



Environmental Appeal Board

APPEAL NO. 92/16 PESTICIDE

In the matter of appeal under s15 *Pesticide Control Act*, RS Chap. 322, 1979, against Pesticide Use and Restricted Use Permit 139-043-93/95, issued by the Deputy Administrator, Pesticide Control Act, to Deputy Director, Wildlife Branch, Ministry of Environment, Lands and Parks

BETWEEN	Thompson Watershed Coalition	APPELLANT
AND	Deputy Director, Wildlife Branch	RESPONDENT
BEFORE	A PANEL OF THE ENVIRONMENTAL APPEAL BOARD	
	Mrs. L. Michaluk	Chairman
	Dr. E. Keay	Member
	Ms. C. Mayall	Member
DATE	March 16, 1993	
PLACE	Stockmen's Hotel, Kamloops	
APPEARING	For Appellant	
	Spokesperson	Ms. B. Boulton
	Witness	Mr. K. Angus
	For Respondent	
	Spokesperson	Mr. W. Munro
	Witnesses	Mr. L. Campbell
		Mr. A. Lay
		Mr. L. Leach
		Mr. B. Saunders
	For Board	
	Witness	Ms. S. Hoyles

This was an appeal against the issuance of a Restricted Permit authorizing the use of Sodium Monofluoroacetate (Compound 1080) for reactive control of coyotes and wolves.

EXHIBITS

- A-1 Appellant's Brief of Documents
- A-2 Bait Summaries (5)
- A-3 Operations Records, Compound 1080, 1988-92

- R-1 Respondent's Brief of Documents
- R-2 Statistics of Predator/Livestock Conflicts, 1985-1988
- R-3 Management of Problem Wildlife, Ministry of Environment, Lands and Parks Procedure Manual, Volume 4, Section 7, Subsection 04.01.1. 11 pages
- R-4 Guardian Dogs Demonstrated, B.C. Agriculture Research and Development Corporation
- R-5 Letter dated May 7, 1992, from C. MacFarland, Charles Darwin Foundation for the Galapagos Isles, to Mr. C. Wigley, Tull Chemical Company
- R-6 Bullard, R.W. 1990. Compound 1080 Technical (LPC) Product Identity and Disclosure of Ingredients. Unpublished report, Denver Wildlife Research Center, Denver, Colorado, 5 pages
- R-7 Submission to the Environmental Appeal Board by the British Columbia Cattlemen's Association, March 16, 1993

APPEAL

The authority for the Panel of the Environmental Appeal Board to hear this appeal is found in the *Environment Management Act*, and in s15 of the *Pesticide Control Act*.

The grounds for appeal presented by the Appellant at the Hearing addressed such areas as notification, risk associated with the exercise of the permit, registration, lack of information on the full formulation and inadequate consideration of alternative methods.

The order sought is that the Environmental Appeal Board cancel Pesticide Use and Restricted Use Permit 139-043-93/95.

BACKGROUND

Sodium Monofluoroacetate (Compound 1080) is a species specific predacide derived from a natural poison. Compound 1080 has been used since the 1940's to control agricultural pests in many countries. Compound 1080 has been used in British Columbia under permit by the Wildlife Branch since the 1980's to control wolves and coyotes that have been harassing domestic livestock.

On July 29, 1992, the Deputy Director, Wildlife Branch, applied for a pesticide use permit authorizing the use of 1080 for reactive control of coyotes and wolves that have killed, mauled or harassed livestock within selected Wildlife Management Units in British Columbia. The application was circulated to the Pesticide Review Committee and advertised in newspapers in Prince George, Smithers, Williams Lake, Kamloops and Fort St. John and in the British Columbia Gazette. A Pesticide Use and Restricted Permit for Use of 1080 was granted on December 21, 1992.

The issuance of this permit was appealed to the Environmental Appeal Board on December 22, 1992, and the appeal was heard in Kamloops on March 16, 1993.

ISSUES AND EVIDENCE

During the presentation of evidence, several issues were identified and addressed. The major issues raised follow in no particular order.

Issue 1. Authority for Wildlife Branch to Conduct Program

The Appellant produced evidence to show that the Branch was not compelled to kill wolves and coyotes that were harassing domestic livestock. In addition, the Appellant contended - that for the Branch to conduct such a program was in contravention of Provincial statute.

The Respondent produced evidence to show that the Branch had discretionary authority to conduct this program and that to do so was not a contravention of statute.

The four sections of the *Wildlife Act* which were most at issue here were:

2(4) ... no right of action lies, and no right of compensation exists, against the... Province for death, personal injury or property damage caused by ... wildlife...

27(1) A person commits an offence where he ... kills wildlife ... with poison...

81(1) An officer may kill an animal ... which is likely to harm ...property...

88 The offence provisions of this Act ... do not apply to an officer engaged in the performance of his duties.

Therefore, while the Province is not liable for damage caused by wildlife, the Province has the discretionary authority to kill animals which may harm livestock; and, it is not an offence for this to be done by a Conservation Officer using 1080. The Panel finds there is no statutory prohibition against the Branch poisoning wolves and coyotes who have been harassing livestock.

Issue 2. Biodiversity

The Appellant produced evidence to show that the Province considers it important to maintain biodiversity. The Appellant contended that while livestock may be more important than wolves and coyotes from an economic perspective, wolves and coyotes are more important when examining biodiversity.

The Respondent testified the wolf and coyote population is estimated as 8000 and 70-100,000 respectively. The Respondent confirmed the importance of biodiversity but considered that as neither the wolf nor coyote populations would in any way be affected by the exercise of the permit under appeal, biodiversity would not be negatively affected.

According to the evidence presented, one aspect of biodiversity encompasses species diversity, or the number of different animals found in an ecosystem. The Panel accepts that in considering matters of biodiversity native wildlife is more important than introduced domestic livestock. The Panel does not accept that, given the population figures presented for wolves and coyotes, the removal of the numbers of those species contemplated under this permit would constitute a negative impact on biodiversity.

Issue 3. Product Registration

The Appellant introduced evidence to show that registration for 1080 had been revoked in the United States. Evidence was also produced to show that there is no material safety data sheet for this product. The Appellant contended that federal registration does not imply safety due to the inadequate process used during the registration process. In addition, the Appellant was concerned that the full formulation of the product was not available for scrutiny.

The Respondent produced evidence to show that 1080 is registered in Canada for the use described on the permit. In addition, the Respondent testified the registration for 1080 as a predicide had not been revoked in the United States and that the-product was still in use there. Evidence was produced disclosing the full formulation of 1080 and providing a toxicological assessment.

A review of the evidence showed that 1080 may no longer be used as a rodenticide in the United States, but that it is still registered for use as a predicide. The evidence also showed that 1080 is registered for use in Canada for the purpose authorized by the permit under appeal.

The Court of Appeal (*Canadian Earthcare Society v Environmental Appeal Board* (1988), 3 C.E.L.R. (N.S.) 55(B.C.C.A.)) has ruled that the Environmental Appeal Board does not have the authority to challenge federal registration.

Issue 4. Non-target Impacts

The Appellant introduced evidence to show that use of 1080 will impact non-target species through non-target animals taking baits and through secondary poisoning via ingestion of vomitus or eating poisoned carcasses. The Appellant was also concerned that non-target animals that are not killed by eating the bait may suffer sub-lethal effects. In addition, evidence was produced to show that plants growing in soil contaminated with 1080 can take up the material. The Appellant contended animals that eat these contaminated plants could be impacted.

The Respondent confirmed that some of the baits had been taken by non-target animals. Evidence was presented to show that from 1988-1992, twenty-eight percent (336) of the wolf baits and one percent of coyote baits (6) were taken by non-target animals. Coyotes were responsible for taking

eighty-three percent (280) of the non-target wolf baits while ravens took twelve percent (40) of all non-target baits. The Respondent testified that the present permit reflects an attempt to decrease the take by non-target animals by using larger pieces of meat at the baiting stations. Evidence and testimony were also presented to show that 1080 breaks down in soil and that should 1080 be taken up by plants the substance would be so diluted as to be rendered ineffective.

The evidence showed that 1080 has the ability to affect a number of non-target species through secondary effects when used as a rodenticide. The same did not appear to be true of 1080 used in accordance with the terms of the label and the permit as a predacide against wolves and coyotes.

The evidence showed that although coyotes do suffer non-target effects from the taking of wolf baits, coyotes are themselves a target species. The Panel does not accept that coyotes may be killed indiscriminately when wolves are the target species, even considering the coyote population is not at peril. If the target species is wolf, then every reasonable effort should be taken to restrict the effects of the predacide to wolves. To do otherwise results in an unacceptable non-target impact by a program that does not effectively utilize resources.

The evidence shows the permit presently before the Panel attempts to rectify the past situation concerning impacts on non-target species.

Issue 5. Alternative Methods of Wolf and Coyote Control

The Appellant introduced evidence to show that livestock can be protected from predators by guardian dogs and good animal husbandry. In addition, the Appellant opined that as the wolves and coyotes existed in the area before the livestock was introduced, those who chose to live in wilderness should learn to live with the wildlife. The Appellant was concerned that there were those farmers/ranchers who appeared to be responsible for the majority of the poisoned baits and it was suggested that poor animal husbandry was responsible for attracting the predators.

The Respondent testified that alternative methods of livestock protection and predacide control do exist and are recognized by the Branch. Evidence was presented to show other poisons exist such as strychnine and cyanide but they are not as species specific nor as humane as 1080. Evidence was also produced to show that 1080 is used by the Branch only where other methods are determined by the Branch to be ineffective or impractical. Testimony showed that there are many reasons why poisoned baits would be placed in some areas more than others, such as location, size and nature of operation.

A review of the evidence and testimony shows alternative methods do exist. Guardian dogs and other animals such as llamas and donkeys have been found in certain circumstances to be effective. These circumstances generally include situations where the livestock is fenced and coyotes are the predators. Where the

predator problem includes wolves and/or the livestock is not fenced, guardian animals do not appear to be effective.

A review of the Branch Policy shows 1080 may only be used where the conservation officer considers: appropriate animal husbandry practices have been maintained; there is direct evidence of livestock harassment by wolves and/or coyotes; and, that trapping or shooting are not appropriate. There was no evidence presented to show that the policy has not been followed in the past.

Issue 6. Notification

The Appellant contended that the permit notification process was inadequate and that there was no notice given of who the pesticide application contractor is or what certification is required.

The Respondent testified that they had complied with all the requirements of Pesticide Management Branch.

A review of the evidence shows that not only was the permit application advertised in newspapers with local distribution in the areas affected by the permit, but also that the permit itself was required to be advertised once granted. In addition, the permit was physically mailed out to the Appellant and fourteen other interested parties.

With regard to the pesticide applicator, the permit restricts the pesticide applicator to Ministry staff possessing a valid British Columbia Pesticide Applicator Certificate in the fish and wildlife category.

DECISION

In making this Decision, the Panel of the Environmental Appeal Board has carefully considered all documentary evidence and testimony whether or not specifically reiterated here.

Much of the evidence presented by the Appellant, while relevant to 1080, did not reflect the manner in which the pesticide is authorized for use in the permit under appeal. There is no question that 1080 is a poison which has the ability to kill a variety of species.

Members of the dog family, however, are significantly more susceptible to 1080 poisoning than other animals. It should be noted that a lethal dose of 1080 for an adult person is 2.0 to 5.0 mg/kg of body weight, while a lethal dose for a dog is 0.08 mg/kg of body weight.

This permit authorizes 180 coyote baits and 375 wolf baits, a total of 8.5 grams of 1080 for each of three years. The poison is enclosed in a capsule and inserted into a bait which is placed where livestock have been harassed or killed. This occurs only after a Conservation Officer has considered whether other methods would be effective and whether the farmer/rancher's husbandry practices have contributed to the situation. Baits may not be placed less than one kilometre from dwellings

without the consent of residents, and they may only be placed by certified Ministry staff. The baits must be checked within 14 days of placement and removed and destroyed by burning within 21 days of placement.

On reviewing the past permits which were submitted as evidence the Panel noted that the Branch had never placed the maximum number of baits permitted. Under permit 125-23*-SPL 83/87 1800 wolf baits were permitted and 895 (48%) were placed; 1125 coyote baits were permitted and 332 (30%) were placed. Permit 139-041-88/92 permitted 1669 wolf baits and 1198 (72%) were placed; 900 coyote baits were permitted and 585 (65%) were placed. In no single year were more than 82% of the permitted coyote or wolf baits placed.

While there was no evidence presented to show that the exercise of the permit as structured would negatively effect wolf or coyote populations, the Panel is of the opinion that the number of baits authorized in the permit should reflect the anticipated need: Obviously this can be difficult to determine. One way to evaluate the need is to analyze past records. On that basis, it would appear that the number of baits allowed in the present permit should be reduced to reflect more closely the historical need and use.

Therefore, it is the unanimous decision of this Panel that Pesticide Use and Restricted Permit for Use 139-043-93/95 be amended as follows:

Section F. Quantity is deleted and replaced with

7.1 gm per calendar year

The number of baits specified in the Additional Information Section is deleted and replaced with

- (a) 150 x 5.5 mg for coyotes**
- (b) 315 x 20.0 mg for wolves**

Subject to the permit amendments, it is the unanimous decision of this Panel that the appeal be denied.

COMMENTS

There are those matters which are outside of Panel's jurisdiction on which comment is offered.

Operations Records

The operations records show the number of baits placed, destroyed and taken by target and non-target species during six month intervals. The Panel is unsure of the reliability of this information. Testimony at the Hearing showed that as it is too time consuming to track animals that have consumed a bait, the Conservation Officer observes tracks at the bait station and estimates the number and species of those taking the baits.

When it is considered that baits are often placed when there is no snow on the ground or when the ground is frozen, there will be occasions when these observations are not possible. It is also not possible to state with certainty the number of wolves and coyotes actually killed by the baits. The Panel notes there was no evidence presented to counter the conclusions drawn from this material

The Panel also accepts that there will be those Conservation Officers who through talent and training will be better than most at placing baits and tracking animals. The Panel recognizes there has to be degree of trust placed in Conservation Officers working in remote areas with little supervision. There was no evidence presented to show that the trust has been misplaced or abused. **In order to ensure this trust is not undermined, the Panel recommends that whenever possible training and re-training be provided to those who will be required to exercise this permit.**

The operations records serve to inform Pesticide Control Branch and Wildlife Branch staff of the progress of the predacide program. They also are a way for the public to track programs of this nature. **The Panel recommends that the numbers of livestock killed or harassed by wildlife be recorded in the column entitled "Reason for Bait Use".**

Alternative Methods

The evidence showed that alternative methods do exist and are employed whenever possible. **The Panel recommends that the Branch continue to examine and encourage the use of alternative methods.**

Full Formulation

It is often brought to the attention of the Environmental Appeal Board that a pesticide is more than "just" the active ingredient. Pesticides also contain inert ingredients which are not disclosed. This has caused and continues to cause discomfort for the public and for many of those who use pesticides.

The Panel is pleased to see the release of the full formulation of 1080 and recommends that the Ministry encourage more formulations to be made available.

Dosage

Evidence was produced to show the permit authorizes a higher dosage of 1080 per wolf bait than previously authorized. The Respondent testified that experience had shown the smaller dosage (13 mg) was insufficient to kill the wolves in many circumstances. A more effective dose was calculated by taking the dose found to be effective for coyotes and multiplying that by four, as a wolf is generally four times larger than a coyote. This resulted in a dose of 22 mg although testing showed 20 mg was sufficient to kill the targets and that was the dose authorized by this permit.

The Panel accepts that 20 mg of 1080 is sufficient to kill all wolves that take a bait (LD_{100}). Because of the manner in which the LD_{100} was determined, however, it is possible that the effective dose may be less than 20 mg. Although the Panel is uncomfortable with an increase of this magnitude, there was no evidence presented to show that 20 mg baits will result in unreasonable adverse environmental impacts, nor what, if any, lower dose would be effective. **The Panel encourages the Branch to determine if the LD_{100} is in fact lower than 20 mg.**

Livestock versus Wildlife

This Panel has not examined whether the interests of private individuals who raise livestock in areas where wildlife reside should be placed ahead of the interest of the wildlife. Rather, this Panel has determined, on the basis of the evidence presented, that the Branch has the authority to conduct such a program and that the program as represented by the permit will not result in an unreasonable adverse environmental impact.

Linda Michaluk, R.P. Bio.
Chairman
Environmental Appeal Board

April 22, 1993