




Conservation District & Smurfit Berms

November 2023



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kestrelaerial.com*

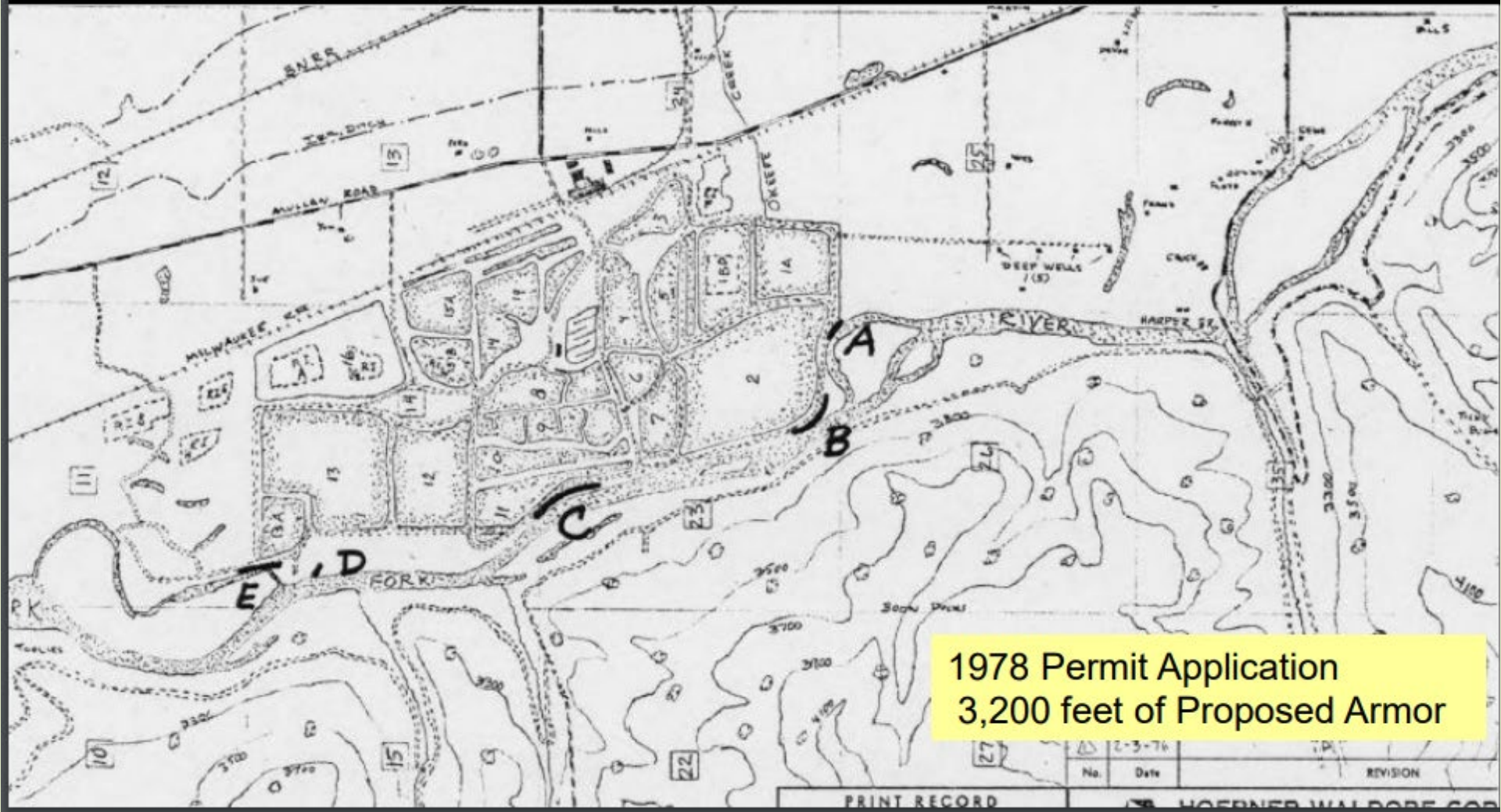


MCA § 75-7-102(2): It is the policy of the state of Montana that its natural rivers and streams and the lands and property immediately adjacent to them within the state are to be protected and preserved to be available in their natural or existing state and to prohibit unauthorized projects, and in so doing, to keep soil erosion and sedimentation to a minimum, except as may be necessary and appropriate after due consideration of all factors involved. Further, it is the policy of this state to recognize the needs of irrigation and agricultural use of rivers and streams of the state of Montana and to protect the use of water for any useful or beneficial purpose as guaranteed by The Constitution of the State of Montana.

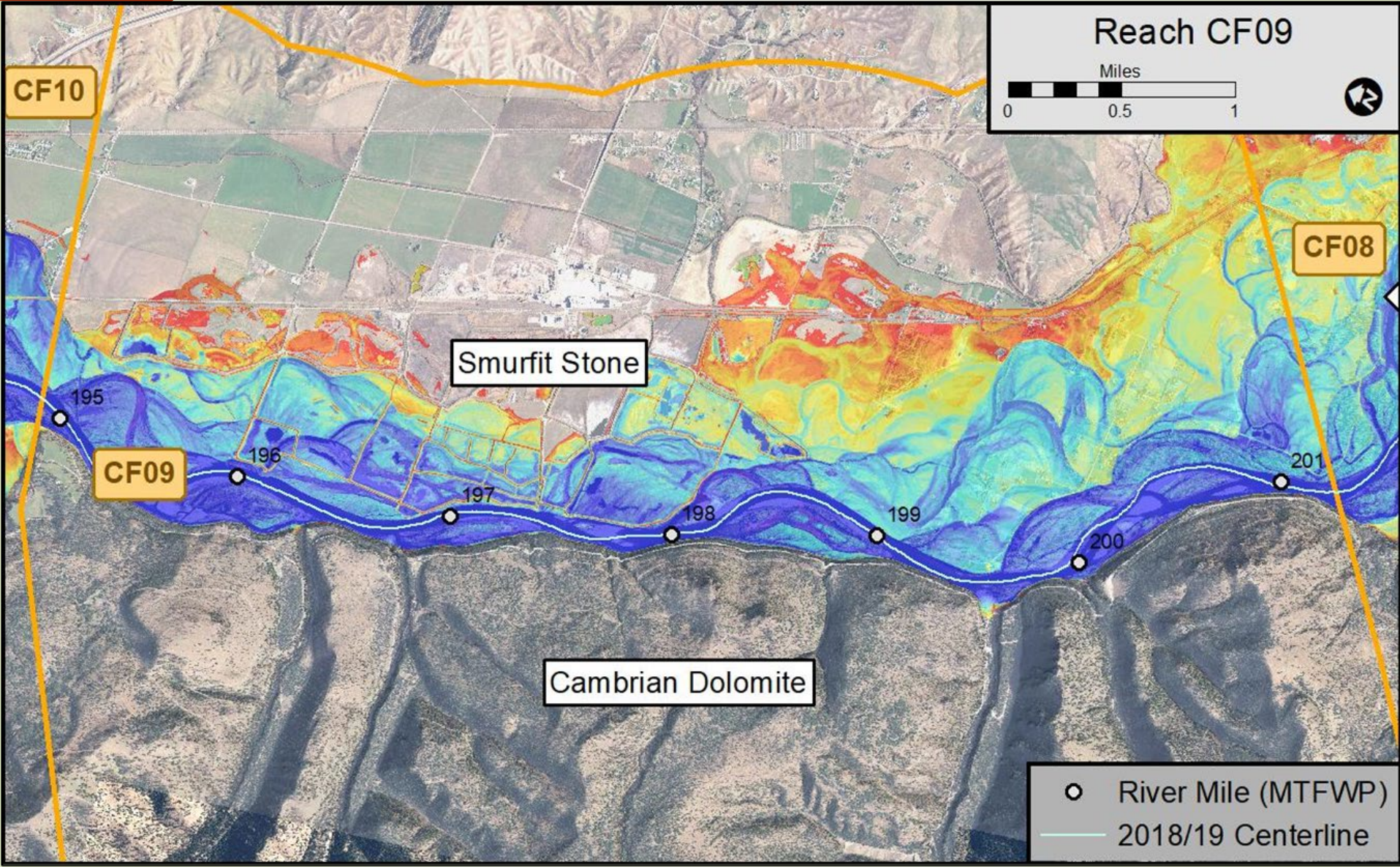
Protecting the Ponds

10 maintenance permits to protect ponds from 1974-2007

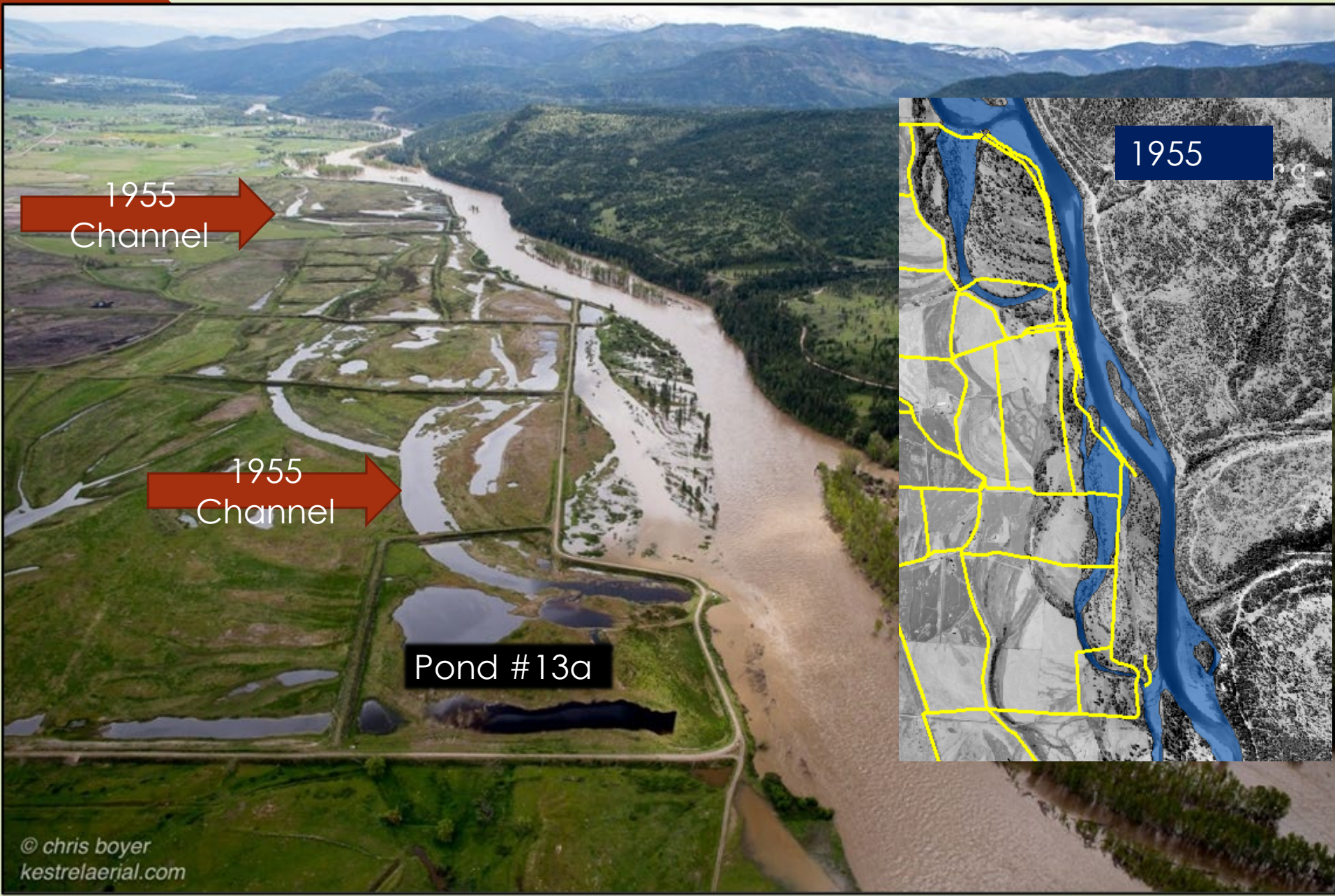
Bank Armor Construction and/or Repair, Breach Repair, Seepage Treatments



CF09 - Smurfit Stone



1950s Channels Behind Berms



Boil or “volcano” in Pond 13A May 17, 2018

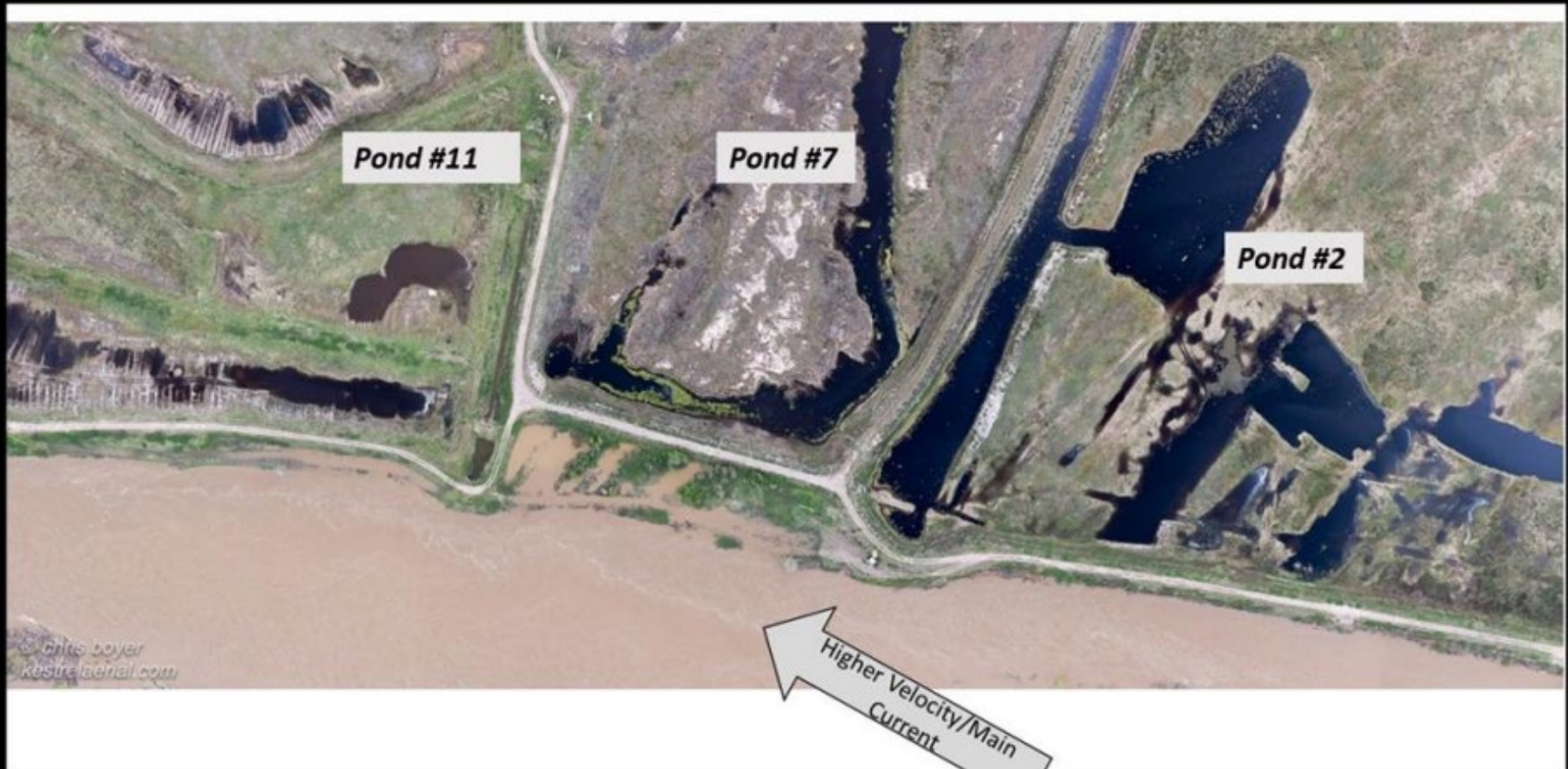
Table 6-3 Summary of Results for Seepage Analyses

STA	Pond	Steady-State Exit Gradient at Landside Toe
30+00	HP2	0.9
50+00	HP2	0.1
66+00	HP2	0.4
74+00	HP7	0.1
94+0	HP11	0.2
122+00	HP12	0.3
147+00	HP13a	4.0
177+00	HP13	2.0

Red bold values indicate results do not meet minimum acceptance criterion for factor of safety.



High flow velocities against ponds Repeated maintenance is necessary

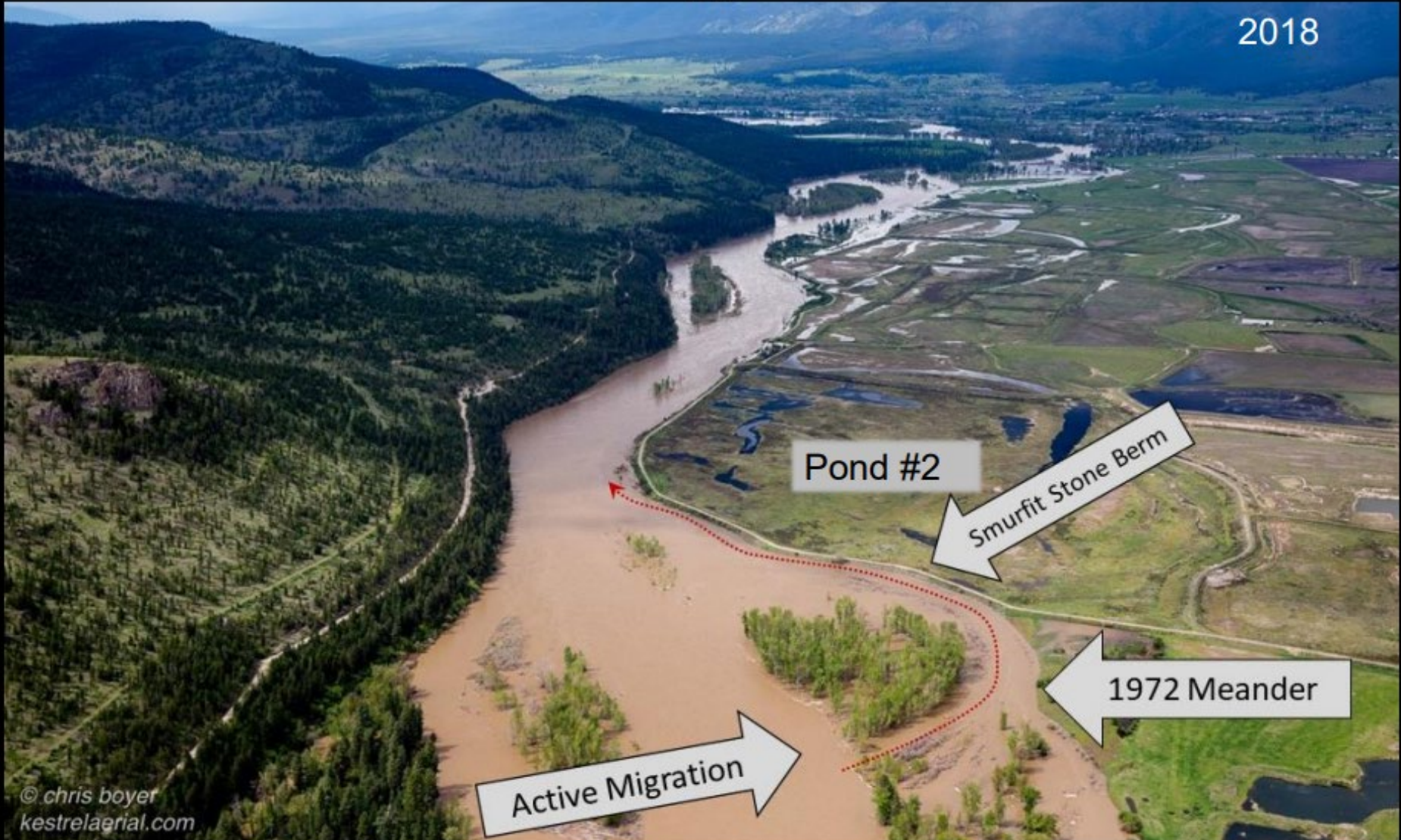


Flow Against Pond #2

~70 ft of migration into island 2017-2019

Increasing pressure

2018



Pond #2

Smurfit Stone Berm

1972 Meander

Active Migration

Pond 2 Berm Repairs

- 1976: 300 feet of riprap west side of Pond 2 berm
- 1978: 1,400 feet of repair south and west Pond 2 berms
- 1985: 500 feet of riprap west side of Pond 2
- 1990: Two barbs on river side of Pond 2 (riprap had failed)
- 2001: Emergency repair of Pond 2 berm (leak)



Pond 11

- 300 feet of riprap in 1976
- 1,600 feet of riprap in 1978
- Little channel movement so river is constantly working on the armor





November 7, 2022 Letter

- The berms may be maintained while different remedies are debated and the site continues through the Superfund process – the final remedy and the Record of Decision, however, cannot include the maintenance and upkeep of the berm in perpetuity.

Questions?

Tim Hall, Chair

Missoula Conservation District