

HBC Downlisting

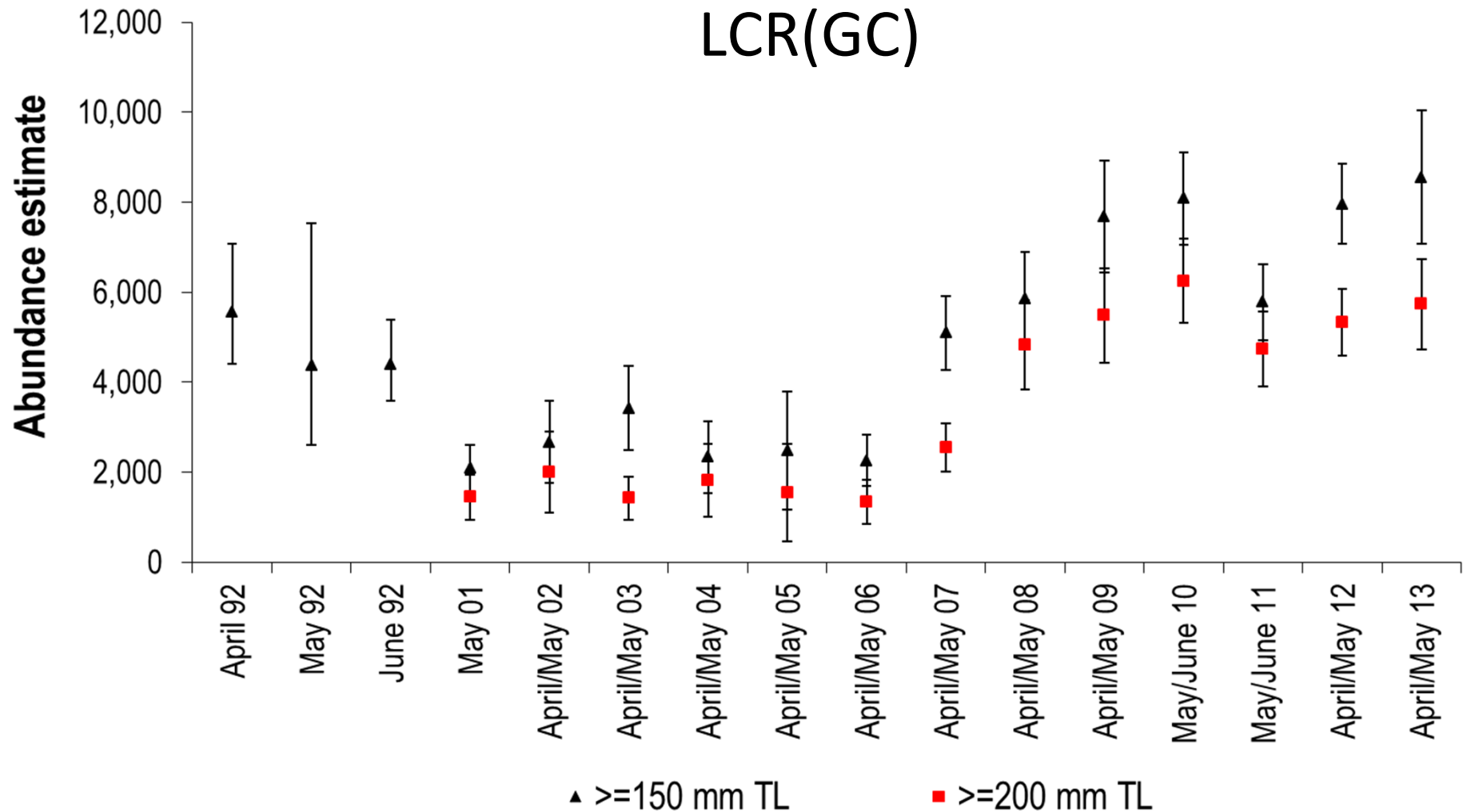
Over 5-years (Demographic):

- ❑ Maintain six populations – stable:
 - the trend in adult (age 4+; 200 mm TL) point estimates for each of the six extant populations does not decline significantly; and
 - mean estimated recruitment of age-3 (150–199 mm TL) naturally produced fish equals or exceeds mean annual adult mortality for each of the six extant populations;
- ❑ One Core Population in upper and one in lower Basin $\geq 2,100$



HBC Status Snapshot

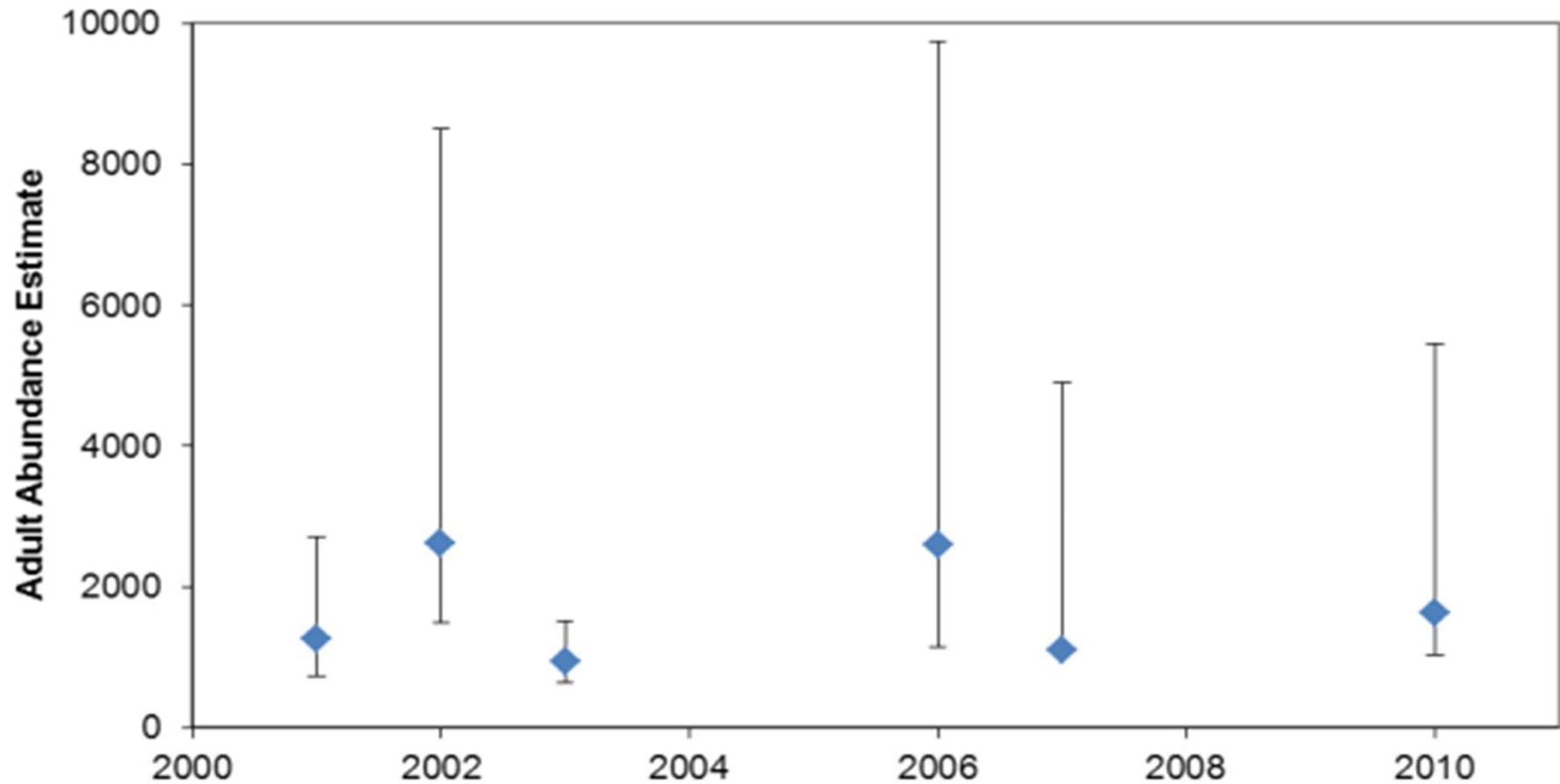
Stable/Increasing



HBC Status Snapshot

Declining trend (SMB)

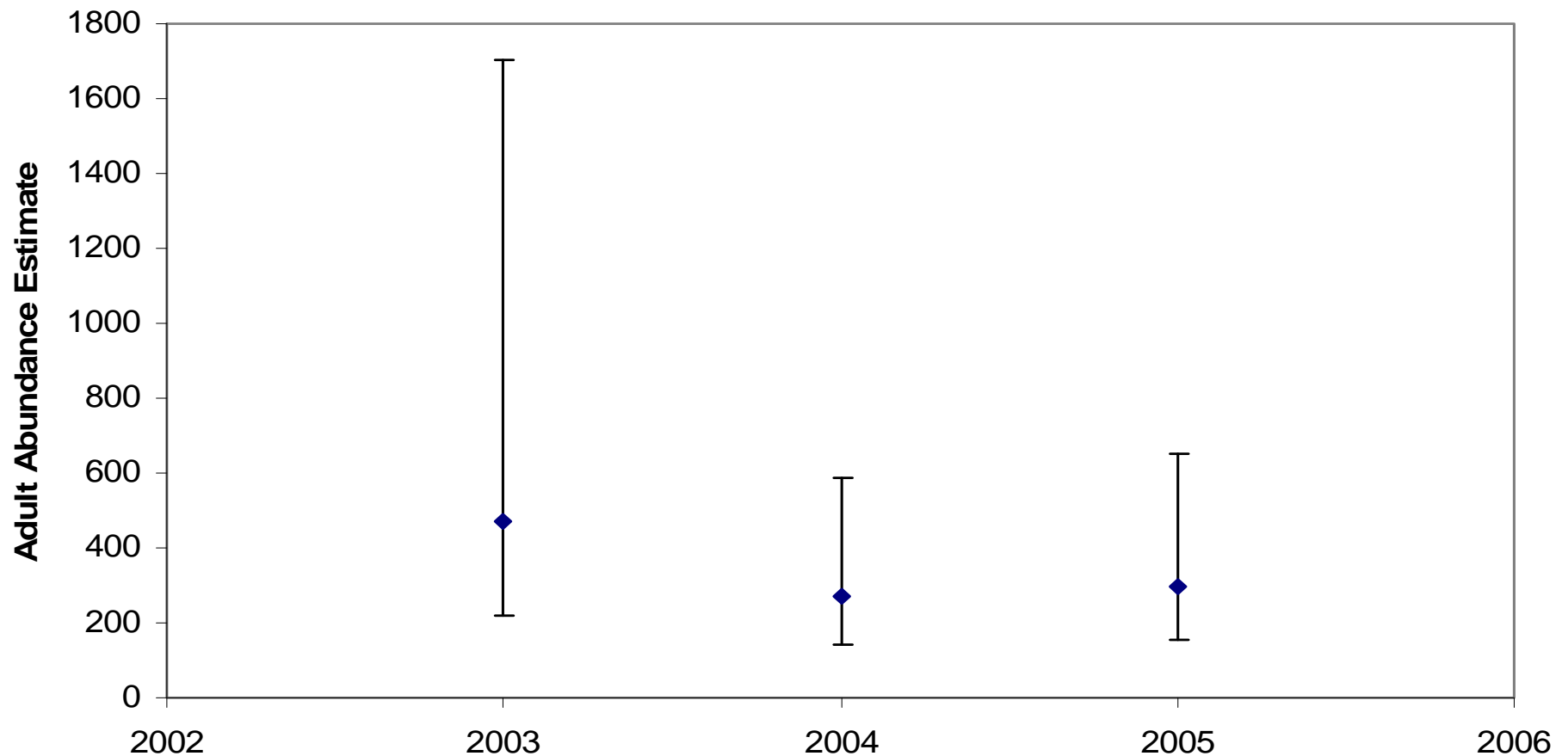
Desolation-Gray Canyons



HBC Status Snapshot

Small, but considered stable per CPUE (0.01-0.035/net hour) in 2011

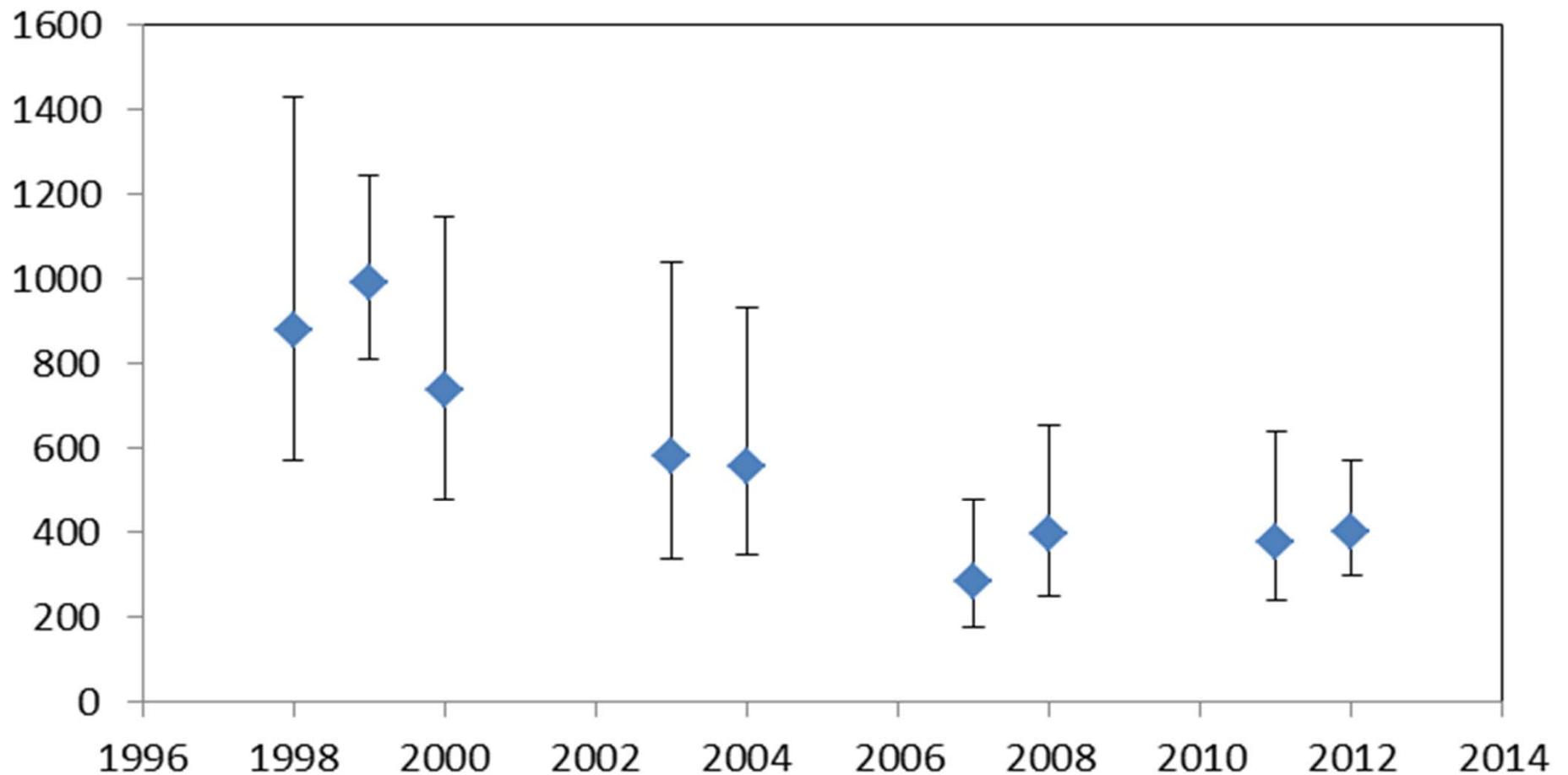
Cataract Canyon



HBC Status Snapshot

Large declines in late 1990s; last 4 estimates @ 200-400 fish (>LMB GS in 2012)

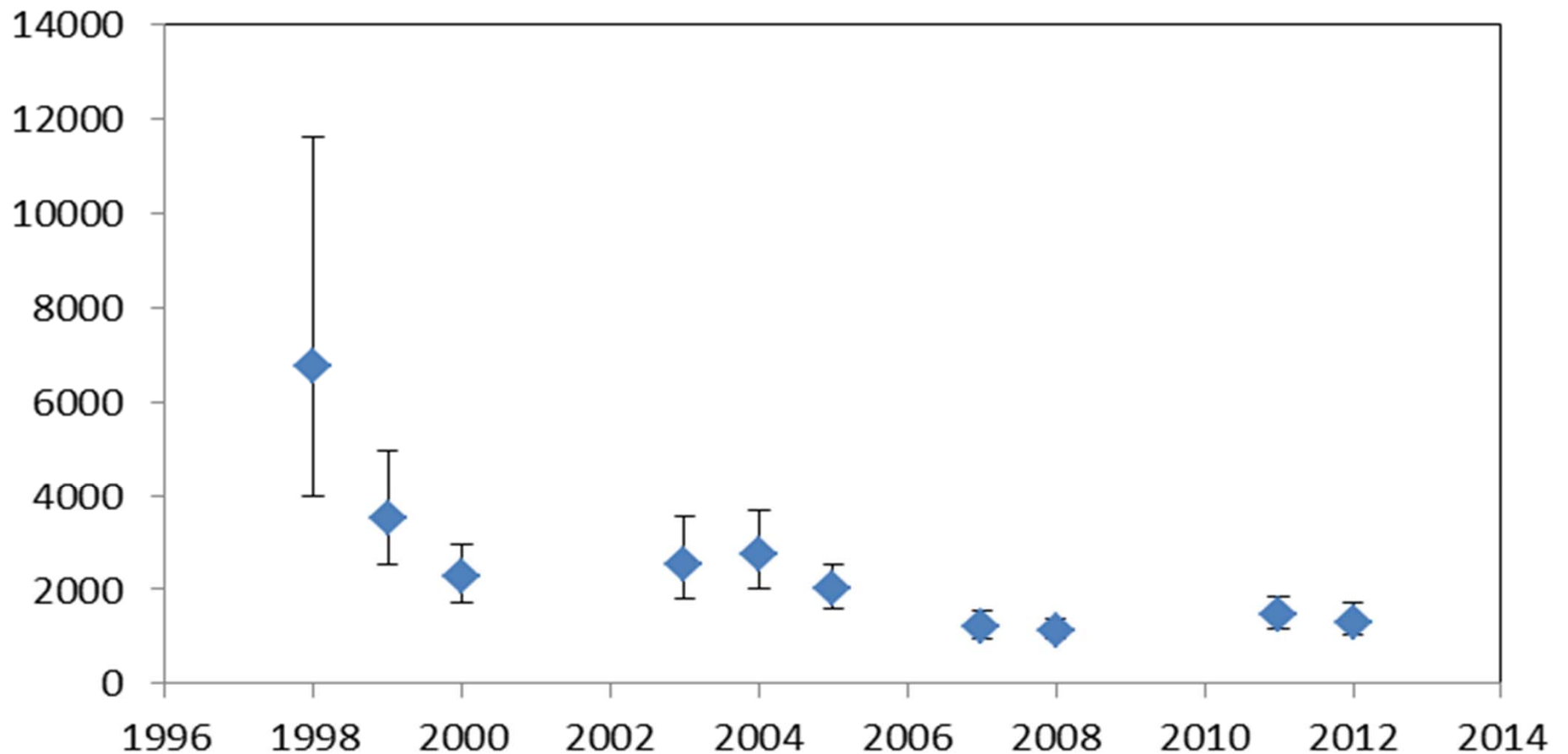
Black Rocks



HBC Status Snapshot

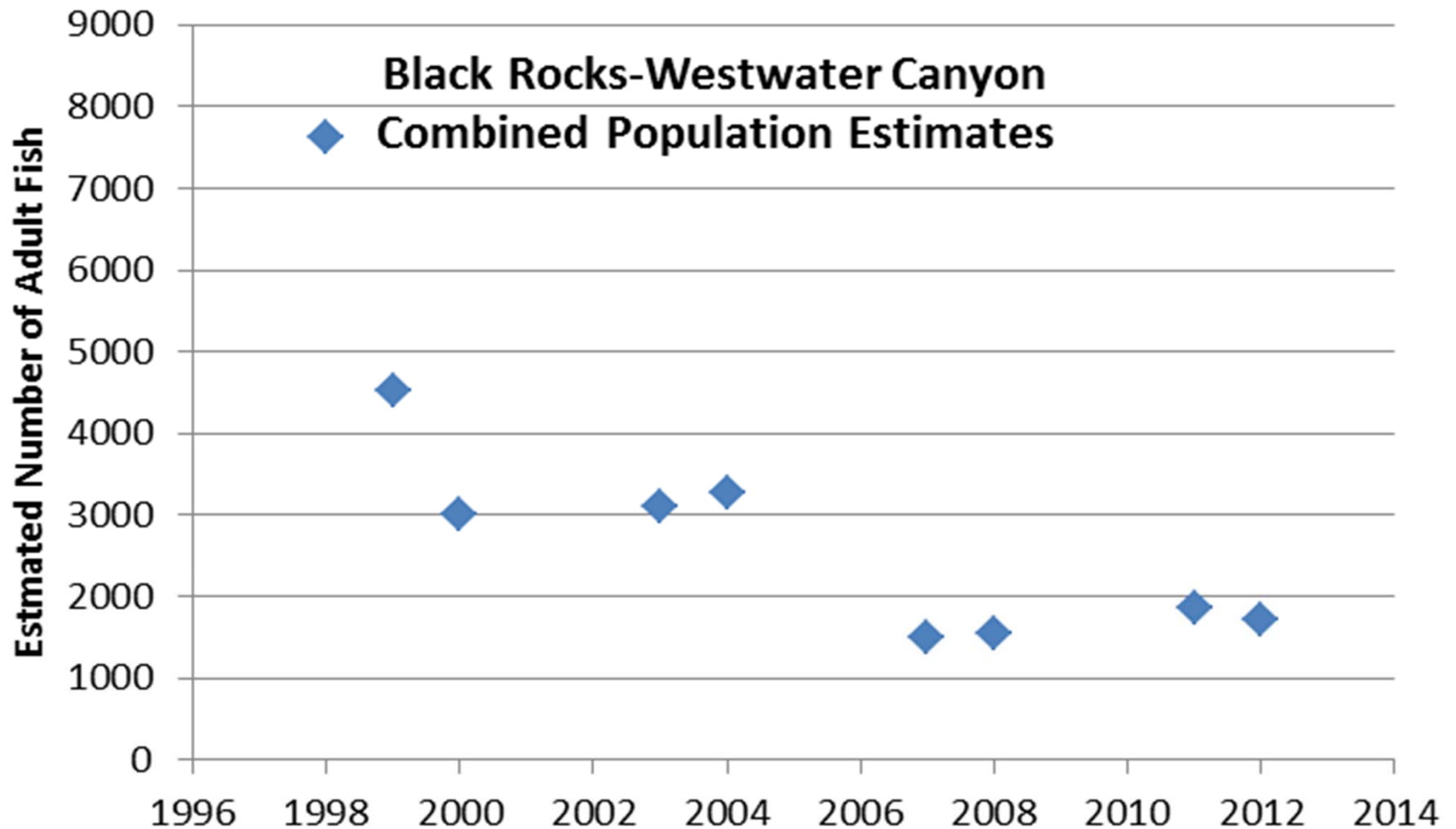
Large declines in late 1990s, below 2,100 in 2008;
Last 4 estimates @ 1300-1700 fish

Westwater



HBC Status Snapshot

Large declines in late 1990s, below 2,100 in 2008;
Recruitment limited



HBC Status Snapshot

Yampa: Currently unknown if pure humpback chubs occur in Yampa Canyon

HBC Status Snapshot

Breakdown:

- ❑ 2 of 6 stable (LCR & Cataract)
[depends on when 1st data point begins 4 of 6?]
- ❑ 1 of 6 may be functionally extirpated (Yampa)
- ❑ 1 population meets MVP of 2,100 (LCR/GC)

MVP may change (USFWS in prep.; USBR 2011 Conservation Measure)

Recovery/Viability 3-Rs

- **Resiliency** is defined as the ability of the species to withstand stochastic events (arising from random factors). Healthy populations are more resilient and better able to withstand disturbances such as random fluctuations in birth rates, variations in rainfall, or the effects of anthropogenic activities.
- **Redundancy** is defined as the ability of a species to withstand catastrophic events (a rare destructive natural event or episode involving many populations and occurring suddenly).
- **Representation** is defined as the ability of a species to adapt to changing environmental conditions. Representation can be measured through the breadth of genetic diversity within and among populations and the ecological diversity (also called environmental variation or diversity) of populations across the species' range.

KAB Delisting

- New taxonomic clarification
- Species Lead – Region 6
- MDL dominating listing actions thru 2016/2017
- 3 ways to achieve delisting:
 - Petition
 - 5-year species review
 - Agency initiative
- Action post-2017 at earliest