

Pre-Klamath Irrigation Project Conditions

- The Keno Reef naturally prevented water below the elevation of 4,084' (Reclamation datum) from freely entering the Klamath River Canyon
- (2) Lower Klamath Lake naturally evaporated no less than 188,000 acrefeet of water annually as analyzed by Reclamation. (Others estimate between 264,000 to 440,000 acre feet evaporated from this water body)
- (3) Tule Lake sump naturally evaporated no less than 294,000 acre-feet of water annually
- (4) The Lost River Slough evacuated up to 1,200 cubic-feet-per-second of water out of the Klamath River system into the Tule Lake sump during wet periods
- (5) Link River routinely went dry in the summer

But for Project operations which store water in Upper Klamath Lake that would have been naturally captured in Tule Lake and Lower Klamath Lake, there would be little to no flow from Upper Klamath Lake reaching the Keno reef between July and early October in many years.

WY 2020 Analysis WY 2020 Water Deficit WY 2020 Water Application Over 407,000 AF of water was unnaturally Only 20% of the water which historically 80% of the available water was released to the mainstem evaporated from the former lakes and marshlands removed from the Basin above Keno Klamath River (not preferred coho habitat) was reapplied in 2020 700,000 100% evaporation 564,000 AF 90% 572,000 600,000 80% 500,000 70% replace 157,000 AF 60% 400,000 50% reapplied to 40% 300,000 572,000 AF 30% 200,000 165.000 Percentage of water 20% 157,000 AF 10% 100,000 0% WY 2020 Water Application Shortage WY 2020 Water provided to former lakes and marshlands Water to the Klamath River from Lost River Minimum water naturally evaporated from the Project area Water sent to the mainstem Klamath River (not prefered coho habitat) Water provided to former lakes and marshlands Water which would have naturally flowed over the Keno Reef Water sent to the mainstem Klamath River (not prefered coho habitat)

Water Year 2020 Analysis

- In Water Year (WY) 2020, 729,000 acre-feet of water (after evaporation) was available for beneficial use from Upper Klamath Lake.
 - Only 157,000 acre-feet of water was reapplied to the former marshlands and lakes in the Project area.
- Historically, at least 564,000 acre feet of water would have evaporated from these former wetland areas.
- 729,000 acre-feet minus 564,000 acre feet of evaporation equals 165,000 acre-feet which may have naturally flown over the Keno reef.
- 572,000 acre-feet was delivered to the Klamath River below Keno in WY 2022
 - 407,000 acre-feet unnaturally released to the Klamath River in WY 2022 Lower Klamath NWR went dry!!!

WY 2021 Water Application 95% of the available water was released to the mainsten Klamath River (not preferred coho habitat)



Water Year 2021 Analysis

- In Water Year (WY) 2021, 624,849 acre-feet of water (after evaporation) was available for beneficial use from Upper Klamath Lake.
 - Only 33,000 acre-feet of water was reapplied to the former marshlands and lakes in the Project area.
- Historically, at least 564,000 acre feet of water would have evaporated from these former wetland areas.
- 624,849 acre-feet minus 564,000 acre feet of evaporation equals 60,849 acre-feet which may have naturally flown over the Keno reef.
- 591,849 acre-feet was delivered to the Klamath River below Keno in WY 2022
 - 534,000 acre-feet unnaturally released to the Klamath River in WY 2022 LKNWR remained dry. TL Sump1A dry. Dry domestic wells.

WY 2021 Water Deficit

Only 5% of the water which historically evaporated from the former lakes and marshlands was reapplied in WY 2021

WY 2021 Analysis 534,000 acre-feet of water was unnaturally removed from the Basin above Keno

WY 2022 Available Water Application Assumption



• Water provided to former lakes and marshlands

= Water sent to the mainstem Klamath River (not prefered coho habitat)

WY 2022 Anticiapted Water Deficit

Only 9% of the water which historically evaporated the former lakse and marshlands is anticipated to be reapplied in WY 2022



Minimum water naturally evaporated from the Project area

Water provided to former lakes and marshlands

WY 2022 Analysis

Anticipate 477,327 acre-feet of water will be unnaturally removed from the Basin above Keno



Water sent to the mainstem Klamath River (not prefered coho habitat)

Water which would have naturally flowed over the Keno Reef

Water Year 2022 Analysis

- The available data for Water Year (WY) 2022 is unavailable. 349,000 AF of water is stored in UKL for the single lawful purpose of irrigation.
- An estimated 50,000 acre-feet of water will be reapplied to the former marshlands and lakes in the Project area.
- Historically, at least 564,000 acre-feet of water would have evaporated from these former wetland areas.
- 217,638 acre-feet of water was released below Keno reef between 1 October 2021 and 28 February 2022. An additional 407,000 acre-feet is scheduled to be released from UKL between 1 March 2022 and 30 September 2022 for a total of 624,638 acre-feet anticipated to be released from UKL in WY 2022. LKNWR will likely remain dry. TL Sump1A dry. TL Sump 1B dry. + More dry domestic wells.



It is anticipated that on 30 September 2022 1,682,000 acre-feet of water would have naturally evaporated from the Project area over the past 3 years.

Potentially only 240,000 acre-feet of this water was made available to these former wetlands over the past 3 years.

The 1,442,000 deficit of water evaporated from these former wetlands has changed weather patterns in the basin, negatively impacted wildlife, and forced more ground-water extraction.

National Marine Fisheries Services is yet demanding more water to be unnaturally evacuated from the Klamath Basin above Keno for a species which does not prefer the Klamath River mainstem for its natural habitat.