

Clark Fork River Basin Water Availability

A Review of Hydropower
and Legal Water Availability

DNRC, Water Resources
Ethan Mace and Chuck Dalby,
Surface Water Hydrologists

- DNRC has been grappling with issues of legal water availability and hydropower water rights in the Clark Fork Basin since the early 1980's
- **NEW:** *History of Water Availability Studies and Policy, Clark Fork River Basin, Montana*
- **NEW:** DNRC compares hydropower water rights to the last 10 years of USGS stream flow data

Key Hydropower Water Rights

- **Kerr Dam** on Flathead Lake, owned by PPL
 - 14,540 cfs, amended to 15,590 cfs(07/02/2010)
 - 1920 priority
- **Noxon Rapids Dam**, owned by Avista
 - Combined Total of 50,000 cfs
 - 1960 and 1974 priorities
- Former **Milltown Dam**, ownership pending
 - 2,000 cfs
 - 1904 priority



NOXON RAPIDS DAM

Flathead Lake

Lower Clark Fork

KERR DAM

South Fork Flathead River

Swan River

Lower Flathead River

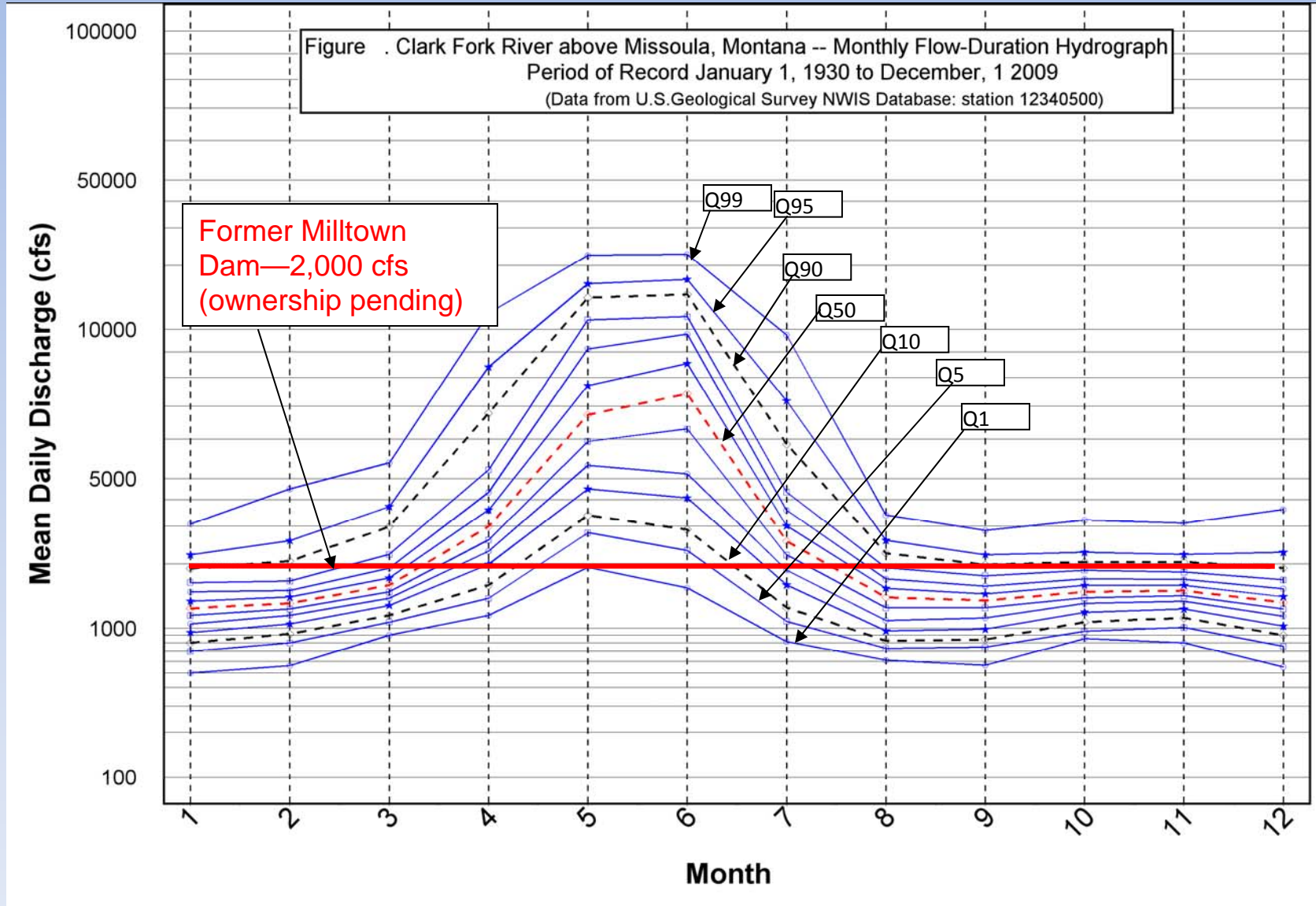
Middle Clark Fork

Blackfoot River

MILLTOWN DAM

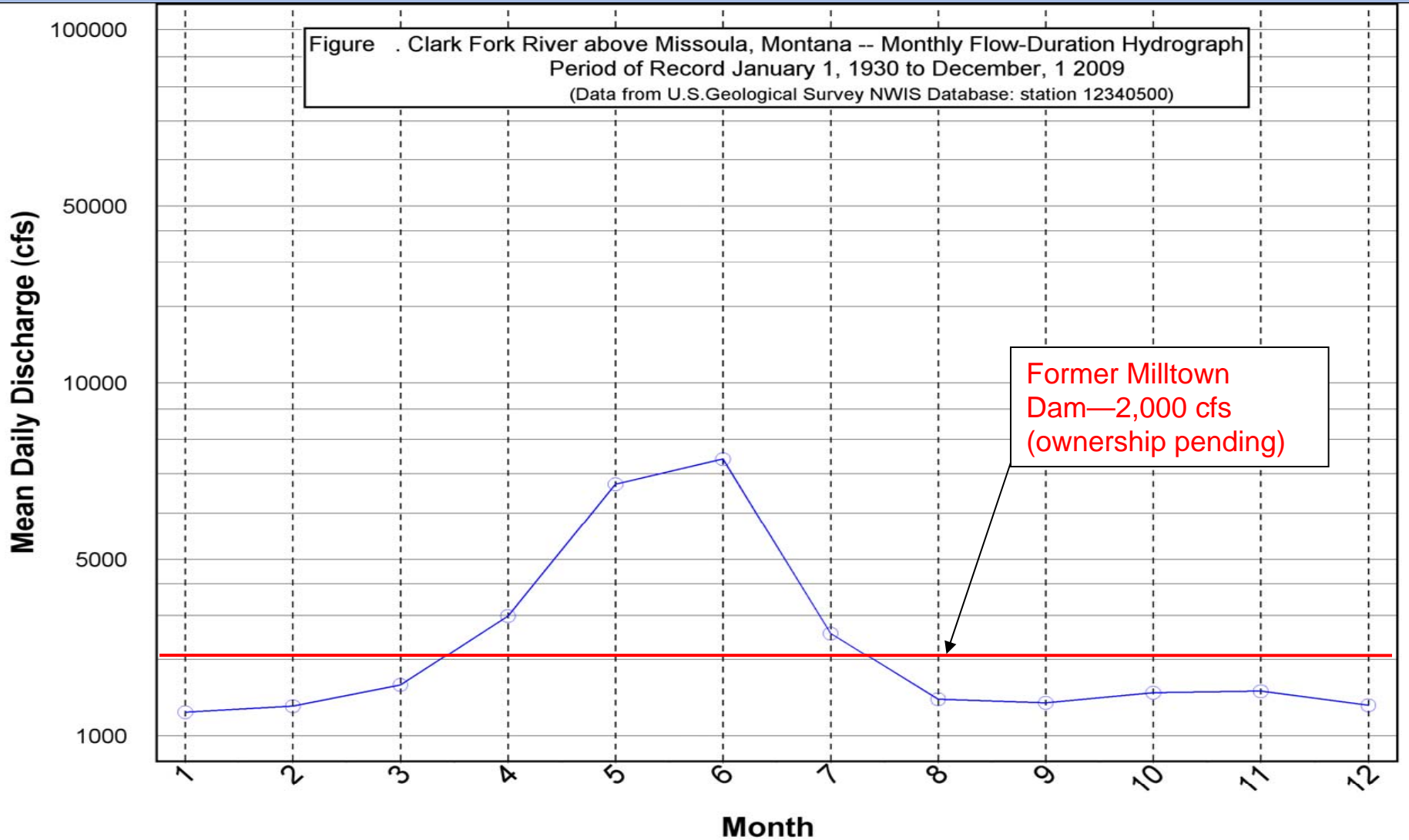
Bitterroot River
Flint-Rock Creeks

Flow Duration Curves



Milltown Dam 79 Year Record

Figure . Clark Fork River above Missoula, Montana -- Monthly Flow-Duration Hydrograph
Period of Record January 1, 1930 to December, 1 2009
(Data from U.S.Geological Survey NWIS Database: station 12340500)



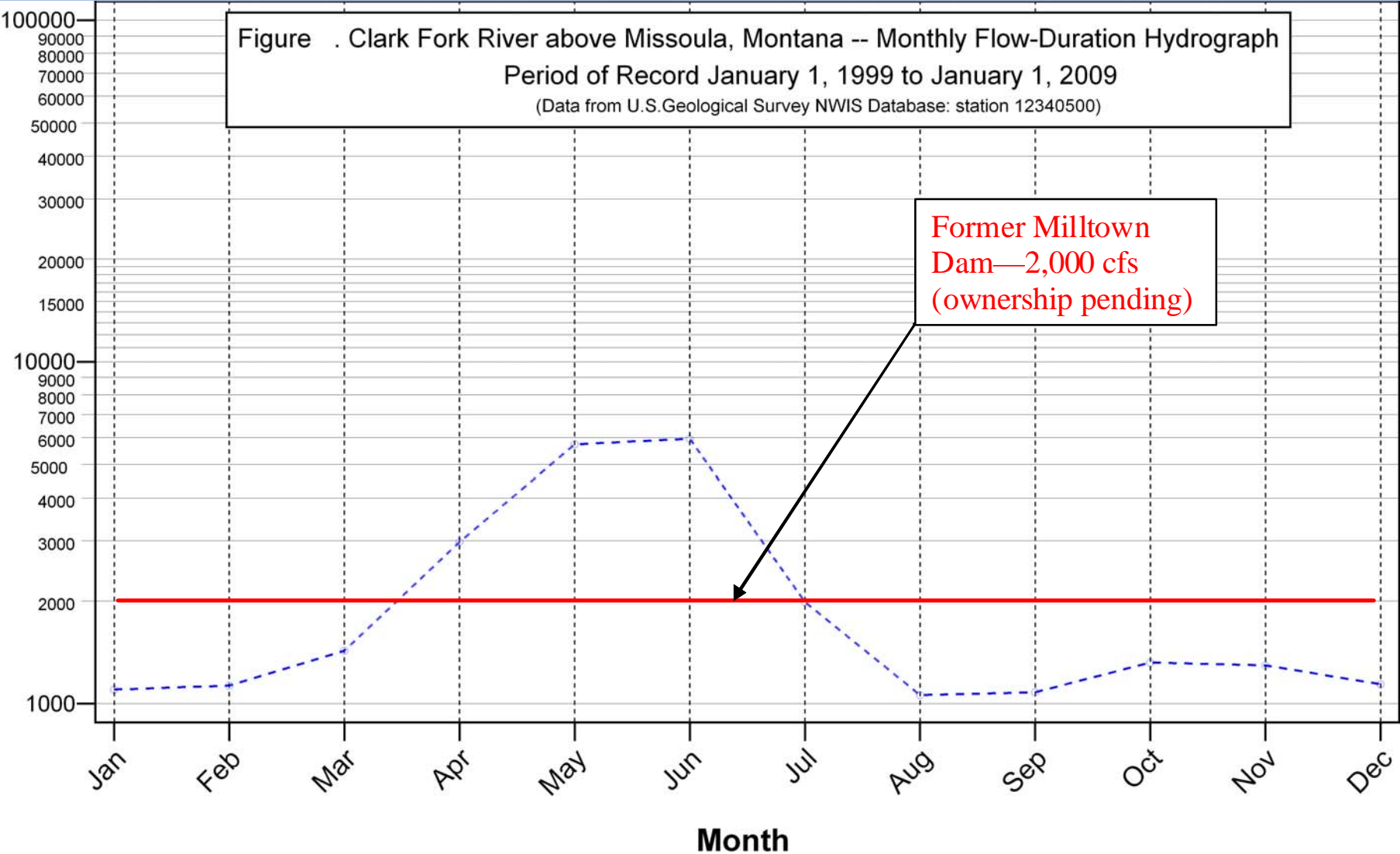
Blue line shows the median value of mean daily discharge for each month (Note--vertical axis logarithmic)

Prepared by DNRC Water Resources Division, Helena, Montana November 2010

Miltown Dam 10 Year Record

Figure . Clark Fork River above Missoula, Montana -- Monthly Flow-Duration Hydrograph
Period of Record January 1, 1999 to January 1, 2009
(Data from U.S. Geological Survey NWIS Database: station 12340500)

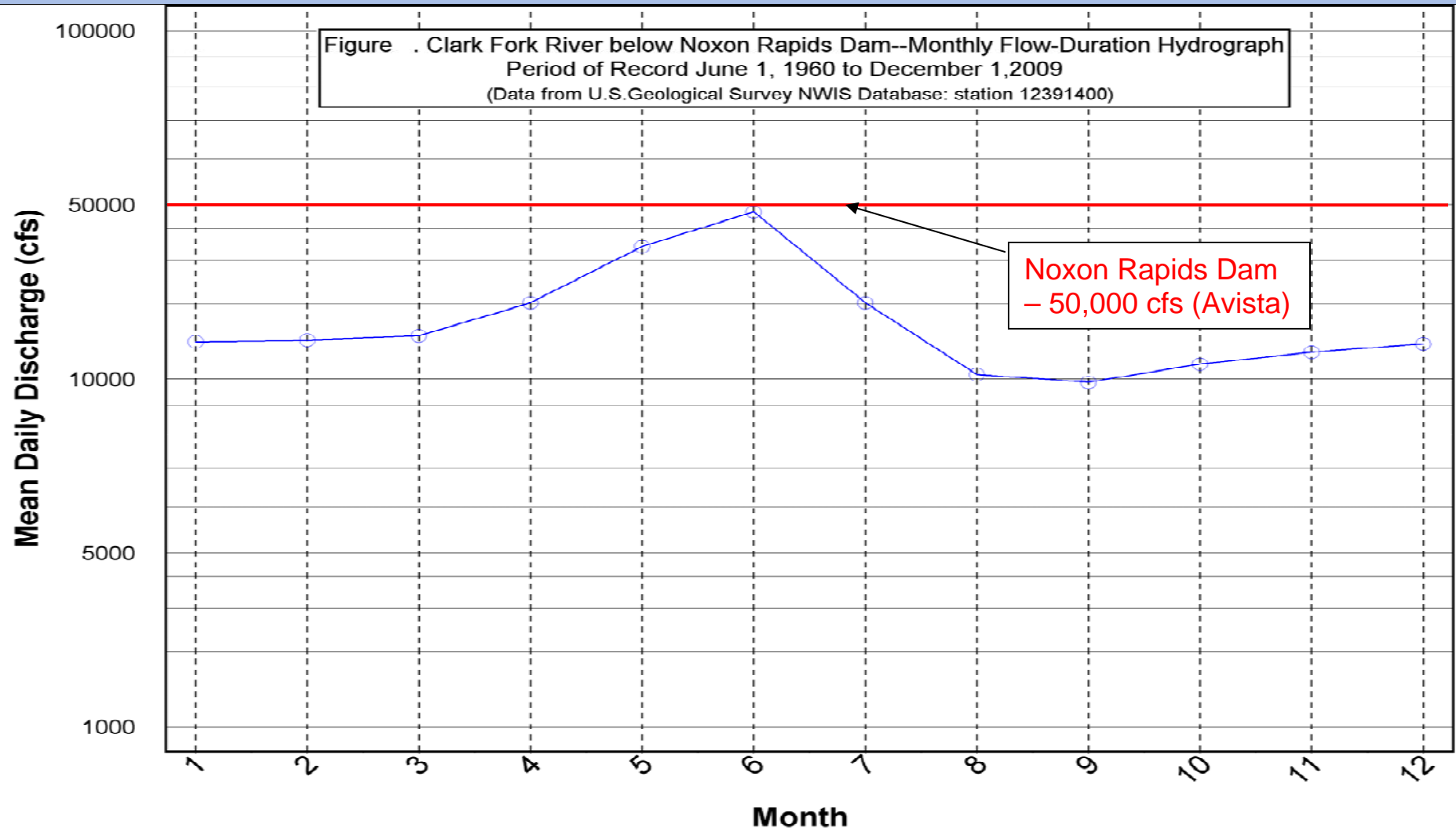
Mean Daily Discharge (cfs)



Former Miltown Dam—2,000 cfs (ownership pending)

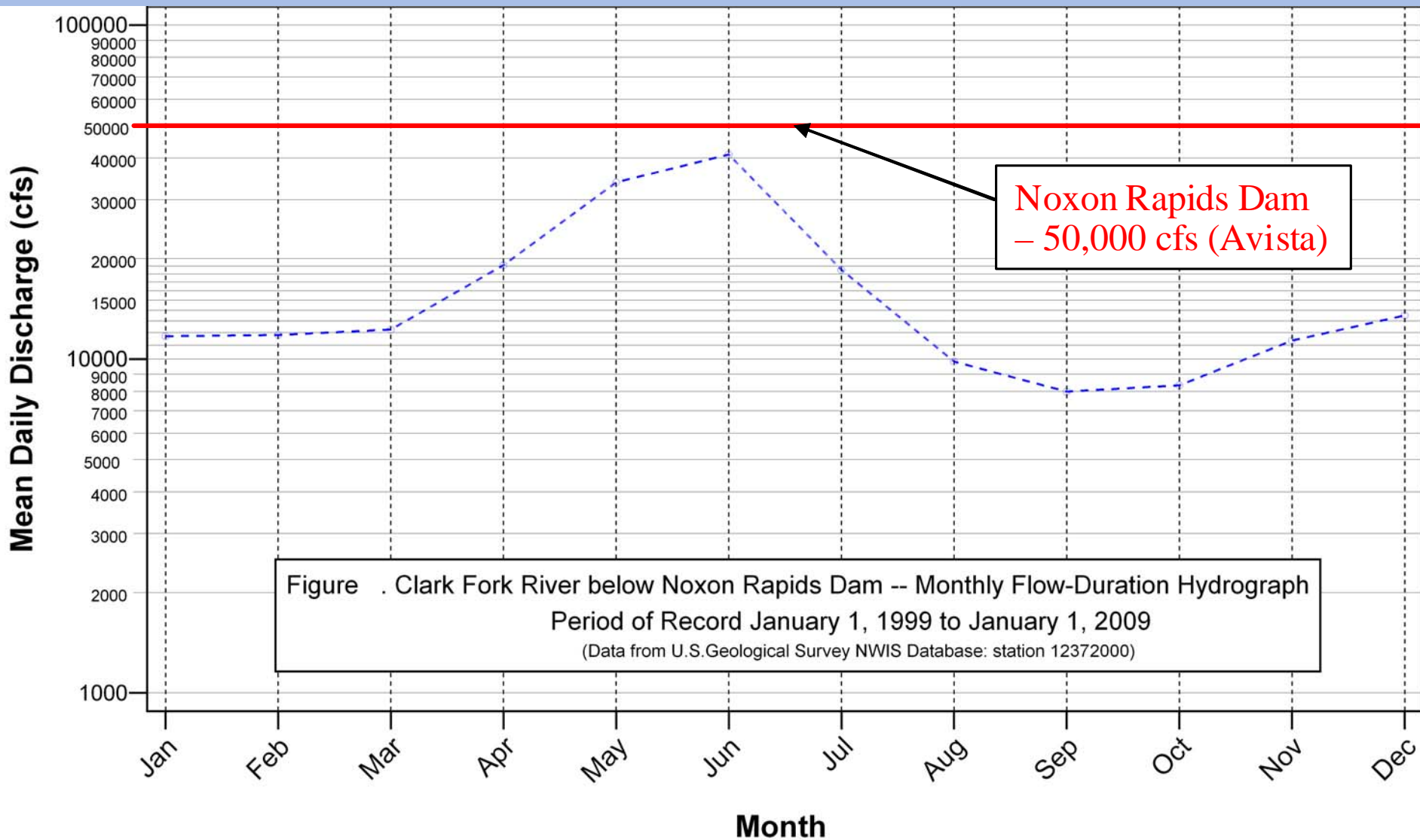
Blue line shows the median value of mean daily discharge for each month (Note--vertical axis logarithmic)
Prepared by DNRC Water Resources Division, Helena, Montana August 2010

Noxon Rapids 49 Year Record



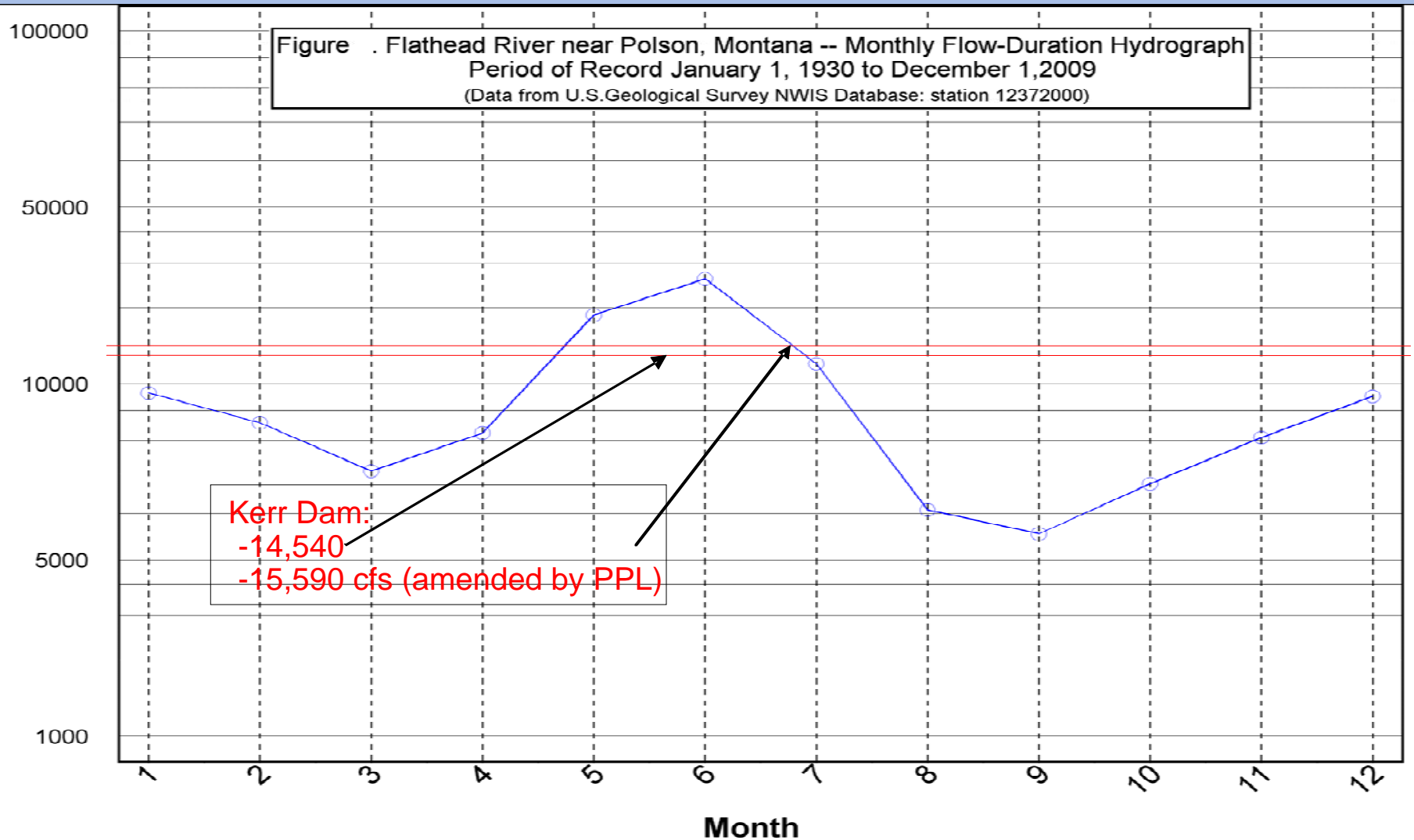
Blue line shows the median value of mean daily discharge for each month (Note--vertical axis logarithmic)

Noxon Rapids 10 Year Record



Blue line shows the median value of mean daily discharge for each month (Note--vertical axis logarithmic)

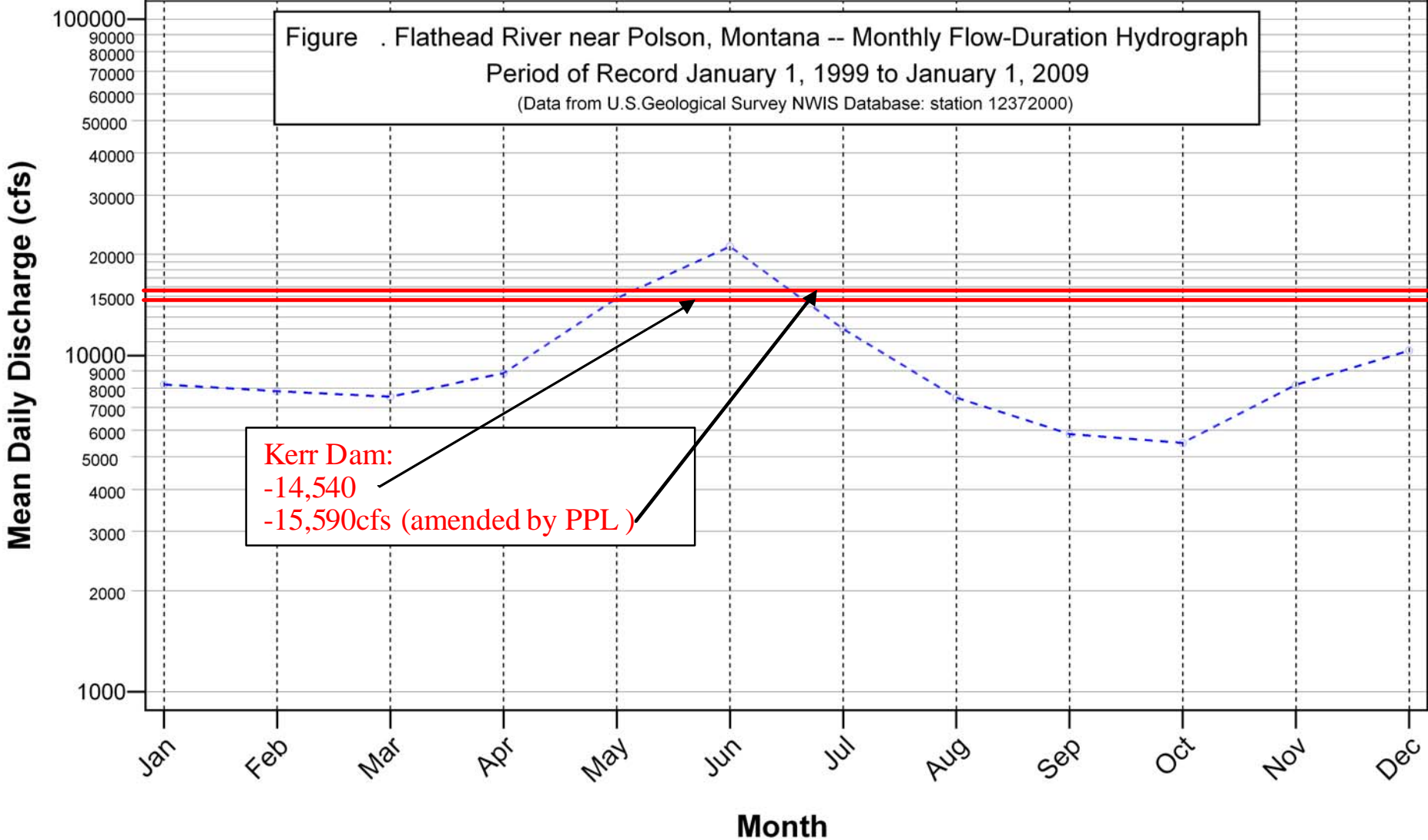
Kerr Dam 79 Year Record



Blue line shows the median value of mean daily discharge for each month (Note--vertical axis logarithmic)

Prepared by DNRC Water Resources Division, Helena, Montana November 2010

Kerr Dam 10 Year Record



Blue line shows the median value of mean daily discharge for each month (Note--vertical axis logarithmic)
Prepared by DNRC Water Resources Division, Helena, Montana August 2010



From Archives & Special Collections, Mansfield Library, The University of Montana-Missoula