

## Physical Benefits Tab

### Attachment 1: Recreation Visitation Estimates

*Attach or provide links to any relevant recreation studies associated with the proposed project.*

*WSIP Application Instructions, March 2017*

#### Response

This attachment contains analyses of benefits associated with Stone Corral Recreation Area and Peninsula Hills Recreation Area.

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STATUS:	FINAL	PREPARER:	A MCGREGOR	PHASE:	1	VERSION:	A
PURPOSE:	PHYSICAL PUBLIC BENEFIT	CHECKER:	N CARLSON	DATE:	2017 AUGUST		
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NOTES:	RECREATION VISITATION ESTIMATES			PAGE:	1	OF	4

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## Acronyms and Abbreviations

NODOS	North-of-the-Delta Offstream Storage
USBR	U.S. Bureau of Reclamation

# Introduction

Recreation benefits are informed in part with visitor use projections for the recreational areas planned for the Sites Project (i.e., Stone Corral, Peninsula Hills). Annual visitation was estimated using a comparable demand and/or facilities-based estimation approach that accounts for Sites planned facilities, carrying capacity, the regional population of potential users, surface acreage of the reservoir and fluctuations in storage throughout the year, as well as the amenities and visitation levels of substitute reservoirs in the region. Additional information and recreation analysis is available in Appendix C of the North-of-the-Delta Offstream Storage (NODOS) Draft Feasibility Study (USBR 2017). These variables for consideration are consistent with those outlined in the WSIP Technical Reference (TR Section 5.4.5). Annual visitation was calculated as a measure of total visitor days, which represents one person visiting for any part or all of a calendar day. This metric is commonly used to inform recreational benefits, and should not be confused with a recreational visit, which could last for more than one calendar day (e.g., camping).

Visitation projections for Sites, including proportion of visitor use by primary activity type were informed with previous planning estimates (CALFED 2000) and subsequent collaboration with the U.S. Bureau of Reclamation (USBR 2006 & 2017). The visitation estimates draw upon recreational assessments of regional reservoirs using a comparable demand and/or facilities-based estimation approach; these techniques are founded on the assumption that use at a new reservoir would be similar to use at an existing reservoir that is nearby and hosts similar types and levels of amenities.

Black Butte Reservoir is considered the most similar nearby reservoir to the planned Sites project to form a comparable attendance estimate. To estimate the number of visitors by type of primary activity at Sites, historical visitation estimates tallied from traffic counters and assumptions on the number of persons per vehicle were applied to data from a visitor characteristic survey at Black Butte. Initial estimates of approximately 400,000 annual recreation user days for Sites were conservatively scaled down to a *maximum* of 200,000 annual visitor days. This downward adjustment was made in response to ongoing conversations with the Bureau of Reclamation and other project partners as well as additional refinements to Sites planned recreational facilities. In addition, the 200,000 annual visitor days were further adjusted to account for operations that would reduce the reservoir’s surface area available to visitors during the peak recreation months, resulting in an annual estimate of approximately 187,000 visitor days.

The table below illustrates the estimated annual attendance at Sites by primary activity type. As discussed, the breakdowns by activity type follow typical patterns of recreational activity in the region and have been matched with planned recreational facilities to ensure that the projected recreational use could be supported at Sites. Appendix E of the NODOS Draft Feasibility Study (USBR 2017) provides a more detailed discussion of the recreation facilities currently planned and budgeted for development at Sites.

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Table 1. Estimated Annual Recreation Visitation at Sites by Primary Activity

Activities	Annual Visitor Days	Percent of Total
Shore fishing	16,254	8.7%
Boat fishing	8,407	4.5%
Picnicking	17,188	9.2%
Camping	27,514	14.7%
Sightseeing	36,992	19.8%
Swimming / beach use	40,492	21.7%
Walking	5,418	2.9%
Bicycling/Motorcycling	2,429	1.3%
Off-road vehicle	187	0.1%
Horseback riding	747	0.4%
Boating / water-skiing	29,145	15.6%
Hunting	560	0.3%
Other	1,495	0.8%
<b>Total</b>	<b>186,829</b>	<b>100%</b>

## References

CALFED (CALFED Bay-Delta Program). 2000. North of the Delta Offstream Storage Investigation Progress Report, Appendix J: Recreation Requirements and Opportunities: Sites Reservoir Alternative. Report prepared by Douglas Rischbieter and David Elkins, California Department of Water Resources. April.

USBR (U.S. Bureau of Reclamation). 2006. Sites Reservoir Visitation Analysis and Excess Capacity/Demand Substitution Analysis. Prepared by Jon Platt, Technical Service Center, Denver, Colorado.

USBR. 2017. Draft North-of-the-Delta Offstream Storage Investigation Feasibility Report. Available: <https://www.sitesproject.org/information/FeasibilityReport>.