Crow Compact Water Supply

• 500,000 acre-feet of Natural Flow

• 300,000 acre-feet of Bighorn Lake Stored Water
  – 150,000 acre-feet can be used in addition to Natural flow
  – 150,000 acre-feet to be used to supplement Natural flow in time of Shortage (May also be available in times of surplus)

• 650,000 acre-feet of Total Supply
Streamflow and Lake Level Management Plan
Bighorn River and Bighorn Lake

• Limit Place of Use to Protect Fishery Reach
• Set Limits on Quantity of use in Reach above Fishery Reach (Two Leggins Diversion)
• Decisions Made on Releases to meet Instream Flow needs and Provide Desired Lake Level in Bighorn Lake based on:
  – Instream Flow Targets
  – Fishery and Recreation needs for Bighorn Lake
  – Management directives from Tribe for Tribe’s Water
  – Flood Control Needs
  – Water Supply & Demand Forecasts
• **650,000 acre-feet Total Supply**
  - 150,000 acre-feet of estimated Existing Use above Fishery Reach
  - 250,000 acre-feet dedicated to In-stream flow. Use of this water limited to below Fishery Reach
  - 250,000 acre-feet available for use upstream of Fishery Reach

• **250,000 acre-feet of Potential new use available up-stream of Fishery Reach is the only new use that could impact the river fishery flows and Bighorn Lake levels.**
Crow Compact Water Supply
Crow Tribe's Compact Water Supply
Bighorn Lake and Streamflow Management Plan
650,000 acre-feet

- 250,000
- 150,000
- 250,000

- Existing Uses BIA Canal and other
- Upstream of Two Leggins Div
- Downstream of Two Leggins Div
STREAM FLOW & LAKE LEVEL MANAGEMENT PLAN

- Total Crow Tribe Water Right: 650 KAF
- Present Use – Bighorn Canal: 150 KAF
- Reserved for Use d/s of Two Leggins: 250 KAF
- Available for Use u/s of Two Leggins: 250 KAF

Bighorn Lake

Bighorn Canal: 150 KAF

Bighorn River

Two Leggins Diversion: 250 KAF
Potential Impact of Developing 250,000 acre-feet of new Water Up-stream of Fishery Reach

- **345 cfs** - Average Daily Flow

- **27 feet** in Reservoir elevation (3640-3613) if full amount drawn from storage
QUESTIONS & COMMENTS
Flood Control
Storage Space Allocation

- Total Flood Space, 498,673 af - Elev 3614-3640
  - Joint Use Space, 240,342 af - Elev 3614-3640
  - Exclusive Flood Space, 258,331 af – Elev 3640-3657
Options to Consider

- **Reallocate Portion of total Flood Space to Conservation Storage**
  - Overall Reduction in flood Space
  - Significant impact to overall Flood Control Benefits

- **Reallocate Portion of Exclusive Flood Space to Joint Use Space**
  - Total Flood Space remains unchanged
  - No Impact to controlling Spring Flood Events
  - Potential Impact on Control of Summer and Fall Rain Events
Concerns

• Sediments Inflow Has Reduced Flood Pool
  – Total Flood Space in 1965 – 509,000 af
  – Total Flood Space 1982 - 498,700 af
  – Total Flood Space 2007 est 484,000 af
  – Total Estimated Loss 25,000 af or 5%

• High Lake Levels in the Fall can contribute to Ice-Jam Flooding in the lower Shoshone River

• Increased Downstream Flood Damage
Questions & Comments