policy changes implemented by the Fish & Wildlife Commission. These changes include a two bear bag limit in western Washington and a longer general hunting season. In addition, the tag prices for bear (and cougar) decreased to encourage random harvest by elk and deer hunters. Boot hunters seemed to have

learned over the last three years to hunt bears effectively. However, hounds are still needed to manage damage in an area where damage is ongoing and timing is essential.

DNR Relations

The ADCP was invited to present our bear damage management program to several DNR offices in western Washington and maintained a good relationship with the agency. The ADCP continued to support DNR's spring bear hunting efforts in Capitol Forest and Enumclaw. Currently, the DNR is not permitted to use lethal damage control tools during the spring damage season, since Initiative 655 allows only private land managers to work with hunters, dogs and snares. Legislative initiatives over the past few months may bring policy changes which could give DNR more flexibility to manage bear tree damage. DNR is presently not an ADCP member.

Supplemental Feeding Contracts

Contracts were signed in March 2006. The first batch of pellets was delivered by April 1, 2006 as directed by contract. The second order was partly shipped out by the last week in May upon member request, the rest of the order by beginning of June. The ADCP ordered a total of 497,700 pounds of pellets. Washington received 475,700 pounds and Oregon 22,000 pounds.

Summary of Feeding in Washington and Oregon

WASHINGTON		
Year	Pounds of Pellets	# Feeders
1985	5,000	10
1986	10,000	22
1987	20,000	52
1988	40,000	152
1989	80,000	260
Switched to 50 gallon feeding stations		
1990	99,000	280
1991	159,000	320
1992	210,250	350
1993	308,000	500
1994	310,000	600
1995	357,150	610
1996	450,040	730
1997	595,100	810
1998	381,200	810
1999	474,100	850
2000	517,000	850
2001	418,300	850
2002	422,550	850
2003	442,100	850
2004	468,550	850
2005	480,400	850
2006	475,700	850

OREGON		
Year	Pounds of Pellets	# Feeders
1992	21,000	20
1993	45,000	70
1994	62,000	90
1995	60,850	90
1996	87,500	90
1997	78,500	90
1998	71,300	90
1999	80,000	90
2000	41,000	50
2001	35,000	40
2002	37,700	40
2003	67,000	45
2004	34,000	40
2005	37,900	45
2006	22,000	45

ADCP Member Recruitment

The ADCP welcomes the land managers of Sierra Pacific Industries, Mount Vernon, as new members.

Meat Donations

Donating meat to charity was always problematic for our industry because of the liability issue associated with it. Bears harvested under damage control permits are the property of the state of Washington. Therefore, pelts were donated to charity or returned to the WDFW. Professionally processed meat went to food banks, church groups, county correction facilities and needy families. Hunters enjoy the hunt but can not keep any parts of the bear.

Discussions with WDFW are ongoing to eliminate the liability issue for our industry by having contractors collect all harvested damage control bears. A process is not agreed on yet and all options are considered.

2. Support of Individual Member Activities

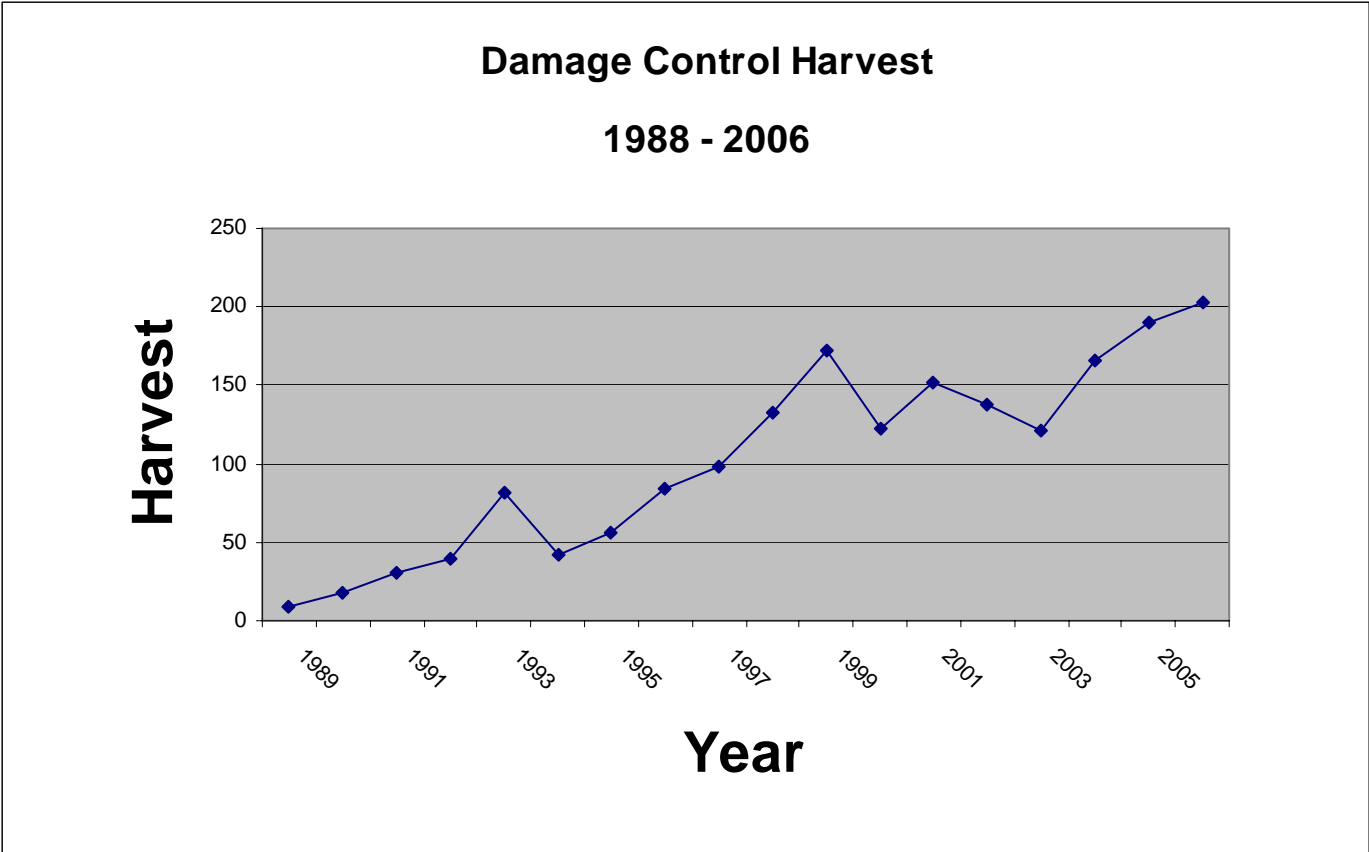
Timber companies monitor their properties throughout the year through aerial and land surveys. Upon notification, the ADCP usually ground-proofs damage locations and establishes cause of tree injury or death. Damage management strategies are discussed with the landowner once the cause and extent of the problem is identified.

The ADCP received damage complaints about black bear, porcupine, ungulates, mountain beaver and flat tailed beaver. The purpose of the ADCP is to protect private forests, not to kill bears or other forest damaging animals. Therefore, our preferred damage management tool to minimize bear damage is the supplemental feeding program. Unfortunately, non-lethal approaches still have to be balanced with population control measures, especially since the bear populations in western Washington are increasing. The WDFW was helpful, supportive and responded quickly to protect timber resources.

Industry Depredation Permits by Counties in 2005 & 2006:

	<u>2005</u>	<u>2006</u>
<u>Region 4</u>		
Whatcom	1	0
Skagit	18	17
Snohomish	13	7
King	8	7
Pierce	4	0
<u>Region 5</u>		
Lewis	65	49
Cowlitz	6	5
Clark	6	0
Skamania	8	6
Klickitat	0	0
Clark	6	2
Wahkiakum	0	0
<u>Region 6</u>		
Clallam	33	46
Jefferson	3	12
Grays Harbor	27	16
Pacific	18	12
Thurston	9	8
Mason	0	1
Kitsap	0	0
TOTALS	<u>225</u>	<u>188</u>

Updated 2006 Bear Harvest Graph



3. Presentations and Publications given in 2006

1. March 30. The Wildlife Society Meeting, Olympia. Ecological Impacts of the Black Bear Supplemental Feeding Program. Presenter John Todd.
2. May 5. Julia Butler Hanson Elementary School, Olympia. What do Bears really do in the Woods?
3. May 8. Forest Field Day, Panhandle Lake, 4-H Camp, Matlock. Wildlife Management in Working Forests. What is the Problem?
4. May 17. WFPA Board Meeting, Olympia. Update on the ADCP Program.
5. June 2. Seattle Times, Olympia. Interview with Cheryl Phillips and John Todd. Bears in Urban Areas. Where is the real Problem?
6. July 27. Panhandle Lake, 4-H Camp, Matlock. Wildlife Management in Working Forests.
7. September 15. WFPA Retreat and Board Meeting, Chelan. ADCP Publications.
8. October 12. Black Hill High School, Olympia. Project Black Bear. Efficacy of Black Bear Supplemental Feeding Programs in WA.
9. October 17. Black Hill High School, Olympia. Economy and Ecology of Black Bear Supplemental Feeding Programs.
10. October 19. DNR Head Quarters, Sedro Woolley. Black Bear Damage Management Tools used in WFPA/ADCP Operations.
11. December 6. DNR Headquarters, Olympia. Black Bear Damage Management Tools used in WFPA/ADCP Operations.

The ADCP gained international recognition over the last couple of years because of publications and presentations on black bear damage management techniques in Washington. Information was passed outside our state's boundaries as well. This resulted in working relationships, research information exchanges and cross training of students and teachers among the ADCP and Universities in Germany (Munich and Heidelberg), Austria (Vienna), Norway (Oslo), Croatia (Zagreb) and one University in Japan. Foreign students continue to stay in touch with the ADCP.

4. Research, Evaluations and Surveys

Mountain Beaver Research

The ADCP committee and full membership made a financial commitment to the USDA/APHIS in 2002 of \$12,500 annually for 3 years to study mountain beaver ecology and additional control tools. This financial support for APHIS was extended in 2006 for one more year. New information was gained about mountain beaver traveling patterns, home range use and reproductive behavior. APHIS was also successful in adding the mountain beaver to the label of "ROZOL", a chemical compound, which adds to the mountain beaver damage control tools.

Supplemental Feeding Ecology Study

ECOLOGICAL IMPACTS OF THE BLACK BEAR SUPPLEMENTAL FEEDING PROGRAM IN WESTERN WASHINGTON

Abstract: The Washington Forest Protection Association (WFPA) developed the black bear (*Ursus americanus*) spring supplemental feeding program to protect conifers from the bears' tree girdling and feeding on the newly forming phloem (Flowers 1988). I concluded previously that the supplemental feeding program in western Washington, USA, was a viable and cost effective non-lethal damage control tool for the forest products industry (Ziegltrum 2004, 2006). Consequently, I summarized cooperative research efforts in Washington over the last 6 years and described the ecological impacts of the supplemental feeding program on: 1) behavioral characteristics of bears; 2) the population density of bears and reproductive

success; 3) the nutritional status of bears; 4) the home range size of bears; 5) the benefits of bear conifer damage to cavity nesters; and 6) bear/human conflicts. Motion sensor activated cameras at feeding stations showed little antagonistic behavior of bears. Supplemental feed did not influence the bear's reproductive success but sows, yearlings and cubs visited feeding stations over many years. Bears with home ranges outside feeding areas were not drawn into feeding stations. Bears at feeding stations gained weight faster than bears without access to pellets but lost this advantage before winter denning. The bears' home range sizes were not changed by the feeding program. The bears' tree girdling created snags which benefited cavity nesters. Feeding personnel reported no conflicts with bears around feeding stations. I concluded that the black bear spring supplemental feeding program, as currently used on private lands, had no ecological impact of concern.

Membership List

1. Arbor Pacific Forestry Services, Inc.
2. Bloedel Timberlands
3. City of Bremerton – Water
4. Campbell Group – Cathlamet
5. Crown Pacific, Ltd. – Port Angeles
6. City of Hoquiam
7. Eaton Timber, Jerry
8. Forest Systems
9. GMO Renewable Resources LLC
10. Green Crow
11. Green Diamond Resource Company
12. Hampton Resources
13. Hancock Forest Mgmt. Inc
14. Jim Creek Properties
15. JLCG LLC
16. Longview Fibre Company
17. Manke Lumber Company, Inc.
18. Menasha Forest Products Corporation
19. Murphy Tree Farms, Jim
20. Olympic Resource Management
21. Pacific West Timber (Campbell Group)
22. Port Blakely Tree Farms
23. Professional Forestry Services
24. Quinault Indian Nation
25. Rainier Timber LLC (Campbell Group)
26. Rayonier
27. RD Merrill Co.
28. Ring Family Limited Partnership
29. Rosboro Lumber
30. Sierra Pacific Industries
31. Tacoma Public Utilities
32. University of Washington, Pack Forest
33. Weyerhaeuser – Twin Harbors, Longview, Cascade Region

ADCP Work Load Summary 2006

Program	% of Total Time	Direct Costs	Indirect Costs	Total
Program management, administration & policy	40	\$32,916	\$12,174	\$45,090
Support of individual members activity	43	35,490	13,127	48,617
Research, monitoring , & surveys	10	8,234	3,045	11,279
Presentation & education	7	5,785	2,139	7,924
TOTAL	100%	\$82,424	\$30,486	\$112,910

Direct costs are 73% of the total budget, indirect costs are 27%.

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