

Figure B1-1 Mirant Kendall Station existing and future cooling water discharge parameters. Taken from Figure 2-7 of Mirant Kendall's Supplemental Volume I Application of February, 2001. (September 1988- August 1999)

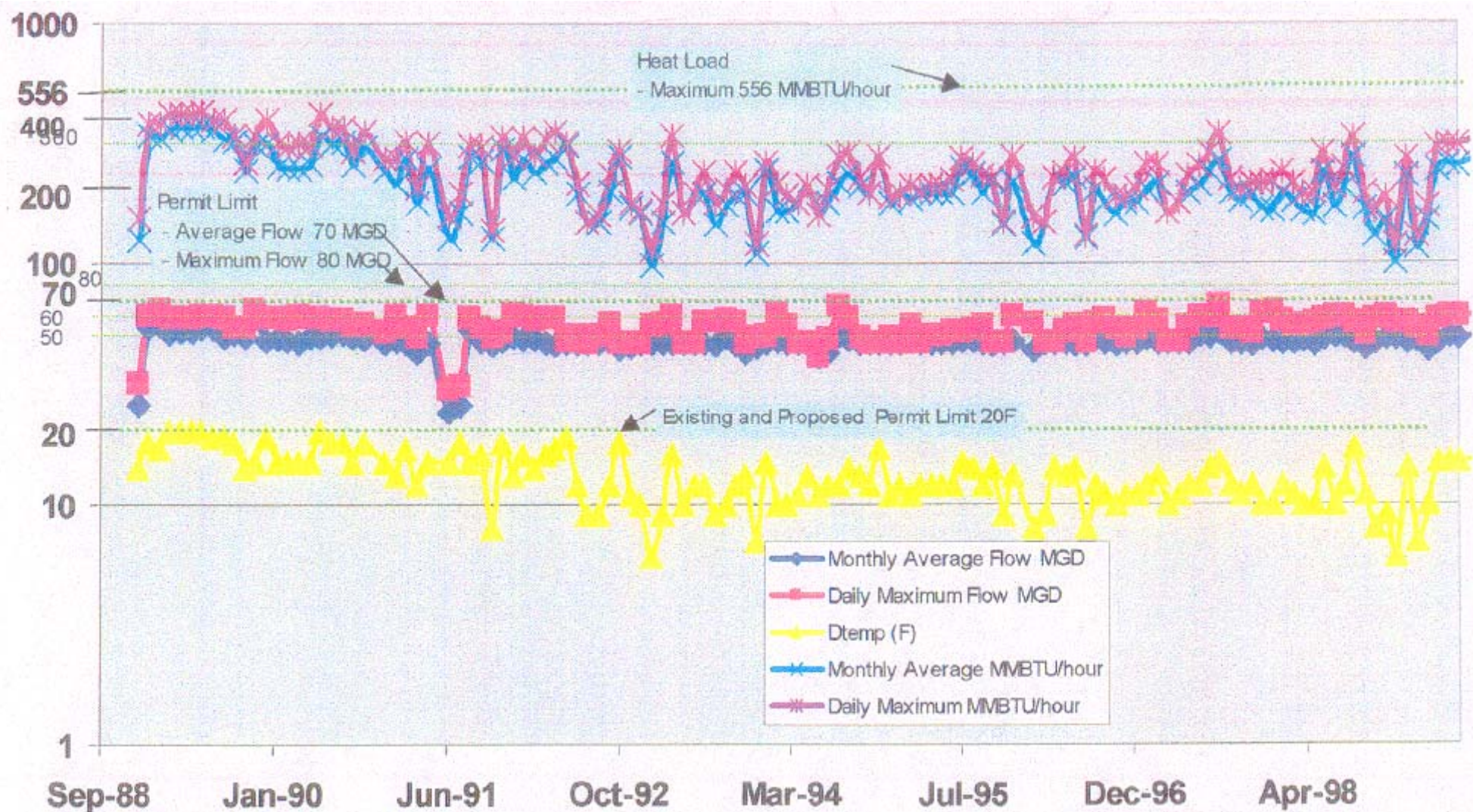


Figure B1-2

Mirant Kendall Station average daily heatload values from June through September for the years 1998 through 2005. (Source: Mirant Kendall Operational Data)

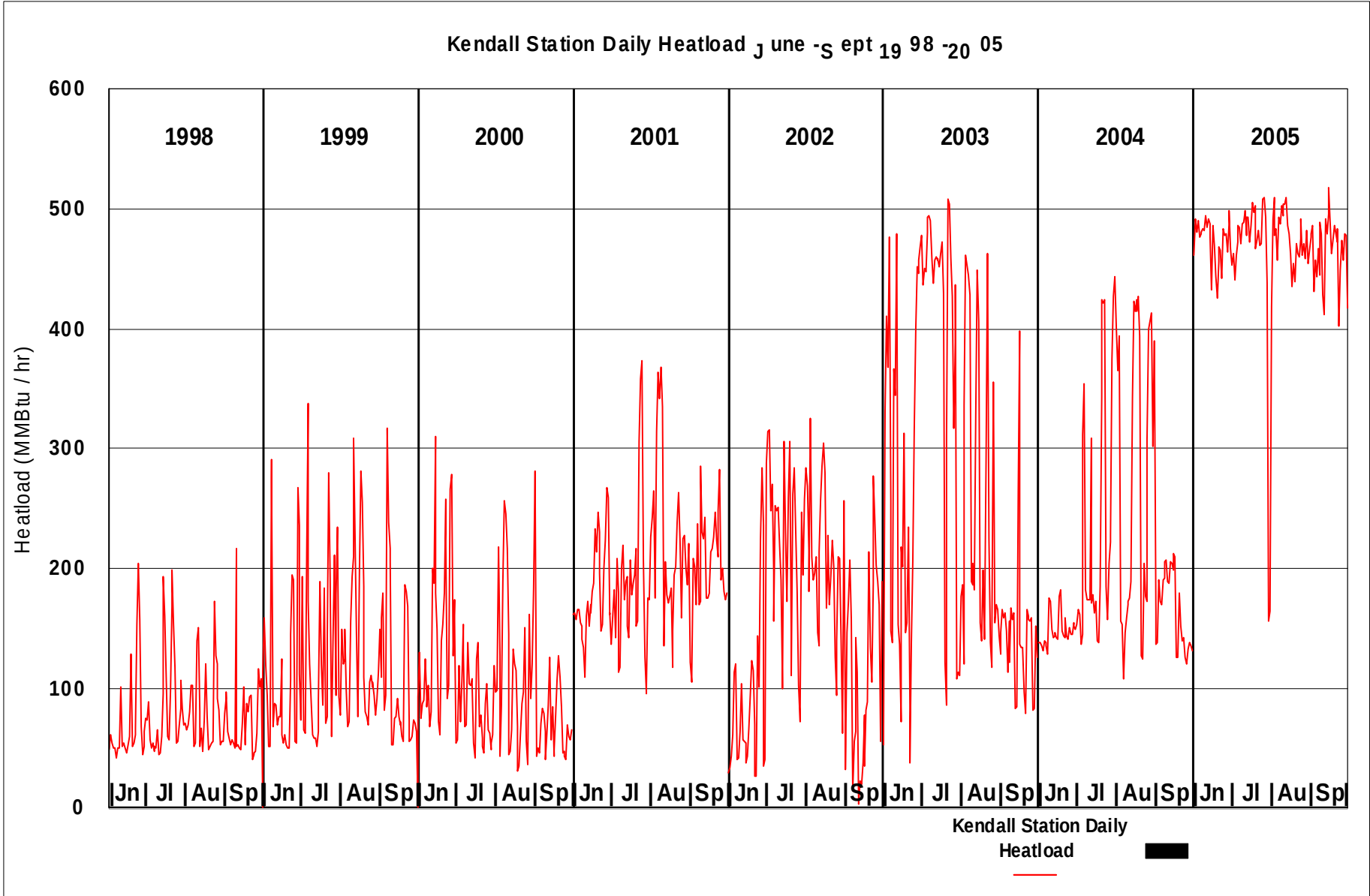


Figure B1-3

Mirant Kendall Station monthly average heatload for the summer months (June through September) from 1998 through 2005. (Source: Mirant Kendall Operational Data)

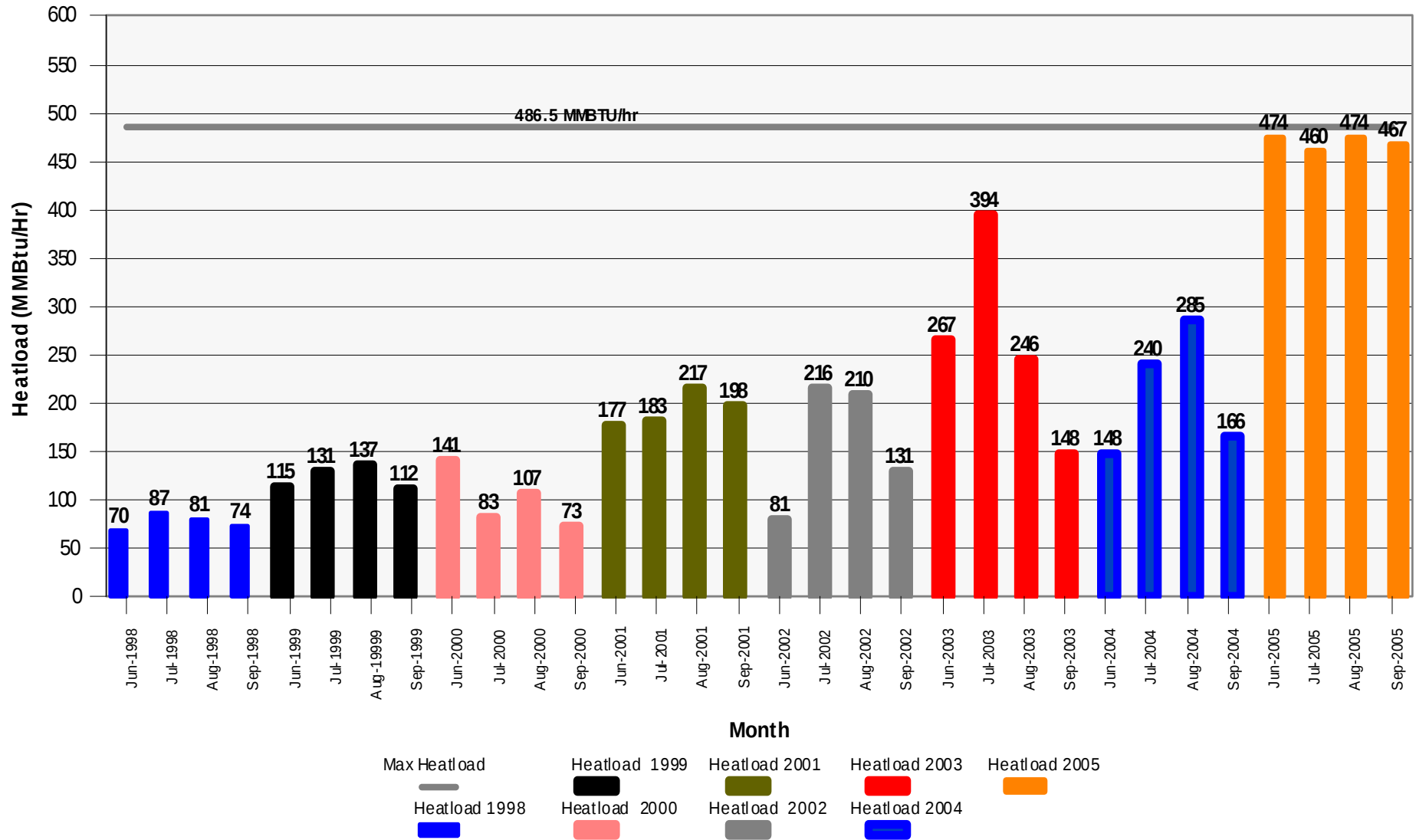


Figure B1 - 4 Number of days each summer the average daily heatload from Kendall Station was recorded within specific heatload ranges. June - September of 1998 through 2005. Page 1 of 2. (Source: Mirant Kendall Operational Data)

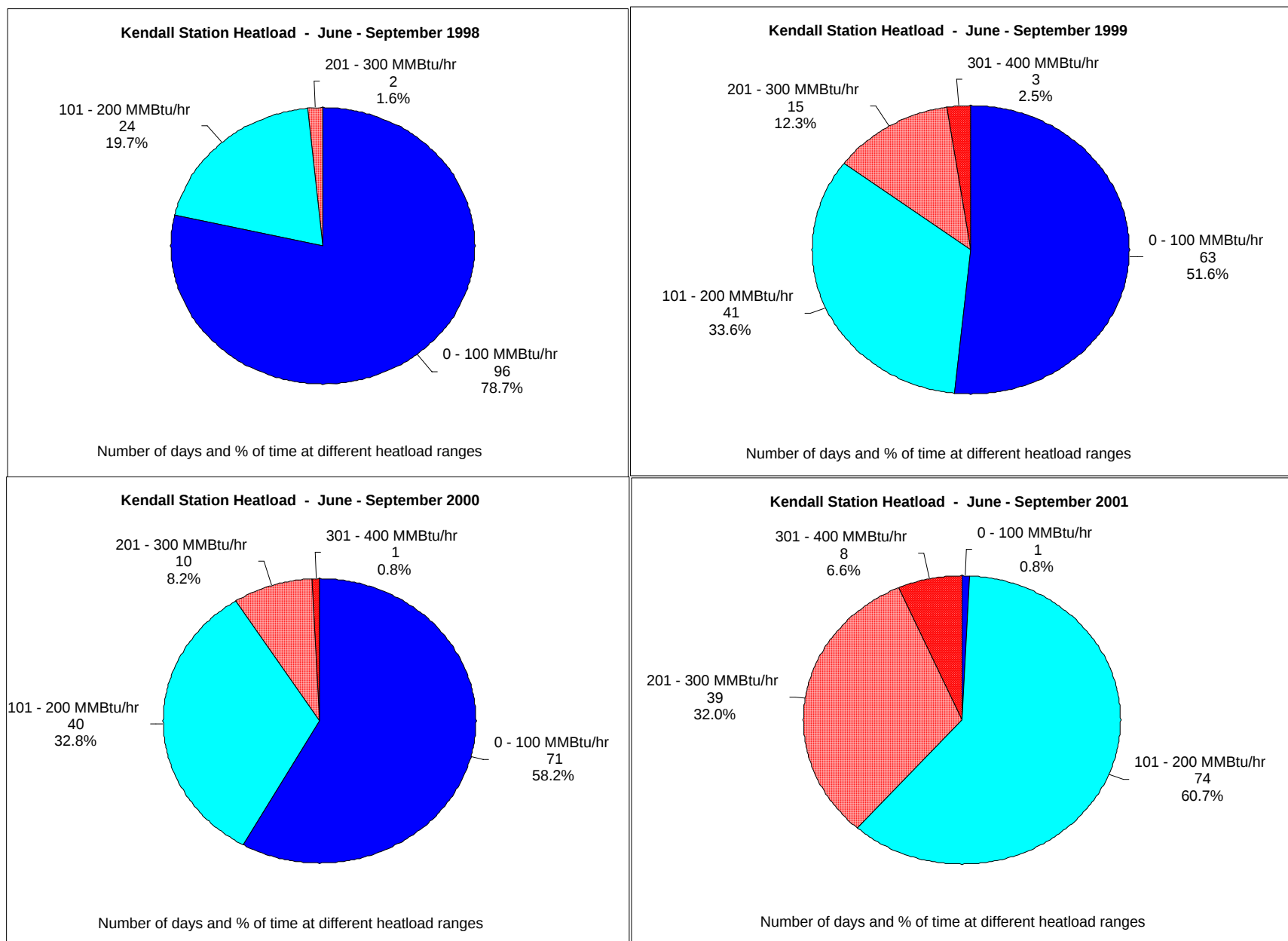


Figure B1 - 4 (continued) Number of days each summer the average daily heatload from Kendall Station was recorded within specific heatload ranges. June - September of 1998 through 2005. Page 2 of 2. (Source: Mirant Kendall Operational Data)

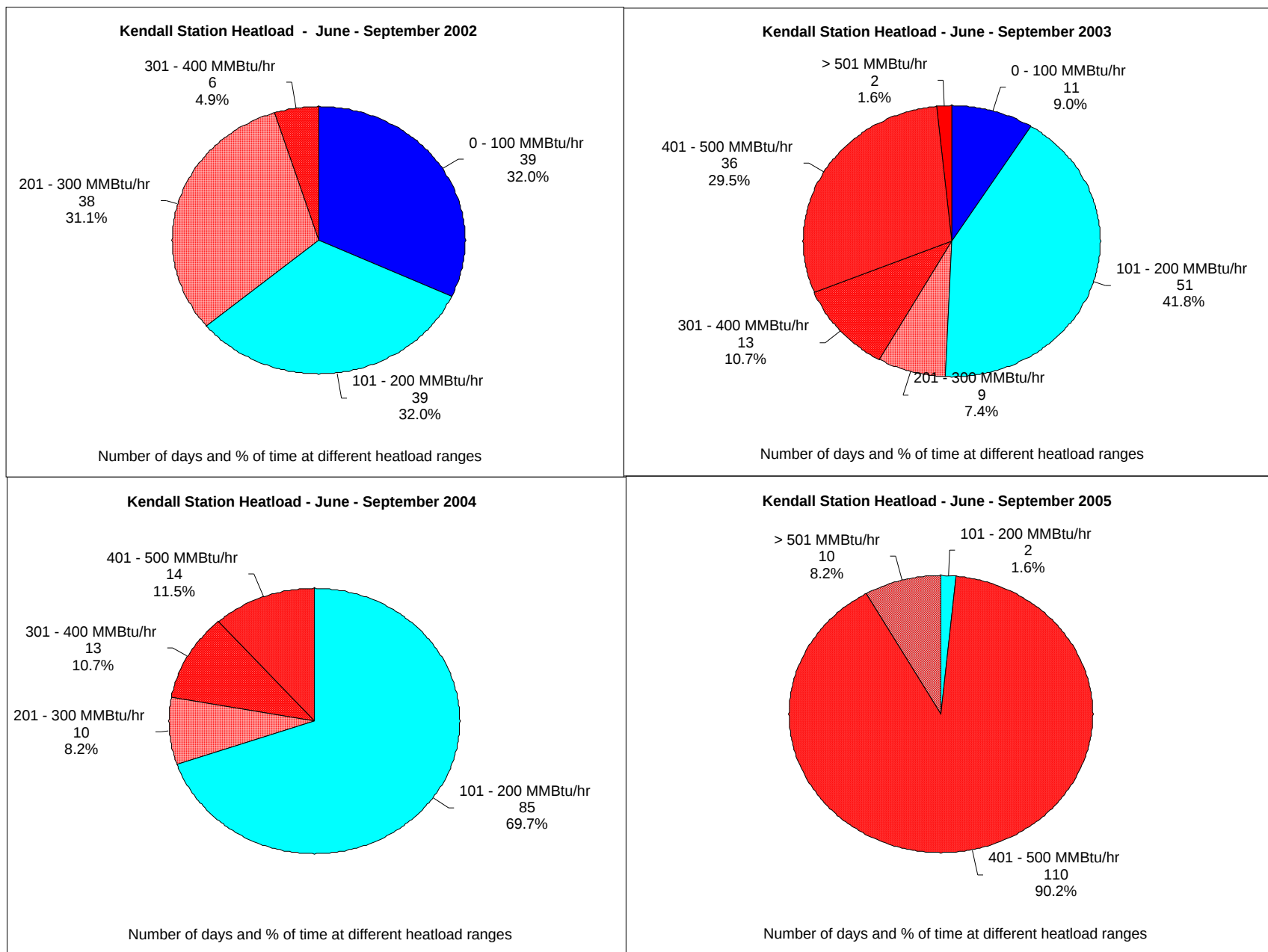


Fig. C3-1: 2004 Pushnet, Alewives vs. Distance

mean number of alewives captured per pushnet event at each station (July-September, night only) vs. station distance to Kendall discharge

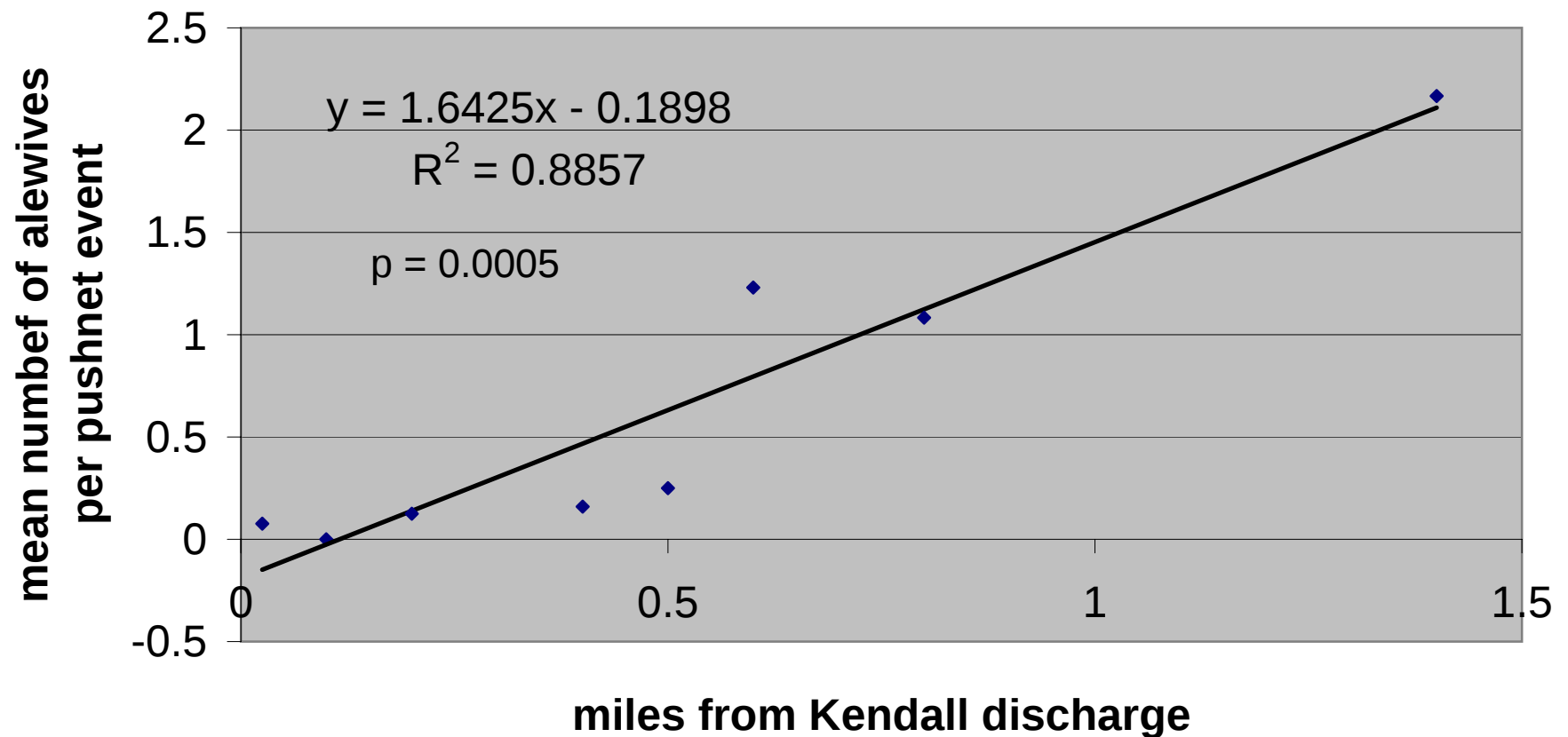


Fig. C3-2 2005 Pushnet, Alewives vs. Distance:
number of juvenile alewives caught per pushnet event (July -
Sept., nighttime only) at each station vs. station distance from
the Kendall discharge

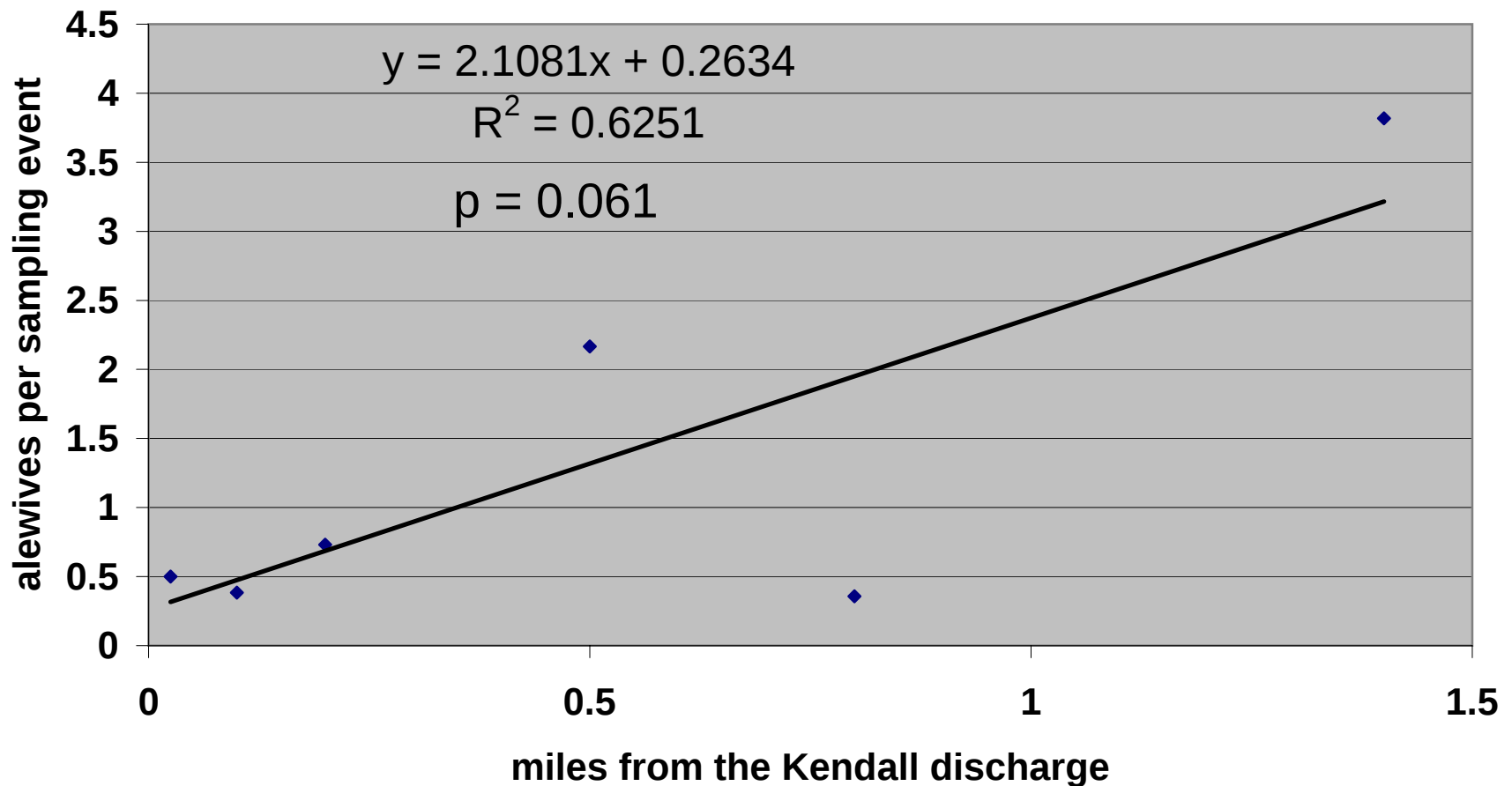


Fig. C3-3 2005 Pushnet, Alewives vs. Distance:
number of juvenile alewives caught per pushnet event (July-Sept., nighttime only) at each station vs. station distance from the Kendall discharge. MIT station (at 0.8 miles) information removed (see text)

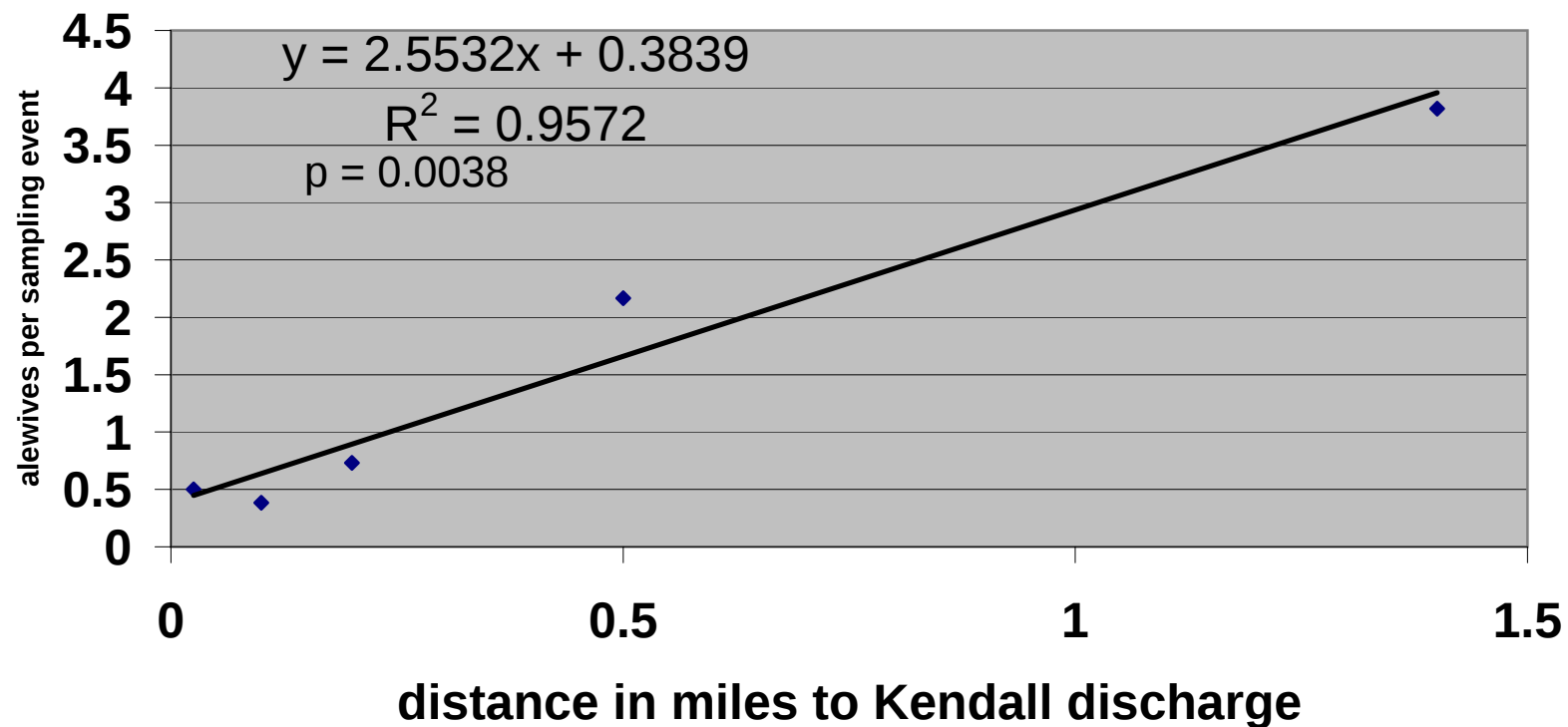


Fig. C3-4 2004 Pushnet, Bluebacks vs. Distance: median number of juvenile bluebacks collected at each pushnet station (nighttime data, August - September) vs. distance (miles) from each station to the Kendall discharge

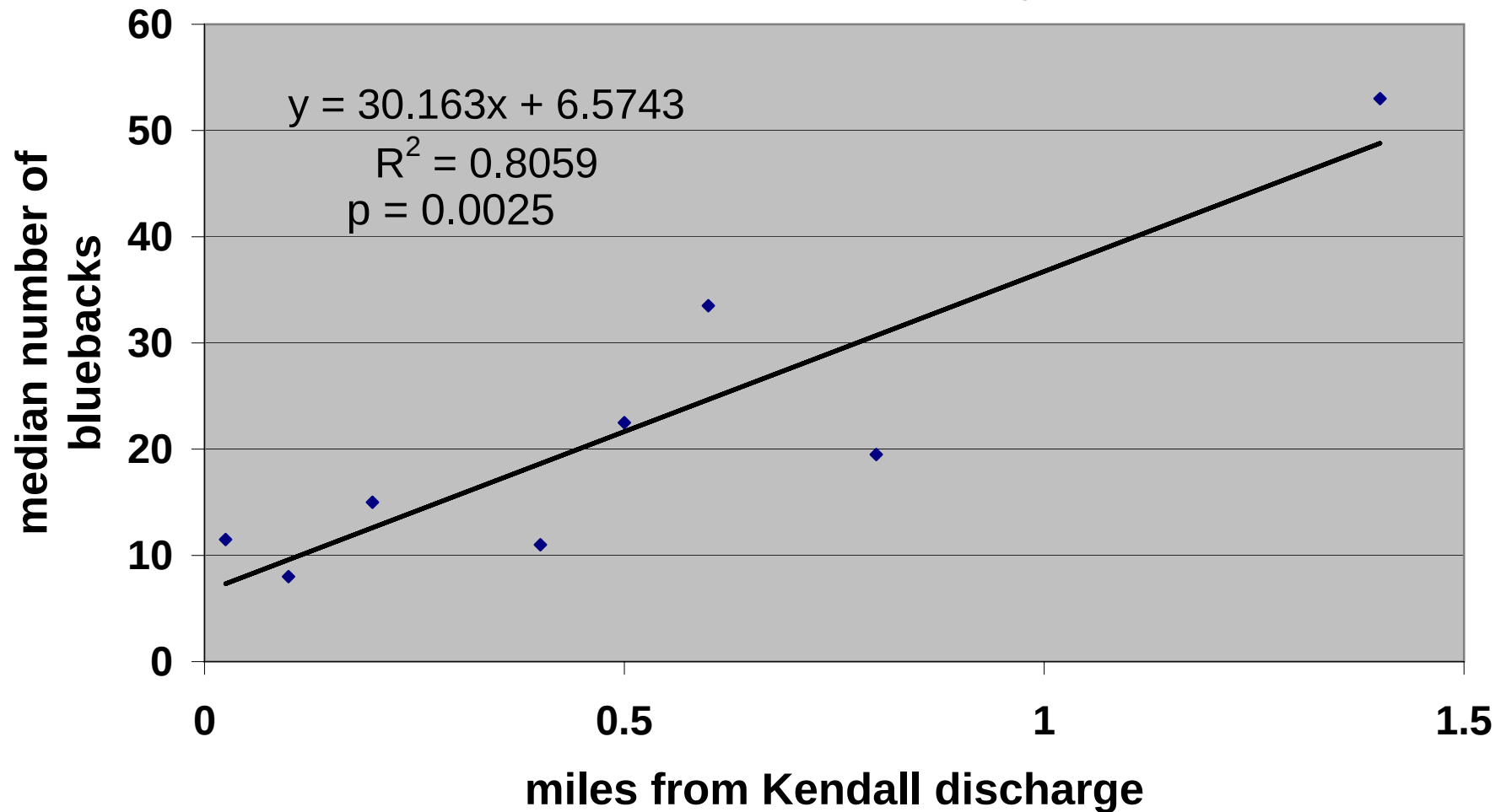


Fig. C3-5 2005 Pushnet, Bluebacks vs. Distance:
median number of juvenile bluebacks per station (July-Sept.,
nighttime only) vs. station distance from the Kendall discharge

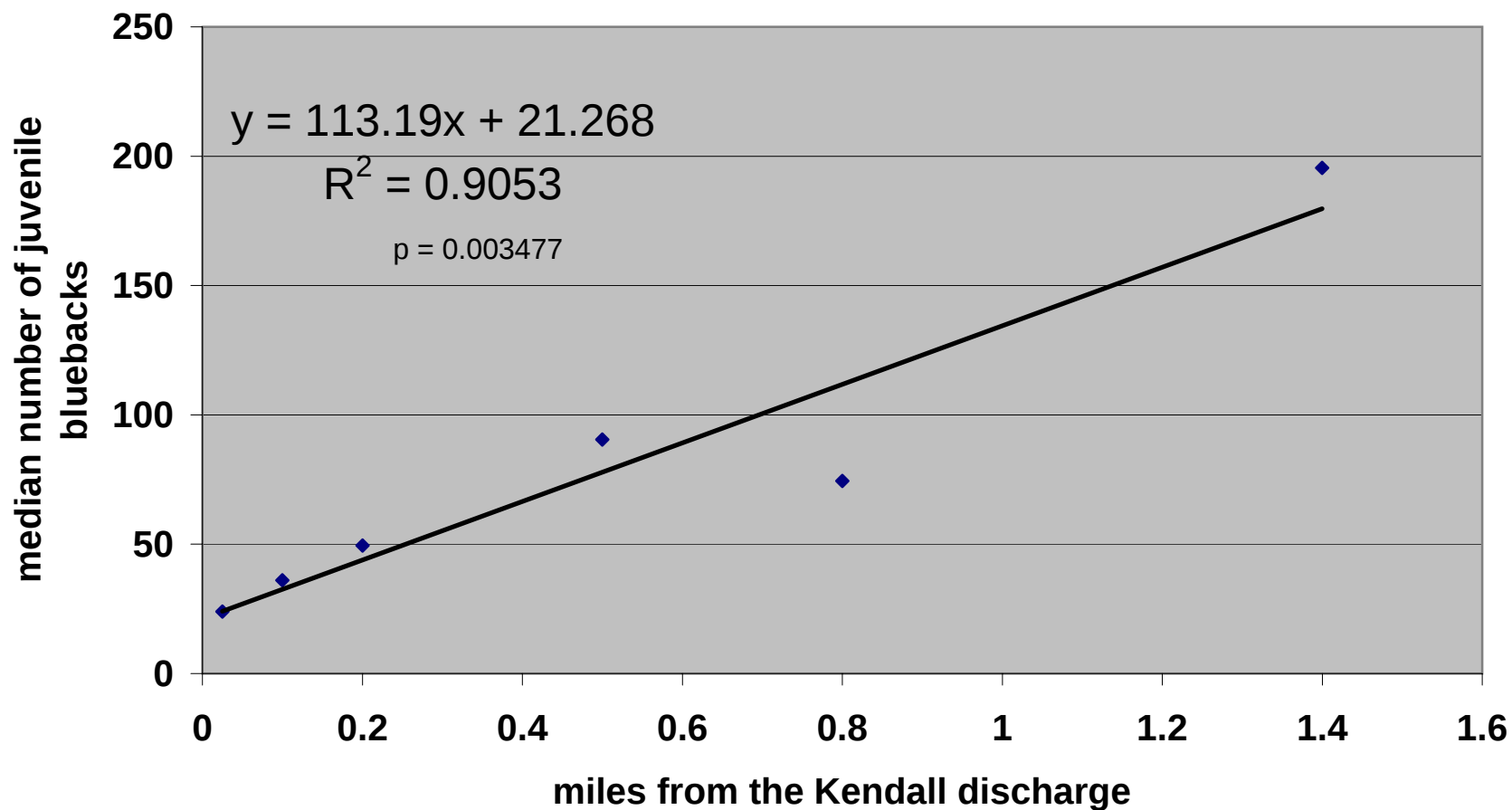


Fig. C3-6 2004 Pushnet, Temperature and Distance: mean surface water temperature at each station (nighttime data, August - September) at time of pushnet sampling vs. distance from each station to the Kendall discharge

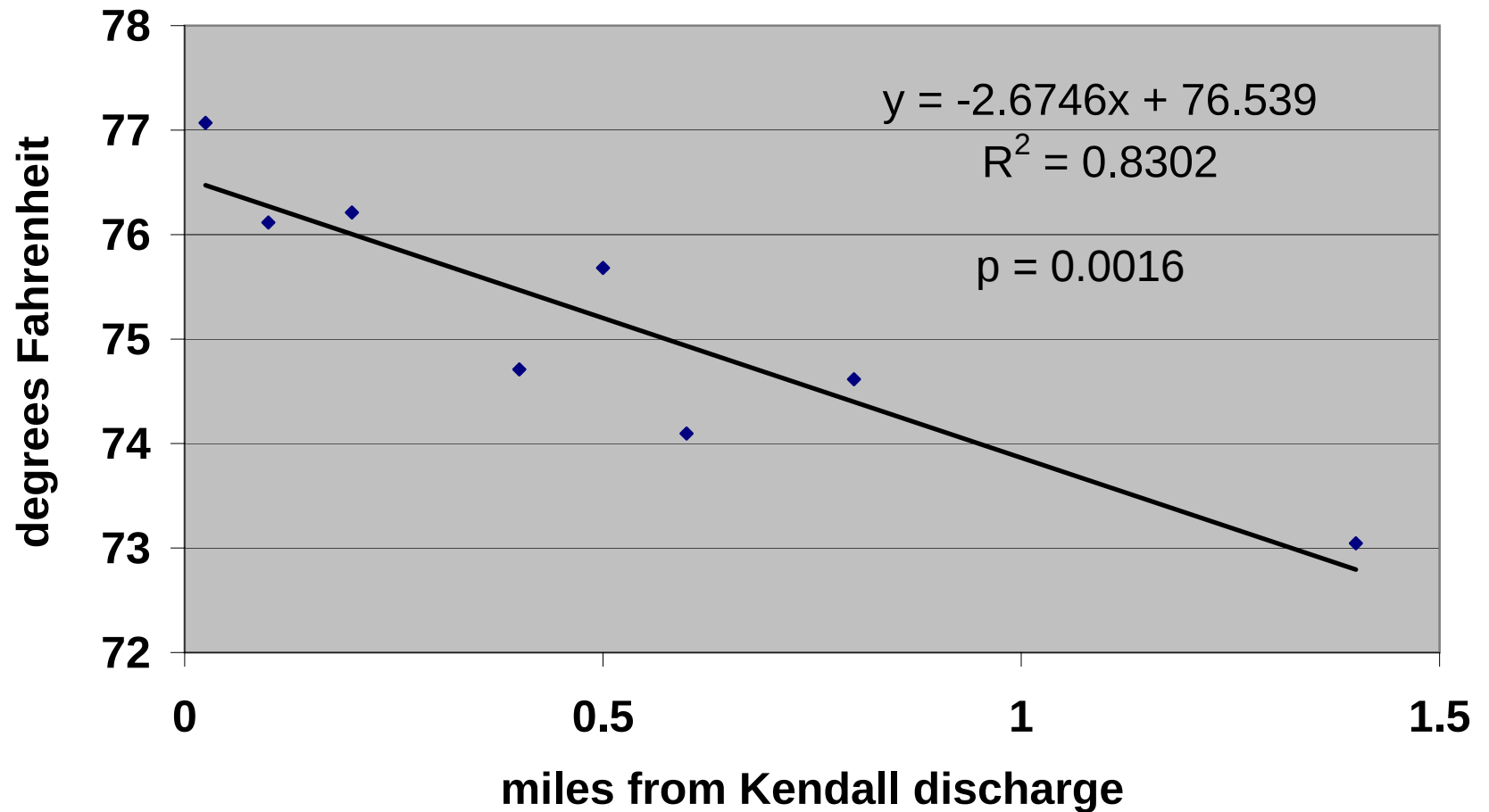


Fig. C3-7 2005 Pushnet, Temperature vs. Distance:
mean surface water temperature at each pushnet station at time
of sampling (July-Sept, night only) vs. station distance from the
Kendall discharge

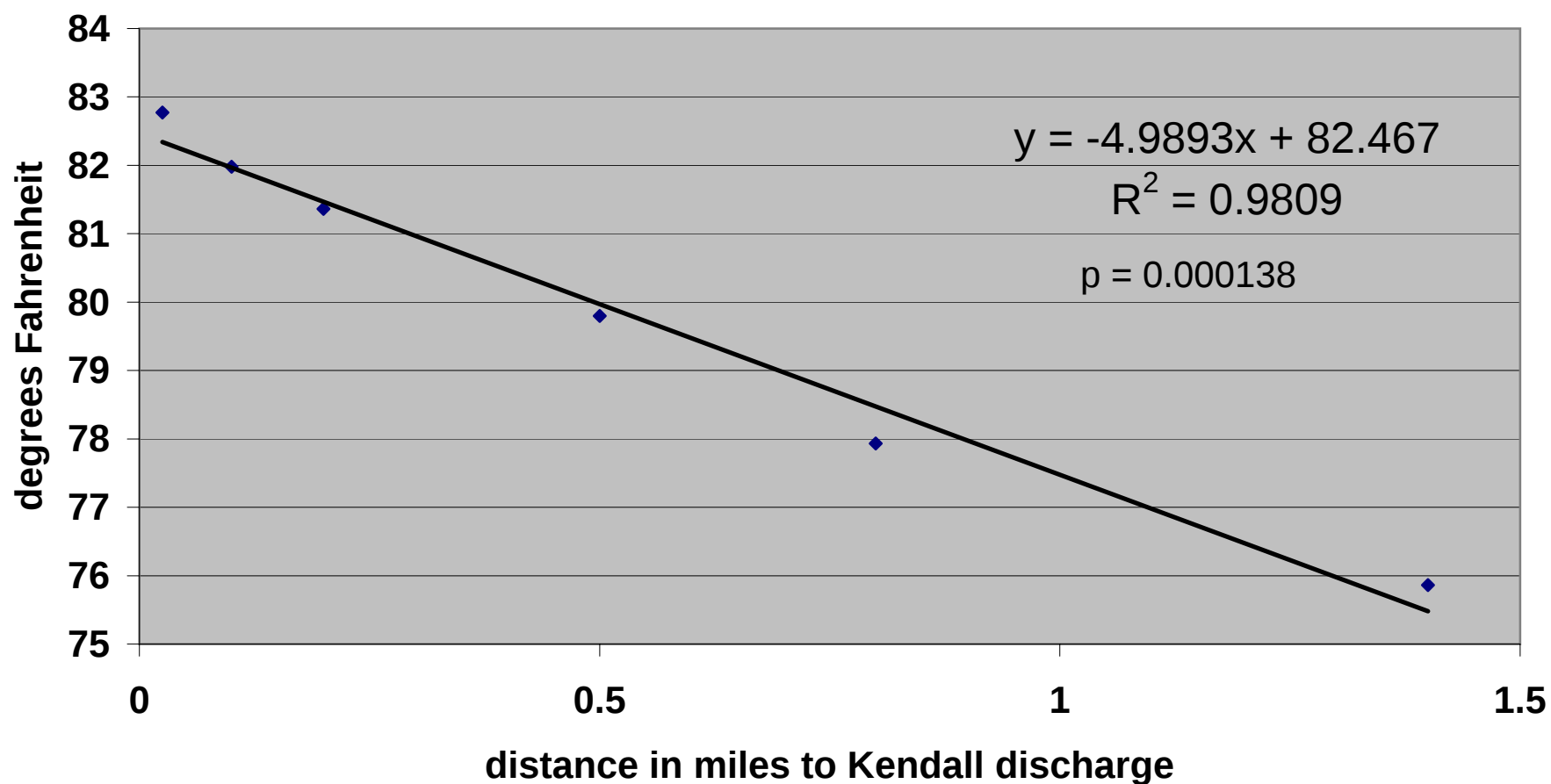


Fig. C3-8 2004 Pushnet, Alewives: number of juvenile alewives caught per pushnet sampling event at different water temperatures from July-September (nighttime only), and sampling events per temperature category

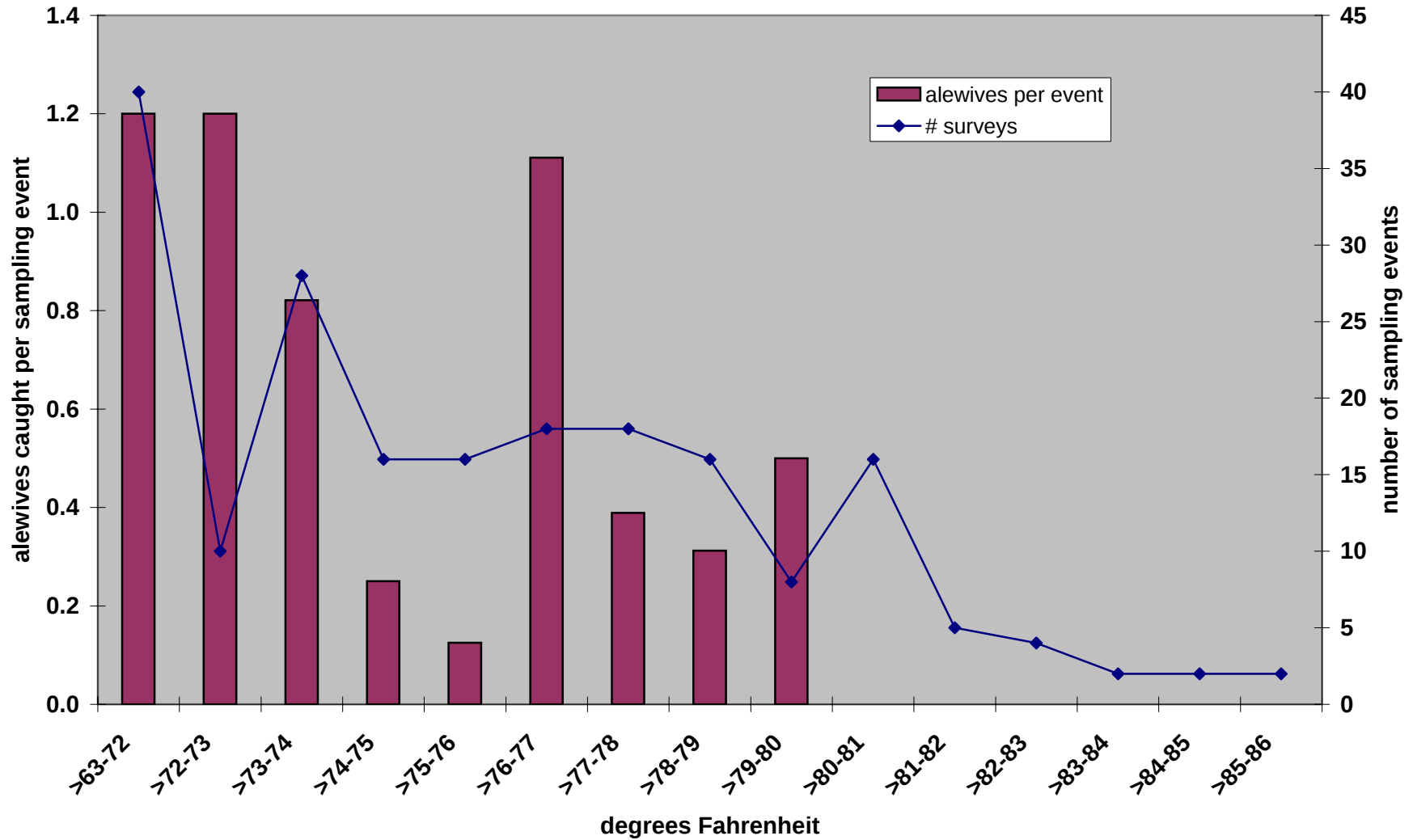


Fig. C3-9 2005 Pushnet, Alewives: number of juvenile alewives caught per pushnet sampling event at different water temperatures from July - September (nighttime only) and sampling events per temperature category

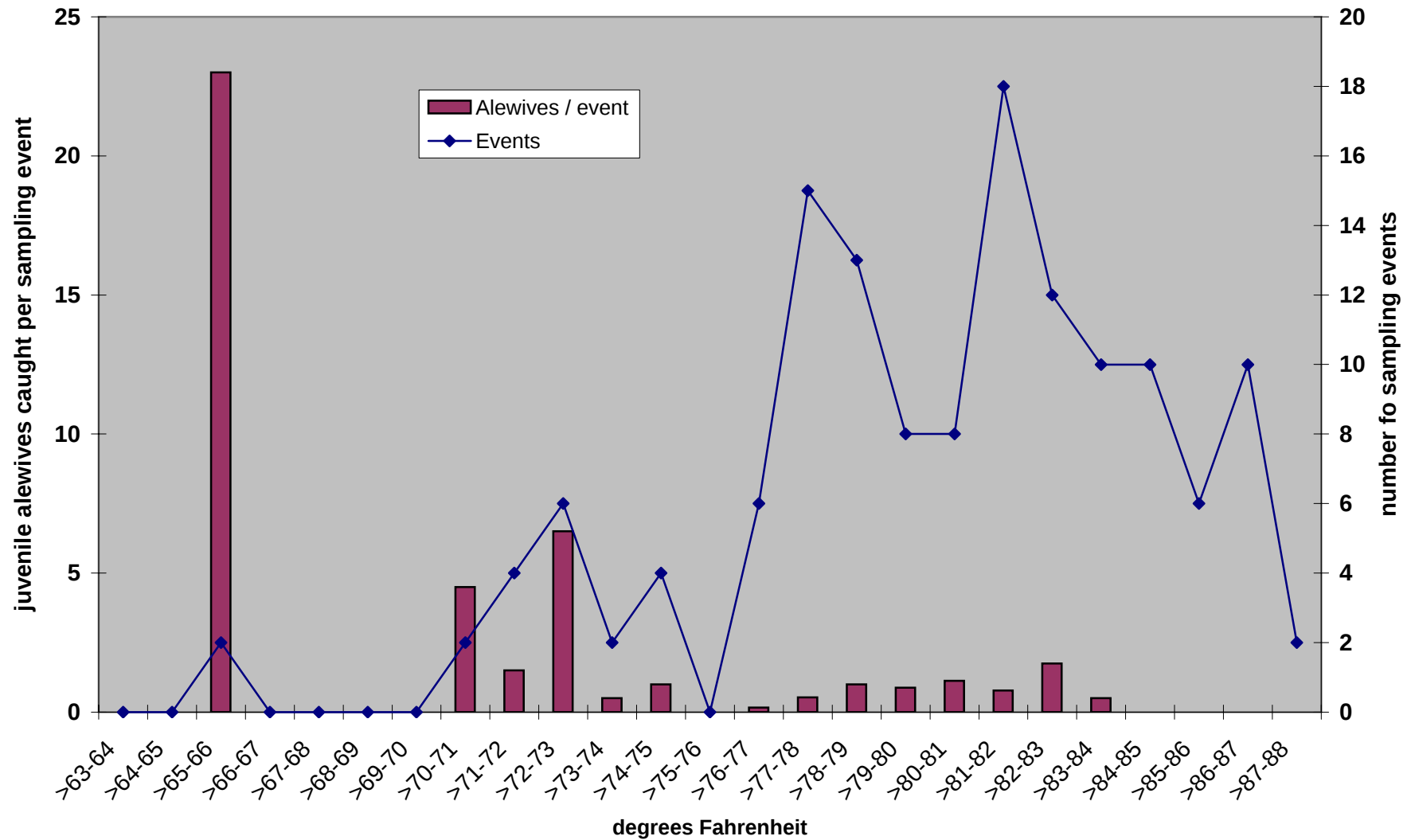


Fig. C3-10 2003-2005 Seine, Alewives vs. Station:
number of juvenile alewives caught per 1000 sq. ft. of area
seined (nighttime only) at Hyatt and Lagoon stations, 1.6 and
0.6 miles upstream of the Kendall discharge, respectively, vs.
year

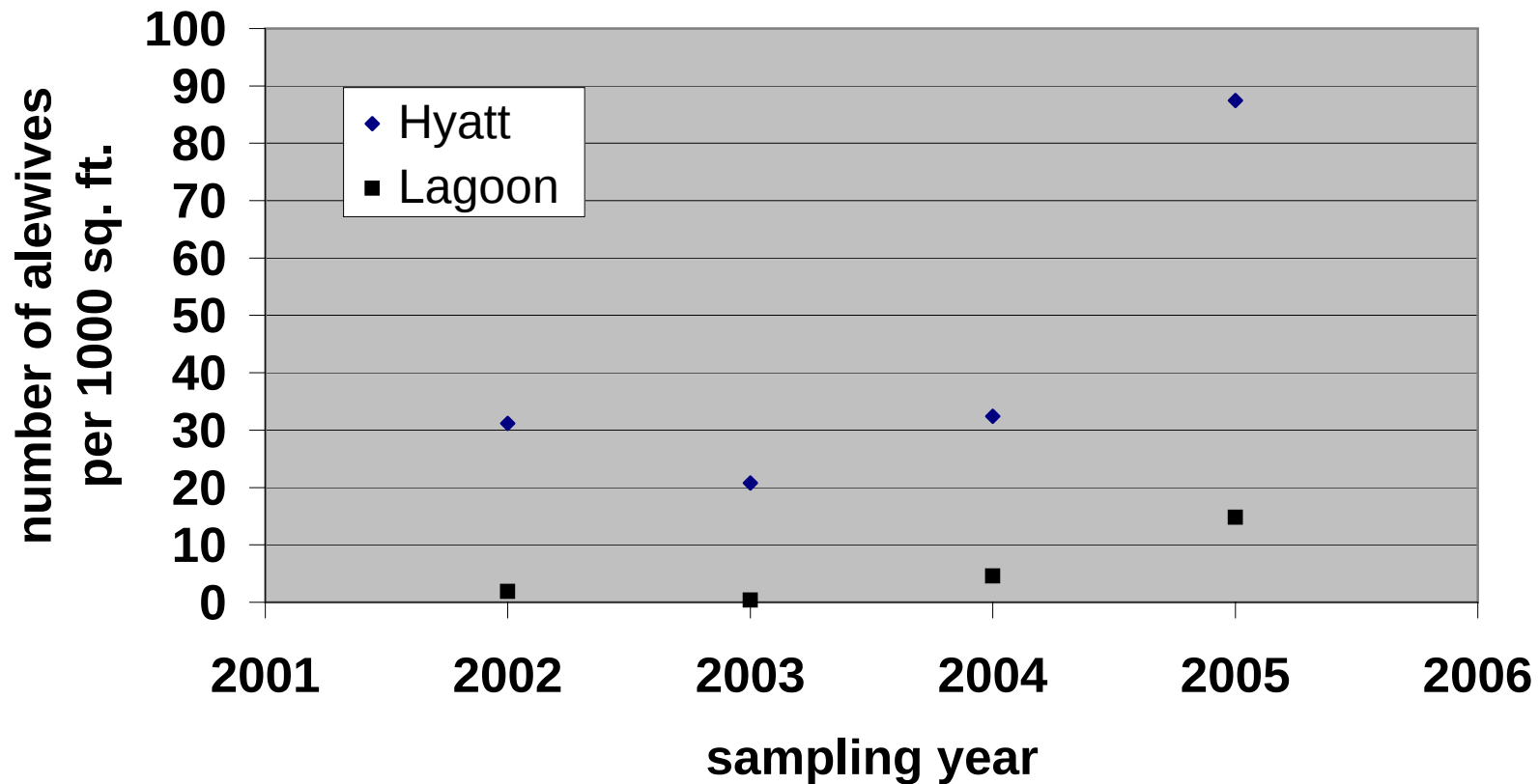


Fig. C3-11 2003 Shoreline Seine, Alewives: number of juvenile alewives caught per 1000 sq. ft. of area sampled from July-September (nighttime only) at different water temperatures, and area sampled

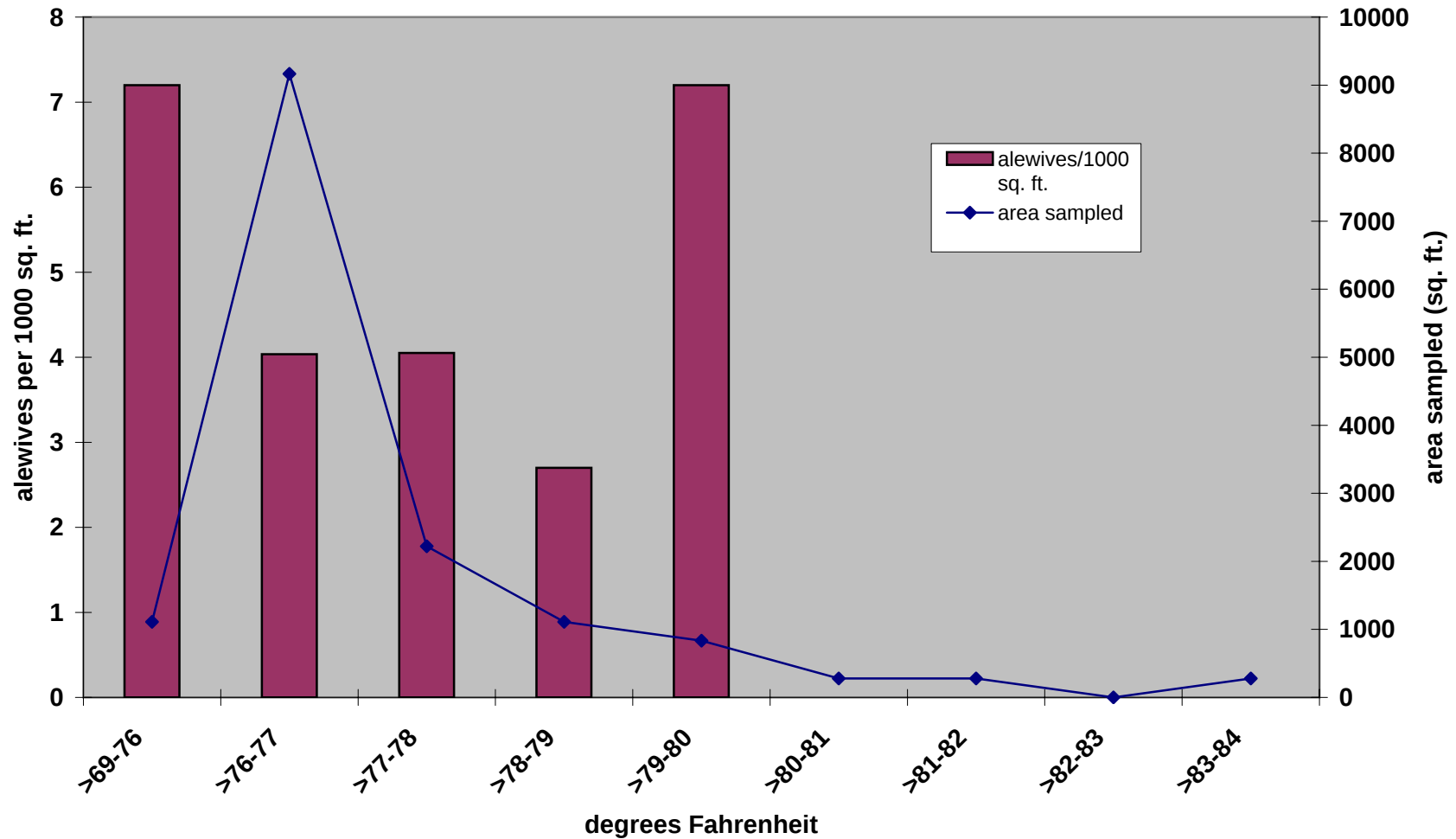


Fig. C3-12 2004 Shoreline Seine, Alewives: number of juvenile alewives caught per 1000 sq. ft. of area sampled
July - September (nighttime only) at different water temperatures, and area sampled

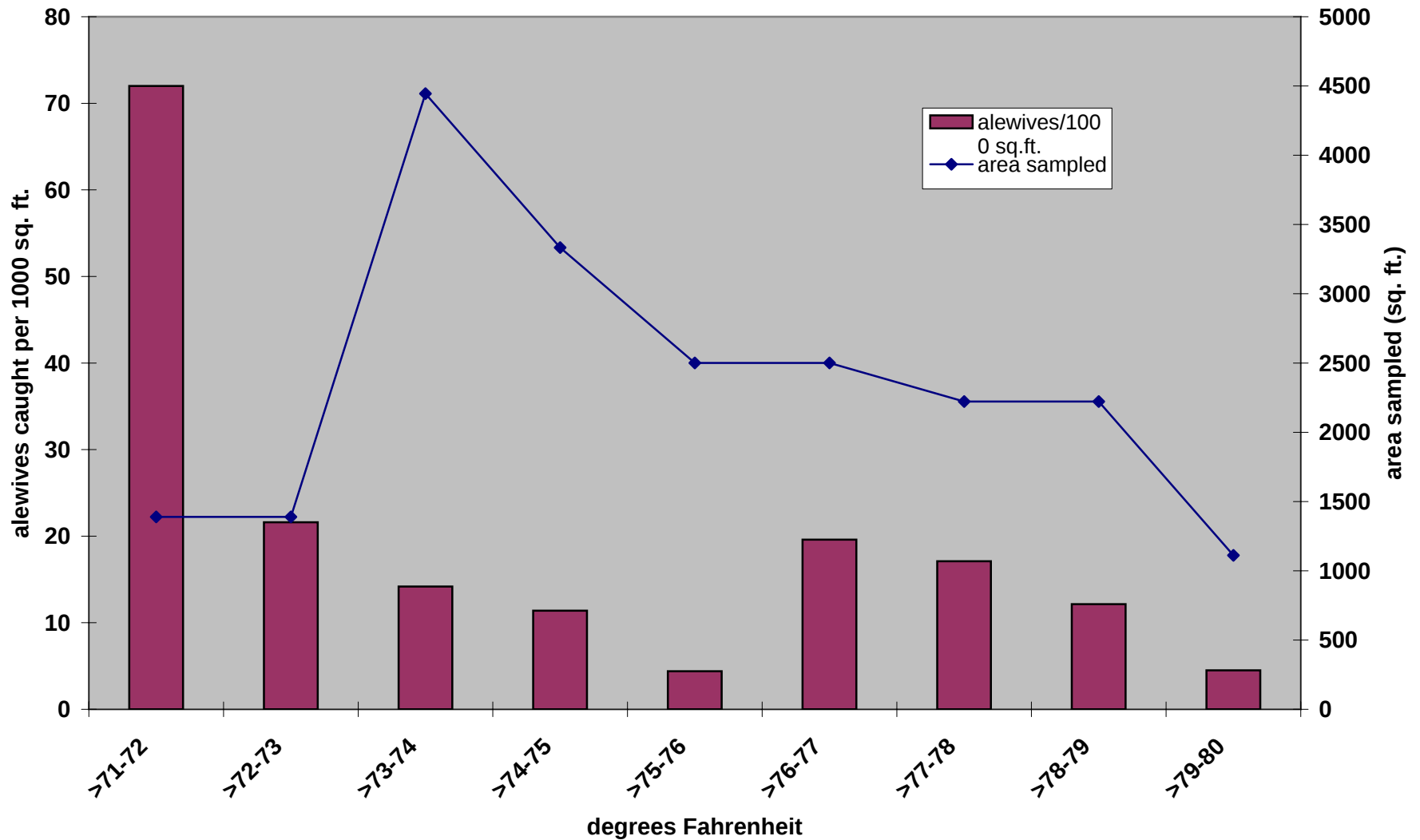


Fig. C3-13 2005 Shoreline Seine, Alewives: number of juvenile alewives caught per 1000 sq. ft. of area sampled from **July-Sept.** (night only) at different water temperatures; area sampled also provided

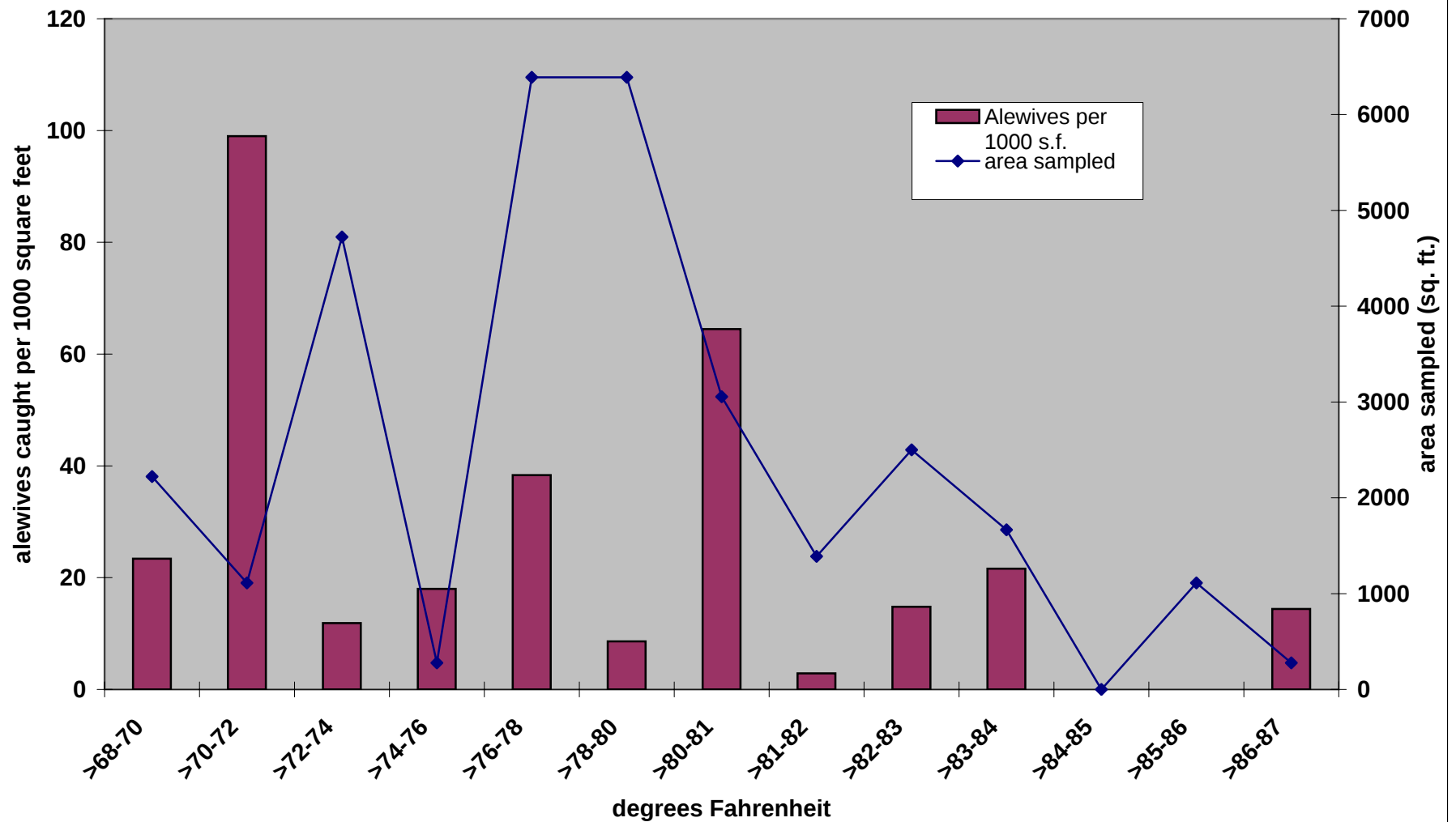


Fig. C3-14 2004 Pushnet, Alewives vs. Temperature:

mean number of juvenile alewives caught per sampling event at each station (July-September, nighttime only) vs. the mean surface water temperature at each station at time of pushnet sampling

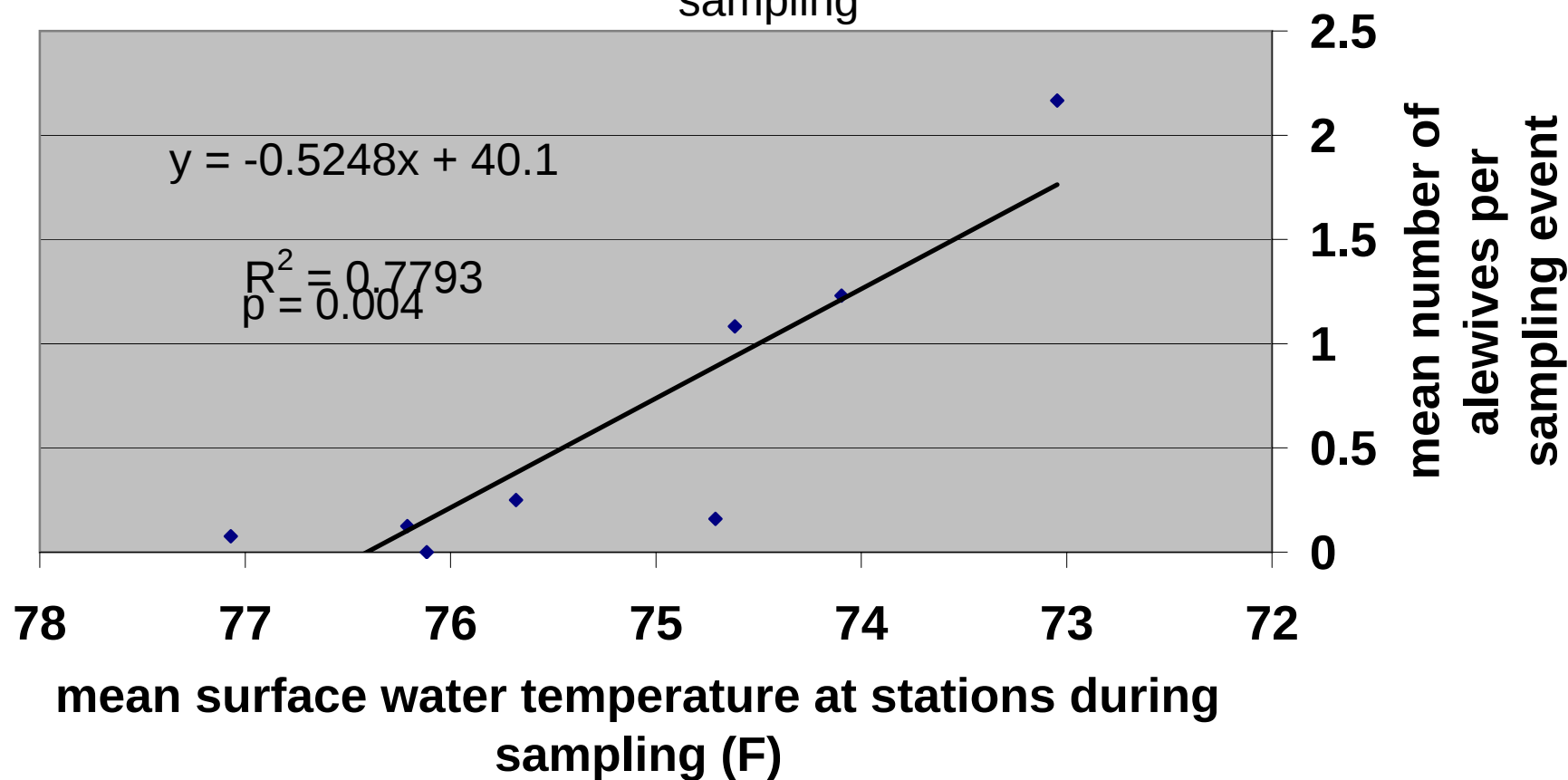


Fig. C3-15 2005 Pushnet, Alewives vs. Temperature:

mean number of juvenile alewives caught per sampling event at each station (July-Sept., nighttime only) vs. mean surface water temperature at each station at time of pushnet sampling

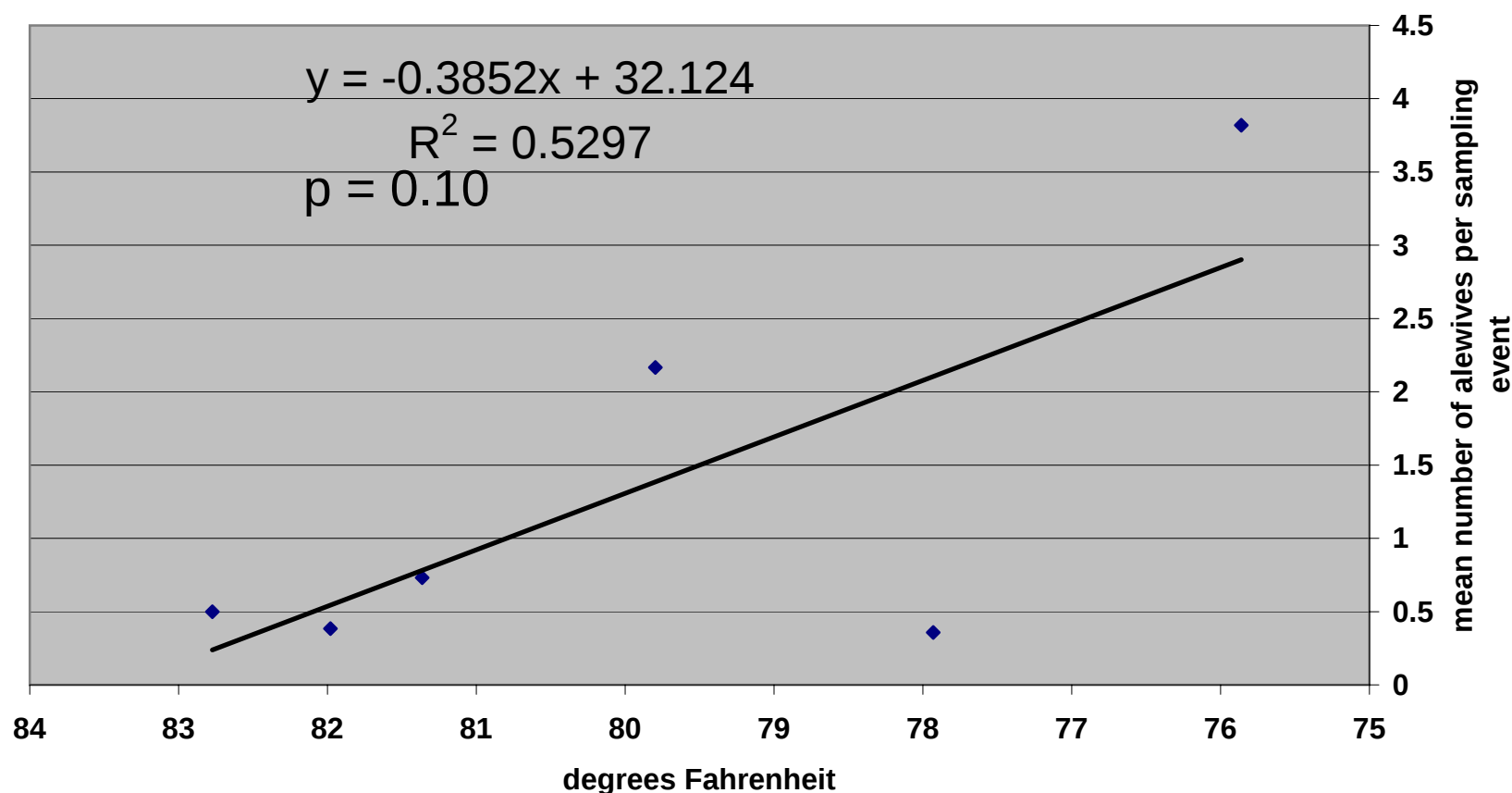


Fig. C3-16 2005 Alewives vs. Temperature: number of juvenile alewives caught per sampling event at each station (July-September, nighttime only) vs. mean surface water temperature at each station over sampling period; MIT data removed (see text)

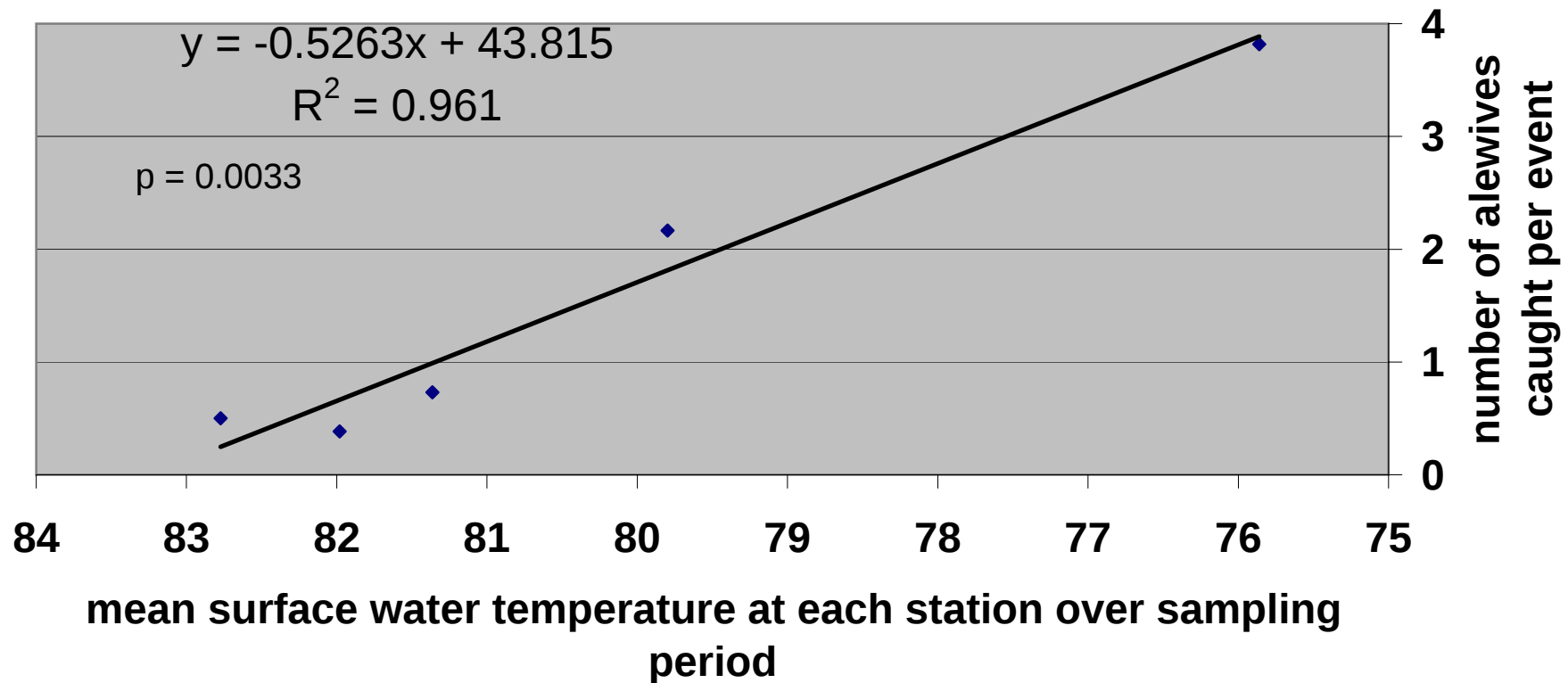


Fig. C3-17 2004 Pushnets, Bluebacks vs. Temperature:
median number of juvenile bluebacks caught at each station during
sampling events (nighttime, August-September) vs. mean surface
water temperature at each station at time of sampling

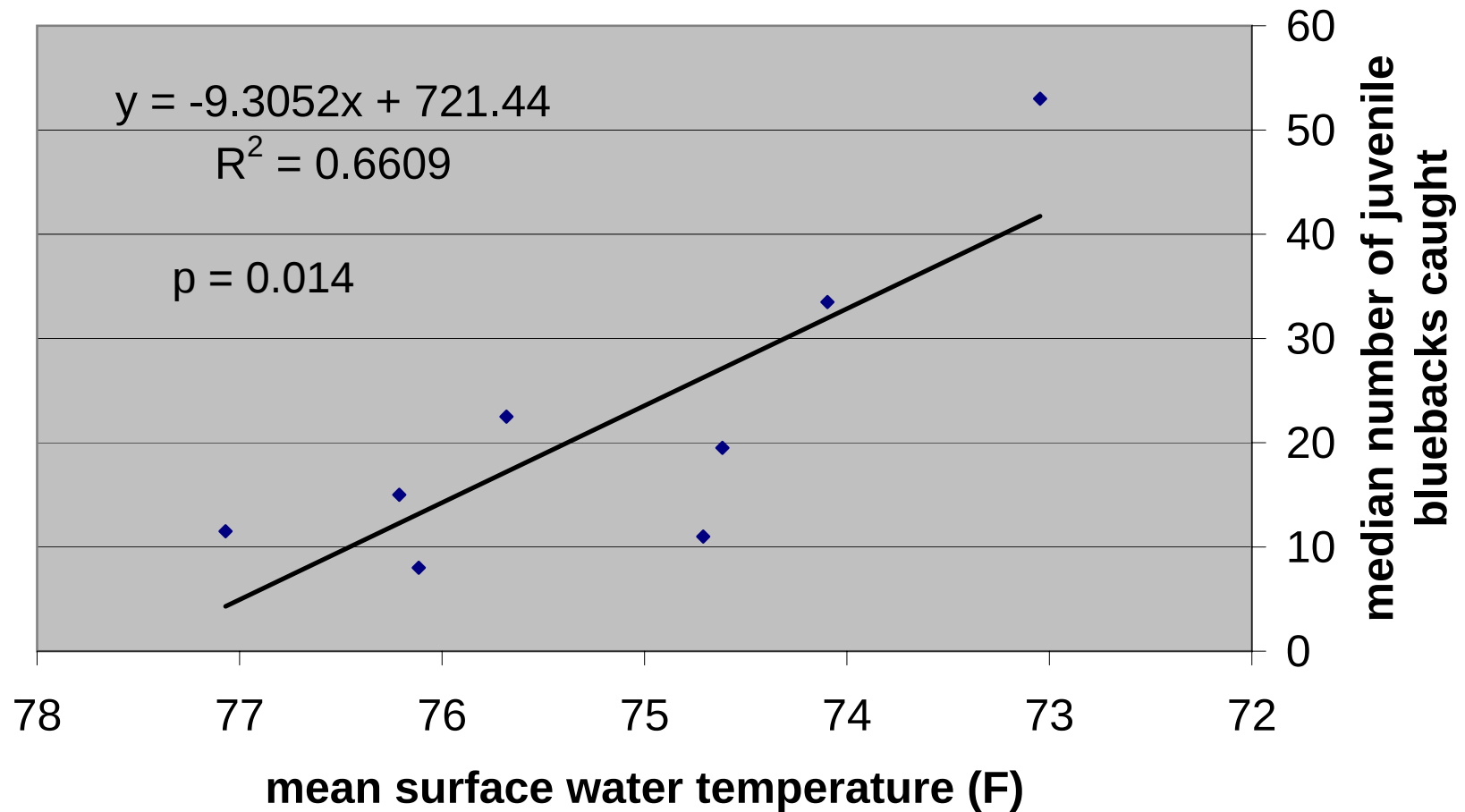


Fig. C3-18 2005 Pushnet, Bluebacks vs. Temperature:
median number of juvenile bluebacks caught during sampling
events (nighttime, July-Sept.) at each station vs. mean surface
water temperature (F) at each station at time of pushnet
sampling

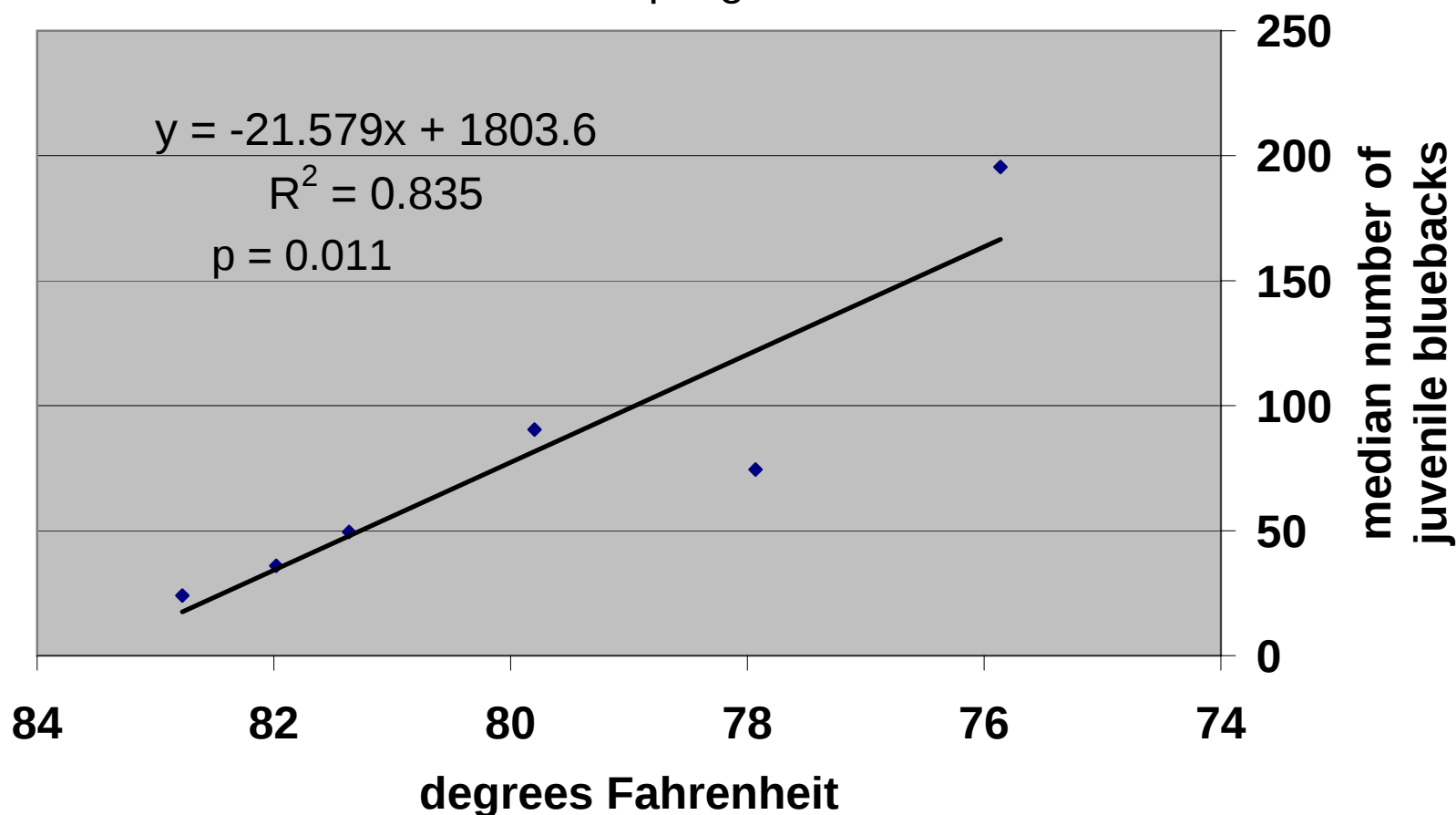


Figure C37-1 The maximum, minimum and average Charles River temperatures recorded from the cooling water intake of Kendall Station from hourly readings for the month of April in the years 1994 through 2002. These temperatures are judged to approximate ambient conditions in the river. (Mirant Kendall, 2003)

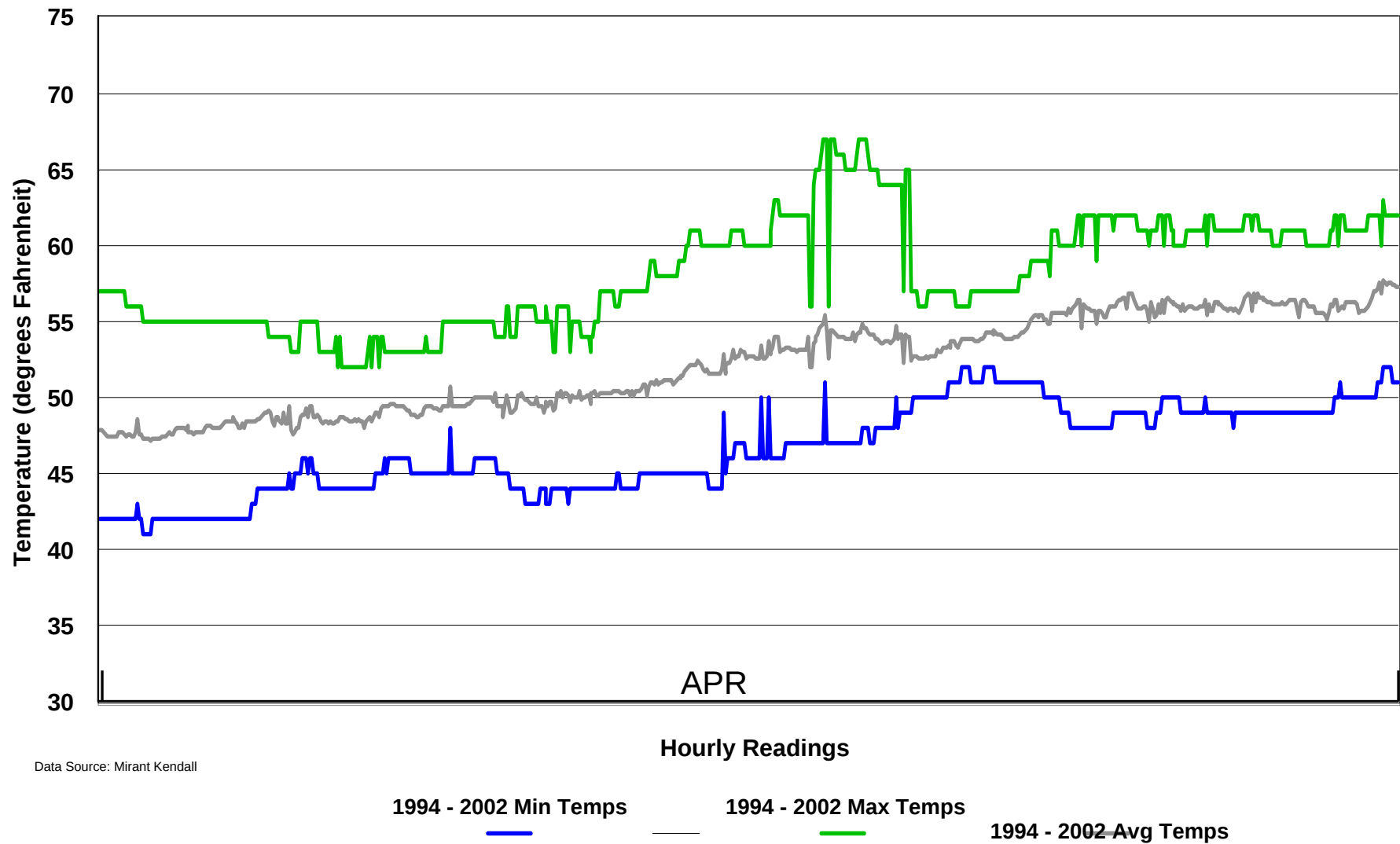
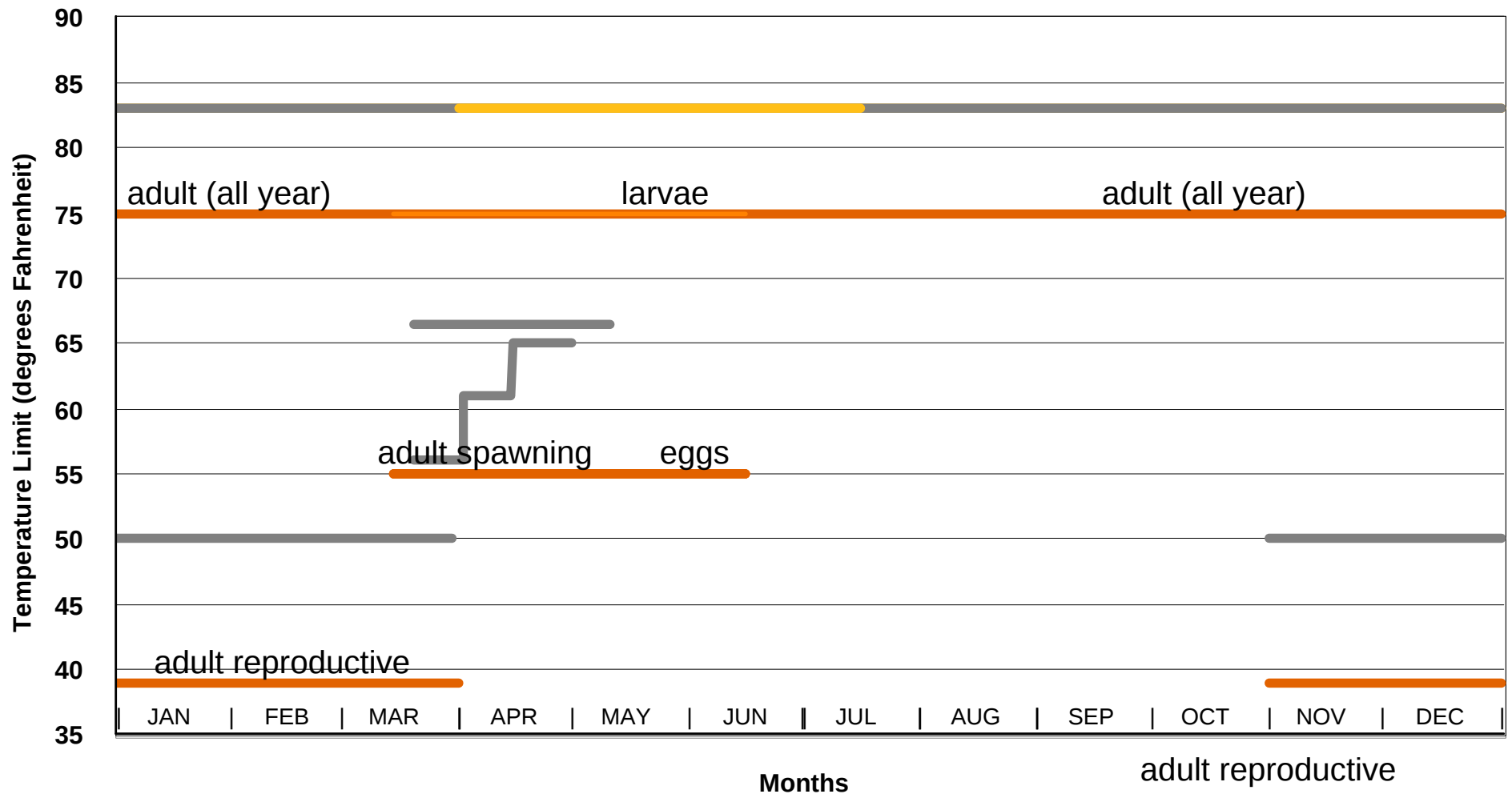


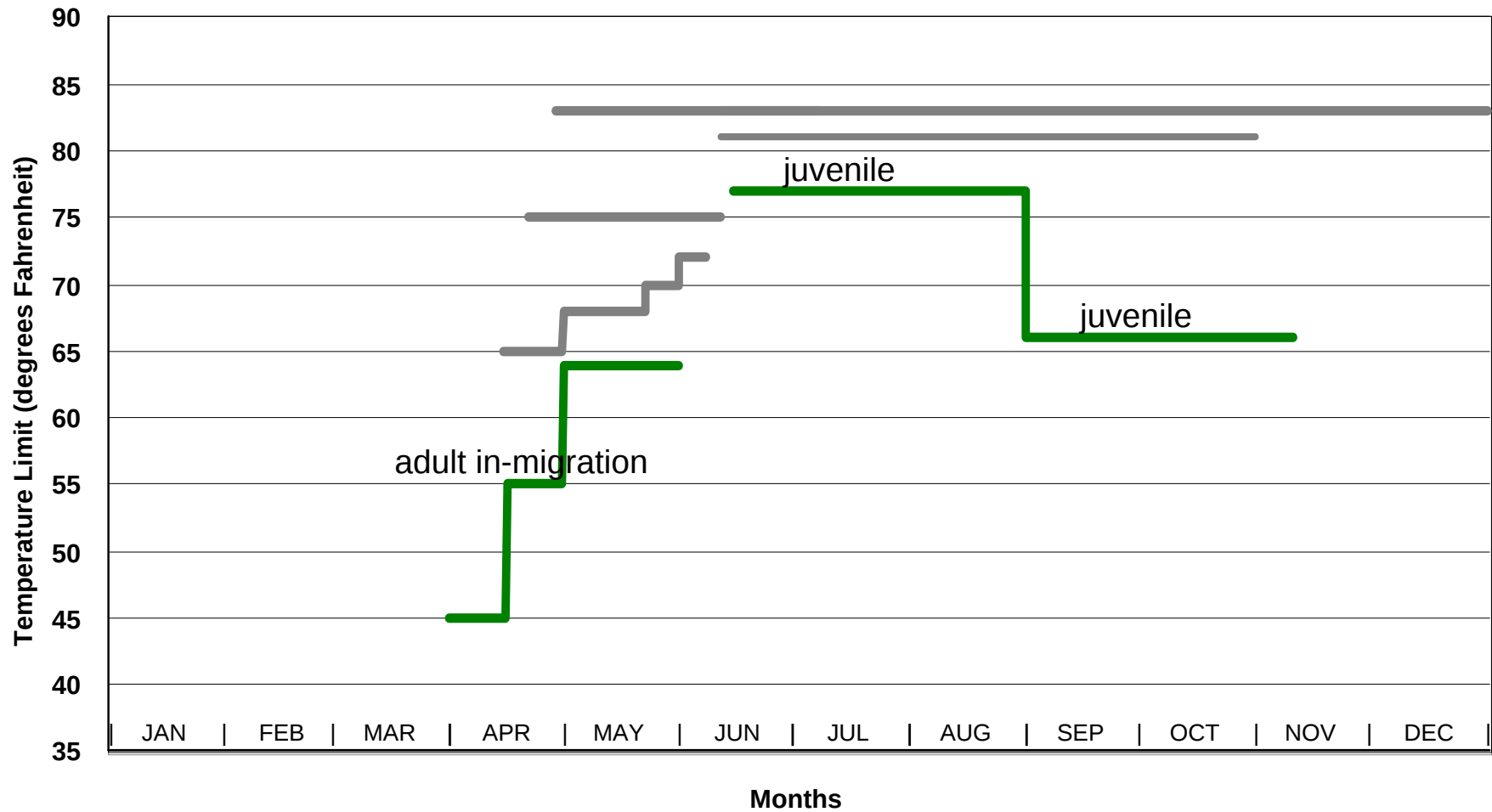
Figure C45 CLF-1. Maximum temperature limits proposed by CLF for the protection of all life stages of yellow perch, the resident species in the Charles River considered most sensitive to temperature, compared with the protective limits used to select the permit limits.



CLF yellow perch maximum temperatures in orange.

Permitted yellow perch maximum temperatures in gray.

Figure C45 CLF-2.Maximum temperature limits proposed by CLF for the protection of all life stages of alewife, the anadromous species in the Charles River considered most sensitive to temperature, compared with the protective limits used to select the the permit limits.



CLF alewife maximum temperatures in green.

Permitted alewife maximum temperatures in gray.

Figure C45 CLF-3. Maximum temperature limits proposed by CLF for the protection of the most temperature sensitive life stage of resident and anadromous species (yellow perch and alewife), compared with the protective limits included in the permit.

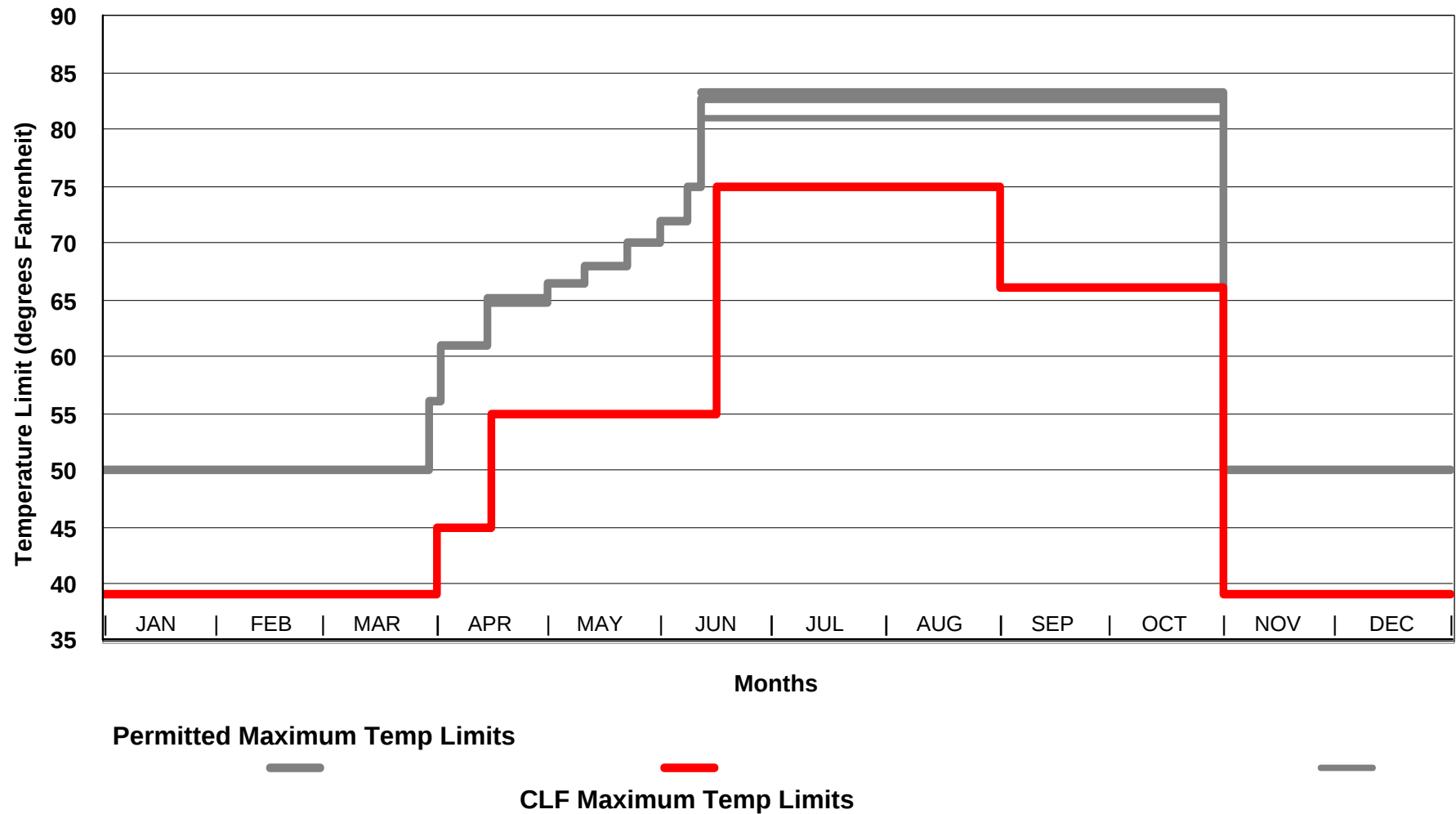
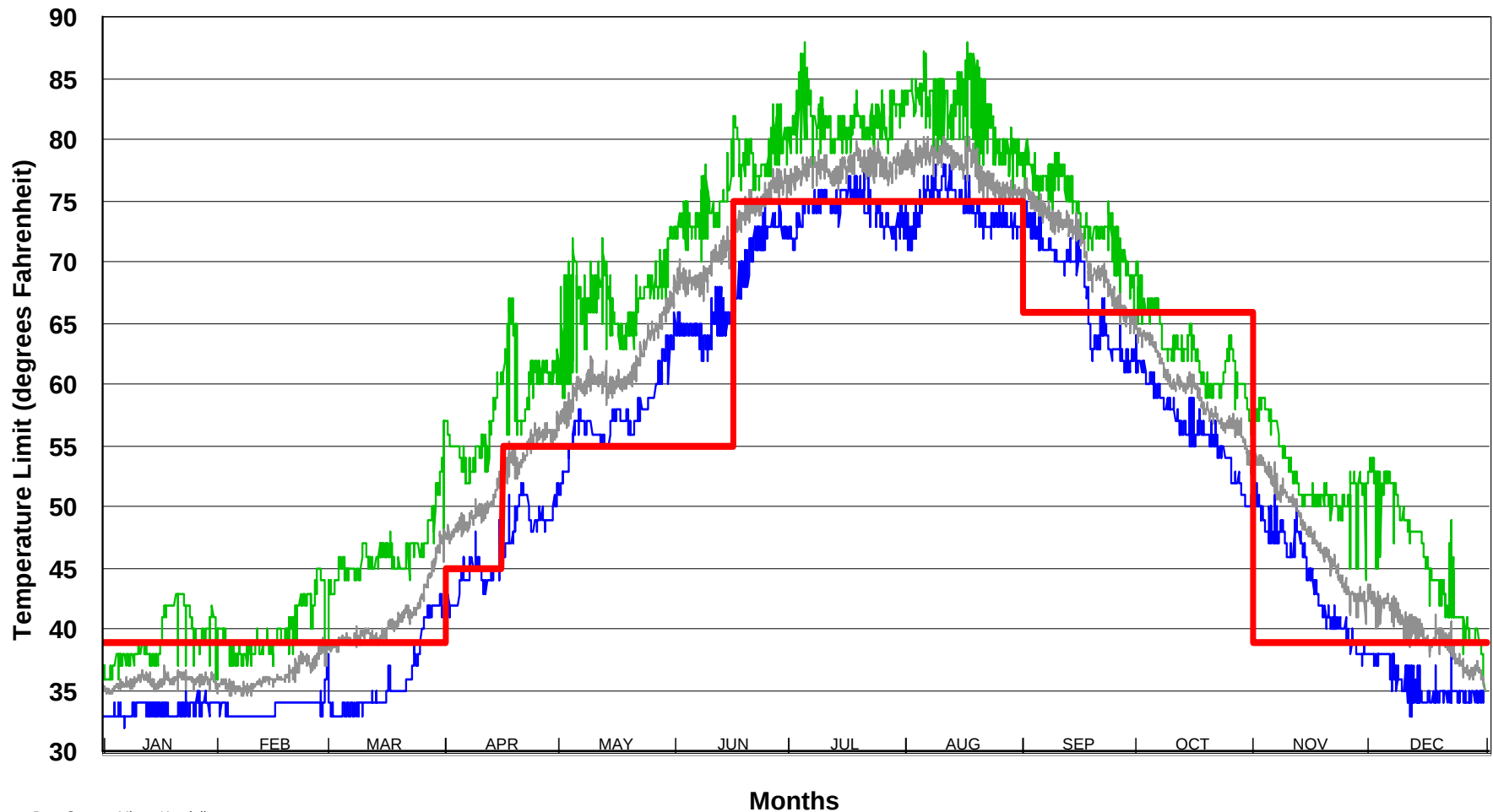


Figure C45 CLF-4. Maximum temperature limits proposed by CLF for the protection of the most temperature sensitive life stage of resident and anadromous species (yellow perch and alewife), compared with maximum, average and minimum Kendall Station intake hourly temperatures from 1994 through 2002.



Data Source: Mirant Kendall

1994 - 2002 Min Temps

1994 - 2002 Max Temps

1994 - 2002 Avg Temps

CLF Temp Limits

Table E19-2. Relative Percent Differences in Algal Counts Between the Upstream and Downstream Portions of the Lower Basin

Date	Data Source	Lower Basin -Upstream (cells or units per ml)					Lower Basin -Downstream (cells or units per ml)					Delta Temp. (Deg. F)	Relative Percent Difference			Change B-G % *
		Location	Blue-Greens	Total Algae	B-G %	Temp. (Deg. F)	Location	Blue-Greens	Total Algae	B-G %	Temp. (Deg. F)		Blue-Greens	Total Algae	B-G %	
2001																
8/20/2001	Mirant	MIT	12587	22234	56.6%	78.3	Diffuser	10515	20356	51.7%	77.8	-0.5	-16.5	-8.4	-5.0%	
8/29/2001	Mirant	MIT	9951	20132	49.4%	77.8	Diffuser	12629	22377	56.4%	78.7	0.9	26.9	11.2	7.0%	
9/3/2001	Mirant	MIT	13284	25764	51.6%	73.9 ⁽¹⁾	Diffuser	25638	38426	66.7%	75.4 ⁽¹⁾	1.5	93.0	49.1	15.2%	
9/20/2001	Mirant	MIT	18341	27885	65.8%	70.4	Diffuser	8642	16754	51.6%	71.1	0.7	-52.9	-39.9	-14.2%	
2002																
7/9/2002	EPA	TMDL21	20	2059	1.0%	78.9	CRBL11	18	985	1.8%	82.7	3.8	-10.0	-52.2	0.9%	
8/6/2002	EPA	TMDL21	364	9893	3.7%	80.8	CRBL11	73	9456	0.8%	84.0	3.2	-79.9	-4.4	-2.9%	
9/10/2002	EPA	TMDL21	1163	4110	28.3%	74.0	CRBL11	1195	2137	55.9%	78.8	4.8	2.8	-48.0	27.6%	
2003 Comparison between upstream and downstream in the Lower Basin																
8/7/2003	Mirant	A	78	2507	3.1%	78.0	B&C ⁽²⁾	403	2088	19.3%	80.8	2.8	416.7	-16.7	16.2%	
8/14/2003	Mirant	A	150	1601	9.4%	79.5	B&C ⁽²⁾	248	1383	17.9%	82.9	3.4	65.3	-13.6	8.6%	
8/21/2003	Mirant	A	351	1991	17.6%	78.7	B&C ⁽²⁾	510	2186	23.3%	82.9	4.2	45.3	9.8	5.7%	
8/28/2003	Mirant	A	168	1618	10.4%	75.0	B&C ⁽²⁾	472	2147	22.0%	78.1	3.1	181.0	32.7	11.6%	
9/3/2003	Mirant	A	281	1425	19.7%	71.0	B&C ⁽²⁾	390	1156	33.7%	72.5	1.5	38.8	-18.9	14.0%	
9/17/2003	Mirant	A	373	1659	22.5%	71.9	B&C ⁽²⁾	1426	2938	48.5%	74.6	2.7	282.3	77.1	26.1%	
9/24/2003	Mirant	A	176	1278	13.8%	69.7	B&C ⁽²⁾	1801	3084	58.4%	71.7	2.0	923.3	141.3	44.6%	
9/30/2003	Mirant	A	314	1607	19.5%	67.4	B&C ⁽²⁾	1339	2325	57.6%	68.9	1.5	326.4	44.7	38.1%	
2003 Comparison between Mirant Stations A and B																
8/7/2003	Mirant	A	78	2507	3.1%	78.0	B	376	2150	17.5%	80.2	2.2	382.1	-14.2	14.4%	
8/14/2003	Mirant	A	150	1601	9.4%	79.5	B	281	1119	25.1%	82.1	2.6	87.3	-30.1	15.7%	
8/21/2003	Mirant	A	351	1991	17.6%	78.7	B	525	2225	23.6%	82.5	3.8	49.6	11.8	6.0%	
8/28/2003	Mirant	A	168	1618	10.4%	75.0	B	378	2282	16.6%	77.1	2.1	125.0	41.0	6.2%	
9/3/2003	Mirant	A	281	1425	19.7%	71.0	B	426	1186	35.9%	72.5	1.5	51.6	-16.8	16.2%	
9/17/2003	Mirant	A	373	1659	22.5%	71.9	B	1553	3169	49.0%	74.2	2.3	316.4	91.0	26.5%	
9/24/2003	Mirant	A	176	1278	13.8%	69.7	B	1834	3199	57.3%	70.9	1.2	942.0	150.3	43.6%	
9/30/2003	Mirant	A	314	1607	19.5%	67.4	B	1223	2314	52.9%	68.3	0.9	289.5	44.0	33.3%	
2003 Comparison between Mirant Stations A and C																
8/7/2003	Mirant	A	78	2507	3.1%	78.0	C	429	2027	21.2%	81.5	3.5	450.0	-19.1	18.1%	
8/14/2003	Mirant	A	150	1601	9.4%	79.5	C	275	1648	16.7%	83.7	4.2	83.3	2.9	7.3%	
8/21/2003	Mirant	A	351	1991	17.6%	78.7	C	496	2150	23.1%	83.2	4.5	41.3	8.0	5.4%	
8/28/2003	Mirant	A	168	1618	10.4%	75.0	C	566	2013	28.1%	79.1	4.1	236.9	24.4	17.7%	
9/3/2003	Mirant	A	281	1425	19.7%	71.0	C	355	1125	31.6%	72.5	1.5	26.3	-21.1	11.8%	
9/17/2003	Mirant	A	373	1659	22.5%	71.9	C	1301	2707	48.1%	75.1	3.2	248.8	63.2	25.6%	
9/24/2003	Mirant	A	176	1278	13.8%	69.7	C	1769	2969	59.6%	72.4	2.7	905.1	132.3	45.8%	
9/30/2003	Mirant	A	314	1607	19.5%	67.4	C	1454	2336	62.2%	69.5	2.1	363.1	45.4	42.7%	

(2) Represents average of data from Mirant stations B and C

(*) a positive % indicates an increase in Blue_Green Algae when traveling from the upstream station to the downstream station. A negative % indicates a decrease.

Figure H14-1

Number of fish impinged and collected, all species combined, at the CWIS of Kendall Station, presented by month and year from 1999 through 2005. The total number of fish collected in June of 2000 was 1,485. This value exceeded the range constructed for the y-axis of the graph. (Source: Mirant Kendall, April 2006)

