



Red River Basin
Commission's
Drought Preparedness
Strategy

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Outline

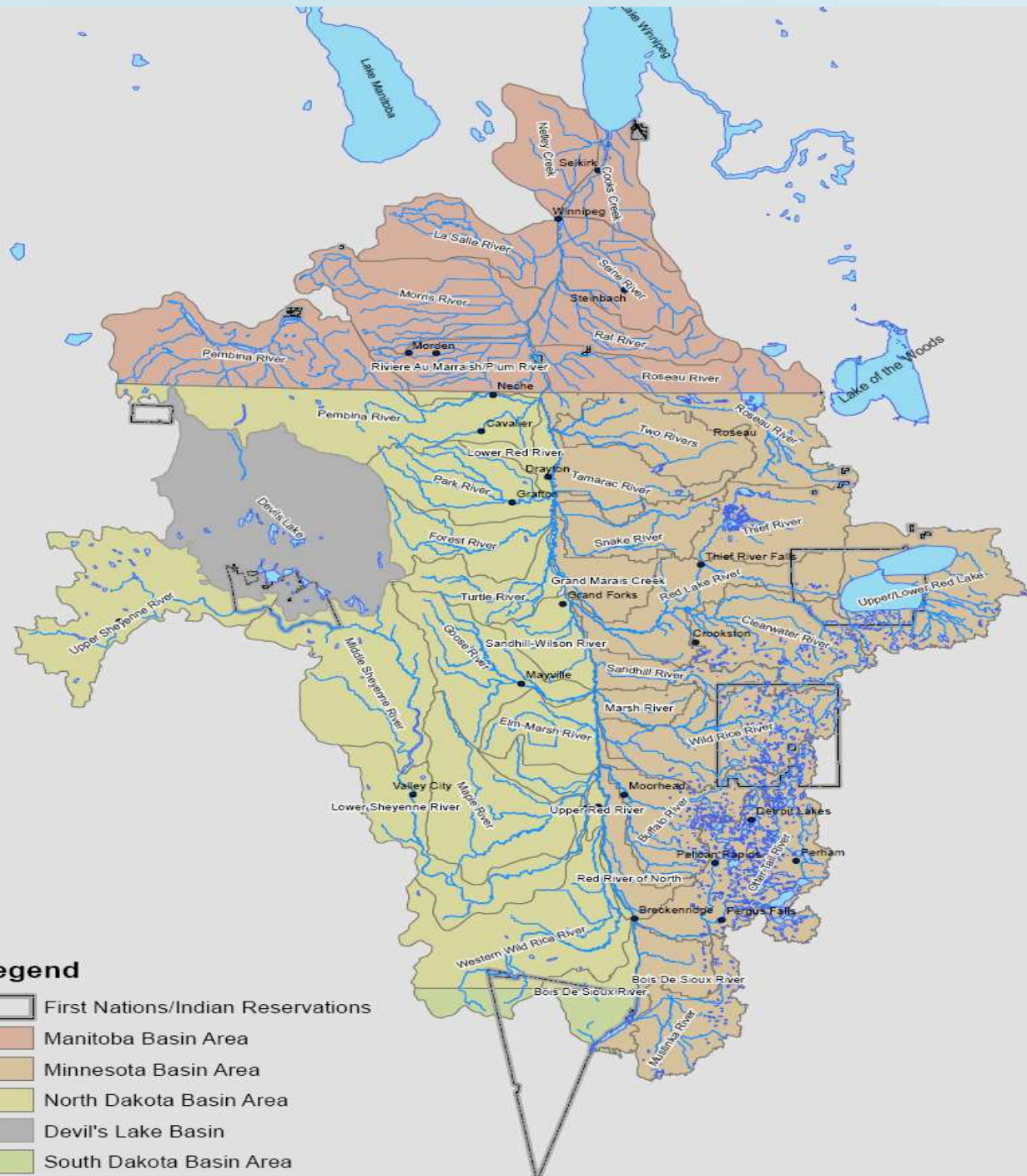
- Study Scope
- Need
- Current Conditions
- Work Plan

Study Scope

- Examines existing water laws and regional drought approaches
- Outlines a process to develop basin-wide drought strategy



- Involves four jurisdictions



Need for Basin Drought Strategy

- Red River Basin is a semi-arid watershed
- Limited surface and groundwater supplies
- No binding agreements or arrangements between the jurisdictions for sharing of water
- Each jurisdiction operates within own laws and regulations

Current Conditions

- Minnesota permitting plan
 - Permit suspensions
- North Dakota State Drought Organization (SDO)
- Manitoba water law
 - Water Protection Act
 - Drought Management and Preparedness Plan



Current Conditions cont.

- Local and Regional Drought Management Plans
 - Conservation programs
 - Fargo/Grand Forks
 - Moorhead
- State and Provincial Drought Management Plans
 - Implementing each jurisdictions' water law
 - Pre-established priority order

What is Needed

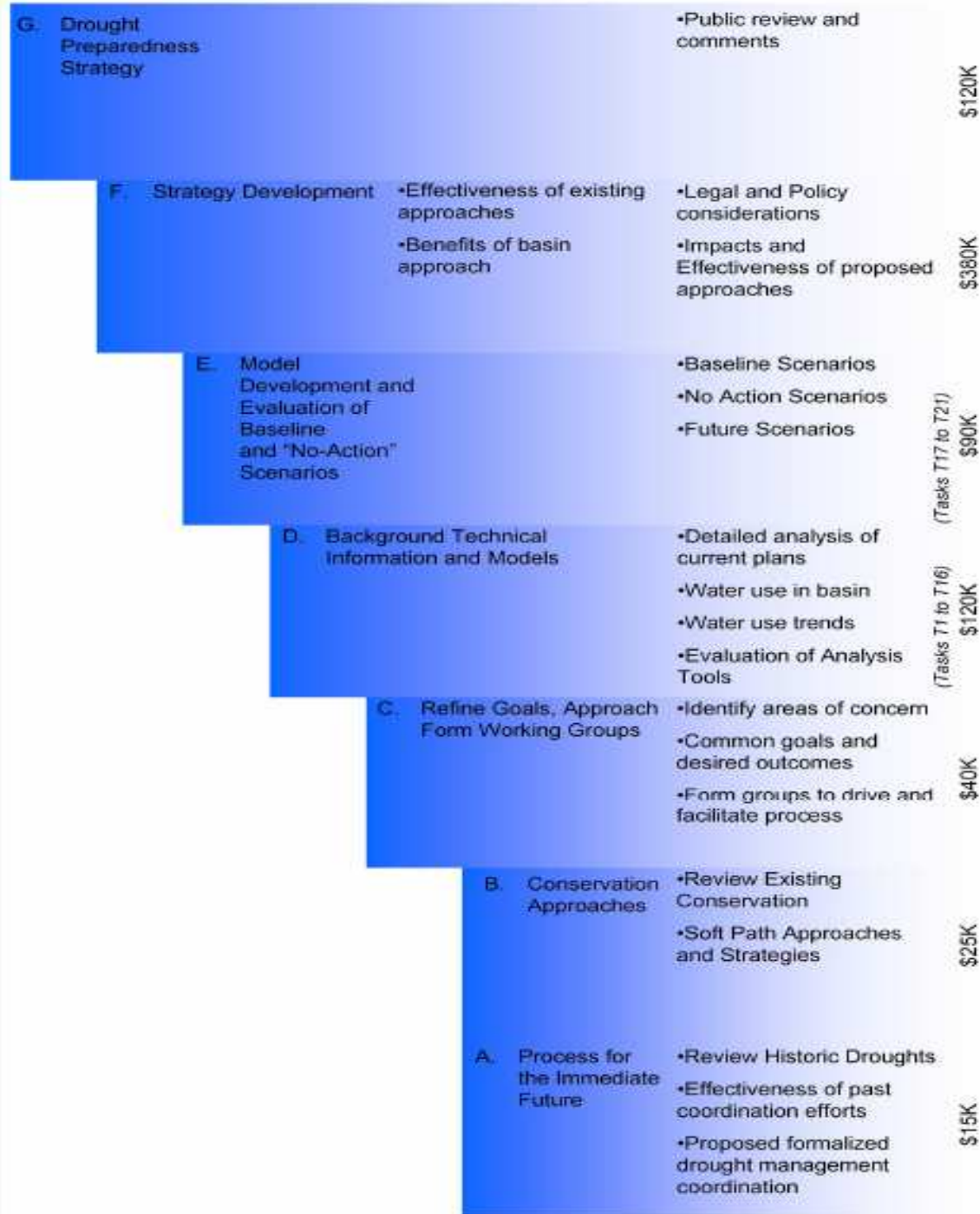
- A strategy plan is needed to address questions in order to:
 - Point out how each jurisdiction would operate under the given conditions.
 - Explore avenues for cooperation.
 - Define a process for this cooperation.
 - Develop a strategy for informing the public.
 - Explore other related topics that show what the basin entities can do.

Strategy and Recommendation

The ultimate goal is increased and enhanced drought cooperation and coordination between basin entities.



Work plan 7 Phases



Item A: Process for the Immediate Future

- Development of additional water supplies
- “Meteorological Drought”
- Evapotranspiration
- Other precipitation-related processes
- Coordinating Efforts
- Total cost: \$15,000 over 3 months



Item B: Conservation Approaches

- “Soft Path” Approach
- Review of existing conservation measures
- Total Cost: \$25,000 over 3 months



Item C: Refine Goals, Approaches and Form Working Groups

- Workshop with basin stakeholders.
- Result in refinement of the goals and desired outcome of strategy.
- Facilitate establishment working groups on:
 - Administrative
 - Legal
 - Policy
 - Technical
- Total Cost: \$40,000 over 6 months

Item D: Background Technical Information

- Compile climate, water use, and streamflow data.
- Filling and extend data sets.
- Project future water uses.
- Undertake trend analysis of streamflow for climate change .
- Compute groundwater – surface response functions.
- Workshop presentation.
- Total Cost: \$120,000 over 6 months

Item E: Model Development and Evaluation of Baseline and “No-Action Scenarios

- Development and application water budget model(s)
 - Historical conditions.
 - Current conditions
 - Future “No-Action” conditions
- Workshop to present modelling results and develop proposed strategies.
- Model initial drought strategies.
- Total Cost: \$90,000 over 4 months



Item F: Drought Strategy Development

- Technical working groups report on effectiveness and impacts proposed strategies.
- Development drought strategy based on evaluated strategies
- Total Cost: \$380,000 over 8 months



Item: G Public Review and Final Drought Preparedness Strategy

- Obtain public input.
- Review public comments to generate the final strategy.
- Total Cost: \$120,000 over 3 months.



Summary of Work Plan Costs and Time

Item	Estimated Cost [USD]	Estimated Time`
A. Process for the Immediate Future	\$15,000	3 months
B. Conservation Approaches	\$15,000	3 months
C. Refine Goals, Approach, and Form Working Groups	\$40,000	6 weeks
D. Background Technical Information (Tasks T1 to T16)	\$120,000	6 months
E. Model Development and Evaluation of Baseline and “No-Action” Scenarios (Tasks T17 to T20)	\$90,000	4 months
F. Drought Strategy Development (including T21)	\$380,000	8 months
G. Public Review and Final Drought Preparedness Strategy	\$120,000	3 months
Total	\$780,000	28 months