APPENDIX K. Summary of Naled Incident Data

Incident data from EPA's EIIS and American Bird Conservancy AIMS Databases Inquiries on April 29, 2010

Chemical Name	Incident Number (Source)	Taxa Involved	Magnitude (# of individuals or acres involved; species name; effect seen)	Year	Location	Use	Legality of Use	Certainty Category[1]	Residues	Other Chemicals Involved
Naled	B0000-501-32 (EIIS)	Aquatic Animal	6000; fish; mortality	1977	CA	Agricultural area	Unknown	Unlikely	N/A	Toxaphene (Probable)
	I002969-051 (EIIS)	Terrestrial Plant	N/A; cabbage (*Brassica oleracea*); plant damage	1995	CA	Cabbage	Unknown	Possible	N/A	---
	I007467-021 (EIIS)	Terrestrial Plant	N/A; celery; plant damage	1996	Unknown	Celery	Registered Use	Probable	N/A	---
	I002969-055 (EIIS)	Terrestrial Plant	N/A; cotton (*Gossypium*); plant damage	1995	CA	Cotton	Unknown	Possible	N/A	---
	I012366-025 (EIIS)	Terrestrial Plant	751 acres (140 acres); cotton (*Gossypium*); plant damage	2000	CA	Cotton	Unknown	Possible	N/A	Chlorpyrifos
	I005980-002 (EIIS)	Terrestrial Animal	700; bee (Apidae); mortality	1997	CA	Agricultural area	Registered Use	Probable	N/A	Chlorpyrifos (Probable) Methamidophos (Probable)
	I019411-016 (EIIS)	Terrestrial Animal	1; adult Red-tailed hawk (*Buteo jamaicensis*); incapacitation	1997	BC	Agricultural area	Unknown	Possible	Crop contents: Fonofos 14.0 ppm Dichlorvos 28 ppm Naled 73 ppm	Fonofos (Possible) Dichlorvos (Possible)
	I014341-015 (EIIS)	Terrestrial Animal	20 hives; bees (Apidae); mortality	1998	WA	Bean	Unknown	Possible	Bee 0.07 ppm	Dimethoate (Possible)
	I013884-024 (EIIS)	Terrestrial Animal	20 colonies; honey bees (*Apis millifera*); mortality	1998	WA	Bean	Unknown	Possible	N/A	Dimethoate (Possible)
	I003870-001 (EIIS)	Terrestrial & Aquatic Animal	Unknown; dragonflies (Odonata) & unknown fish; mortality	1996	MD	Lake	Registered Use	Probable	N/A	---

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	I003062-001 (EIIS)	Terrestrial Animal	1; bird (species N/R); mortality	1995	Unknown	N/R	Unknown	Possible	N/A	---
	I005855-001 (EIIS)	Terrestrial Animal	Thousands; bee (Apidae); mortality	1997	CA	N/R	Unknown	Possible	N/A	Methyl Parathion (Highly Probable) Carbaryl (Highly Probable) Parathion (Highly Probable) Carbofuran (Highly Probable)
	B0000-506-03 (EIIS) Event ID: 200 (AIMS)	Terrestrial Animal	Approx. 63 birds total; approx. 60 pheasants, 3 wild turkeys, & approx. 3 barn swallows; mortality	1984	NY	Right-of-Way, Road	Unknown	Possible	N/A	---

N/R = Not reported
N/A = Not Available

Incident Report Information

B0000-501-32
A fish kill took place in Snodgrass Slough, Sacramento County, on September 2, 1977. Approximately 6000-7000 fish were killed, of which approximately 75% were game fish. A field of tomatoes adjacent to the area of the fish loss had been sprayed with Dibrom and Toxaphene. Analyses of water samples showed no Dibrom but a low level of toxaphene (six days after the event took place). Toxaphene was listed as the probable, and Dibrom (naled) was listed as the unlikely cause.

I002969-051
The product caused plant damage to cabbage. Environmental conditions in the location contribute to cabbage leaf spot. Incident occurred after direct treatment to cabbage, which was potentially associated to use on cabbage.

I007467-021
Celery was damaged by product Dibrom showing celery skin burn. Incident occurred after direct treatment to celery, which was potentially associated to use on celery.

I002969-055
The product caused defoliation of cotton plant. Injury was attributed to fertilizer burn or tank contamination. Incident occurred after direct treatment to cotton, which was potentially associated to use on cotton.

I012366-025
To comply with 6(a)2 requirements, Dow reported a complaint from Fresno, CA, that LORSBAN 4E damaged a total of 751 acres of cotton. There were 4 growers who had 9 fields ranging from 34 acres to 155 acres. One applicator sprayed aerially the various fields with Lorsban @ 1 qt/acre, Dibrom @ 1 pt/acre, and Britz Buffer @ 3.2 oz/acre; the Britz Buffer is a petroleum distillate and contains no pesticide. Different varieties of cotton were used by the various growers. Some of the fields were sprayed in the morning, and some in the afternoon or evening. There is reason to think that spraying in the morning caused less damage than spraying in the afternoon; whether the effect of temperature alone was the operative factor is not known, but in all cases the temperatures were in the 60s in the morning and in the high 90s in the afternoon. Symptoms of damage were burned leaves and dropped bolls, and the yield losses ranged from 250- to 470-pounds/acre.

I005980-002
Pesticide damage of bee hives was not reported by a typical beekeeper who was explaining hazards to a newcomer. Filing report of loss was deterred because chemical residue analysis in bee kills requires that they be freshly collected and frozen until analysis. It was more important to keep trucks moving bees out of harm's way than waiting for official sampling by the county. Typically dead bees are discovered days after a kill and by then evidence has dried up. Approximately 700 bees were found dead in a bee hive adjacent to an agricultural area where pesticides were applied. There were three registered uses of pesticides on the adjacent agricultural area; pesticides applied included Dibrom (Naled), Lorsban (Chlorpyrifos), and

Monitor (Methamidophos). It is unclear how or when applications occurred in relation to each other, but all three pesticides are categorized as being probable causes of the incident.

I019411-016
A monitoring study was conducted from 1994 to 1999 to investigate raptor and waterfowl mortality related to fonofos poisoning in the Lower Fraser Valley region of southwest Canada. Fonofos was used in this area to control of wireworm on potato and other root crops. Fonofos use was found to cause extensive primary poisoning of waterfowl and secondary poisoning of raptors during the winter and early spring, several months after granular application, when wintering birds made intensive use of the agricultural areas. This incident is one of 22 dead or debilitated raptors diagnosed as pesticide poisoning at wildlife rehabilitation centers between 1994 and 1999. Suppressed plasma or brain cholinesterase levels indicated that these birds were poisoned by an anticholinesterase insecticide, most likely fonofos.

A debilitated adult male red-tailed hawk found in Ladner, BC in November 1997. Its crop contents had 14.0 ppm of fonofos, 28 ppm of diclorvos, and 73 ppm of naled. Its GI tract contained remnants of a bird. The plasma showed a chlolinesterase activity of 744 umol/min/L. This level was greater than in other debilitated raptors observed in this study, but was still about 33% below normal. As any of the three detected OP insecticides may cause ChE inhibition, the contribution of each chemical to the cause of this incident is uncertain. The hawk survived under the care of a rehabilitation facility and was later released.

I014341-015
A total of 20 hives were killed as the possible result of Naled or Dimethoate exposure from aerial application for use on beans. Tissue samples reported that naled was found at a concentration of 0.07 ppm on one bee specimen.

I013884-024
Honey Bee kill alleged to have happened 8/21/1998 from a dimethoate application to a nearby bean field. However, Naled is also listed as a possible cause of the kill in addition to dimethoate. A total of 20 Colonies, Apiary #398 were impacted. The lab did not detect OP on samples of bees or off target samples, but they did find OP breakdown products on target. Lab did not find Basagran on any samples except target. No more information was provided in terms of concentrations of the samples that were taken. This is from the 1999 Annual Report from the Washington State Department of Health Pesticide Incident Reporting and Tracking Review Panel, November 2000, from the 1998 PIRT Data.

I003870-001
A private citizen who lives on a narrow finger of land surrounded by Newport and Synepuxent Bay, complained about the aerial spraying of the area with Dibrom (Naled). No data of any kind were reported, but the report paints a graphic picture of the eradication of dragonflies, butterflies, praying mantis, honey bees and other insects and birds associated with water. This is a revision of the incident reported earlier as #I003750-001. Also included in the incident report is the alleged connection to mortality of an unknown amount of an unknown fish in the water.

I003062-001
To comply with 6(a)2 regulations, Valent Corp. reported a complaint (neither state nor county identified) that a bird died as the result of exposure to Naled. The symptom was marked as "respiratory arrest" and no other information was provided.

I005855-001
The American Beekeeping Federation, Inc. submitted this report dated August 26, 1997 to the U.S. EPA to let EPA know about the ongoing problem of bees being killed by the pesticides in the United States. Purpose was to be aware of the severity of the bee kill situation and which may not be overlooked while revising or significantly changing the pesticide labels. The incidents included here took place between January 1 and June 16, 1997. Four other pesticides (Methyl Parathion, Carbaryl, Parathion, and Carbofuran) are listed as being highly probable cause of the incidents, whereas naled was listed as a possible cause of bee kills mentioned above.

B0000-506-03
A citizen of Minoa, NY, reported the death of approximately 60 pheasants on his farm, to a State agency that was not identified in the file item. He made the following (approximate) statement: "Despite his request to the Onondaga Health Dept. that they not spray (Dibrom 14, 1.5 oz/acre) the road in front of his house, his property was sprayed on July 14 (12:15 AM, and a second pass was made at 12:35). Over the next couple of days birds died. Symptoms began within 6 hours and included limping, followed by leg paralysis and death. He felt birds dying after day 1 did so because they stopped eating. Dead by July 9 were 60 pheasants and 3 turkeys. Also dying were several barn swallows nesting on his barn. The portion of his flock that was left indoors was not exposed to the spray and they were unaffected."

Health Department officials took birds for analysis but seemed interested in bacterial causes and discounted the possibility of pesticides as a factor, according

To comply with 6(a)2 requirements, Mobay reported a fish kill to the South Carolina Dept. of Environmental Control that was evidently caused by OFTANOL 5G. It had been applied to a golf course (location not mentioned) on July 5 at a rate of 40 pounds per acre, but the next day brought a heavy rain of 3 1/2"; it was on the following day that the death of the fish was observed. On July 8 an inspector took water samples (this would be 2 days after the rain) and concentrations of 59-130 ppb isofenphos were found in the water. The water temperature was very high (25-35 C) and the dissolved oxygen content was high, presumably because of the rapid growth of algae.