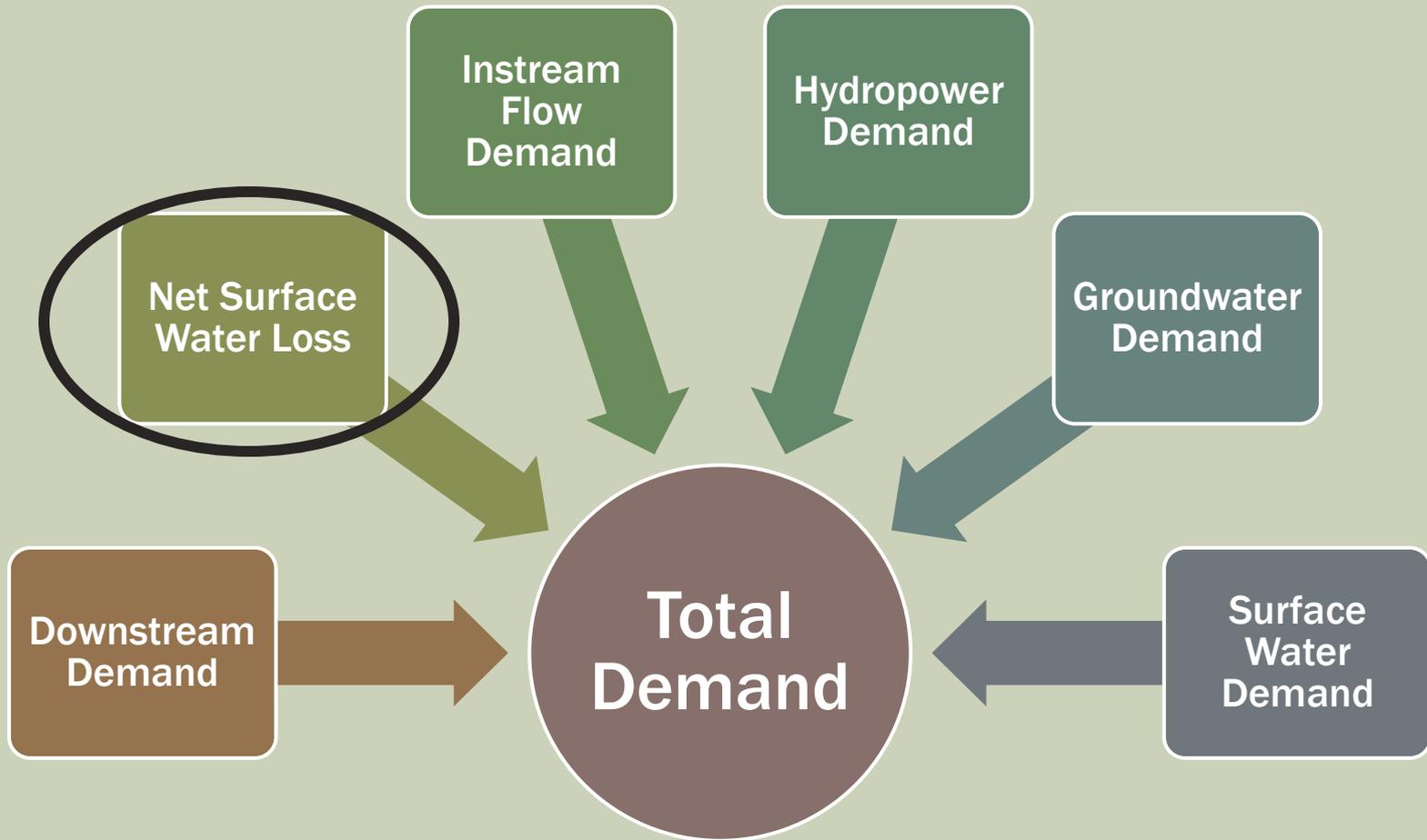


NET SURFACE WATER LOSS

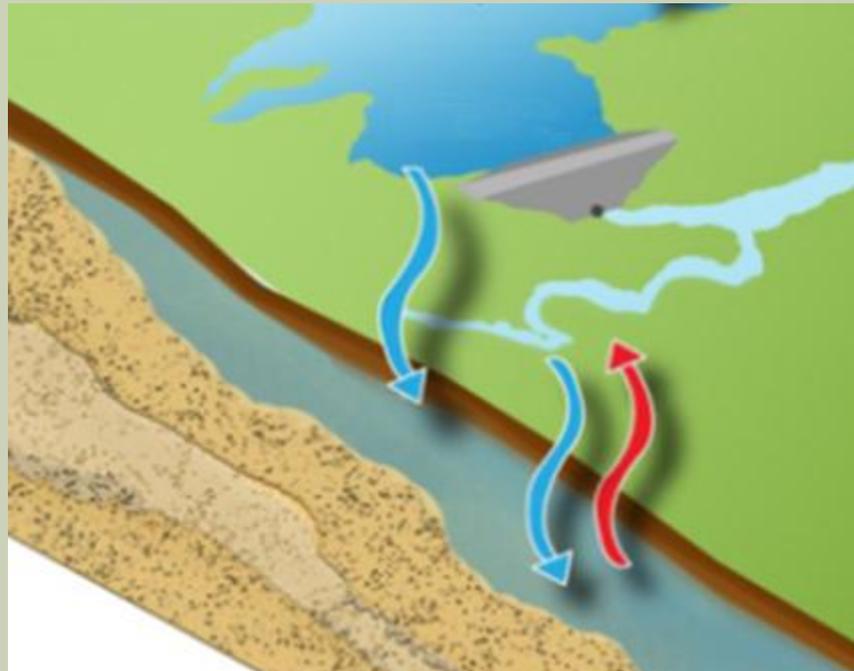
Fully
Appropriated
Basin
Analysis
(1988-2012)

TOTAL DEMAND COMPONENTS



LOSS DUE TO SEEPAGE

- Some diversions for irrigation lost before reaching the field
- Seepage into the groundwater supply (loss/recharge)
- Returns to river at a later time



LOSS DUE TO SEEPAGE

- Typical where large irrigation districts or canal companies deliver water to multiple irrigators



NEW SUPPLY/NEW DEMAND

- Losses recharge the aquifer
- Retiming the water creates a new water supply
- Additional demand for water



NET SURFACE WATER LOSS

- The new surface water loss demand is met by streamflows returning to the stream from upstream uses but not from the same time period (i.e., peak or non-peak) or within the same year.
- Net Surface Water Loss represents the recharge and consequently the new water supply increase.

Net Surface Water Loss = Net Diversions – SWCU(Irrigation)

NET SURFACE WATER LOSS

- Subbasins included in Total Demand as having Net Surface Water Loss for 1988-2012 FAB Evaluation:
 - Middle Loup River
 - North Loup River
 - Niobrara River (stateline to above Box Butte Reservoir)
 - Niobrara River (Box Butte Reservoir to Gordon)
 - Niobrara River (Gordon to Sparks)