An Optimization Model to examine the Elevation and Discharge of Priest and Wanapum Dams under various operating criteria
Major Assumptions

- Standard Reverse Load Factoring
- Rearing Discharge Bands per HRFCPA
- Protection flows based on historical dates and levels
- Fish Spill
  - Wanapum 22 kcfs Apr 16 to Aug 23
  - Priest 61% Apr 16 to Apr 30, 26 kcfs May 1 to Jun 30, 39% Jul 1 to Aug 23
  - Sluice gates open Aug 24 to Nov 15
  - Fish Ladder spills per historical flows
Annual Charts for Low, Medium, and Med-High Water Years

- Wan Hourly Pond Elev with and without Pool Raise
- Wan Daily Discharge
- Wan Daily Elev
- Priest Daily Discharge
- Priest Daily Elev
Medium Water Case

2006 Operating Year
WAN Pond Elevations

Unraised WAN Scenario — Raised WAN Scenario
WAN Daily Elevations (Raised Scenario)

Elevation, ft

MIN MAX AVG
Low Water Case

2001 Operating Year
WAN Daily Elevations (Raised Scenario)

- MIN
- MAX
- AVG

Elevation, ft

1 Oct 00
1 Nov 00
1 Dec 00
1 Jan 01
1 Feb 01
1 Mar 01
1 Apr 01
1 May 01
1 Jun 01
1 Jul 01
1 Aug 01
1 Sep 01
PRD Daily Discharge (Raised Scenario)

Total Discharge, kfcfs

MIN  MAX  AVG
Med-High Water Case

1999 Operating Year
WAN Pond Elevations

Elevation, ft

Unraised WAN Scenario
Raised WAN Scenario

1 Oct 98
1 Nov 98
1 Dec 98
1 Jan 99
1 Feb 99
1 Mar 99
1 Apr 99
1 May 99
1 Jun 99
1 Jul 99
1 Aug 99
1 Sep 99
WAN Daily Elevations (Raised Scenario)

Elevation, ft

MIN MAX AVG

1 Oct 98 1 Nov 98 1 Dec 98 1 Jan 99 1 Feb 99 1 Mar 99 1 Apr 99 1 May 99 1 Jun 99 1 Jul 99 1 Aug 99 1 Sep 99
Weekly Charts for Med Water

All Charts are with the Pool Raise unless otherwise specified

- RLF Priest Discharge
- RLF Wan Elev
- Winter Wan Elev
- Winter Priest Discharge
- Rearing Wan Elev (Raise)
- Rearing Wan Elev (No Raise)
- Rearing Wan Dis (Raise)
- Rearing Wan Dis (No Raise)

- Rearing Priest Dis (Raise)
- Rearing Priest Dis (No Raise)
- Rearing Priest Elev (Raise)
- Rearing Priest Elev (No Raise)
- Apr Draft Wan Elev
- Apr Draft Priest Discharge
- Jul Draft Wan Elev
- Jul Draft Priest Discharge
WAN Elevation

Historical

Model

Raise

Elevation, ft

18 Mar 06
19 Mar 06
20 Mar 06
21 Mar 06
22 Mar 06
23 Mar 06
24 Mar 06
25 Mar 06
PRD Elevation

### Historical Model

No Raise
WAN Elevation

Historical

Model

Elevation, ft

15 Apr 06
16 Apr 06
17 Apr 06
18 Apr 06
19 Apr 06
20 Apr 06
21 Apr 06
22 Apr 06
PRD Total Discharge

Historical
Model
Protection

Discharge, kcfsh

15 Apr 06
16 Apr 06
17 Apr 06
18 Apr 06
19 Apr 06
20 Apr 06
21 Apr 06
22 Apr 06