

A Summary of Florida Panther Mortality Caused by Vehicular Collisions

Florida Fish and Wildlife Conservation Commission
Bureau of Wildlife Diversity Conservation

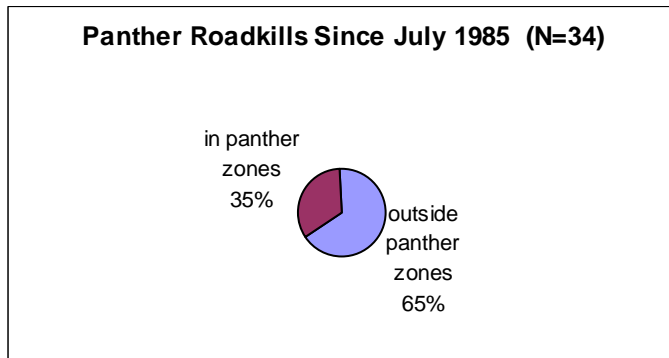
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Florida panthers are large, wide-ranging carnivores that frequently cross highways and as a result are exposed to mortality risks from collisions with vehicles. The FWC has documented 44 panther deaths caused by collisions with vehicles since 1972, primarily in Collier and Hendry counties (Appendices 1, 2). Wildlife crossings and right of way fencing have been installed on over 40 miles of highway corridors that pass through public lands and no panthers have been killed where these structures were placed.



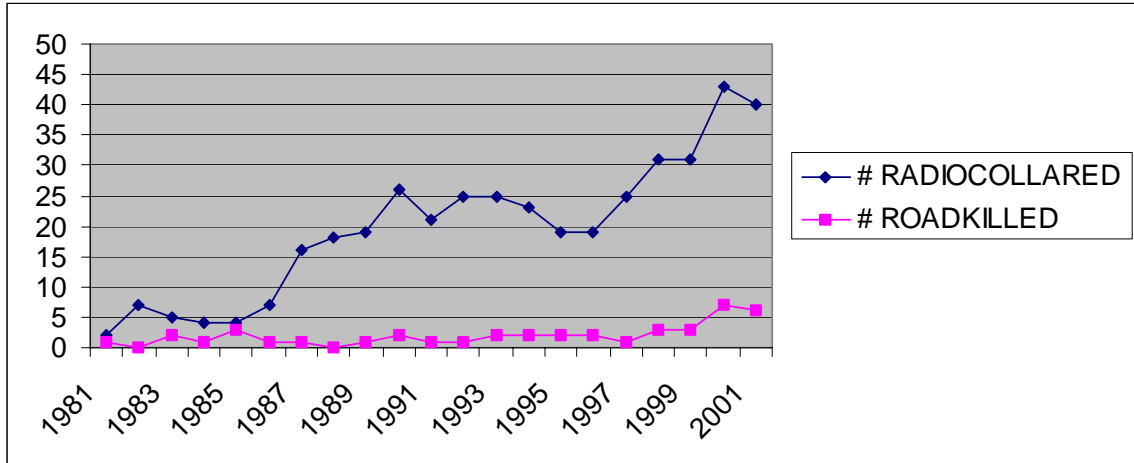
The majority of these structures were constructed when State Road (SR) 84 (Alligator Alley) was converted to Interstate 75. Wildlife crossings and fencing are very expensive with each bridge-type structure costing a minimum of \$500,000. The only prudent application of these structures would be in areas with 1) a documented loss of panthers due to vehicle collisions and 2) where lands on either side of the structure are somehow protected to preserve their importance as panther habitat well into the future.

Lowered nighttime speed limit zones have been established since July 1985 to help reduce panther mortalities, however, speed zones cannot stop a panther from entering a highway corridor. It is impossible to evaluate fully the utility of such zones because we cannot show how many panthers may have been saved by slower traffic. Vehicles killed 12 panther since July 1985 in panther speed zones.

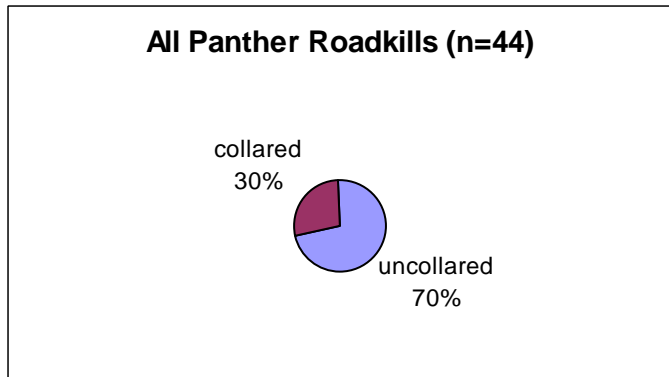


Education and enforcement of speed zones probably only has a temporary effect on reducing speeds and speed itself may not be the sole determinant of panther roadkills. We have had a panther struck and injured by a wildlife officer during daylight hours where the officer was traveling < 45 mph and another case where a farm worker bus going < 25 mph, struck and killed a panther on a 1 lane dirt farm road. The only lesson here is that when 2 bodies try to occupy the same space at the same time, the bigger object wins.

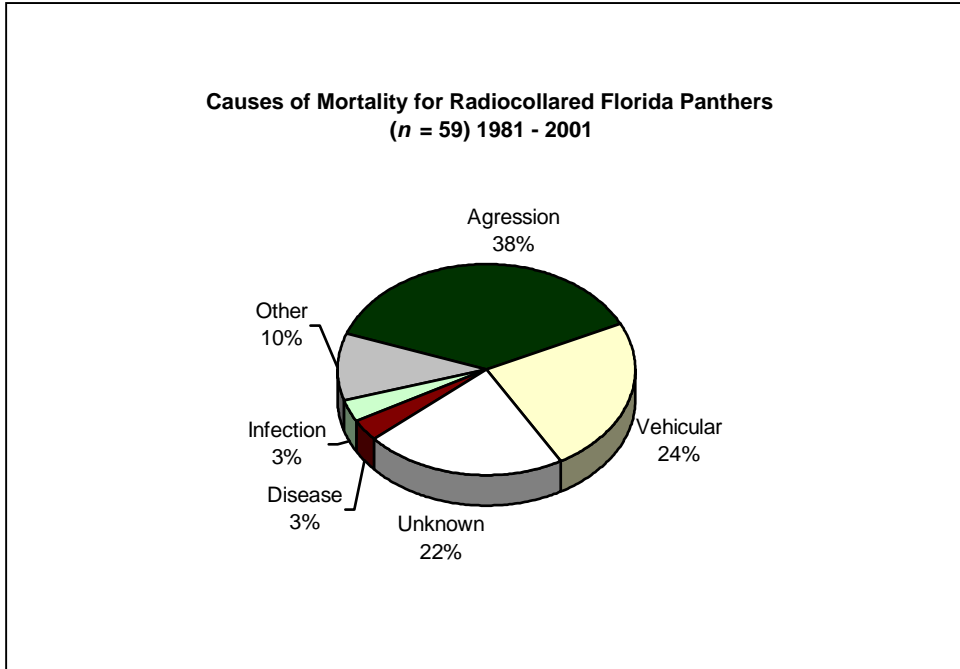
The increase in number of panthers dying as the result of collision with vehicles over the past 2 years does not necessarily reflect a greater risk of dying by vehicle to an individual panther. We have documented an increase in the panther population size since we implemented panther genetic restoration in 1995. At that time, we introduced 8 female Texas cougars into the panther population to alleviate genetic problems. These cats bred with male Florida panthers and their descendents have also had the expected effect of increasing population size. When we examine the number of radiocollared panthers and the number of roadkills, we see both of these numbers rise since the onset of genetic restoration.



As a result of the increased population size, we should expect a greater number of roadkills even if the underlying risk factor remained constant. If we were to assume that the panther population had not increased in size, then we would expect to see a greater proportion of panther roadkills coming from radiocollared panthers because we know that our sample of radiocollared cats has indeed increased. Over the past 2 decades, most panther roadkills have been uncollared and over the past year, only 1 of 8 roadkills (12.5%) was radiocollared.



Roadkill mortality is the most visible cause of death, but it is not the most important mortality agent acting upon panthers. Our sample of radiocollared panthers has shown that Aggression among panthers is the leading cause of death with roadkill mortality of secondary



importance. By focusing on the fates of radiocollared panthers, we avoid the bias caused by how easily roadkill mortalities can be detected.

Recommendations

Integrating wildlife crossings and right-of-way fencing into highway design has effectively mitigated panther mortalities caused by collisions with vehicles on I-75 and certain portions of SR 29. These structures are very expensive and should only be recommended where there is some guarantee that the surrounding landscape is protected into the future. County Roads (CR) 846 and CR 833 in Collier and Hendry counties have claimed 13 panthers since 1990 but private lands border the areas where these roadkills have occurred. These same areas were listed as Priority 1 and 2 Panther Habitat in the Florida Panther Habitat Protection Plan (USFWS 1993) and as Strategic Habitat Conservation Areas for panthers in Closing the Gaps (Cox et al. 1994). Proposed conservation land projects in these areas should receive higher ranking for funding as a first step towards eliminating panther mortalities through future wildlife crossings.

Non-governmental groups such as Defenders of Wildlife have expressed interest in reducing panther roadkills through educational materials and supplementing local law enforcement agencies' speed enforcement on rural roads. FWC's Office of Environmental Services and Division of Wildlife could analyze existing data on panther movements, habitat preferences, and roadkill locations to identify specific areas where these efforts would be most beneficial. Although pamphlets, panther crossing signs, and law enforcement will not eliminate roadkill, any reduction in roadkills would be important to a population less than 100 animals in size.

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Appendix 1. List of Florida panther/vehicle collisions 1972 – 2001 (radiocollared panthers in **bold**).

Panther Mortalities

Cat ID ^a	Date	Sex	Age at Incident	Location	County
UFP28	13 Feb 1972	M	2-3	SR 25 S of Moore Haven	Glades
UFP04	23 Dec 1979	F	1.5-2.5	SR 29 just No. of Alligator Alley	Collier
UFP05	07 Feb 1980	M	1.5-2.5	SR 29 near Sunniland	Collier
UFP06	19 Apr 1981	F	2-3	SR 29 near Copeland	Collier
UFP09	18 Mar 1983	M	2-3	US 27 - Palmdale	Glades
FP01	14 Dec 1983	M	12-14	Alligator Alley mm 18	Collier
UFP12	12 Nov 1984	F	8-10	Alligator Alley mm 16	Collier
UFP13	08 Jan 1985	F	18-24 mos.	Alligator Alley mm 16	Collier
FP04	18 Apr 1985	M	12+	Alligator Alley mm 17	Collier
FP07	26 Oct 1985	M	10	SR 29, 4 mi. So. of Alligator Alley	Collier
UFP15	15 Nov 1986	F	4-5	Alligator Alley mm 16.5	Collier
FP13	14 Dec 1987	M	6-8	SR 29 - Sunniland	Collier
UFP18	25 Jan 1989	M	3	CR 850 near Immokalee	Collier
UFP19	18 Jun 1990	M	10 mos.	CR 846, 1 mi. E. of 833	Hendry

Cat ID ^a	Date	Sex	Age at Incident	Location	County
FP37	26 Nov 1990	M	4-5	SR 29, 1/2 mi. No. of I-75	Collier
UFP20	04 Feb 1991	F	9 mos.	SR 29, 6 mi. No. of I-75	Collier
UFP21	09 Nov 1992	F	7 mos.	SR 29 - Sunniland	Collier
UFP22	09 Aug 1993	M	2-3	Daniels Rd. 1 mi. E. of I-75	Lee
FP50	06 Dec 1993	M	2.5	CR 846 - 5 mi. E. of Immokalee	Collier
UFP23	28 Feb 1994	M	8 mos.	3 mi. No. along County Line Rd	Collier/Hendry Line
FP31	03 Mar 1994	F	12-14	SR 29 - Sunniland	Collier
FP52	14 Jan 1995	F	3.3	CR 846 4 m E Immokalee, (Dupree Road)	Collier
TX102	21 Sep 1995	F	4	CR 833 just N CR 835(846)	Hendry
UFP29	24 Apr 1996	M	3-5	CR832 5.5 mi. E of SR 29 - Keri	Hendry
UFP30	02 May 1996	F	1	US 41 @ Turner River	Collier
UFP31	13-16 Jul 1997	?	?	CR 846 1.5 m W CR 858	Collier
UFP25	13 Jun 1998	F	2	CR 846 3 miles E CR 858	Hendry
FP51	17 Jul 1998	M	9	SR 29 at Bear Island Grade	Collier
UFP26	17 Sep 1998	M	3-5	US 41, 2 mi E of Oasis Ranger Station	Collier
UFP27	08 Jul 1999	F	2	Private unimproved farm road 3 mi E Henry Correctional Institute	Hendry
FP74_{B-FL}	08 Sep 1999	M	2-2.5	US 27 8 mi N of Palmdale	Highlands

Cat ID ^a	Date	Sex	Age at Incident	Location	County
UFP33	29 Oct 1999	M	10 mos.	CR 833 2 mi N BCSIR	Hendry
FP63	15 Jan 2000	M	3.5	SR 29 0.6 mi N. of Pistol Pond	Collier
FP80	10 Feb 2000	F	4	BCSIR road 200 ft W of Swamp Safari entrance	Hendry
K76	28 Feb 2000	M	3 mos.	CR 858 on curve E of SR 29	Collier
UFP34	23 Mar 2000	M	1-1.5	CR 846 10 mi E of Immokalee	Hendry
UFP35	23 Jun 2000	M	2	CR 846 2 mi E of Immokalee	Collier
UCFP36	13 July 2000	F	2	CR 846 10 mi. E of Immokalee	Hendry
UCFP37	29 Dec 2000	F	5	CR 846 4.5 mi. E of Immokalee	Collier
UCFP38	14 April 2001	F	2	CR 833 1 mi. N of BCSIR	Hendry
FP90_{F2}	26 April 2001	M	1 yr, 10 mo	US 27 2.5 mi N Terrytown	Palm Beach
UCFP39	7 May 2001	F	10 mo	SR 29 ½ mi. N of Jerome	Collier
UCFP40	7 May 2001	M	10 mo	SR 29 ½ mi. N of Jerome	Collier
UCFP41	22 May 2001	M	2	SR 29 Sunniland	Collier
UCFP42	14 June 2001	F	3-4	CR 846, 4 mi E of County Line Rd.	Hendry
UFP43	17 August 2001	M	2	CR 846, 4 mi E of County Line Rd.	Hendry

Panther Injuries

Cat ID ^a	Date	Sex	Age at Incident	Location	County
CP200	02 Nov 1984	M	2-4	US 41, 1/4 mi. E. of Turner River Rd.	Collier
-	12 May 1985	F	-	CR 951, 2 mi. No. of US 41	Collier
FP20	17 Jun 1987	M	-	CR 858, .8 mi. E. of SR 29	Collier
FP28	29 Nov 1988	M	-	Near Daniels Rd. at Ft. Myers Airport	Lee
-	07 Apr 1992	M	-	Alico Rd. - 1/3 mi. E. of I-75	Lee
FP64	14 Feb 1998	M	1.5	SR 29 @ FPNWR clearcut	Collier
FP21	23 Jul 1988	F	2.5	1 mi E of US 1 on Palm Drive	Dade
