

Hiding Avian Mortality: Where “green” is blood red

Part II: The Wolfe Island slaughter

Jim Wiegand

While Altamont Pass operators have been hiding most of their wind turbine mortality with search intervals of 30-90 days, the rest of North American wind farms hide mortality by using search areas that are far too small. By using only 50 meter search areas for their huge new turbines, the wind facility operators can easily hide over 90% of fatalities caused from turbine blade strikes.

The motive is obvious. The more avian bloodshed, the more public outcry. The more outcry, the less money for wind industry players. The more they hide the ecological devastation, the more they mute the outcry and maintain the flow of subsidies for wind power.

The horrendous impacts on bird and bat populations across North America are of little concern to these special interests.

Wind turbine mortality facts

Studies I have examined make it clear that the wind industry has known for more than ten years that the average distance a carcass travels from a wind turbine is about two and a half to three times the length of the wind turbine blades. The industry has also known for years that about 85% of fatalities can be found within a 50-meter search radius around small 100-kW turbines with blades a mere 8-9 meters long. These facts are well documented in the 1998-2003 studies at Altamont Pass based on the locations of hundreds of bird fatalities.

Wind turbine carcasses distribution from Altamont pass around small turbines. Most of the carcasses found were reported far beyond turbine blade lengths.

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Prepared by:


BoSystems Analysis, Inc.
Tiburon, CA

Principal Authors:

Susan Orloff
Anne Flannery

***Wind Turbine Effects on Avian Activity,
Habitat Use, and Mortality
in Altamont Pass and Solano County
Wind Resource Areas
1989-1991***

*Final Report
March 1992*

 Turbine blade diameter

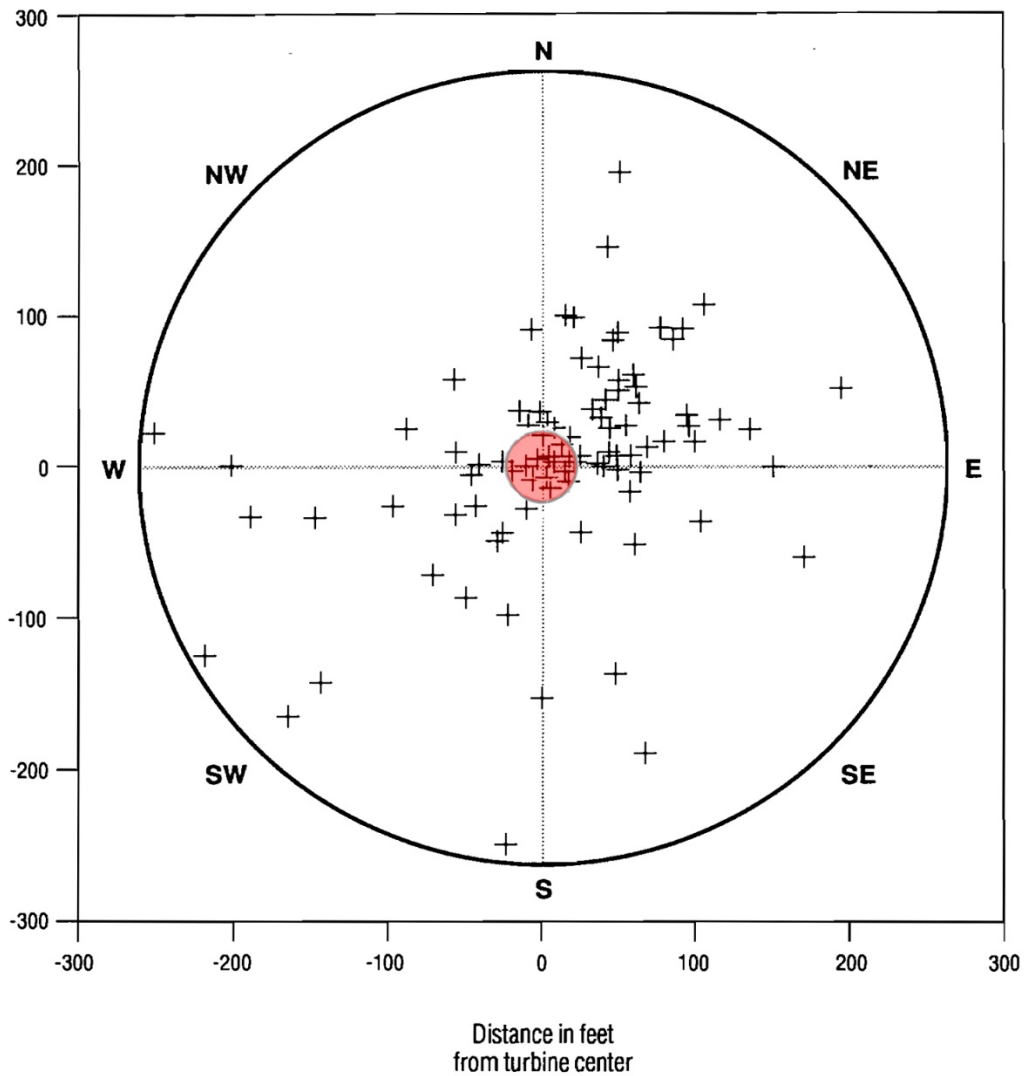
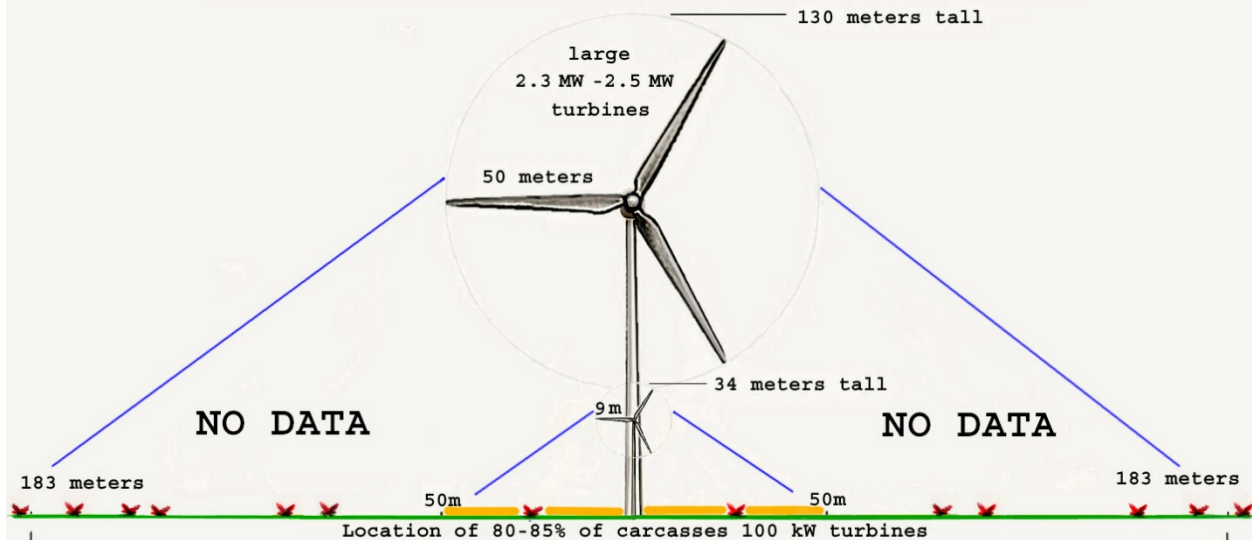


Figure 3-22. Locations of mortalities in relation to turbine centers.

HIDING WIND TURBINE MORTALITY

Wind industry studies deliberately use 50-60 meter mortality search areas on their large turbines so studies will miss most of the fatalities



Where 80-85% of bird and bat carcasses can be expected after being hit by the 200 mph blade tips of a 2.3 MW turbine

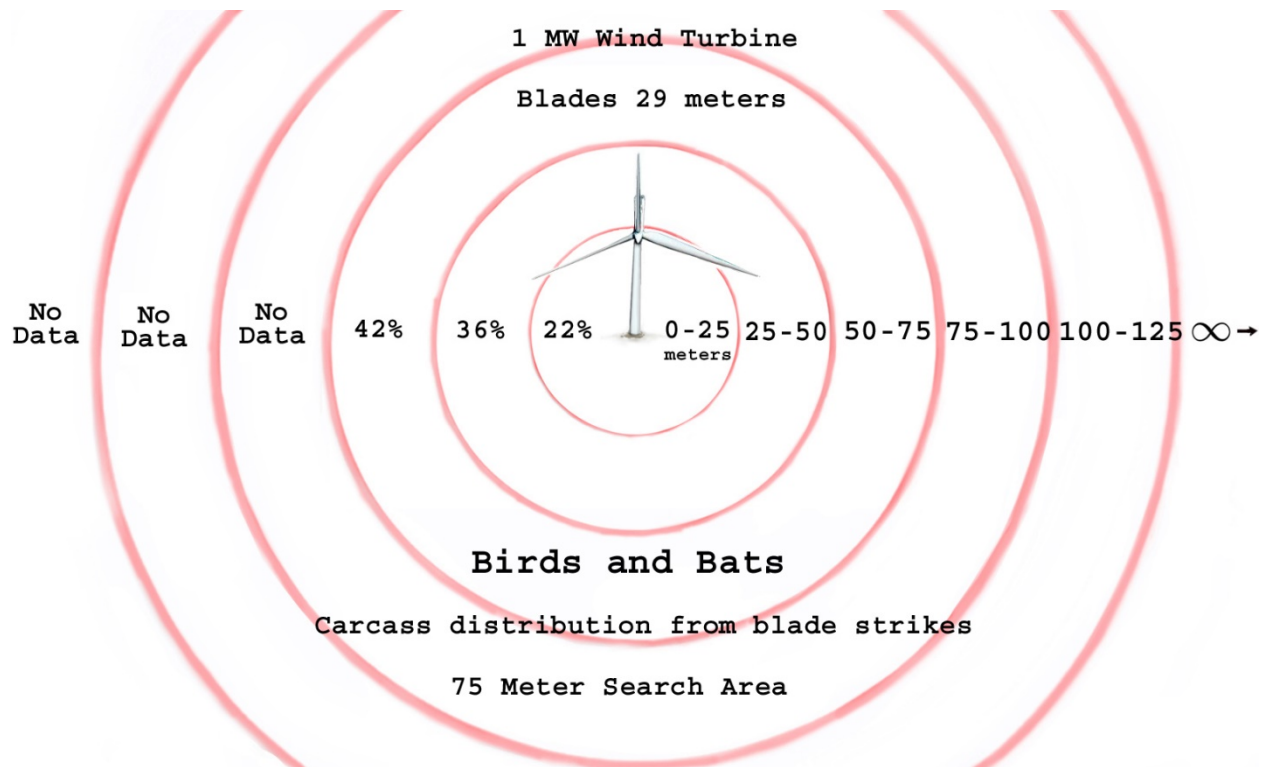
In 2009, the industry reported another similar and supporting statistic. An Altamont study concluded that 95% of all fatalities from these same small turbines could be found within 125 meters from turbine towers. The average size of the approximately 2,500 turbines in the study was 107 kW. The remaining 5% of fatalities is attributed to birds that fly or wander off mortally wounded, after being hit by turbine blades.

Today, the industry's huge turbines are 25-45 times larger than the thousands of turbines studied at Altamont, in terms of electricity output and area swept by their much longer blades. The big blades are over 50 meters long, and their tip speeds are 25-33% faster, than for the small turbines. These higher tip speeds propel bodies and severed parts much further from turbines.

Using these data and adjusting for the vast difference in turbine and blade size, some 95% of the turbine mortality can be expected to be **found within 400 meters of a 2.3-MW.**

A three-year study at Altamont confirms this. (See Figure below) The study was conducted around 38 1-MW wind turbines with a 75-meter search radius. Carcass location was documented, and 71% of the fatalities found by searchers were beyond the 29-meter length of the turbine blades. The fewest

fatalities were found under the blades and around the turbine towers.



This clearly demonstrates that even the 75-meter search limit employed in this study was undersized for this turbine. Had the search perimeter been set properly, far more fatalities would have been found and well over 90% of them would have been located beyond the length of the blades. The grossly inadequate search area, however, helps ensure that official bird (and bat) mortalities are kept artificially (and fraudulently) low – and the public is kept in the dark about the true impact of these supposedly “environment friendly” wind turbines.

The study also used Altamont's absurd 30-day search intervals, which ensures that most of the carcasses are taken away by scavengers, and thus “disappear” before searchers have a chance to find them. This clever tactic drives the fatality counts even lower.

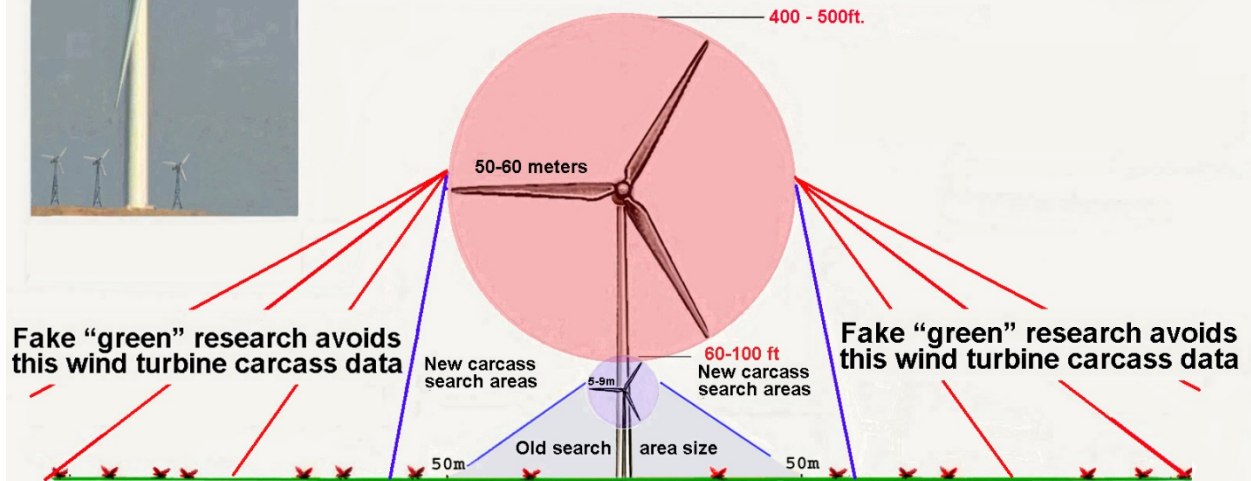
Nevertheless, the study has been presented as one of the wind industry's primary justifications for asserting that its new turbines are safer for bird and bats.

Making the claims even more ridiculous and misleading, the industry's newest turbines are much larger, much taller, with much faster tip speeds than even the 1-MW variety. The new 2.3-MW turbines are 130 meters (426 feet) tall and have 50-meter (164-foot) blades – meaning the total distance swept by the spinning blades is 108 meters (354 feet) – or 54 meters (127 feet) in each direction from the center of the turbine tower and rotor.

Unscientific and Deceptive Wind Energy Research



For 25 years the industry used 50 meter search areas around 40-100 kW wind turbines. It was also determined that 85% of the carcasses could be found in a 50 meter area around these small turbines. New methodologies and meaningless regulations have allowed search areas to proportionally shrink by up to 150 times



New wind industry search areas sizes of 50-75 meters approved with unscientific USFWS and Canadian monitoring guidelines

November 1998 - June 2002

This initial construction phase of the Foote Creek

Rim wind plant (hereafter referred to as FCR I) is comprised of 69 600-kilowatt Mitsubishi turbines (41.4 MW capacity)

During this study 43 of 79 bats were found at or beyond the 21 meter turbine blade length.

Appendix B. Bat mortalities found in Foote Creek Rim Construction Unit I (FCR I), November 3, 1998 - June 5, 2002.

Log No. ^a	Species	Date	Found During Carcass Search?	Plot ^b	Distance from tower (m)	Comments
232	Hoary Bat	8/29/01	Yes	T 50	10	Intact carcass
233	Silver-haired Bat	9/3/01	No	T 58	15	Intact carcass, found by Jeff Gruver (UW) during bat studies on FCR
234	Hoary Bat	9/13/01	Yes	T 22	57	Intact carcass but decomposed
253	Little Brown Bat	6/3/02	Yes	T14	40	Intact carcass

^a matches log no. on Figure 1

^b T = turbine; M = meteorological tower (met tower)

At turbine plots, avian casualties were located between 4 and 77 m from the turbines with an average distance of 37.7 m.

¹ The carcasses found at distances too great to determine if they were associated with a wind plant turbine or met tower were all found incidentally during other wildlife studies (e.g., raptor point counts).

Appendix A. Avian mortalities found in Foote Creek Rim Construction Unit I (FCR I), November 3, 1998 - June 5, 2002.

Log No. ^a	Species	Date	Found During Carcass Search?	Plot ^b	Distance from tower (m)	Comments
158	Common Nighthawk	7/27/00	No	unk	-	Intact carcass: 1m south of road; compressed by truck tire, 140m from T 40
175	Rock Wren	8/29/00	Yes	T 23	47	Intact carcass: left eye scavenged; broken left wing, broken ribs
179	Horned Lark	9/5/00	No	unk	-	Feather spot; possible mammal scavenging; 168 m from T 68
182	Townsend's Warbler	9/11/00	Yes	T 11	28	Dismembered carcass; torso, head, wings missing
183	Wilson's Warbler	9/12/00	Yes	T 31	30	Dismembered carcass; part of head, most of tail, 1 wing and body feathers
185	Townsend's Warbler	9/12/00	Yes	T 40	61	Dismembered carcass; head and torso missing
188	White-crowned Sparrow	9/26/00	No	unk	-	Intact carcass; fresh carcass, no visible injuries; 184 m from T 36

FCR I. The Mitsubishi turbines in FCR I are approximately 131 ft (40 m) tall at the nacelle with a rotor diameter of 138 ft (42 m). Tower (turbine) spacing in FCR I is approximately 276 ft (84 m).

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And yet, the industry is still employing a 50-meter search perimeter (Wolfe Island) for these huge turbines. That doesn't even cover the distance overshadowed by the blades, much less the areas into which butchered birds and bats are likely to be catapulted by the enormous force of monstrous blades that are moving at 200 miles per hour.

Using the industry's approximation that 80-85% of fatalities are found within 50 meters of small 100-kW wind turbines, I created a graphic that compares carcass distributions in equal proportion to the industry's large turbines. (See Figure 2.) For a turbine 130 meters tall with 50-meter blades, 85% of the fatalities can be expected to fall within 183 meters (600 feet) of the turbine tower!

This is far beyond the 50-meter search area employed by the wind industry - with the approval and connivance of the U.S. Fish and Wildlife Service, bird protection and environmental groups, the California Fish and Game Commission, and their counterparts in Canada and elsewhere.

Moreover, this preliminary analysis does not account for the increased blade tip speeds on 2.3-MW turbines, compared to 100-kW or even 1-MW turbines. Adjusting for blade tip speeds, one can expect that 85% of the bird carcasses and body parts will actually be found 200 meters (655 feet) or more from the center of turbine towers.

All these facts have been studiously and deliberately ignored by the wind industry. It continues to use its “approved” 50-meter search radius as the standard. In fact, this is the area where the fewest fatalities are likely to be found: under the blades and in the gravel area immediately around the turbine towers. It likely eliminates at least 90% of carcasses that are being launched by turbine blades and dropped well outside of their tiny search areas.

The Wolf Island studies

In early 2011, the company that owns and operates the 86 wind turbines on Wolfe Island released its first mortality study. After making “their adjustments,” the study estimated that the turbines killed 602 birds and 1,270 bats between July 1 and December 31, 2009; and additional 549 birds and 450 bats were killed between January 1 and June 30, 2010. The total fatality toll for the twelve months was estimated to be 1,141 birds, 24 raptors, and 1,720 bats.

The huge number of fatalities generated extensive negative publicity around the world, and the Wolfe Island wind installation quickly became known as Canada’s deadliest energy facility. In response to this criticism’ and under the direction of the country’s Ministry of Natural Resources, new “management” procedures were adopted that would supposedly reduce these turbine impacts. Follow-up studies “indicated” that the new procedures for were having a positive impact and Wolfe Island wind turbine mortality was being reduced.

In reality, the “management” procedures had little or nothing to do with actually reducing bird and bat deaths – and everything to do with reducing official death tolls and bad publicity. The supposed reduction in mortality is easily and more accurately explained by the fact that Wolfe Island “researchers” are now spending less time in the field and looking at smaller search areas.

There are so many problems with the Wolfe Island studies that they cannot possibly be addressed in one article. However, it is clear from the study data and information that most of the mortality from the 86 turbines is simply not being reported.

My research also revealed that the guidelines and unscientific monitoring protocols for Wolfe Island were apparently put together under the direction of the Canadian Renewable Energy Corporation (“CREC”), Environment Canada’s Canadian Wildlife Service (“EC”), Natural Resources Canada (“NRCan”), Ontario Ministry of Natural Resources (“MNR”) and Ducks Unlimited Canada (“DUC”). A similar pattern is apparent with government agencies and conservation groups in the United States.

One can hardly avoid the conclusions that these organizations are deliberately obfuscating and hiding the bird and bat butchery to advance a “green” agenda.

Among the unscientific “management” strategies included in the new Wolfe Island “monitoring” plan were that search areas would be limited to 50 meters (shorter than each turbine’s blade length) and 85% of fatalities would be assumed to be located within 50 meters. These strategies are clearly unfounded,

because (as explained above) the search areas for these 2.3-MW turbines should have been at least 200 meters. And yet, all these groups signed off on the new schemes.

The so called Wolfe Island “monitoring plan” also allowed workers searching for fatalities to avoid searching the entire 50-meter areas, as long as they “factored in” the percentage of the area that had actually been searched. The plan also allowed monitoring teams to block out certain areas from within the 50-meter search radius and exclude any carcasses that were found outside the remaining search areas.



WOLFE ISLAND ECOPOWER®
CENTRE
POST-CONSTRUCTION FOLLOW-UP PLAN
BIRD AND BAT RESOURCES

MONITORING REPORT NO. 2
JULY - DECEMBER 2009

Appendix E - Mortality Monitoring Results



Date	Turbine #	GPS Location Zone Easting Northing	Observer	Species	Condition/Estimated Time Since Death	Injuries Sustained	Distance and Direction to Turbine	Ground Cover
12-Aug-09	33	18 T 0384495 4887243	2	Eastern Red Bat	Fresh<1 day		9m; west 237°	Soil
12-Aug-09	36	18 T 0388886 4887332	3	Silver-haired Bat	Fresh/1-2 days	Wing/neck	10m; west northwest 298°	Soil
12-Aug-09	37	18 T 0388809 4887752	3	Hoary Bat	Fresh/1-2 days	Wing	40m; north 340°	Soil
12-Aug-09	51	18 T 0387744 4890503	3	Silver-haired Bat	Old/3-4 days		31m; south southwest 210°	Gravel
12-Aug-09	65	18 T 0387713 4892035	3	Purple Martin	Fresh/1-2 days	Wing	10m; south 180°	Gravel
13-Aug-09	10	18 T 0381259 4890211	2	Little Brown Bat	Fresh<1 day		9m; north 303°	Soil/veg
13-Aug-09	6	18 T 0380782 4889408	2	Silver-haired Bat	New/<2 days		7m; north 43°	Soil
13-Aug-09	12	18 T 0381842 4890318	3	Silver-haired Bat	Fresh/1-2 days	Wing	7m; west northwest 300°	Soil
14-Aug-09	29	18 T 0384762 4888885	1	American Robin	Fresh/1-3 days		30m; southwest 220°	Soil
14-Aug-09	29	18 T 0384749 4888880	1	Silver-haired Bat	Fresh/1-3 days	Broken wing	14m; south 190°	
14-Aug-09	66	18 T 0388168 4891497	1	Turkey Vulture	Desiccated/>5 days	Neck	50m; south 190°	Hedge/row
14-Aug-09	3	18 T 0380563 4891104	2	Silver-haired Bat	Fresh<1 day		27m; southwest 223°	Veg/Soil
14-Aug-09	13	18 T 0382393 4890516	2	Silver-haired Bat	Fresh<1 day		15m; west 274°	Soil
14-Aug-09	79	18 T 0384849 4889368	2	Silver-haired Bat	Fresh<1 day		15m; northeast 61°	Gravel
14-Aug-09	76	18 T 0383915 4893022	2	Eastern Red Bat	New/<2 days		27m; north 6°	Soil
14-Aug-09	74	18 T 0384456 4892961	2	Eastern Red Bat	Fresh<1 day		13m; southwest 212°	Gravel
14-Aug-09	77	18 T 0384495 4892124	2	Tree Swallow - juvenile	Fresh<1 day		10m; north 337°	Soil
14-Aug-09	74	18 T 0384451 4892952	2	Hoary Bat	Old/<3 days		6m; 226°	Soil
14-Aug-09	79	18 T 0384839 4889371	2	Hoary Bat	Fresh<1 day		18M; east 89°	Gravel
15-Aug-09	15	18 T 0381580 4888222	3	Little Brown Bat	Fresh<1 day		8m; southwest 243°	Gravel
15-Aug-09	85	18 T 0381924 4892284	3	Hoary Bat	Fresh<1 day		42m; west 261°	Soil
15-Aug-09	35	18 T 0384272 4887828	3	Big Brown Bat	Old/23 days		25m; north 332°	Gravel
16-Aug-09	69	18 T 0386251 4892235	3	Big Brown Bat	Old/at least 2-3 days		2-3m; north 356°	Gravel
16-Aug-09	46	18 T 0389923 4890719	3	Bat sp.	Old/>3 days	Just wings	9m; south 220°	Soil
17-Aug-09	36	18 T 0388874 4887348	1	Red bat	Still alive		5m; south 220°	Soil
17-Aug-09	36	18 T 0388896 4887350	1	Hoary Bat	Fresh/1-3 days		27m; west 270°	Soil
17-Aug-09	37	18 T 0388818 4887800	1	Cedar Waxwing	Fresh/1-3 days	Head trauma	1m; north 35°	Gravel
17-Aug-09	64	18 T 0388794 4887780	1	Hoary Bat	Fresh/1-3 days		17m; south 180°	Sand
17-Aug-09	44	18 T 0388510 4893736	1	Purple Martin - juvenile	Maggot filled/3-5 days		24m; south 200°	Soil
17-Aug-09	78	18 T 0386911 4893194	1	Little Brown Bat	Fresh/1-3 days		27m; west 310°	Soil
17-Aug-09	27	18 T 0382245 4891307	2	Silver-haired Bat	Old/>4 days		9m; north 350°	Soil
17-Aug-09	33	18 T 0384496 4887235	2	Eastern Red Bat	Fresh<2 days		8m; west 263°	Soil
17-Aug-09	34	18 T 0384036 4887218	2	Hoary Bat	Fresh<1 day		17m; south 154°	Soil
17-Aug-09	27	18 T 0382216 4891337	2	Silver-haired Bat	Old/>3 days		22m; south 156°	Soil
17-Aug-09	27	18 T 0382218 4891332	2	Big Brown Bat	Old/>3 days		25m; southeast 127°	Soil
17-Aug-09	27	18 T 0382224 4891332	2	Bank Swallow	Old/3-4 days		21m; southeast 141°	Soil
17-Aug-09	34	18 T 0384048 4887201	2	Eastern Kingbird	Fresh/1-2 days		5m; north 343°	Soil
18-Aug-09	49	18 T 0390341 4891158	1	Eastern Red Bat	Fresh/1-3 days		20m; south 180°	Gravel
18-Aug-09	61	18 T 0390341 4891158	1	Bat sp.	Fresh/1-3 days	Broken wing	8m; south 200°	Soil
18-Aug-09	61	18 T 0390041 4894154	1	Bat sp.	Fresh/1-3 days		18m; west 270°	Soil
18-Aug-09	62	18 T 0389728 4893961	1	Bat sp.	Desiccated/>5 days		1m; south 140°	Rock
18-Aug-09	70	18 T 0389704 4893986	1	Hoary Bat	Desiccated/>5 days	Broken wing	31m; south 190°	Gravel
18-Aug-09	70	18 T 0388876 4893972	1	Bat sp.	Desiccated/>5 days		12m; south 190°	Gravel
18-Aug-09	15	18 T 0381605 4888267	2	Hoary Bat	Old/>3 days		58m; southwest 236°	Soil
18-Aug-09	15	18 T 0381585 4888217	2	Hoary Bat	Very old/>4 days		13m; west 263°	B' Gravel
18-Aug-09	15	18 T 0381622 4888232	2	Hoary Bat	New/1-2 days		50m; west 260°	Soil/Veg
19-Aug-09	47	18 T 0390445 4890491	3	Hoary Bat	Fresh/1-2 days		18m; northwest 320°	Soil
19-Aug-09	56	18 T 0385832 4890219	3	Silver-haired Bat	Old/3-5 days		14m; north 20°	Gravel

These monitoring protocols for Wolfe Island effectively ensure that mortality searches around turbines are now conducted primarily on the gravel areas around the turbines and away from the primary direction of carcass throw. In other words, the protocols are specifically designed to focus on the areas

that are least likely to have bird and bat carcasses and body parts. These areas are also the easiest areas for wind personnel to pre-scan for bodies ahead of formal searches.

An examination of the studies makes it abundantly clear the mortality analyses are replete with patterns of carcass dispersal that are not only non-random, but impossible. I ran some calculations for these carcass dispersal patterns, to determine the likelihood of these events taking place. I got probability numbers in the quintillions! (See distances in figure above).

It is clear that researchers were only looking in only small sections of deliberately too-small 50-meters radius search areas. Equally disturbing, search teams, wind industry personnel, lease holders, and farmers tilling the soil around turbines would not mention the obvious presence of carcasses cast about by the turbines.

An eyewitness sees massive geese slaughter occur right before his eyes

“On Friday morning, September 30 at 9:30 am, it was surprising to personally witness the destruction of a flight of Canadian Geese by one of the Wolfe Island turbines. Here is what happened; from a clear view second floor window at our home on Tibbetts Point Rd. I watched geese lift off and form up along the shore of Wolfe Island. At about a hundred feet of altitude they wheeled into the wind, headed in a west/southwesterly direction. As their climb into a headwind slowly took them over Wolfe the wind speed gauge at our house continued to read a strong and steady 22-25 mph. It was overcast. The river was rolling.

“Crossing Wolfe, they flew into the plane of spinning turbine blades. This one turbine is directly across from our home and close to us at about a mile and a half. Through 8X binoculars the carnage was mesmerizing.

“Imagine a scene of blade impacts repeatedly knocking dark puffs of feathers against a grey sky. With such a strong wind, limp bodies seemed to be blown backwards out of the turbine. Amazingly the rear of the flight followed into the blades. They seemed oblivious to the destruction of their leaders. With strong headwinds slowing their passage the period of danger and destruction was prolonged. After about two-thirds entered this gauntlet, the flight finally broke off, lost its V shape and scattered.”

<http://ontario-wind-resistance.org/2011/12/07/witness-observes-wolfe-island-turbine-canada-geese-slaughter/> (posted 12/07/2011)

This eye witness account does not match any of the Wolfe Island mortality studies. Swans, geese, and ducks by the thousands use the habitat around the Wolfe island turbines. These species are routinely observed foraging in the fields around the turbines – and yet the death of geese and other waterfowl are mysteriously missing from official studies.

This underscores yet another aspect of these studies: the species fatality lists are highly improbable.

The only waterfowl found reported killed by the turbines were a few mallards over a three-year period. The reports show no geese or swans – and no owls, eagles, falcons or many other highly sensitive species that use the Wolfe Island habitat. Yet, wind turbines are known to kill every flying species that share the same habitat, especially all raptors. The official counts are simply impossible, especially when mortality estimates explode into the thousands after being properly adjusted.

Recalculating data with proper adjustments

When properly adjusted, the numbers coming out of Wolfe Island are staggering. As I have pointed out, the studies used undersized search areas. When corrected for 200 meters (0.0625 factor – meaning the original study ignored 94% of the area that should have been searched) and searcher efficiency of 0.5 (50% of carcasses actually found), the July-December 2009 estimated mortality of 602 birds can be corrected to 12,505 birds.

When the searcher efficiency for bats is adjusted with a far more accurate 0.4 (40% of carcasses found) rating instead of a 0.630 rating, the estimated bat mortality skyrockets from 1,270 to 31,973 bats in just six months.

Along with the undersized search areas, in the all studies researchers improperly gave themselves elevated adjustment factors that allowed them to calculate fewer mortalities. The searcher efficiency rating of 1.0 for raptors is patently ridiculous, because it means they were claiming that they were not missing any raptor carcasses. A 0.7 rating is far more likely, because the terrain around the turbines is far from being just gravel and many of the raptor species are small.

With a 0.7 (70%) searcher efficiency rating, and considering that only 85% of dead raptors will be found in even a 200-meter search area, mortality should be considered to be, not merely 23 (as claimed) – but around 541 raptors for the twelve-month period, July 2009 through June 2010, for the 86-turbine Wolfe Island installation.

The industry researchers “adjusted” all their Wolf Island studies, using searcher efficiency ratings that are not possible with the mixed habitat in search areas surrounding the turbines.

For example, Figure 4 shows the native vegetation surrounding the turbines. In this habitat the searcher efficiency rating for small birds and bats could not be any better than 0.2 (that is, they miss 80%), unless several people spent hours at each turbine with each visit – which never happens. In fact, searchers only spent a few minutes around each turbine with each visit, making their self-proclaimed searcher efficiency ratings completely false and unreliable. Nevertheless, in the studies, they used a factor of 0.8, as if they only missed 20% of the carcasses.

Wolfe Island studies for the last available year of research reported lower mortality – allowing the industry, government agencies and environmental groups to report “success” in “reducing” bird and bat mortalities. However, this “reduction” is easily explained by fewer searches conducted, less time spent on each mortality search, extermination of local species and absurdly small search areas employed.

Based on carcass locations reported, searchers only examined a total area equivalent to about 1/6 of a 50-meter search radius around each turbine (1/6 of 7,854 square meters or 0.33 acres) – when they should have searched a 200-meter-radius area (31 acres), an area 94 times larger.

Again, mortalities officially recorded in the industry’s two 2011 6 month reports totaled 442 birds, 24 raptors, and 533 bats. In reality, taking into account the various methods used to minimize carcass counts, the Wolfe Island turbines are likely slaughtering 644 raptors, 21,512 other birds, and 29,831 bats!

Literally tens of thousands of fatalities are being systematically covered up at Wolfe Island.

The deceptive and unscientific mortality information coming out of Wolfe Island is not an aberration. It is deliberate and it is the norm for the wind industry.

It does not matter whether the wind farm is located in Canada or the United States. All the reported data is nonscientific. Every single mortality study has been deliberately and systematically contaminated with serious research and methodology flaws – which are then “blessed” and accepted by the Interior Department as accurate.

In my expert opinion, the 86 Wolf Island turbines are killing over 50,000 birds and bats a year, including many vitally important species. This is more than 250 fatalities per MW, and more than 500 per turbine.

Properly designed and executed studies would show staggering numbers – with far more species showing up on the mortality lists, beyond the few listed in the official reports.

This wind industry problem of hiding the slaughter has gone on for years. Worse, it is being aided, abetted and shielded by the very government agencies that have been established and empowered to protect our wildlife – and by mainstream conservation groups that have abandoned their charters and embraced wind industry projects, and wind industry payments.

Ironically, groups like the Audubon Society and Sierra Club not only collect money from members who donate to save our wildlife – they also collect money from an industry whose projects are slaughtering our wildlife. In the meantime, millions upon millions of protected birds and bats, among hundreds of species, are being killed every year by wind turbines.

If wind energy were actually regulated and required to conduct true scientific research, the public would understand that wind energy is so devastating that extinction to many species is inevitable.

Jim Wiegand is an independent wildlife expert with decades of field observations and analytical work. He is vice president of the US region of Save the Eagles International, an organization devoted to researching, protecting and preserving avian species threatened by human encroachment, and development.

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Big Wind & Avian Mortality (Part II: Hiding the Problem)

By Jim Wiegand -- March 15, 2013

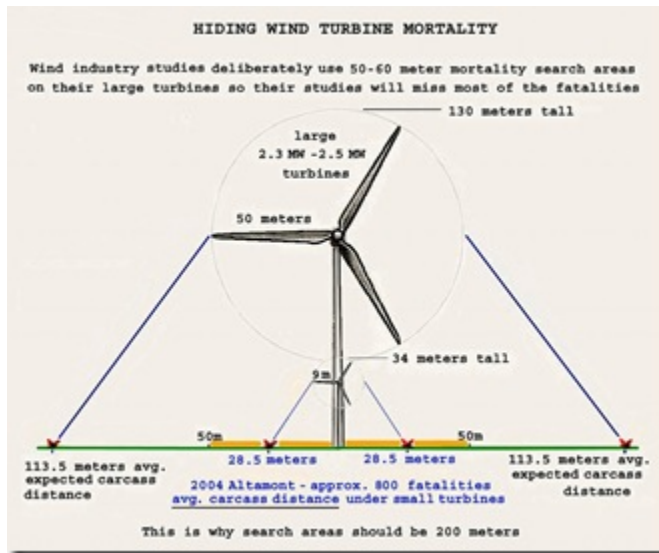
“The cold reality is that honest, scientific, accurate mortality studies in the Altamont Pass area would result in death tolls that would shock Americans. They would also raise serious questions about wind turbines throughout the United States, especially in major bird habitats like Oregon’s Shepherds Flat wind facility and the whooping cranes’ migratory corridor from Alberta, Canada, to Texas.”

Part I [yesterday](#) examined the sober findings and admissions of a 2004 study by the California Energy Commission (CEC) on bird carnage at the Altamont Pass Wind Resource Area (APWRA).

[Developing Methods to Reduce Bird Mortality in the Altamont Pass Wind Resource Area](#) also looked at the placement of carcasses in relation to turbine types. It documented that the distances carcasses were found from turbine towers increased significantly as turbine megawatt ratings and

blade lengths increased. Based on a sample of about 800 carcasses, the report revealed that birds were found an average of 94 feet (28.5 meters) from 100Kw turbines on towers 81 feet (24.6 meters) high.

Obviously, taller turbines with longer blades and faster blade-tip speeds will catapult stricken birds much further. **Figure 1** below shows how a turbine 2.5 times larger will result in an average carcass distance of 372 feet (113.5 meters) from the tower. The wind industry is acutely aware of this.



That is why it has restricted search areas to 165 feet (50 meters) around its bigger turbines. This ensures that far fewer bodies will be found – and turbine operators will not need to explain away as many carcasses.

Recent mortality studies like those conducted at the Wolfe Island wind project (2.3 MW turbines) and Criterion project in Maryland (2.5 MW turbines) should have used searches 655 feet (200 meters) from turbines, just to find the bulk (75-85%) of the fatalities. Of course, they did not do so. Instead, they restricted their searches to 165 feet – ensuring that they missed most raptor carcasses, and could issue statements claiming that their turbines were having minimal or “acceptable” effects on bird populations.

Later Altamont Pass Study: More Hiding

Other methods and biased formulas allow the industry to exclude or explain away carcasses.

ALTAMONT PASS WIND RESOURCE AREA BIRD
FATALITY STUDY, BIRD YEARS
2005–2010

The latest [Altamont Pass studies](#) found far more bird carcasses, but Altamont operators still claim mortality declines by using new adjustment formulas and other exclusionary factors as shown in **Figure 2**.

APWA mortality comparisons for the 1998-2003 and 2005-2010 study periods

Species Mortality *	Total number carcasses located		Unadjusted mortality/MW/year		Adjusted mortality/MW/year	
	1998-2003	2005-2010	1998-2003	2005-2010	1998-2003	2005-2010
Golden eagle *	94	105	0.3380-0.1381	0.203	124.5	50.4
Red-tailed hawk	217	374	0.2953-0.2490	0.379	300.4	228.8
American kestrel	59	119	0.0634-0.1251	0.381	333.1	193.2
Purrowing owl	70	270	0.1674-0.3880	0.527	380	317.2
Other species						
Hawk owl	50	100	0.442-0.0292	0.213	49.0	Not given
Horned owl	18	49	0.0245-0.040	0.056	19.1	Not given
Prairie falcon	0	4	0	0.008	0	Not given
Peregrine falcon	0	2	0	0.002	0	Not given
Western meadowlark	94	324	0.2078-0.1975	0.481	257.4	Not given
Horned lark	23	59	0.0427-0.000	0.074	115.2	Not given
Rock dove	134	1125	0.4399-0.1132	1.466	2324.9	Not given
No. bird species found	45	75				

* Does not include 21 dead carcasses from 2005-2010 study period
 * Does not include 21 WRS golden eagle fatalities from monitored turbines during 2005-2010 study period
 * Does not include any ripples found during 2005-2010 study period
 * Does not include any carcasses found outside 50 meter search areas

For example, industry analysts:

- Exclude certain carcasses. The 2005–2010 WRRS data show that 347 carcasses (primarily raptors) – plus 21 golden eagle carcasses – were excluded from mortality estimates, because industry personnel claimed they were found outside standard search procedures, said the “cause of death was unknown” (even when the birds’ [heads had been sliced off](#)), or removed carcasses ahead of a scheduled search.
- Exclude mortally wounded or crippled birds found during searches, even if they display turbine-related injuries. Even though many birds hit by turbine blades die within days, if they are still breathing when found, they are considered mobile – and thus not fatalities.
- Avoid searching near some of the most dangerous and lethal turbines. The industry justifies this exclusion by claiming that “the number of turbines monitored was reduced and spatially balanced for a randomized rolling panel design.” That this “reduction and balancing” excluded the most deadly portion of the Altamont facility was presented as coincidental or part of a proper scientific methodology.

The cold reality is that honest, scientific, accurate mortality studies in the Altamont Pass area would result in death tolls that would shock Americans. They would also raise serious questions about wind turbines throughout the United States, especially in major bird habitats like Oregon’s Shepherds Flat wind facility and the whooping cranes’ migratory corridor from Alberta, Canada, to Texas.

The techniques discussed here help ensure that “monitoring” studies match the facility operators’ desired conclusions, and mortality figures are kept at “acceptable” levels.

Time for Truth

Not only has the wind industry never solved its environmental problem. It has probably been hiding at least 90-98% of this slaughter for decades. In fact, the universal problem of hiding bird (and bat) mortality goes from bad to intolerable beyond the Altamont Pass boundaries, because

studies in other areas across North America are far less rigorous, or even nonexistent, and many new turbines are sited in prime bird and bat habitats.

The real death toll, as reported by [Paul Driessen and others](#), is thousands of raptors a year – and up to *39 million* birds and bats of all species annually in the United States alone, year after year! This is intolerable, and unsustainable. It is leading to the inevitable extinction of many species, at least in many habitats, and perhaps in the entire Lower 48 States.

Meanwhile, assorted “experts” continue to insist that the [greatest threats to golden eagles](#) are other factors like hikers getting too close to their nests, even when most abandoned nests in Southern California are nowhere near any hiking trails and wind turbines continue to slaughter eagles.

It is essential that people realize that no energy source comes anywhere close to killing as many raptors as wind energy does. No other energy companies are allowed to pick up bodies of rare and protected species from around their production sites on a day-to-day basis, year-in and year-out. No other energy producer has a several thousand mile mortality foot print (the highly endangered whooping cranes’ migratory corridor) similar to what wind energy has.

Once people understand all of this, they will rightfully demand that the wind industry obey the same environmental rules that all other industries must follow. This will require that wind turbines be sited only where the risk of bird deaths is minimal to zero; that turbines be replaced with [new designs](#) that birds recognize as obstacles and thus avoid; that fines be levied for every bird death, as is done with other industries; and that industrial wind facilities not be permitted where these requirements cannot be met.

America’s wildlife, and proper application of our environmental laws, require nothing less.

Jim Wiegand is an independent wildlife expert with decades of field observations and analytical work. He is vice president of the US region of Save the Eagles International, an organization devoted to researching, protecting and preserving avian species threatened by human encroachment and development.

41 Comments

1.

[ttanton](#) • [March 15, 2013 at 8:51 am](#)

Excellent post, Mr. Weigand. This PBS video re avian mortality runs through a brief history of CEC actions (and others) on the subject subject, and it pretty damning for a PBS story. It features Jim Walker, at one time Exec. Director and then later Commissioner at CEC. I was there at the time.

<http://science.kqed.org/quest/2007/06/26/fatal-attraction-birds-and-wind-turbines/>

[Reply](#)

2.

3.

[Ray](#) • [March 15, 2013 at 9:29 am](#)

Currently all wind capturing techniques are turbine t