

Pallid Sturgeon Biology in the Platte River and Its Tributaries



Jenna Ruoss – PhD student



Chris Pullano – MS student

Pallid Sturgeon Biology in the Platte River and Its Tributaries

OBJECTIVES

1. Identify relations among environmental conditions (i.e., river discharge and temperature) with the timing and extent of Pallid Sturgeon movement into and within the lower Platte River.
2. Identify Pallid Sturgeon spawning habitat in the lower Platte River and its tributaries.
3. Verify successful spawning by Pallid Sturgeon in the Platte River and/or its tributaries.
4. Provide Pallid Sturgeon genetic samples for further population and hybridization assessment (in collaboration with Dr. Heist's parallel project).

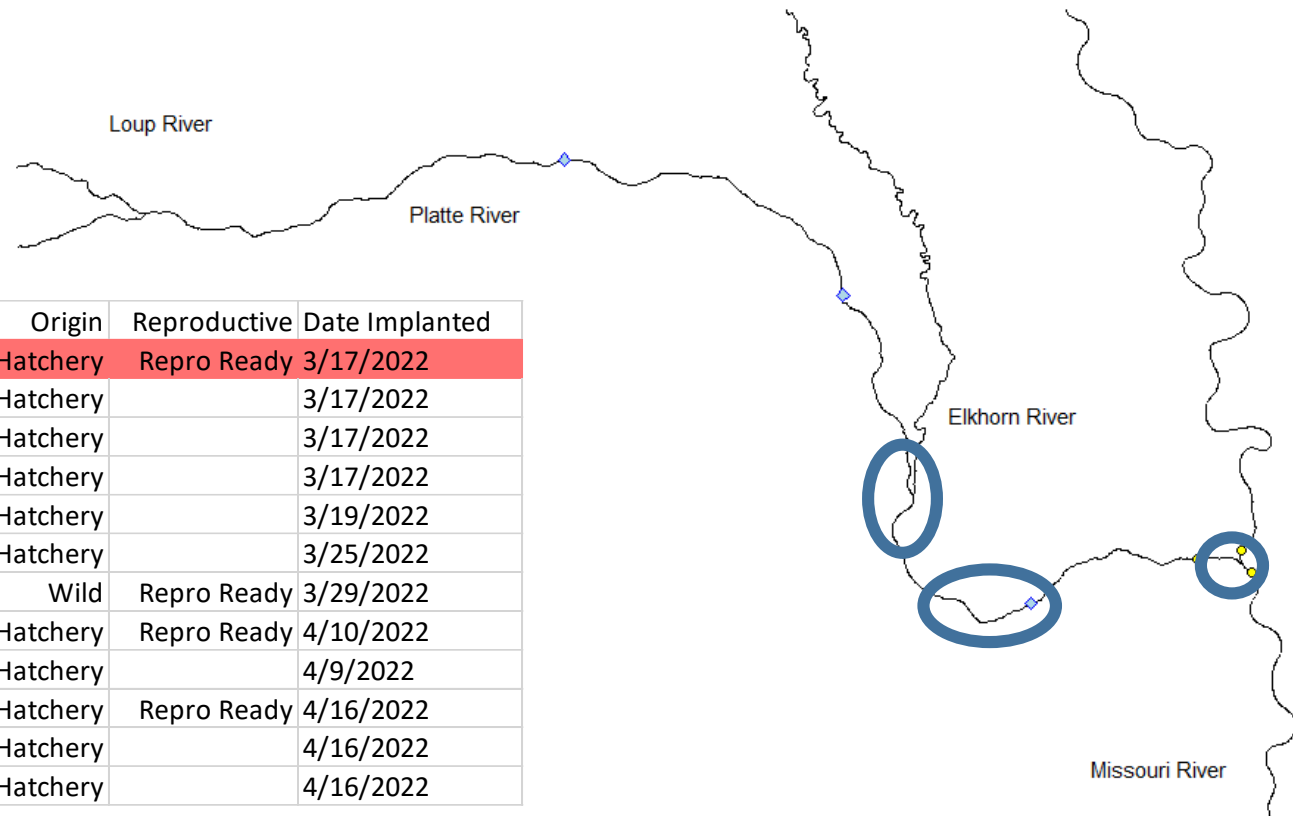


2022 Spring-Summer Sampling Update

Platte River tagging effort

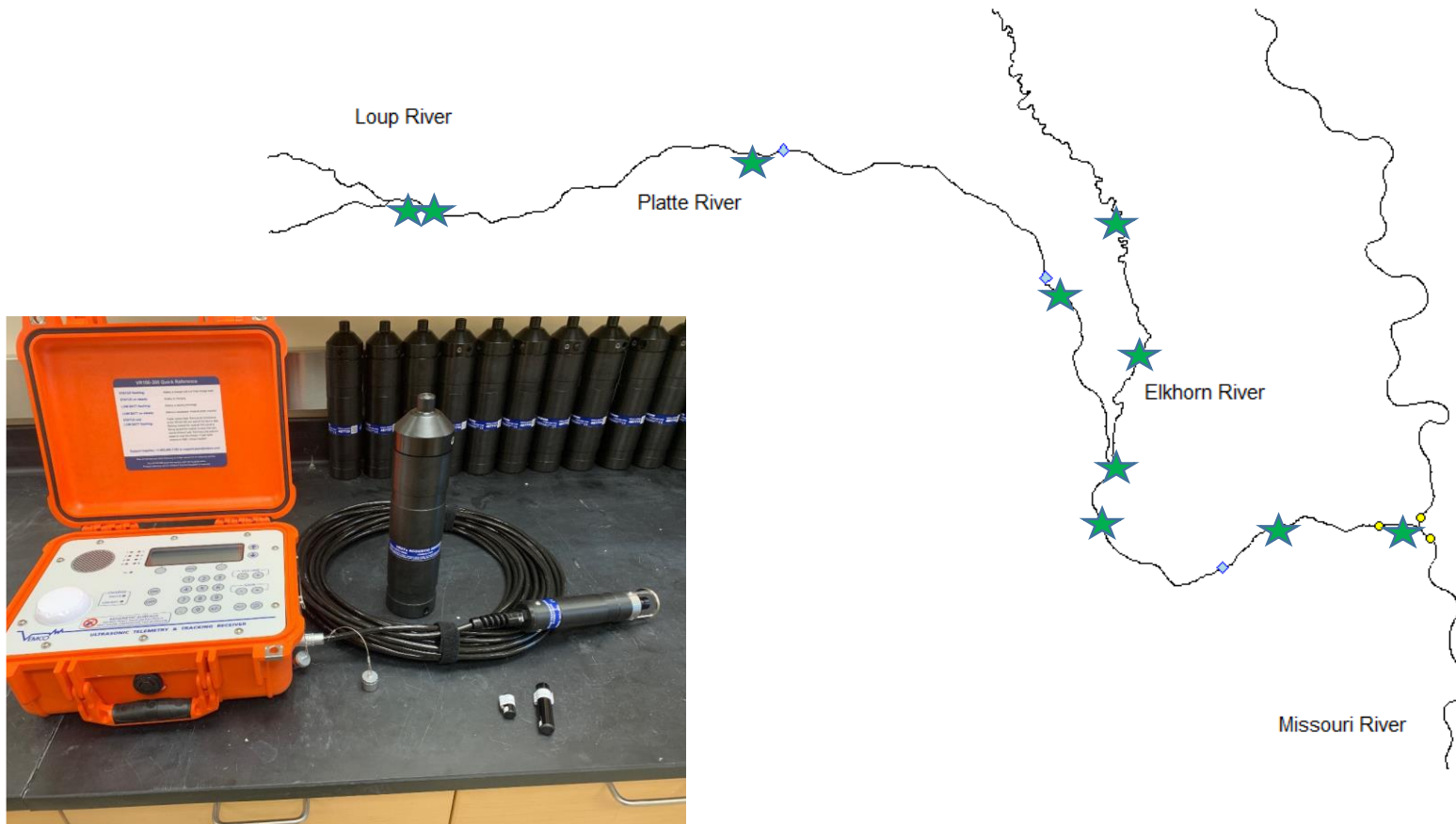
- 15 Pallid Sturgeon captured*
 - 12 implanted with transmitters
- 17 additional fish tagged in Missouri River

Species	Length (mm)	Weight (g)	Sex	Origin	Reproductive	Date Implanted
PDSG	878	2416	F	Hatchery	Repro Ready	3/17/2022
PDSG	524	468	U	Hatchery		3/17/2022
PDSG	885	1926	U	Hatchery		3/17/2022
PDSG	796	1750	U	Hatchery		3/17/2022
PDSG	809	2106	U	Hatchery		3/19/2022
PDSG	607	748	U	Hatchery		3/25/2022
PDSG	889	2268	M	Wild	Repro Ready	3/29/2022
PDSG	980	3308	M	Hatchery	Repro Ready	4/10/2022
PDSG	947	2736	F	Hatchery		4/9/2022
PDSG	1080	4688	M	Hatchery	Repro Ready	4/16/2022
PDSG	677	940	U	Hatchery		4/16/2022
PDSG	635	726	U	Hatchery		4/16/2022



* PDSG – 492 mm confirmed wild (too small for transmitter)

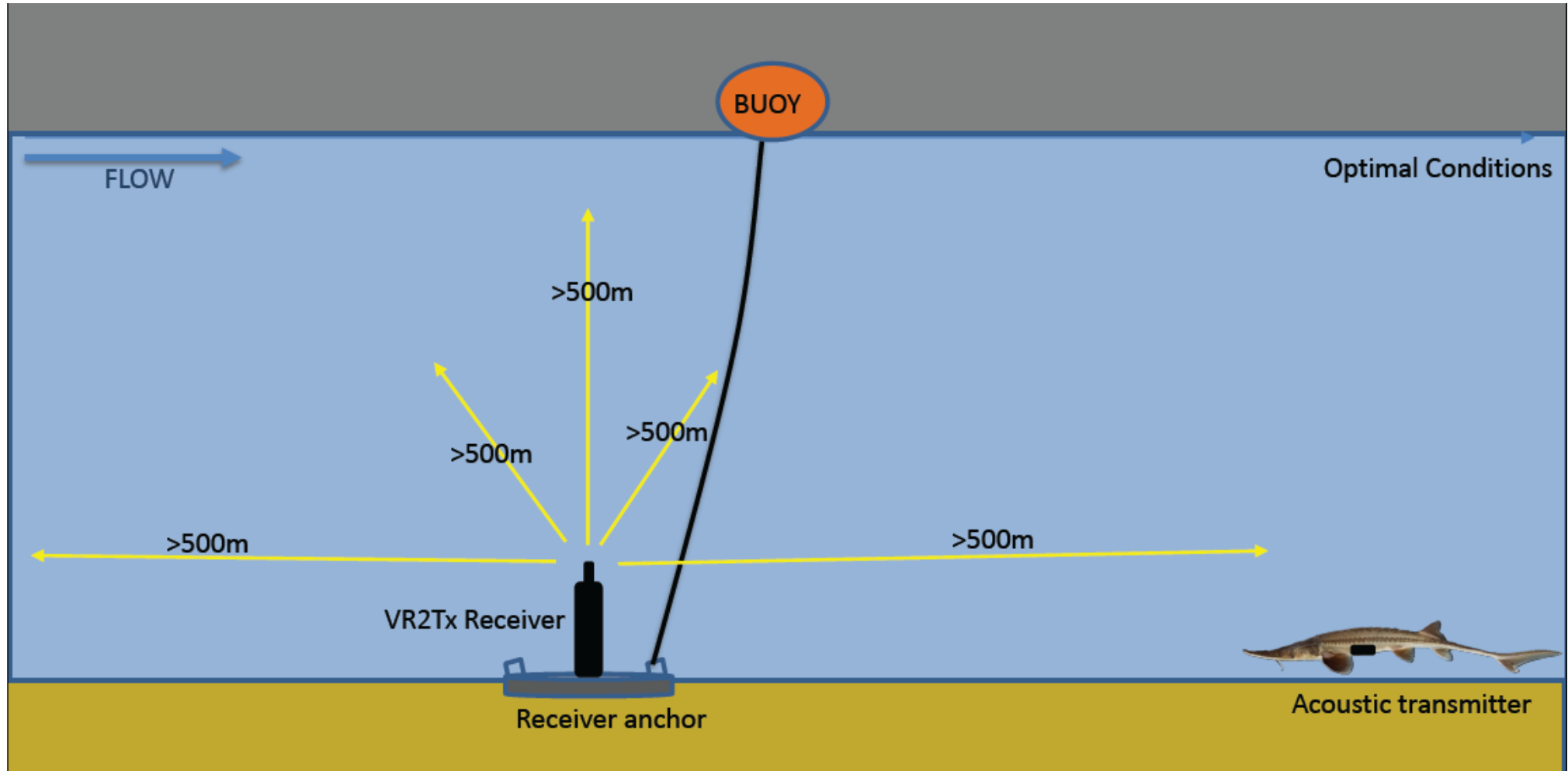
Range of detections – Active and Passive



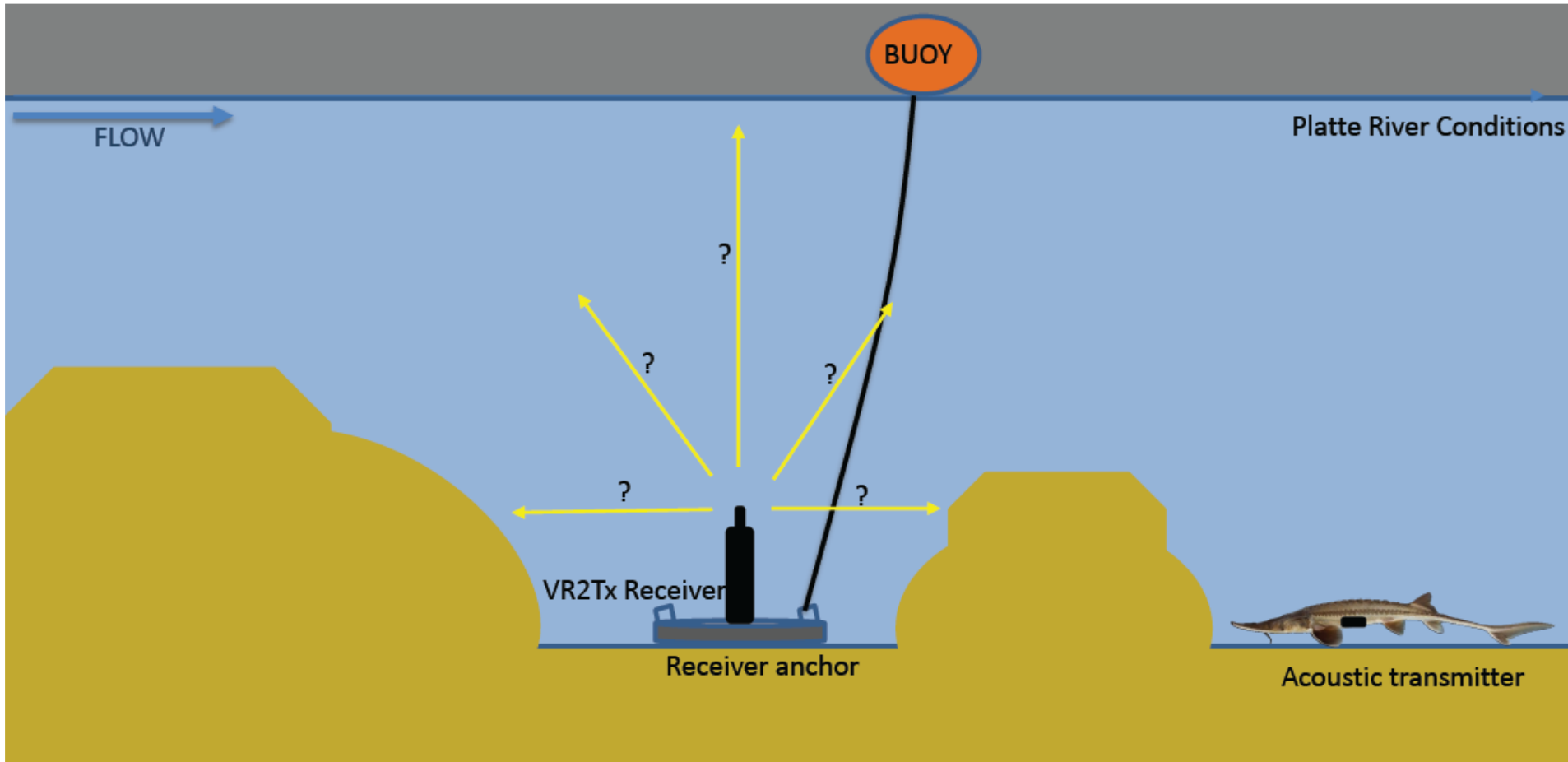
★ Listening stations



Passive telemetry



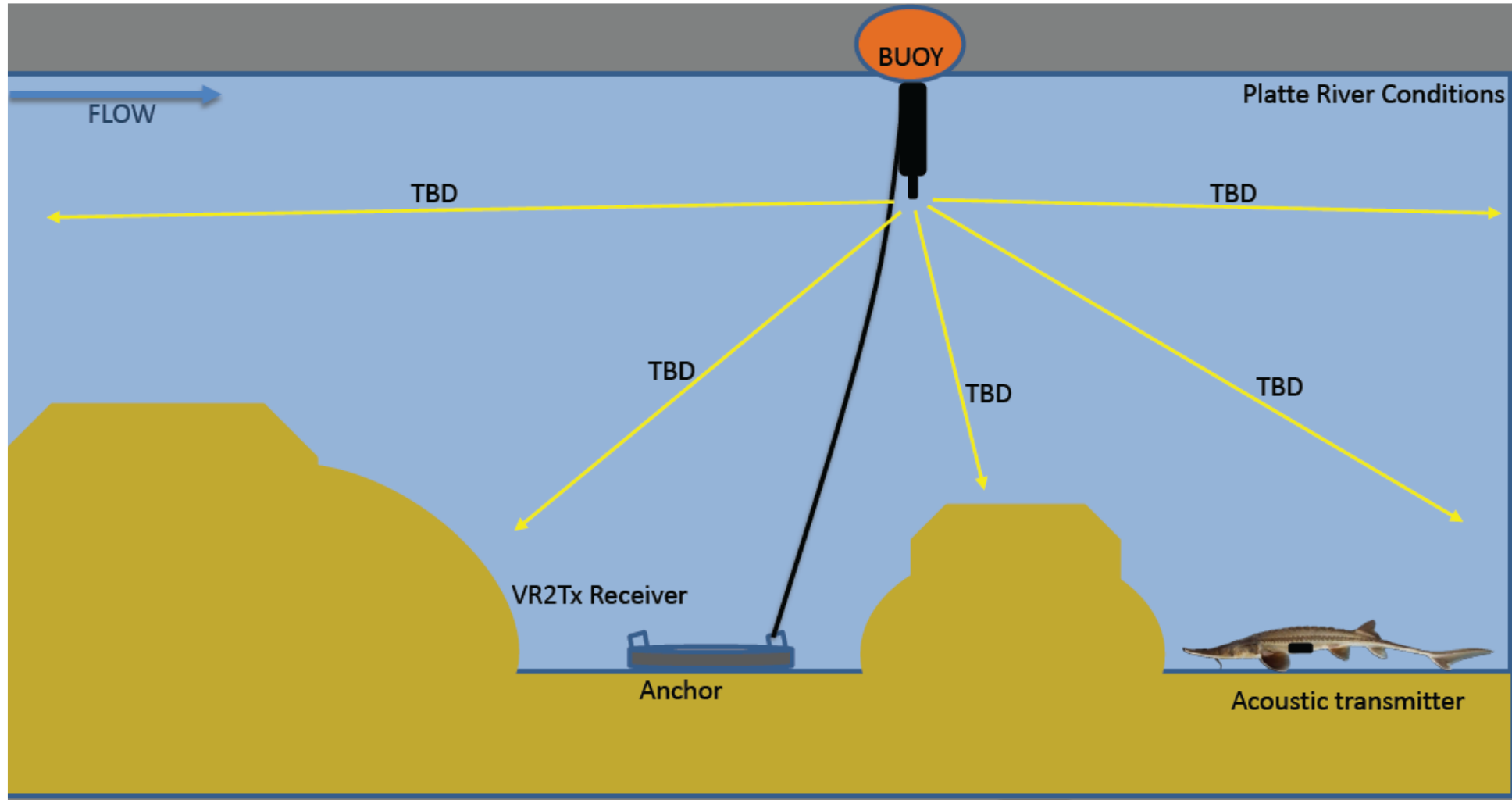
Passive telemetry



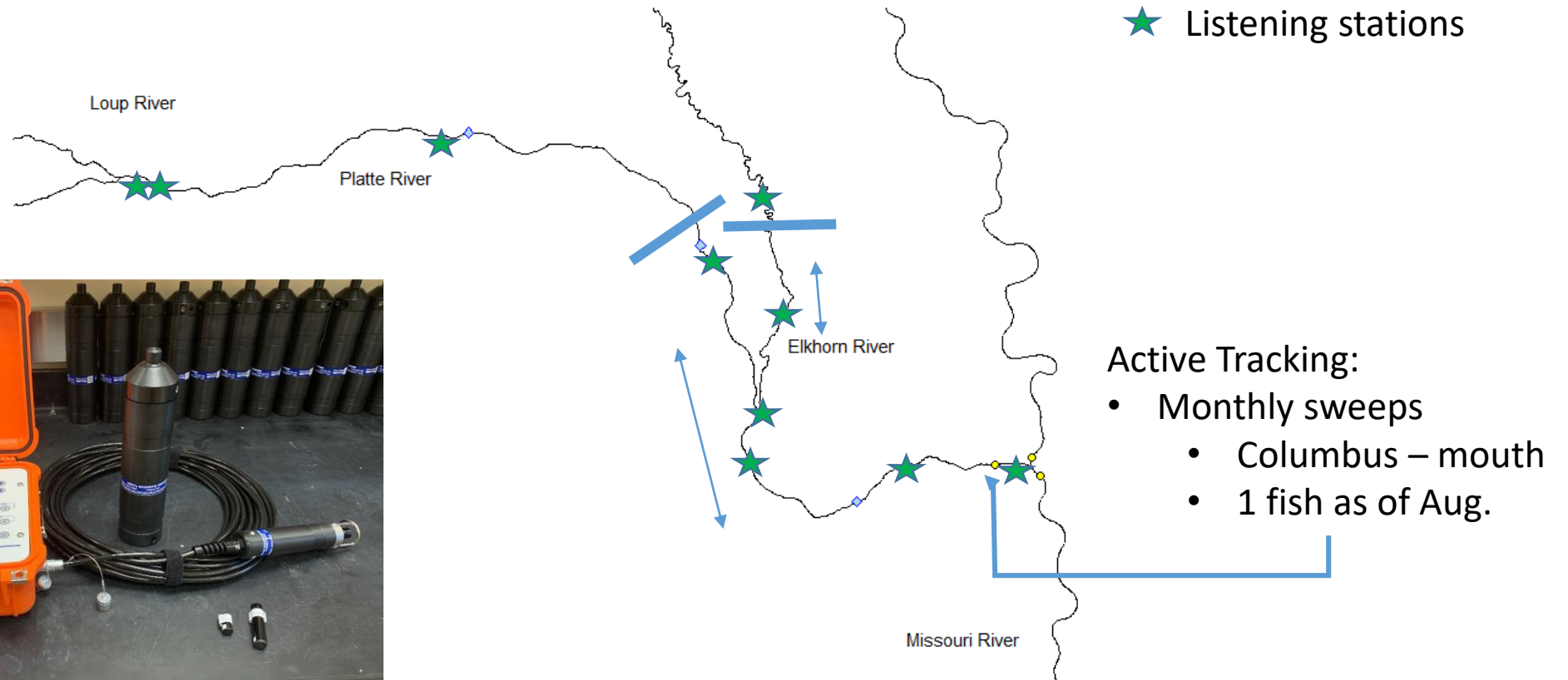
Passive telemetry



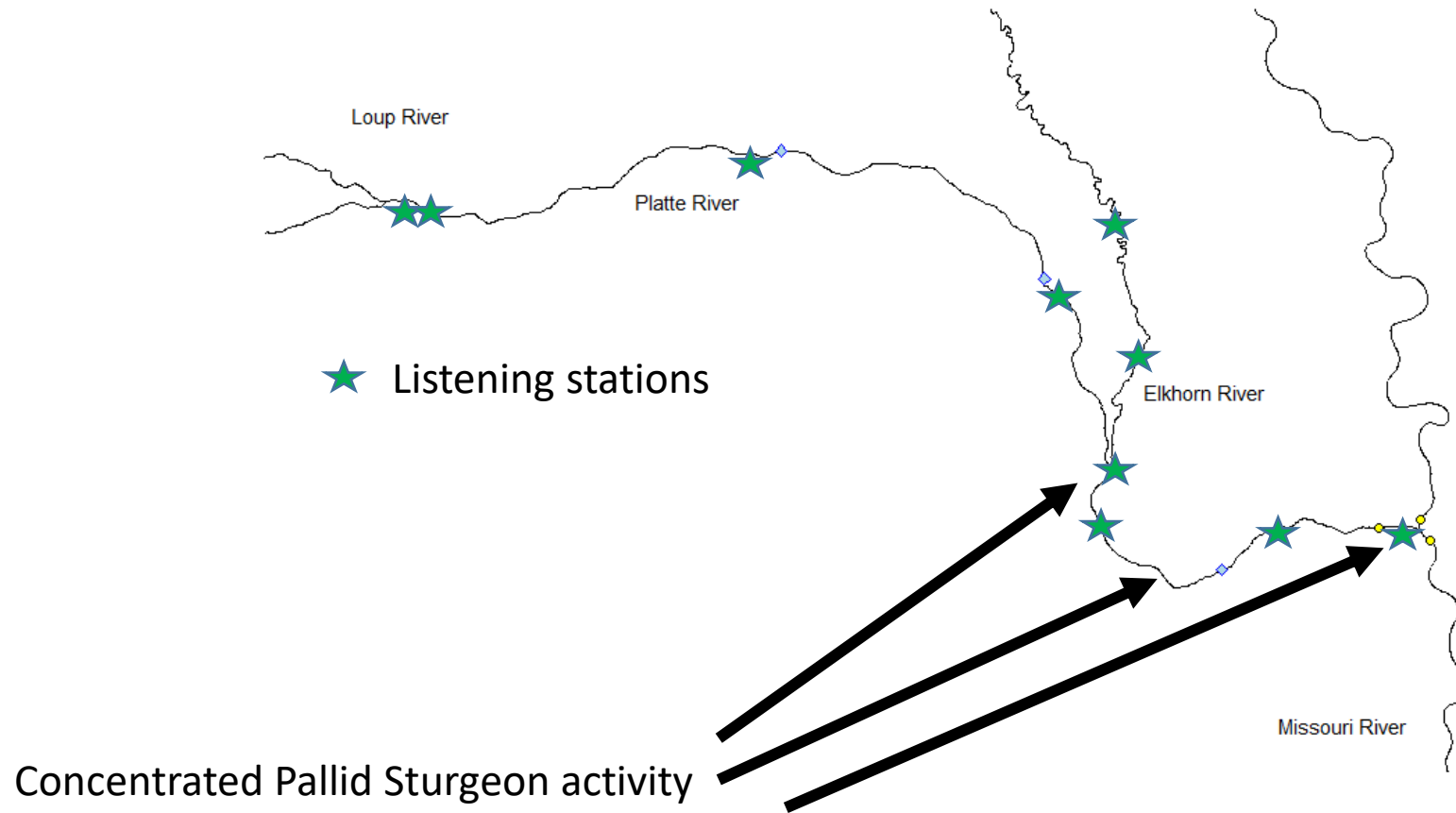
Passive telemetry



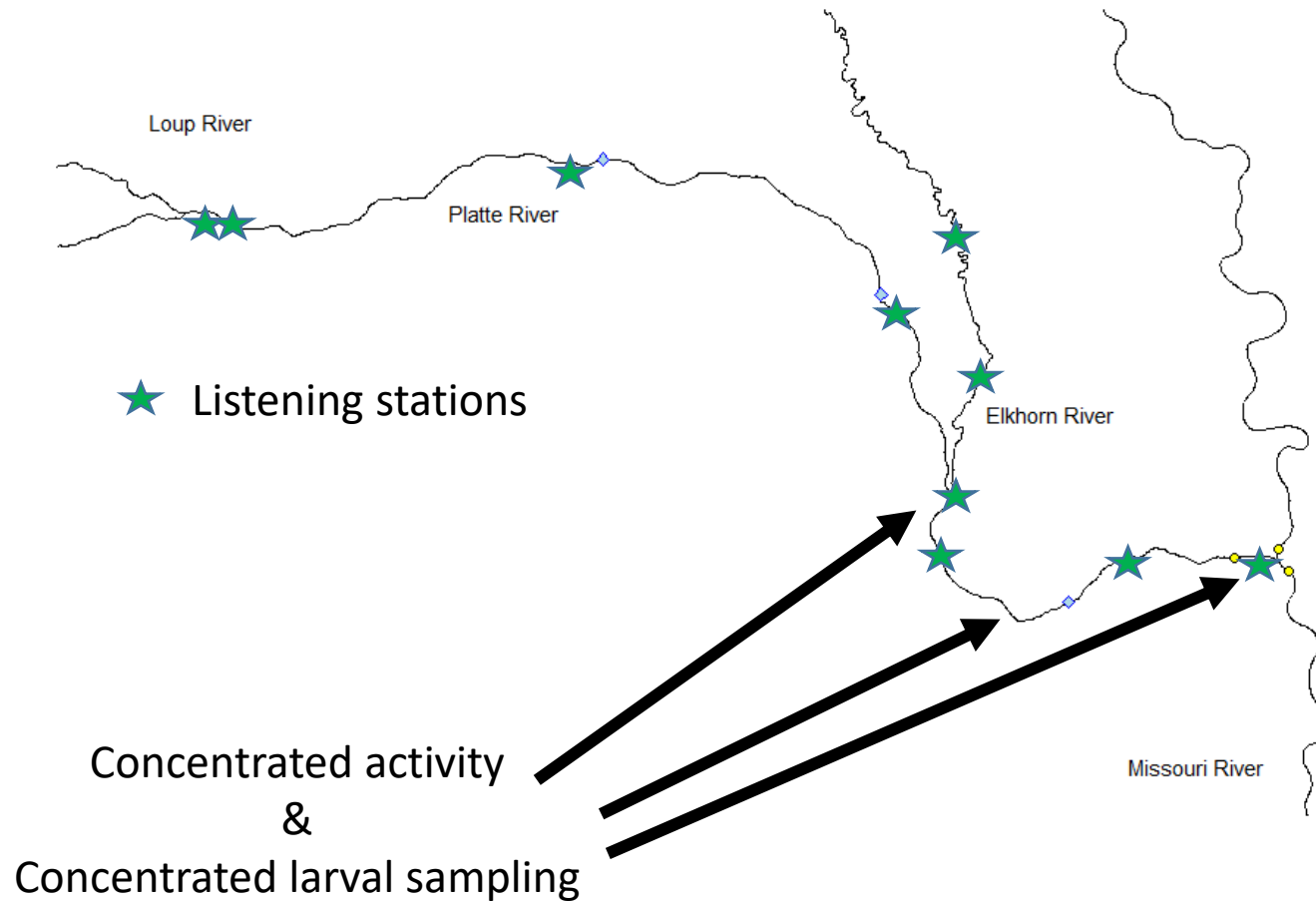
Range of detections – Active and Passive



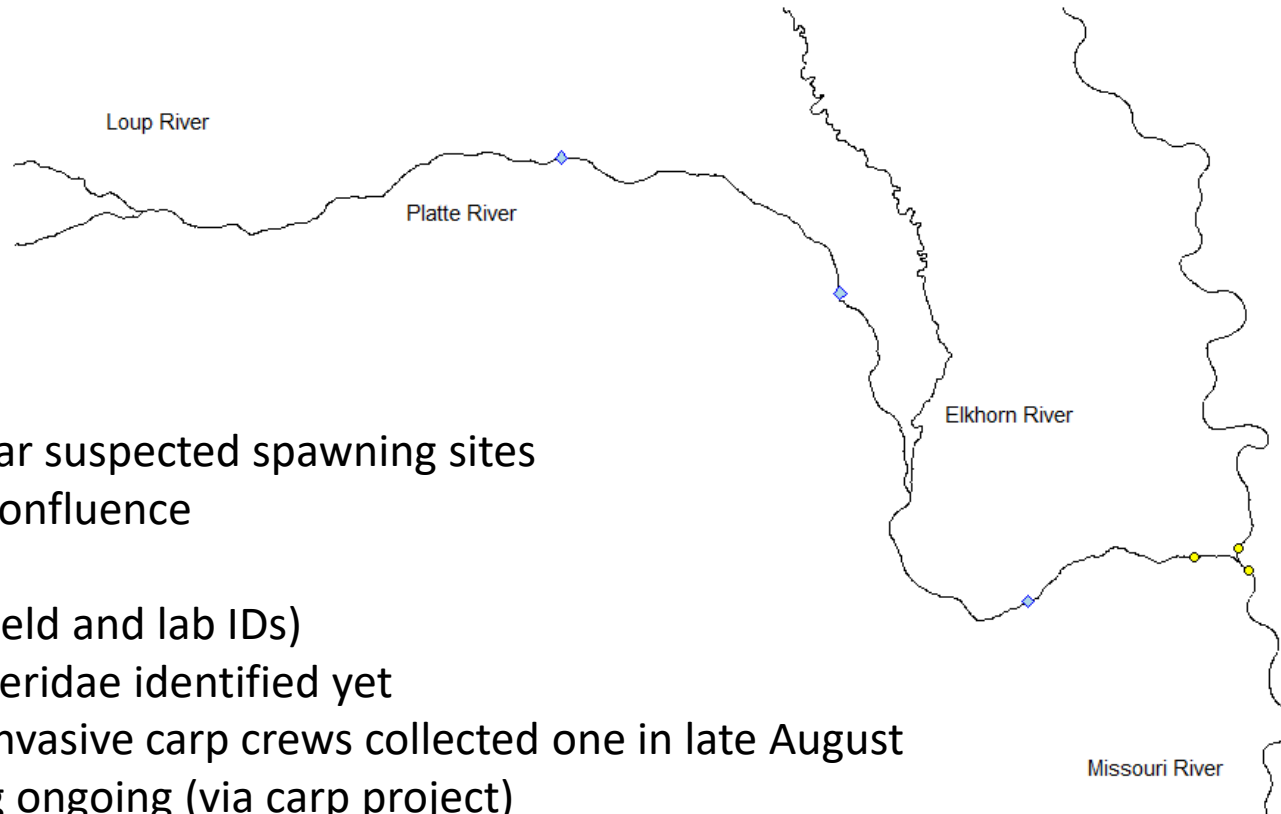
Range of detections – Active and Passive



Range of detections – Active and Passive



Larval and Juvenile sampling



1. Targeted sampling near suspected spawning sites
 2. General sampling at confluence
- Processing samples (Field and lab IDs)
 - No larval Acipenseridae identified yet
 - However – Invasive carp crews collected one in late August
 - Juvenile sampling ongoing (via carp project)

Fall plans

- Continue monthly river sweeps –
- Prep for next year
- Data synthesis and assessment
- Finalize graduate student thesis/dissertation
 - Tentative graduate research ideas
 - Chris –
 - Transmitter detection efficiency, and
 - Pallid use distribution within Platte River (and beyond?)
 - Jenna –
 - Life-history needs match-mismatch,
 - Habitat use and association related to Pallid sturgeon life-history parameters, and
 - Habitat patch dynamics across a range of flow conditions