

Memorandum

To : Files, Drumheller Slough, Colusa County Date : March 19, 1984

From : Department of Fish and Game - Region 2

Subject: Fish Kill Investigation, Drumheller Slough

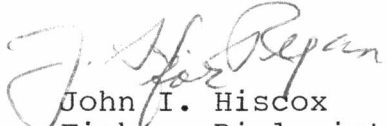
On March 2, 1984, I participated in the initial investigation of a fish kill in Drumheller Slough, Colusa County. The extent of the fish mortalities included all of Drumheller Slough from its mouth at Butte Creek (Five Corners) to a point upstream to the Gridley-Colusa Highway. Additional mortality was present in unnamed sloughs and ditches which were tributary to the main slough. Total reach of the observed mortality was approximately 5½ to 6 miles.

The entire length of the affected reach was walked and/or driven to quantify fish mortality. A total of eight 100 yard sections were measured and all species counted in these sections. Total estimated mortality for the kill was 30,000 gamefish and 20,000 nongame fish of all sizes. Attached is a listing of fish size and species composition. In addition to the fish loss, a large portion of the affected area also showed complete mortalities of resident crayfish and freshwater clams. A complete mortality on aquatic life secured from the (apparent) source 1/2 mile north of the Gridley-Colusa Highway to the Pearl (Duck) Club some 3½ miles downstream. Below this point approximately 40% of the sampled freshwater clams were found alive, although all other organisms were dead. This condition persisted to the mouth of the slough.

Observations below the confluence of Drumheller Slough and Butte Creek indicated that the kill did not extend into Butte Creek. No dead fish were seen below the confluence, and all clams and crayfish checked were alive.

No D.O. measurements were made on the survey date. The geographical extent of the kill (6 miles), the complete spectrum of the kill (clams through carp), and the fact that the affected watercourse has no fewer than three major water drops (creating aerated water), suggests a toxic source rather than a D.O. deficit as the cause of the mortality.

Wildlife protection is currently investigating the source and extent of the subject pollution. When and if court mitigation is possible, every effort should be made to restock Drumheller Slough with largemouth bass, channel catfish, white crappie and redear sunfish. Without introductions, this once-viable fishery will not recover for many years, as upstream sources of fish recruitment are negligible.


John I. Hiscox
Fishery Biologist

Attachment

cc: J. Ryan, Wdn. Chris Wright, J. Linn, R. Beland, J. Hiscox
Paul T. Jensen, Colusa County Ag. Commissioner

JIH:ds

Species	Sp. (Abbreviation)	Total # Kill	Percent of Total Kill	Range Size Inches	Mean Size Inches
Cyprinus carpio	(CP)	12,000	24%	5-28	14
Ictalurus melas	(BLB) <i>Black Bullhead</i>	10,000	20%	3-13	9
Ictalurus catus	(WCF)	8,500	17%	4-28	14
Pomoxis annularis	(WCR) <i>White Crappie</i>	6,000	12%	3-11	7
Lavinia exilicauda	(HCH) <i>Hitch</i>	5,000	10%	2-5	4
Gambusia affinis	(GMB) <i>Mosquito Fish</i>	3,000	6%	1-3	2
Ictalurus punctatus	(CCF)	2,500	5%	4-32	15
Micropterus salmoides	(LMB)	1,600	3.2%	5-18	12
Lepomis macrochirus	(BG) <i>Blue gill</i>	800	1.6%	4-8	5
Pomoxis nigromaculatus	(BCR) <i>Black Crappie</i>	450	< 1%	6-10	7
Lepomis microlophus	(RSF)	125	< 1%	5-9	6
Lepomis cyanellus	(GSF)	15	< 1%	4-7	5
Lepomis gulosus	(WB) <i>Wormouth</i>	10	< 1%	6-10	8