# Clark Fork River Operable Unit Strategic Plan

## State of Montana's Remediation and Restoration Approach

*Summary Information Sheet* *March 2023*

### What Is the Clark Fork River Operable Unit Strategic Plan?

The Strategic Plan describes how Montana's Department of Environmental Quality (DEQ) and Natural Resource Damage Program (NRDP), collectively the State, will work together to complete remediation and restoration within the Clark Fork River Operable Unit (CFROU) by 2038, guided by a 2004 Record of Decision (ROD) and several other documents described in the Strategic Plan.

### Why Is the Strategic Plan Needed Now?

To date, the State has identified and removed more contaminated sediments than were anticipated in the ROD. This was approved and justified with the Explanation of Significant Difference. Based on additional data collected by the State, a new approach is needed to complete remaining work in Reach A, between Warm Springs and Garrison, and in a small portion of Reach B with remaining funds. To address this, the State has used updated data and analyses to refine guidelines and criteria, focusing remediation in the highest risk areas and restoration in important habitats along the river.

### How Much Work Has Been Completed in Reach A?

Remediation and restoration have been ongoing in this area since 2010. Work has been completed in seven of 22 Phases along the Clark Fork River, in residential yards and the Trestle area in Deer Lodge, and in the Eastside Road Pastures. Fifteen Phases constitute the remaining work in Reach A.

THE STATUS OF EACH PHASE IN REACH A IS SHOWN IN THIS MAP >

### What are the State's Goals for the Strategic Plan?

The State's goals are to

- Remediate contaminated areas
- Restore fish and wildlife habitat
- Integrate State resources
- Communicate with partners and the public

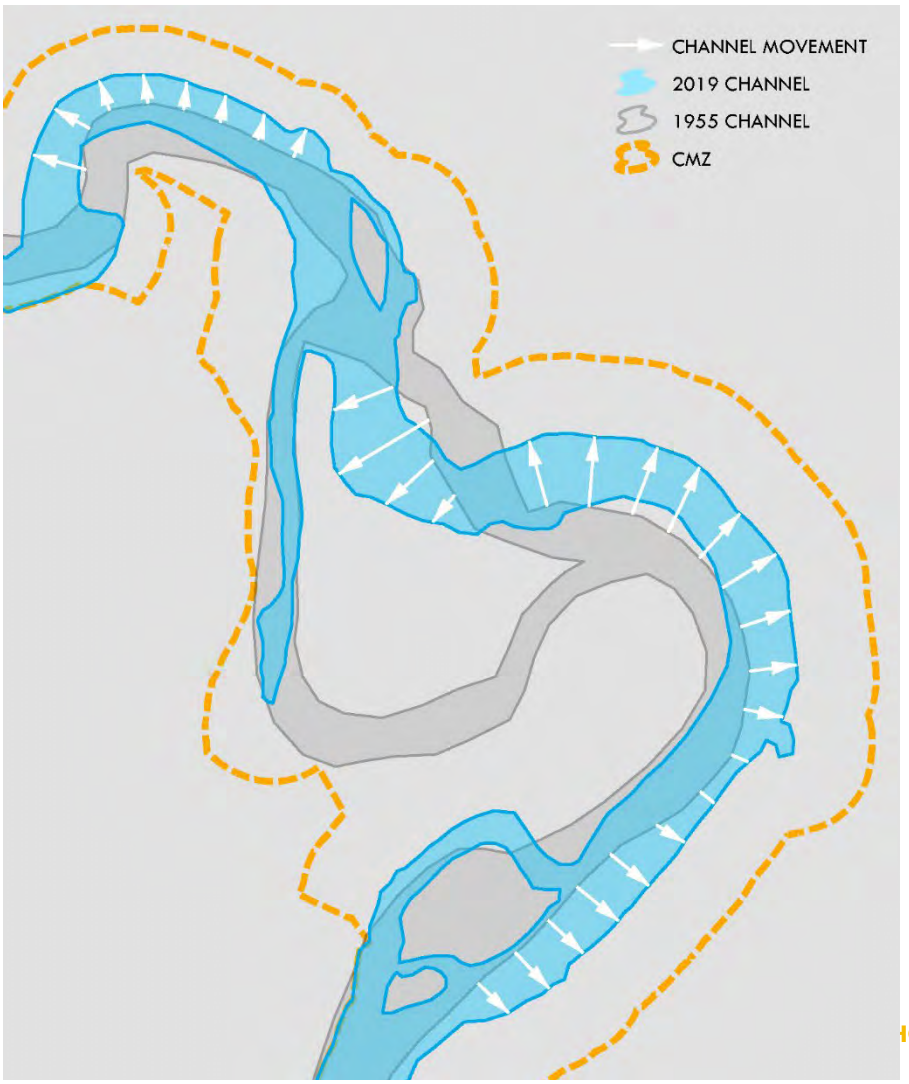
Integration of remediation and restoration activities are at the core of the Strategic Plan. To accomplish the best possible work, the State will integrate with other partners in the watershed, using State funds to leverage additional funding to enhance remediation and restoration.

The State is also committed to informing and involving the public on environmental cleanup progress and decisions affecting program responses and public interests, through its Community Involvement Plan (CIP).

< SCAN WITH PHONE CAMERA TO VIEW THE CIP ONLINE

## What is The State's Updated Remediation and Restoration Approach?

The State has updated the areas where contaminated sediments must be removed by measuring Clark Fork River movements from 1955 to 2019, calculating average movement rates, and projecting potential river movement 100 years into the future. This Geographic Information System (GIS) analysis resulted in a Channel Migration Zone (CMZ) to identify future risks of contaminated soils eroding into the river.




With a few refinements, this CMZ defines a base remedy area where all contaminated sediments will be removed.

Additional contaminated sediments that are outside the CMZ, but still in the path of longer-term channel migration, or pose an unacceptable risk to human health may also be removed.

Once contaminated sediments are removed, the floodplain will be backfilled with clean material to an elevation where the river can connect to it in most years.

### hown in This Map

Within each Phase, opportunities for restoration will be identified, including restoring side channels and wetlands, improving floodplain connectivity, creating cover and other habitat features for fish, and protecting land through conservation easements or other measures. Details of these potential restoration actions and other scenarios for implementing remediation and restoration are described in the Strategic Plan and other documents.

## How Did The State Determine The Order in Which Phases Will Be Restored?

To determine a time sequence for work in remaining Phases, the State will work from upstream to downstream, with exceptions considered based on these criteria:

- Relative risk of eroding contaminated sediments into the river.
- Overall amount of contamination present (higher concentrations pose greater threats).
- Potential to construct multiple Phases as one project.
- Whether leaving a Phase uncompleted for a time would provide a place of refuge for fish and wildlife while nearby Phases recover after construction has been completed.

The above criteria have specific thresholds to assign a Phase as either high, moderate, or low priority. Phases meeting more high priority thresholds, particularly those focused on risk of contaminated soils eroding into the river, would be constructed before other Phases.

### The Tentative Sequence of Future Work in Reach A is Shown in This Timeline ∨

| YEAR | PHASES UNDER DESIGN/ CONSTRUCTION | RATIONALE FOR SEQUENCE |
|---|---|---|
| 2023 | 4A | Currently being remediated and restored. |
| 2024 | 7 | Preliminary design has been completed. |
| 2025<br>2026<br>2027<br>2028 | 10, 13<br>11, 14<br>12A<br>12B | Phases 10-12 exhibit the highest risk of contaminated soils eroding into the river, have relatively high volumes of contaminated sediments, and could be managed as a single construction site. Phases 13-14 include Arrowstone Park with high public use. |
| 2029 | 4B | Has high quality habitat that will provide refuge for fish and wildlife while previously constructed adjacent Phases are recovering. |
| 2030<br>2031 | 8<br>9 | These Phases are next in sequence from upstream to downstream and will provide refuge while previously constructed adjacent Phases are recovering. |
| 2032<br>2033<br>2034<br>2035<br>2036<br>2037<br>2038 | 17A<br>17B<br>18<br>19<br>20<br>21<br>22 | The remaining Phases downstream from Deer Lodge would be completed in sequence from upstream to downstream. Because a large proportion of these Phases is located on a single ownership, some of these Phases may be combined to take advantage of efficiencies with design and construction infrastructure, similar to Phases 10, 11 and 12. |
| 2039 | Closure | Repository closure and maintenance of completed Phases. |
| 2040 - 2044 | Maintenance | Continue maintenance of completed Phases. |

## How Did the State Estimate Total Cost to Complete the Work?

The State used its recent bid information and professional judgement to estimate costs for each construction bid item per unit of work (e.g. cost of soil removal per cubic yards). To estimate quantities of work, current data on Phase locations and contaminated sediment depths and locations were analyzed using a GIS to calculate linear feet of streambank to be treated, volume of contaminated sediment removal and backfill, and haul distances to clean substrate sources and a contamination repository. General costs for construction management, engineering design, annual monitoring and maintenance, and agency operations were added. With a current fund balance of $105 million, the State concludes it is possible to complete Reach A restoration and remediation using the design guidelines and criteria in the Strategic Plan. The Strategic Plan does not replace or supersede existing documents such as the ROD, Consent Decrees, Site-specific Memorandum of Agreement for the CFROU, or the Revised Restoration Plan for the Clark Fork River Aquatic and Riparian Resources.

## How will the State Monitor the Effectiveness of Completed Work?

Monitoring by the State has been ongoing and includes data collection for surface water, stream flows and sediments, periphyton, macroinvertebrates, vegetation and birds. Effectiveness monitoring plans include a process for the rapid evaluation of completed projects by a focused team of managers and project designers. This Qualitative Rapid Assessment provides information on progress toward achieving project goals, short-term maintenance needs, and project effectiveness that can guide changes in future designs.

### State of Montana Contacts For This Strategic Plan are Listed Below

| NAME | EMAIL | PHONE | AFFILIATION | POSITION |
|---|---|---|---|---|
| Logan Dudding | Logan.Dudding@mt.gov | (406) 444-6407 | Department of Environmental Quality | Clark Fork River Project Manager |
| Katie Garcin-Forba | Katie.Garcin-Forba@mt.gov | (406) 444-6445 | Department of Environmental Quality | Bureau Chief - Federal Superfund, Abandoned Mine Lands, and Construction Services |
| Brian Bartkowiak | Brian.Bartkowiak @mt.gov | (406) 444-0620 | Natural Resource Damage Program | Environmental Science Specialist |
| Doug Martin | DougMartin @mt.gov | (406) 444-0234 | Natural Resource Damage Program | Restoration Program Chief |
| Caleb Uerling | Caleb.Uerling @mt.gov | (406) 493-2694 | Montana Fish, Wildlife & Parks | District Fisheries Biologist |
| Pat Saffel | PSaffel @mt.gov | (406) 542-5507 | Montana Fish, Wildlife & Parks | Regional Fisheries Manager |