

**Agenda and notes 9/18/2024 Rapid Response Tech Team**

**Purpose-** biweekly technical call including management agencies & GCMRC to relay recent findings and discuss future sampling efforts, needs, and potential actions.

**Participants:** Scott Favrot, Jeff Arnold, Tom Gushue, Kate Behn, Shaula Hedwall, Kurt Shollenberger, Matt O’Neill, Ryan Mann, Brian Hines

Welcome to Scott Favrot, new fishery biologist at GLCA. \*\* add to email list \*\*

**I. Recent trips and findings**

Last meeting/report out was 9/4/24

**Recent Capture updates: (to be filled in during meeting)**

**GLCA-** Nothing unusual, still no SMB in the slough, GSF 30-40 mm in the slough so may have spawned, but not huge numbers, 90mm Bullhead preserved – looks like it could be black, will confirm later black or yellow, electrofishing 4 days this week – only 2 SMB in the last 2 days. 17 SMB first week of September

**Table 1. Standard monitoring capture totals from electrofishing efforts in GLCA from August 2-6, 2024**

<b>Species</b>	<b>Number of Fish Removed</b>	<b>Size (mm)</b>	<b>Disposition</b>	<b>% of Catch</b>
GSF	675	23-132	BU	80.07
SMB	17	43-167	DP	2.01
BGS	8	36-100	BU	0.94
BNT	75	75-421	DC/BU	8.89
RBT	60	45-101	BU	7.11
TRT	1	49	BU	0.11
CRY	3	49-99	DP	0.35
WAL	2	377-379	DC	0.23
CCF	1	490	BU	0.11
UIC	1	61	DP	0.11
Total	843			

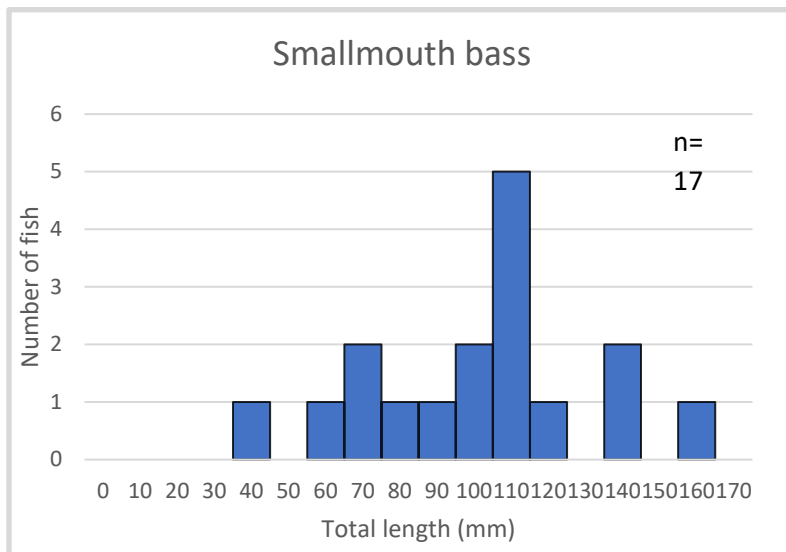
**STANDARD MONITORING**

- Rainbow Trout, Flannemouth Sucker, and adult Common Carp are not actively targeted during sampling. If they are encountered, they are removed from the electric field. All other fish are actively caught and processed for beneficial use (eagle/wildlife food), human consumption, or current research studies.
- Crew sampled for 3 days due to Labor Day (9/2/2024).
- Crew sampled 69 sites between Glen Canyon Dam and Lees Ferry with a total electrofishing effort of 13 hours 47 minutes.
- Crew caught and processed 843 fish comprised mostly of Green Sunfish.

- 1 Unidentified Bullhead (Image 1, TL 61mm) and 1 Channel Catfish (TL 490 mm) were caught in Reach A.
- 1 Smallmouth bass with a TL of 43mm was caught in -15.12R (Dam Slough). The site was resampled immediately and did not turn up any other bass.
- More than half of fish (72%) were caught in the upstream portions of the Colorado River in reaches A-C (Table 2).
- 2 Walleye (TL 377mm and 379mm) were caught in reach A.

**Table 2. Standard capture totals from electrofishing efforts in GLCA from September 2-6, 2024**

Reach	SMB	GSF	BGS	BNT	RBT	TRT	CRY	WAL	CCF	UBH
A	4	253	7	8	33	1	3	2	1	1
B	4	160	0	5	13	0	0	0	0	0
C	1	102	0	9	6	0	0	0	0	0
D	4	95	0	8	7	0	0	0	0	0
E	4	43	1	20	1	0	0	0	0	0
F	0	14	0	11	0	0	0	0	0	0
G	0	8	0	14	0	0	0	0	0	0
Total	17	675	8	75	60	1	3	2	1	1



Kurt – larger SMB found earlier, any thoughts on source? Haven't sampled forbay, but found right below the dam, so most likely entrained.

Last week set up 2 fike nets in that area, but didn't find anymore SMB.

Netting efforts - This week's netting operation involved setting a total of 27 nets. On September 10<sup>th</sup>, 4 small fyke nets and 4 large fyke nets were set in the lower slough while 2 small fyke nets and 1 large fyke net were set in the dam slough (-15.12R). On September 11<sup>th</sup>, 14 hoop nets were set in the main channel of the Colorado River spaced approximately 1 river mile apart and 2 hoop nets were set in the dam slough. All nets were pulled approximately 24 hours later.

Total number of fish removed in the during standard monitoring (5 days). Disposition of fish are: beneficial use (BU); human consumption (DC), dead preserved for future research (DP), returned alive (RA).

**Table 1. Standard monitoring capture totals from netting efforts in GLCA from September 8-13, 2024**

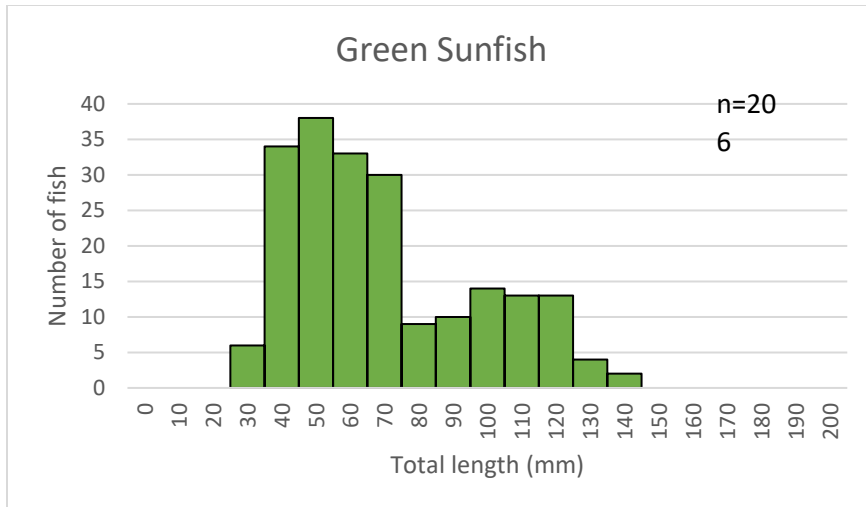
Species	Number of Fish Removed	Size (mm)	Disposition
GSF	206	31-148	BU
BGS	37	54-135	BU
CRP	4	54-91	BU
CRY	1	96	DP
RBT	1	71	RA
FMS	12	416-531	RA
SMB	0	N/A	N/A
Total	261		

### STANDARD MONITORING

- Rainbow Trout and Flannemouth Sucker are not being targeted during standard netting operations. Any individuals caught in nets are scanned for PIT tags, measured, and returned to the main channel.
- Zero smallmouth bass were caught during netting operations.
- We caught 167 fish in the lower slough, 79 fish in the dam slough (-15.12R), and 15 fish in the main channel.
- We caught and processed 261 fish comprised mostly of Green Sunfish.
- In the main channel, hoop nets were set at the following locations: -0.84L, -1.18R, -1.53R, -2.19L, -3.2R, -5.51R, -6.23L, -7.33R, -8.04L, -9.54L, -10.42L, -11.55R, -13.5L, and -14.59L.

**Table 2. Standard capture totals from netting efforts in GLCA from September 9-13, 2024**

Gear	GSF	BGS	CRP	RBT	FMS	SMB	CRY	Total
SF	25	0	1	0	0	0	0	26
LF	173	37	3	1	0	0	1	215
HP	8	0	0	0	12	0	0	20



**GRCA** – PBR electrofishing found relatively lower captures. Next week will be doing eDNA sampling and opportunistic seining, eDNA every mile 0-30, then every 2.5 miles from 30-65. Will send out immediately, expect 3-4 week turn around. End Oct/early Nov hope to have results.

GRCA personnel completed electrofishing efforts in the Paria River to Badger Rapids (PBR) reach last week, 9/9 – 9/12. A total of 64 unique, 250-m sites were completed throughout all four PBR reaches (I-L). Netters were targeting warm-water invasive species. Any observed Brown Trout were also netted and preserved for beneficial use. Non-target fishes, such as Rainbow Trout and native species, were removed from the electric field and not processed. Two Smallmouth Bass were captured (Table 1). All Smallmouth Bass captured during these efforts are preserved individually in ethanol and given to GCMRC for diet, genetic, and other analyses.

The entirety of Reach J (Cathedral – Bridge) was surveyed on 9/9. Smallmouth Bass were not detected. A total of 54 Green Sunfish were removed. Based on the results from night #1, 10 sites in reach J were selected for depletion passes on 9/10. However, due to mechanical issues, electrofishing did not occur on 9/10.

The entirety of Reach L (6 Mile – Badger Rapid) was surveyed on 9/11. Smallmouth Bass were not detected. Fishes captured include 22 Green Sunfish and 4 Brown Trout. Based on the low catch and high amount of NFC sites on night #3, it was decided to forego depletion sites and instead prioritize hot spot sites in the remaining two reaches for night #4.

Twenty-two sites (10 in Reach I – Paria to Cathedral & 12 in Reach K – Bridge to 6-Mile) were selected for electrofishing on 9/12 based on 2024 captures of SMB and GSF. Fishes captured include 2 Smallmouth Bass and 21 Green Sunfish. The SMB were captured at RMs 1.76L and 5.75R and were 47mm and 87mm TL respectively.

See below for the capture data for each night (Table 2).

We will be conducting environmental DNA sampling and opportunistic backwater sampling on a rapid response river mission next week 9/23 – 9/28. Sampling will be focused between Lees Ferry and the

Little Colorado River. The next rapid response electrofishing effort in the PBR reach is scheduled for October 7 – 11. Sampling will be focused within Reaches I and K and 10 depletion sites will be selected based on the pass #1 captures of each respective reach.

Table 1. Individual data for Smallmouth Bass captures in PBR reach by NPS in 2024.

Date	River Mile	Side	Gear	Species	TL (mm)	Wt. (g)	Disposition
5/22/2024	1.95	R	EF	SMB	56	2	DP
5/22/2024	1.21	L	EF	SMB	157	50	DP
5/23/2024	5.33	R	EF	SMB	62	2	DP
6/12/2024	6.93	R	EF	SMB	55	1	DP
7/8/2024	2.21	R	EF	SMB	61	3	DP
7/9/2024	1.37	L	EF	SMB	65	3	DP
7/11/2024	5.48	R	EF	SMB	49	2	DP
9/12/2024	5.75	R	EF	SMB	87	7	DP
9/12/2024	1.76	L	EF	SMB	47		DP

\*New additions in red

Table 2. Capture totals from electrofishing efforts in PBR reach in September 2024.

Date	Reach(s)	SMB	GSF	BNT
9/9/2024	J	0	54	0
9/11/2024	L	0	22	4
9/12/2024	K & L	2	21	0
<b>Total</b>		<b>2</b>	<b>97</b>	<b>4</b>

**FWS-** none

**AGFD** – none, Flagstaff crew with USFWS in the LCR. Downstream trip this fall 10/9-10/25 Lees Ferry to Pearce Ferry

**Reclamation-** Matt will be out trying to run sonar on the 25<sup>th</sup> on the PBR

RFP for Bucket2e is out, applications due Oct 14th

Looking at how to implement off-ramp cool-mix – cooling expected to start in the next couple weeks, should be cool enough to meet RM61 target, move temperature target upstream. Reduced bypass a little this week, expect to keep reducing over the next couple weeks

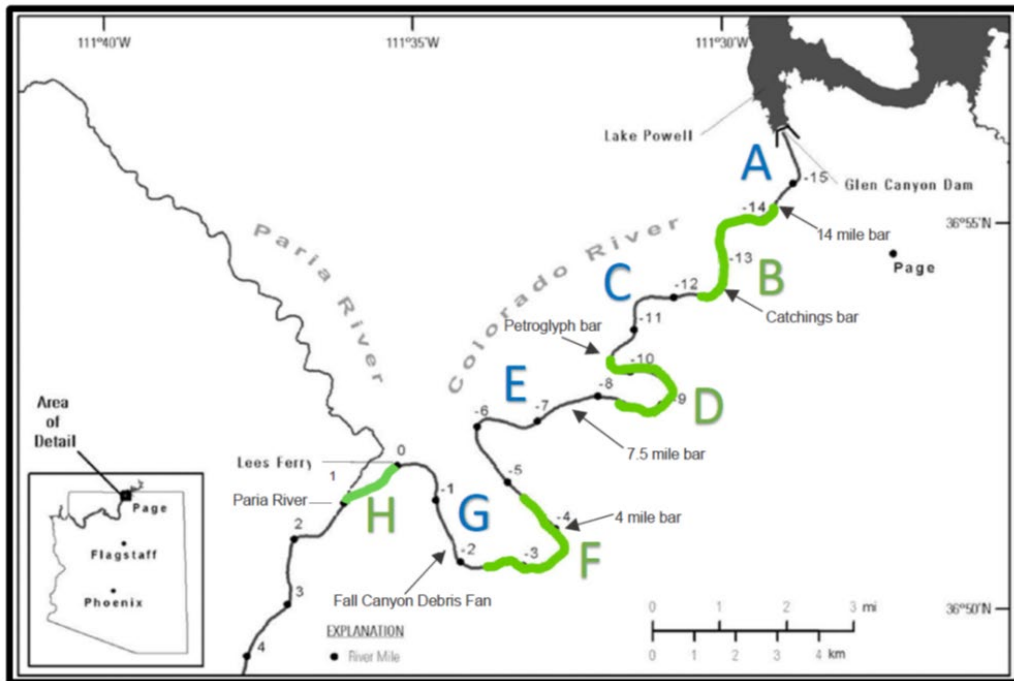
BioWest seining trip finished Phantom Ranch to Pearce ferry, found no SMB.

**GCMRC-** no fish trip updates, JCM trip going out next week

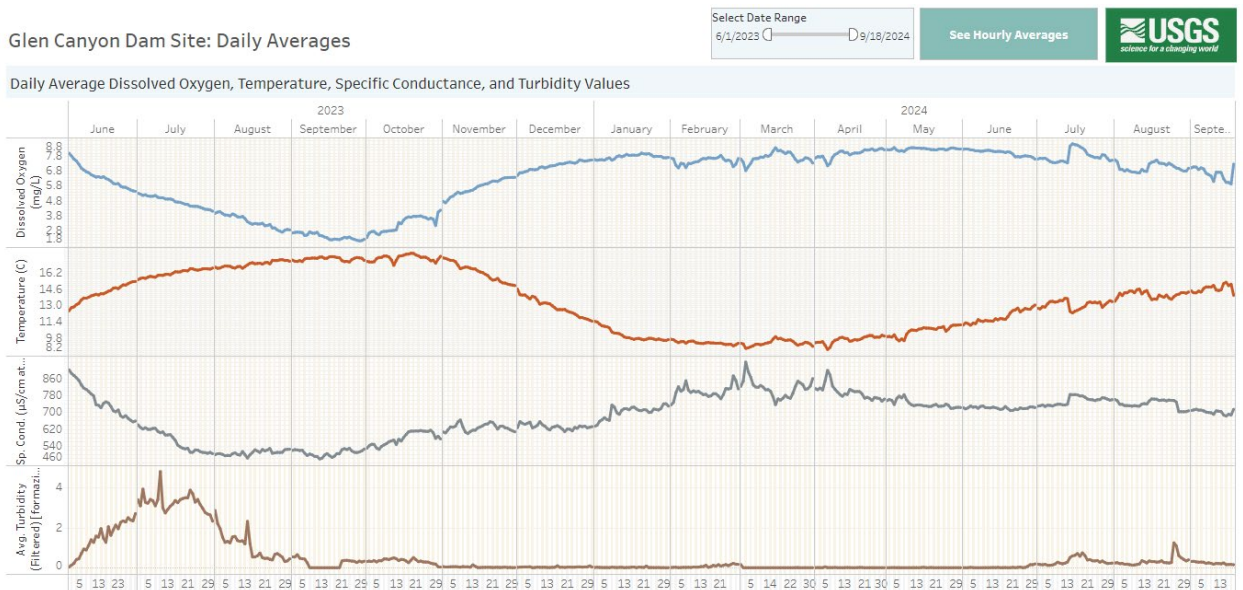
Tom – how has data entry been going? Will be looking at visualization tool some more in the next week or so – thinking about size thresholds

Kate – downloaded copy, but it was still locked – will try to find work around

Kurt – no issues



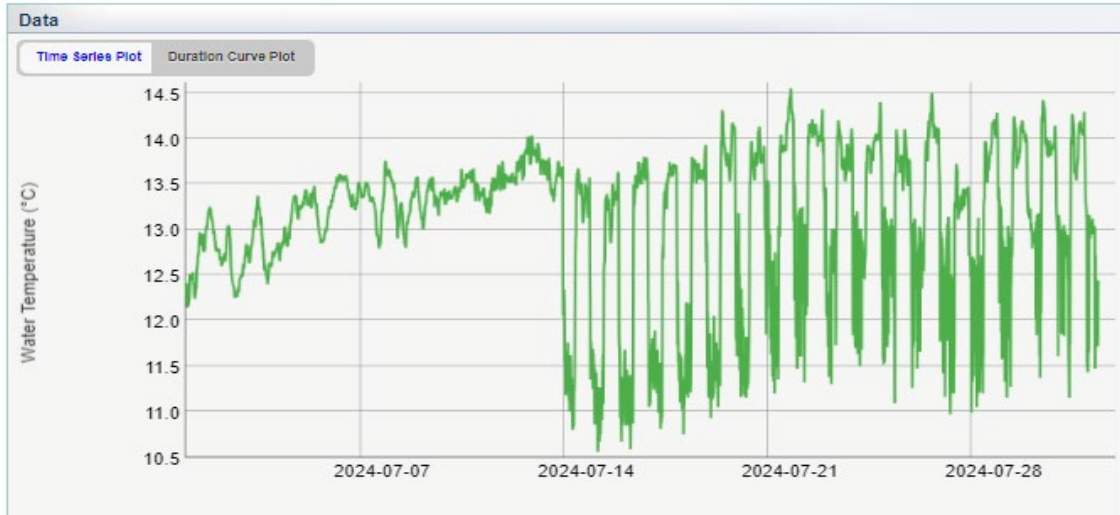
Recent decrease in bypass over the last few days... still meeting RM 61 target



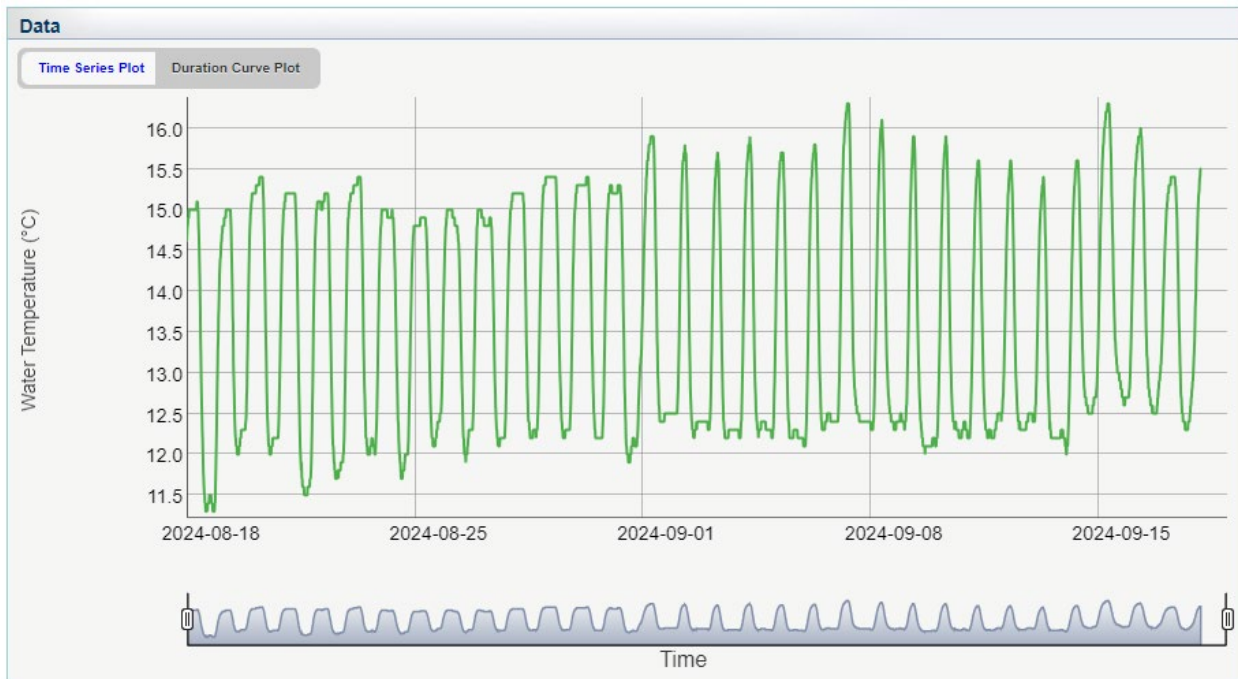
The water quality data shown here are filtered raw values and are subject to revision through quality control / quality assurance procedures. These data are being provided to meet the need for timely best science. The data have not received final approval by the U.S. Geological Survey (USGS) and are provided on the condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from the authorized or unauthorized use of the data. Please visit GCMRC's Discharge, Sediment and Water Quality web site to plot or download the processed measurements from this station: [https://www.gcmrc.gov/discharge\\_qw\\_sediment/station/GCDAMP/09379901](https://www.gcmrc.gov/discharge_qw_sediment/station/GCDAMP/09379901)

[Workbook: colorado-river-water-quality-gcd](#)

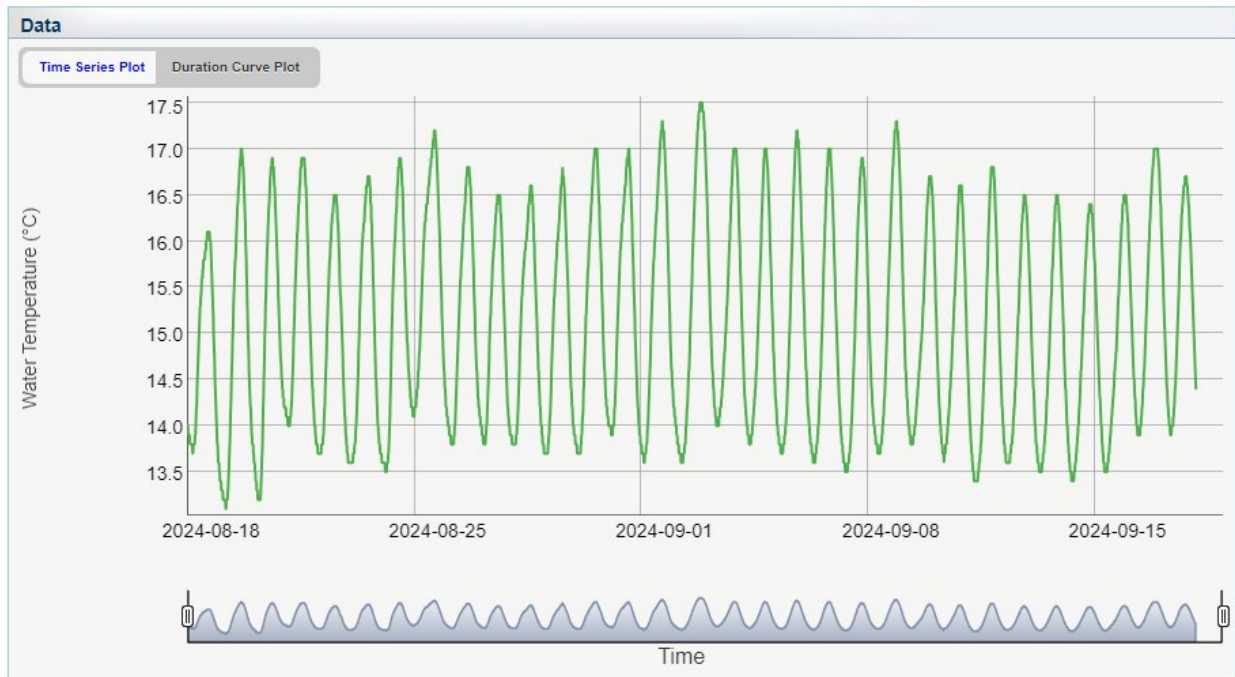
Below GCD. Max temperatures are a good indicator of normal penstock release temperatures, low temperatures include cold bypass releases. No updates since 8/1 – poor mixing, not very reliable for overall river temp



Lees Ferry Temp through 9/18/2024



RM61 ending 9/18. **RM61 gage now real time!!!**



## II. DISCUSSION OF NEW FINDINGS

- a. **General – see above**
- b. Dave R said an angler caught a walleye last week – Lees Ferry exit creel survey, will get more information and follow-up

## III. Upcoming trips and other future plans – see above

### 2024 sampling and monitoring

**GRCA** – See Table 1.

**GLCA** – See Table 2.

 [GLCA Help need Aug to Nov 2024.xlsx](#)

**GCMRC** – see Table 3 of GCMRC and cooperator trips

**AGFD** – see Table 3 –

**FWS** – see Table 3 –

**Reclamation** –



- IV. Old Business –
- a. Help needed by GLCA or anyone? Jeff has a few people signed up to help but needs more, see link to ‘help need’ sign up sheet. Non Fed partners contact Jeff or Melissa if you can’t access the sharepoint site.
    - i. Covered but still could use a couple people for electrofishing help
    - ii. [GLCA Help need Aug to Nov 2024.xlsx \(sharepoint.com\)](#)
  - b. Report out on slough channelization discussion. – NPS and Reclamation are proceeding with EA.
    - i. EA reviewed by NPS, park sent for regional approval, hoping to have out for public comment by the 30<sup>th</sup> (15 day comment period)
  - c. Coordinated effort between NPS and GCMRC regarding sampling protocols for both GLCA and GRCA – *no update*
  - d. Tom Gushue and Carlos are Seeking any and all feedback on the visualization, and other questions. Happy to join meeting any time to further discuss, will send link to Melissa, who will share to folks in this group who ask via email.
- V. Anything else?
- a. Let Melissa know if there is anything you’d like to see on next agenda.

**Adjourn**

Table 1. Grand Canyon NP Sampling Schedule 2024

Dates	Trip	Location
April 9-10	PBR-BW	Paria to Badger
April 15-19	PBR-EF	Paria to Badger
May 7-8	PBR-BW	Paria to Badger
May 20-24	PBR-EF	Paria to Badger
June 4-5	PBR-BW	Paria to Badger
June 10-13	PBR-EF	Paria to Badger
June 19-30	HBC AGG/NN Surveillance Downstream	Lees Ferry to Diamond Creek
July 8-12	PBR-EF	Paria to Badger
July 23-24	PBR-BW	Paria to Badger

July 29- Aug 2	<del>PBR-EF</del> effort transferred to LF	Paria to Badger
Aug 13-14	PBR-BW	Paria to Badger
Aug 19-23	PBR-EF	Paria to Badger
Sept 9-12	PBR-EF	Paria to Badger
Sept 23-30	NN Surveillance SN/eDNA Downstream	Lees Ferry to LCR
Oct 7-10	PBR-EF	Paria to Badger
Oct 21-Nov 1	NN Surveillance EF Downstream	Lees Ferry to LCR
Nov 11-15	PBR-EF	Paria to Badger
Nov 25-29	PBR-EF	Paria to Badger

Occurred, Canceled due to low water temperature

Table 2. Glen Canyon NRA Sampling Schedule 2024. Electrofishing occurs mostly at night. Dates and locations may change in response to monitoring results to focus on high density areas. Trip length is 3 to 4 days/nights. Netting trips focus on the sloughs. Nets are set overnight. Undesired warmwater fishes are removed for beneficial use (except for carp). Rainbow trout are not captured or handled during electrofishing. Brown trout are removed for beneficial use.

WEEK OF:	Description
March 5	GLCA electrofishing
April 1	GLCA electrofishing
April 8	GLCA Netting
April 15	GLCA electrofishing
April 22	GLCA Netting
April 29	GLCA electrofishing
May 6	GLCA Netting
May 13	GLCA electrofishing

May 20	GLCA Netting and Slough Block Net Installation
May 27	GLCA electrofishing
June 3	GLCA Electrofishing
June 10	GLCA Netting
June 17	GLCA Netting
June 24	GLCA electrofishing/Maybe only one boat
July 1	GLCA Electrofishing
July 8	GLCA Netting
July 15	GLCA Electrofishing
July 22	GLCA electrofishing/Maybe only one boat
July 29	GLCA Netting
Aug 5	GLCA electrofishing
Aug 12	GLCA Electrofishing/maybe only one boat
Aug 16-19	Potential chemical treatment of slough if needed
Aug 19	GLCA Netting
Aug 26	GLCA Netting
Sept 3	GLCA electrofishing
Sept 9	GLCA Netting
Sept 16	GLCA electrofishing
Sept 23	GLCA Netting
Sept 30	GLCA electrofishing
Oct 15	GLCA electrofishing
Oct 28	GLCA electrofishing
Nov 18	GLCA electrofishing

**Table 3. GCMRC, Cooperator, and Tribal River Trips and Field Activities**

VI. **Occurred** or **Planned** 2024

Launch	Take out	Description
25-Jan	30-Jan	Lees Ferry trout population monitoring
14-Feb	1-Mar	Quality of Water/fine sediment monitoring
11-Mar	14-Mar	Lees Ferry fish population monitoring
3-Apr	17-Apr	Mainstem Fish, non-native (electro shocking)-A2GFD
4-Apr	9-Apr	Lees Ferry trout population monitoring
9-Apr	26-Apr	Aquatic Foodbase monitoring (drift)
16-Apr	26-Apr	LCR HBC, camps at three locations on Little Colorado River
20-Apr	29-Apr	Hopi Cultural Monitoring
23-Apr	12-May	Juvenile HBC monitoring-April 27 Launch downstream Lees Ferry

27-Apr	6-May	Navajo Cultural Monitoring
2-May	21-May	Survey Control Network
13-May	30-May	Cultural Resource Monitoring
17-May	31-May	Mainstem Fish, non-native (electro shocking)-AZGFD
21-May	31-May	LCR HBC, camps at 4 locations on Little Colorado River
25-May	3-Jun	Zuni of Pueblo Cultural Monitoring
6-Jun	20-Jun	Grand Canyon Youth-"Partners in Science"
8-Jun	17-Jun	Southern Paiute Consortium Cultural Monitoring
12-Jun	21-Jun	Hualapai Cultural Monitoring
26-Jun	5-Jul	Grand Canyon Youth-"Partners in Science"
13-Jun	17-Jun	TRGD – note dates changed from July 4th
27-Jun	8-Jul	LCR Juvenile HBC monitoring (3 camps)
3-Jul	18-Jul	Grand Canyon Youth-"Partners in Science"
5-Jul	24-Jul	Juvenile HBC monitoring
8-Jul	12-Jul	Lees Ferry trout population monitoring
18-Jul	30-Jul	Mainstem Fish, HBC-Seining
13-Aug	16-Aug	Lees Ferry-Terrestrial Vegetation Monitoring
14-Aug	30-Aug	Fine Grain sediment monitoring
24-Aug	9-Sep	Terrestrial Vegetation Monitoring
9-Sep	11-Sep	Terrestrial Vegetation Monitoring
28-Aug	16-Sep	Mainstem Fish, HBC-aggregations (netting)
<del>5-Sep</del>	<del>10-Sep</del>	<del>TRGD (Cancelled due to likely high water temps and low DO)</del>
*Aug 13		Phantom Ranch to Pearce Ferry Bio-West small bodied sampling
*August 27		Lees Ferry to Phantom Ranch Bio-West small bodied sampling
*Sept 10		Phantom Ranch to Pearce Ferry Bio-West small bodied sampling

\*New Trips added by Reclamation