

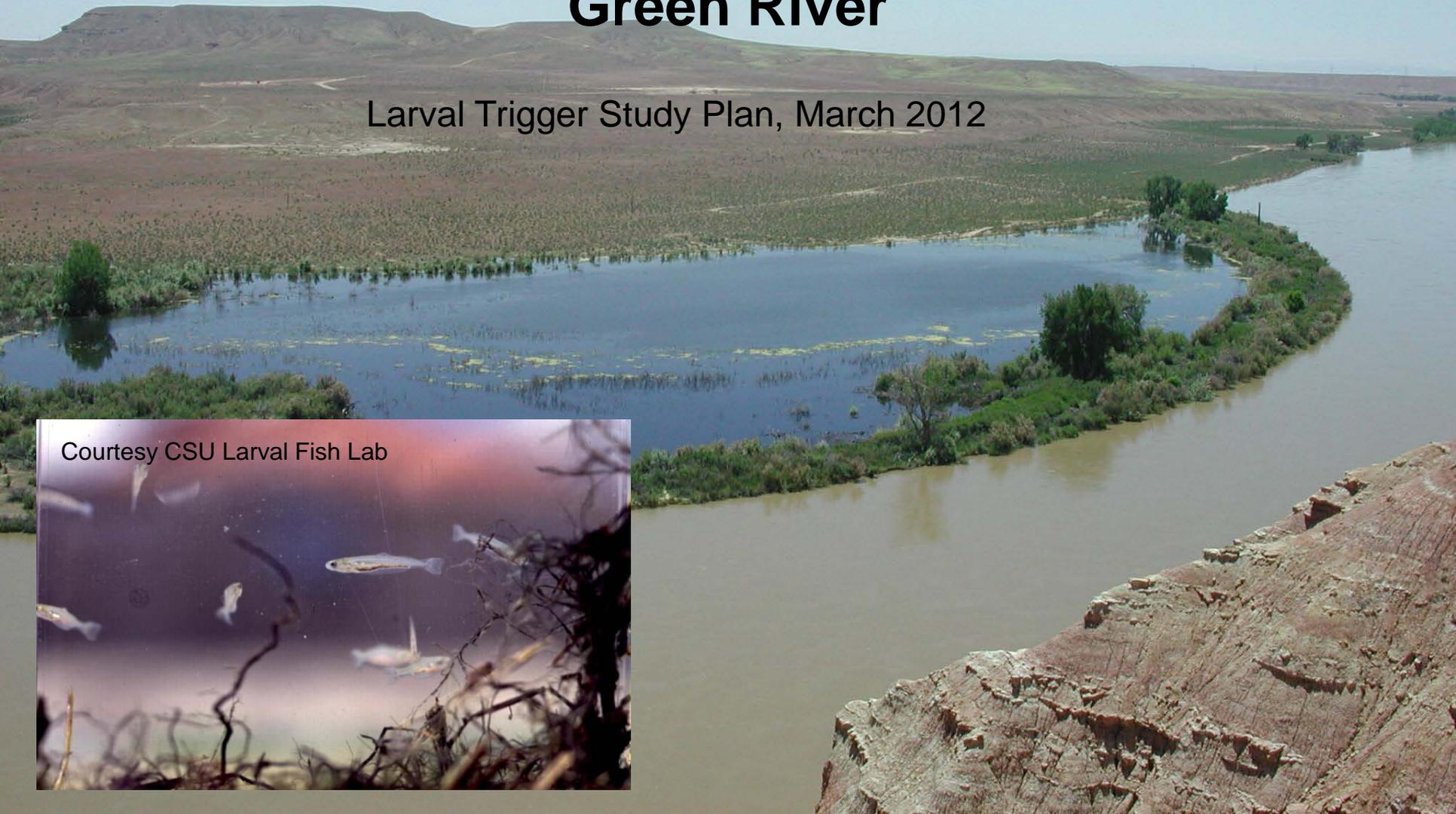
2012 Green River Spring Peak Flow

**Flaming Gorge Working Group Meeting
August 22, 2011**

**Presented by:
Joe Skorupski and Dave Speas**

2012 Objective: Time Flaming Gorge releases to connect floodplains when wild produced razorback sucker larvae are present in the Green River

Larval Trigger Study Plan, March 2012



LTSP: Study Matrix and Timeline

| | Peak Flow (x) as Measured at Jensen, Utah | Proposed Study Wetlands (a, b) | Number of Days (x) Flow to Be Exceeded and Corresponding Hydrologic Conditions ^(c) | | |
|---------|---|--|---|------------------------|---|
| | | | $1 \leq x < 7$ | $7 \leq x < 14$ | $x \geq 14$ |
| 3 years | $8,300 \leq x < 14,000$ cfs | Stewart Lake (f), Above Brennan (f), Old Charley Wash (s) | Dry | Moderately dry | Moderately dry and average (below median) |
| | $14,000 \leq x < 18,600$ cfs | Same as previous plus Thunder Ranch (f), Bonanza Bridge (f), Johnson Bottom (s), Stirrup (s), Leota 7 (s) | Average (below median) | Average (below median) | Average (below median) |
| | $18,600 \leq x < 20,300$ cfs | Same as previous | Average (above median) | Average (above median) | Average (above median) |
| 3 years | $20,300 \leq x < 26,400$ cfs | Same as previous plus Baeser Bend (s), Wyasket (s), additional Leota units (7a and 4), Sheppard Bottom (s) | Moderately wet | Moderately wet | Moderately wet |
| | $x \geq 26,400$ cfs | Same as previous | Wet | Wet | Wet |

(a) f = flow-through wetland, s = single-breach wetland

(b) Up to eight wetlands would be sampled in a given year with the three in the lowest flow category being sampled in all years.

(c) Refer to Table 1 for exceedance percentages and peak flow recommendations for each hydrologic condition. Note that the hydrologic conditions presented are the driest that could support a particular combination of peak flow magnitude and duration. For any combination, wetter hydrology could also support an experiment.

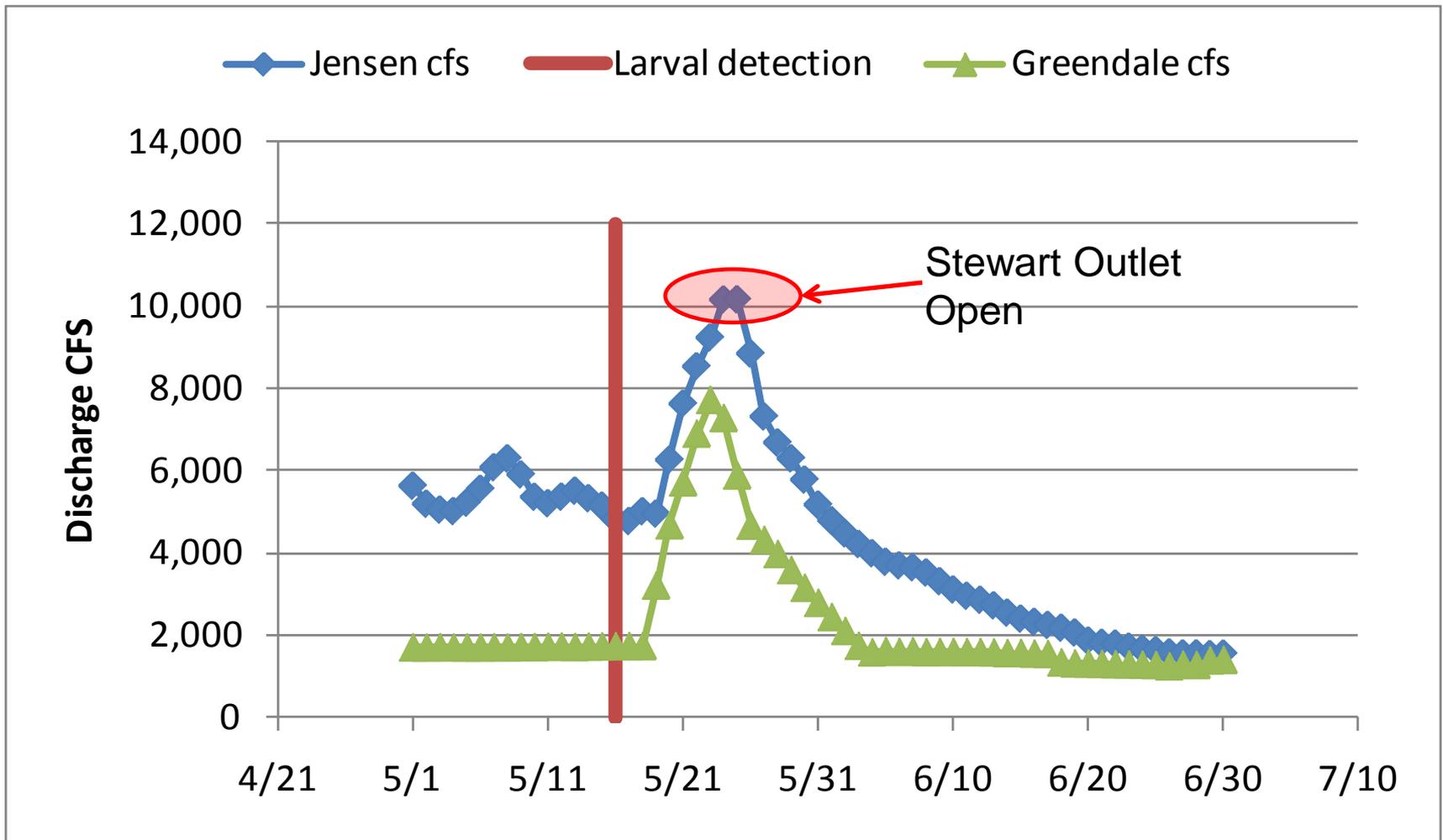
Chronology of Events

- **March 2012:** Larval Trigger Study Plan completed
 - Recovery Program research request to implement LTSP received March 26, 2012
- **Early May:** USFWS personnel begin light trapping for larval razorback sucker in floodplain wetland habitats
- **May 16:** USFWS reports larval razorback sucker detected in samples from three separate wetland habitats in the Jensen/Ouray reach
- **May 19:** BOR begins upramp at FG Dam to power plant capacity
 - Decide bypass flows may be used to create connection at low elevation breaches
- **May 18, 19:** UDWR reports larval sucker present in Stewart Lake inlet, but no connection
 - Abundant larvae observed in outlet

Continued

- **May 21:** UDWR opens outlet gate to Stewart Lake, entraining water and larvae at ~ 4 m/sec.
- **May 23:** FG Dam reaches peak release of 7,790 cfs (power plant and bypass flows).
- **May 25:** Stewart Lake fills as much as possible at peak flows of 10,500 cfs, prompting UDWR to shut the outlet gates
 - Abundant larvae are retained in the lake, river flows begin to decline
 - Old Charley wetland near the Ouray NWR has partially filled via its outlet channel as well.
- **July 1:** UDWR reports that Stewart Lake had nearly dried up completely due to insufficient filling under extremely dry conditions
 - Fish loss in Stewart Lake and Old Charley

Larvae Detected May 16, 2012



Stewart Lake Inlet

- No Connection
- No Flow



Stewart Lake Outlet



Stewart Lake Outlet

Before



After



Native Larval Suckers



DSCF1317.AVI



Fish loss



Conclusions

- Excellent real-time coordination between USFWS, UDWR, BOR, and others on implementation of flow proposal in response to larval presence 😊
- Stewart Lake and Old Charley only wetlands to connect
 - Successful larval entrainment 😊
- Despite noteworthy use of bypass flows, insufficient water volume in Stewart Lake and Old Charley due to dry hydrology
 - Fish loss 😞
 - Reset year
- Significant progress made in evaluation of LTSP under wet (2011) and dry conditions (2012) 😊