



STATE OF WASHINGTON

WA-37-1048

DEPARTMENT OF ECOLOGY

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M E M O R A N D U M
July 26, 1983

To: Dick Cunningham
From: John Bernhardt *JB*
Subject: Birchfield DDT Recommendations

I have reviewed the Yakima River Gap-to-Gap study, Joe Joy's followup report, and sampling options advanced by Joe (Attachment 1). Regional office concerns also were considered. My recommendation follows.

Followup sediment and water sampling are not necessary at this point. Information now available pretty well shows that DDT levels are somewhat elevated in the Yakima River as compared to other areas of the country. Levels near the mouth of Birchfield Drain are higher than the river in general. This would be expected since the drain serves agricultural lands, of which some historically have received extensive DDT application (hop fields). The existing data do not suggest "new" DDT as a factor, judging from the DDT/DDE ratio. Thus, additional sampling may further characterize the DDT problem, but the likelihood of identifying any specific, new sources is very small.

DDT levels in fish tissue as related to human consumption is still an issue. Since the drain is not fished, the concern is whether high DDT levels exist in the Yakima River below where a popular fishery exists. Game fish should be collected from this area and the edible portion analyzed for pesticides and compared against human consumption criteria. Such an effort could be taken to almost any degree (samples above, at mouth, and intervals below); however, a single sampling station to confirm if a problem exists seems sufficient for now. A followup could be performed if a problem was noted.

This summer's BWMP effort would be the best time to sample. Sampling should include two species of fish as per the regular BWMP stations, for comparison. Also, a sample of game fish for pesticide analysis of the edible portion should be included.

It seems that the Birchfield DDT effort is a "special" investigation and thus should not be included as part of the BWMP sample allotment.

JB:cp

Attachment

ATTACHMENT 1

Joe Joy - 7/25/83

BIRCHFIELD DRAIN AND VICINITY DDT SURVEY

Task #1: Verficiation of July 1982 Results

<u>W</u>	<u>S</u>	<u>F</u>	<u>Types of Samples:</u>
2	2		Sediment and whole water
			<u>Number:</u> At least two of each = four
			<u>1a:</u> Filter water to verify that suspended sediment primary source of DDT in water
2	1		1 large-volume sample, split, analyze whole, filter, and filtrate. Take TSS sample as well.
			<u>1b:</u> Characterize sediment across whole mouth of drain
	4+		4+ samples across ~60' of drain if sediment is present - Eckman dredge composite or core.
			<u>1c:</u> Verify Wide Hollow Creek as well

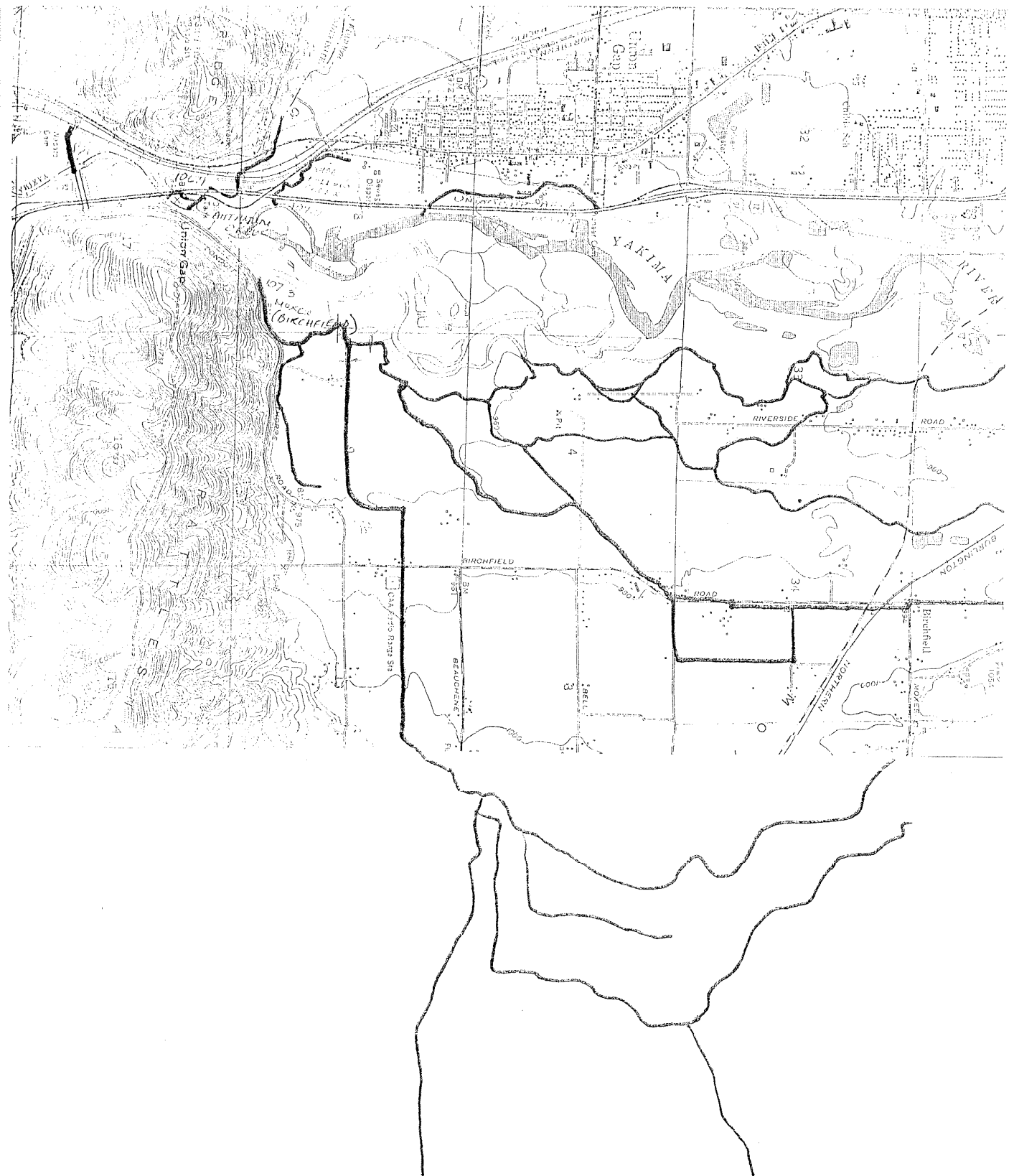
Task #2: Fish Assessment at Drain

<u>W</u>	<u>S</u>	<u>F</u>	<u>Types of Samples:</u>
			fish
			<u>2a:</u> Is there a human health risk
		2+	Sample game species as close to drain as possible. Prefer bass, spiny rays. Take fillet sample, 2 or more if available.
			<u>2b:</u> Is there environmental hazard
		2+	Sample sucker or other fish. To be analyzed whole

Task #3: Influence of Drain(s) on Portion of Yakima Mainstem

<u>W</u>	<u>S</u>	<u>F</u>	<u>Types of Samples:</u>
6	6+	6+	Water, sediment, fish
			<u>Number:</u> water - 2 above, 4 below; sediment - 2 above, 4+ below; fish (suckers) - 2 above, 4+ below
2?			<u>Location:</u> Above samples - at Sportsman State Park. Below samples - near Highway 82 crossing and near Wapato Dam. Highly dependent upon river conditions, fish habitat, sediment locations, etc. Perhaps below Wapato Dam as well.

10+ 13+ 12+ = 35+ total possible



Manpower: 2 people, overnight in Yakima (48 hours)

Equipment:

- . John boat, oars, small outboard, anchor
- . Small ponar or Eckman & core samplers
- . Backpack electroshocker and nets
- . Pole, line, hooks, & bait/lures
- . Sample containers (water, sediment) + TSS
- . Foil and ddw (check on fillet requirements)
- . Ice and dry ice (in Yakima)
- . Van