Collaborative and climate-forward ditch management for fish and people

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LEFT HAND watershed center

1 How can we build a multi-benefit ditch enhancement project?

Meet with ditch company and stakeholders early & often.

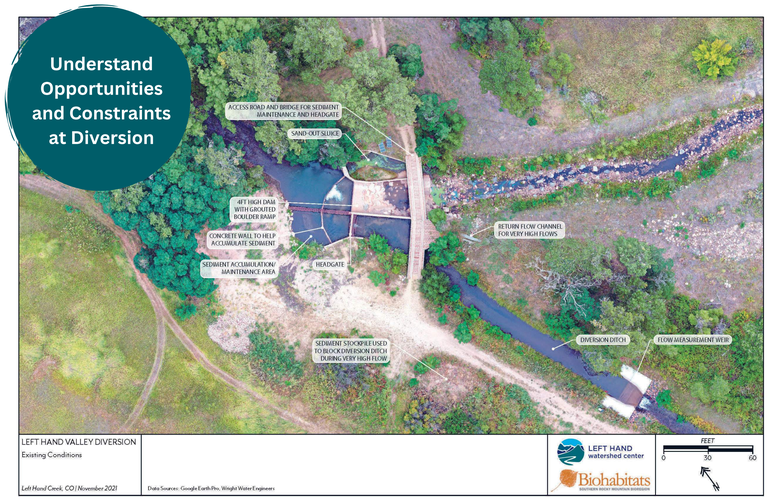
- Left Hand Ditch Company
- Left Hand Water District
- St. Vrain Left Hand Water Conservancy District
- Boulder County
- Colorado Parks and Wildlife and more!

Select diversions that are supported by stakeholders

- Conducted **Fish Passage and Feasibility Study**
  - Identified best-opportunity barriers for ditch company, stakeholders, and fish alike!

Find Report Here!

Understand Opportunities and Constraints at Diversion



Constraints

- Key water delivery and sediment maintenance point in the Left Hand Ditch system
- Delivery constraints vary seasonally:
  - High flows- most water is conveyed downstream and diverted at downstream structures
  - Low flows- diversion is dry (depending on upstream calls) or sweeps the creek

Opportunities

- Install automated headgate to improve operations
- Remodel diversion structure to improve channel stability, fish habitat, and seasonal fish passage
- **Look beyond the adjacent property boundary**
  - Restore sediment catchment in surrounding river corridor to reduce ditch maintenance and improve fish habitat

Finding solutions for complicated questions sometimes requires out of the box thinking. This is exactly what we had to do to develop conceptual designs for ditch enhancement and fish passage at diversion structures on Left Hand Creek.

One diversion in particular proved to be rather complicated and by our third stakeholder/design team site visit we could tell that the options were limited. **It was time to look beyond the adjacent property boundaries and to the broader landscape!**

We are pleased to report that our novel approach -- which involved a mix of new operations, instream wood structures, floodplain sediment storage, and improved fish passage -- was met with support by the Left Hand Ditch Company, water managers, and landowners.

3 Supported Outcomes

- Ditch company, landowner, and stakeholder support the concept design
- A new tool for outreach: **Passage Playbook**
  - Guidance for passage projects (e.g., ditch enhancement and fish passage) in the face of climate variability and increased demand on water supplies.
  - Collaboratively led by Boulder County, City of Longmont, and the St. Vrain Left Hand Water Conservancy District. Coordinated by the Watershed Center.

Playbook Here!

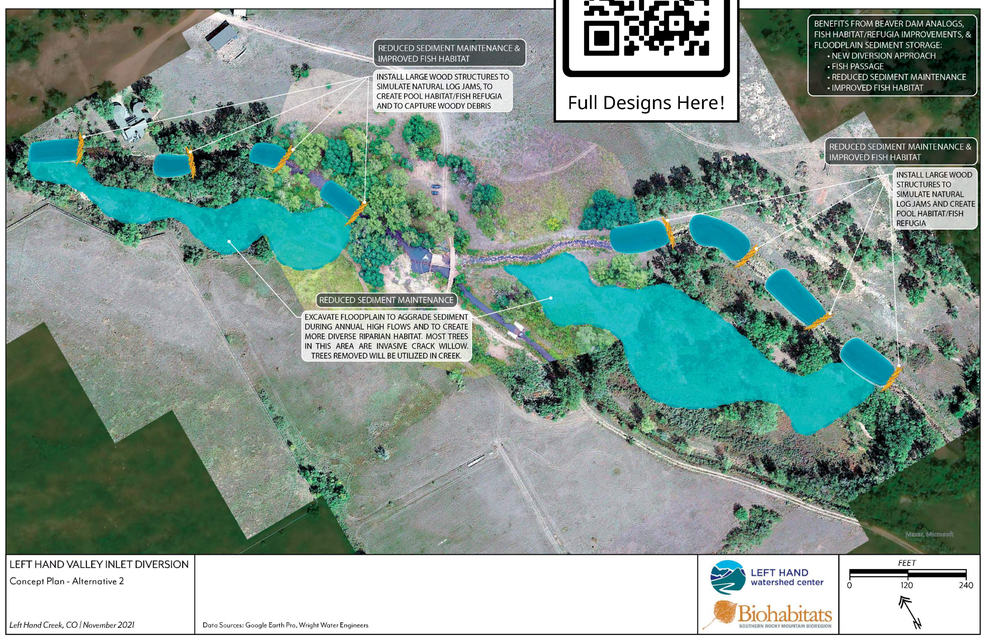
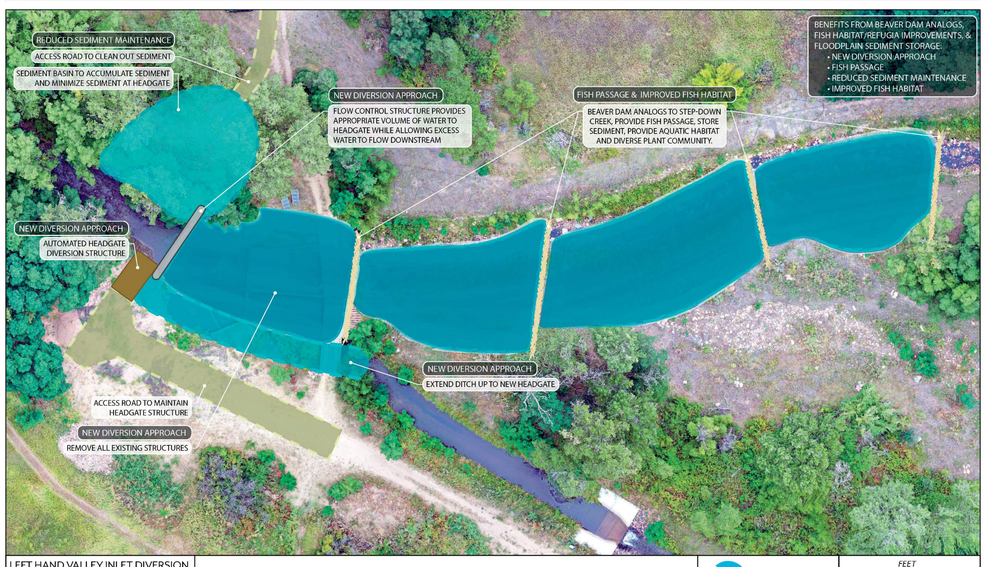
Special Thank You To:

- **Funders:** Colorado Water Conservation Board WSRF, US Bureau of Reclamation, St. Vrain Left Hand Water Conservancy District
- **Stakeholders:** Left Hand Ditch Company, Left Hand Water District
- **Design Team:** Biohabitats, Wright Water Engineers, GEI Consultants

2 Creative Solutions for the Left Hand Valley Diversion

Extending the concept design beyond adjacent property boundaries and into the surrounding river corridor offers a holistic solution.

Shared project vision and goals.

- Improve ditch operations/ maintenance and fish habitat/ connectivity **now and into the future**

Full Designs Here!