Survival and Migration Behavior of Subyearling Chinook Salmon at Lower Granite Dam, 2007

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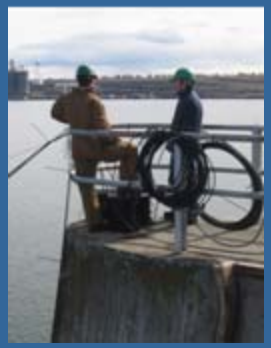

Objectives

Evaluate the behavioral response and survival of subyearling Chinook salmon relative to the operation of the removable spillway weir (RSW) during two spill treatments

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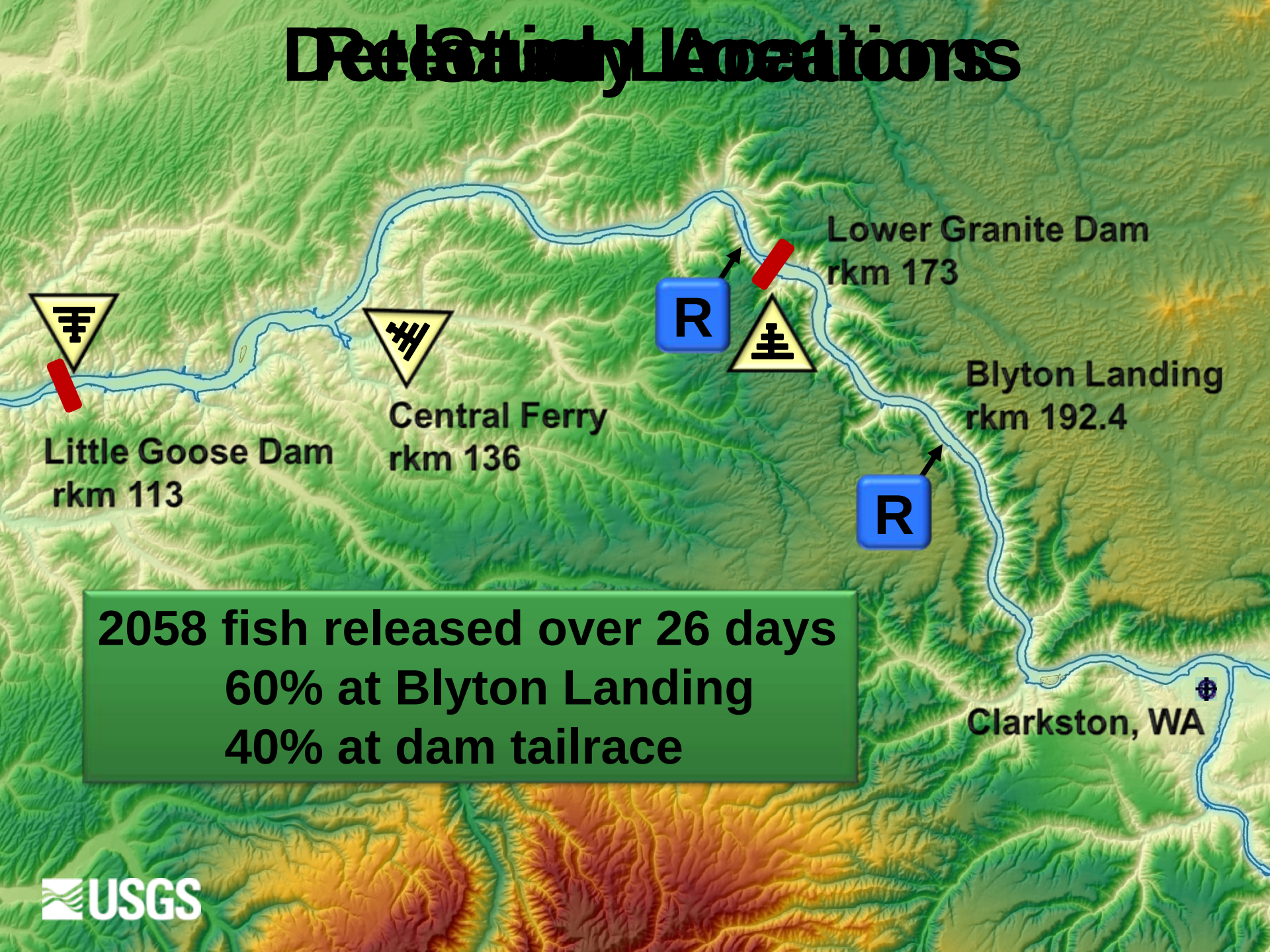
Methods

- Fish were collected at the Lower Granite Dam Smolt Monitoring Facility 12-36 h prior to tagging
- Radio transmitters and PIT tags were surgically implanted
- Fish were held ~24 h after tagging for recovery

Release Locations



2058 fish released over 26 days
60% at Blyton Landing
40% at dam tailrace

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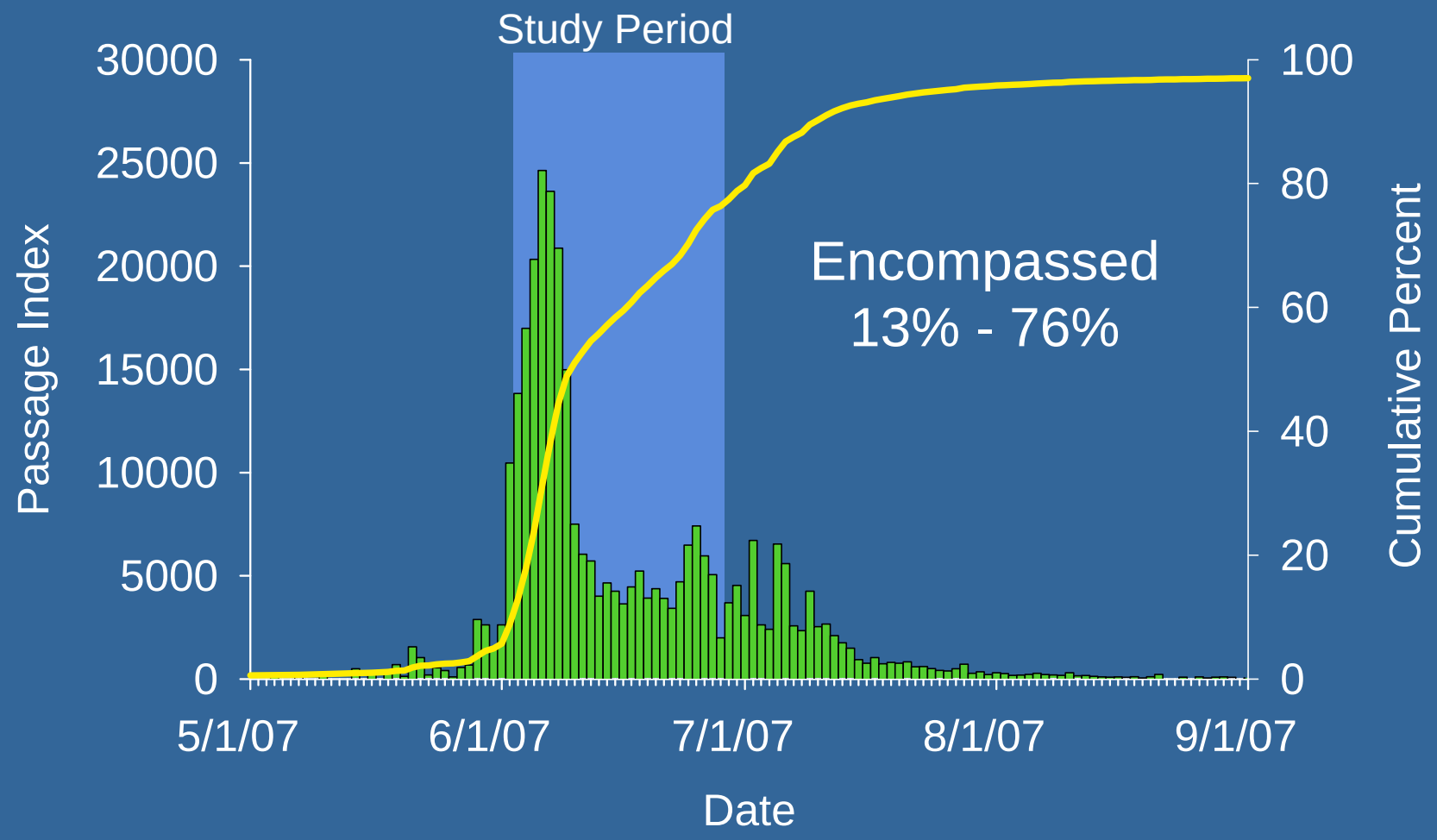
Run Timing



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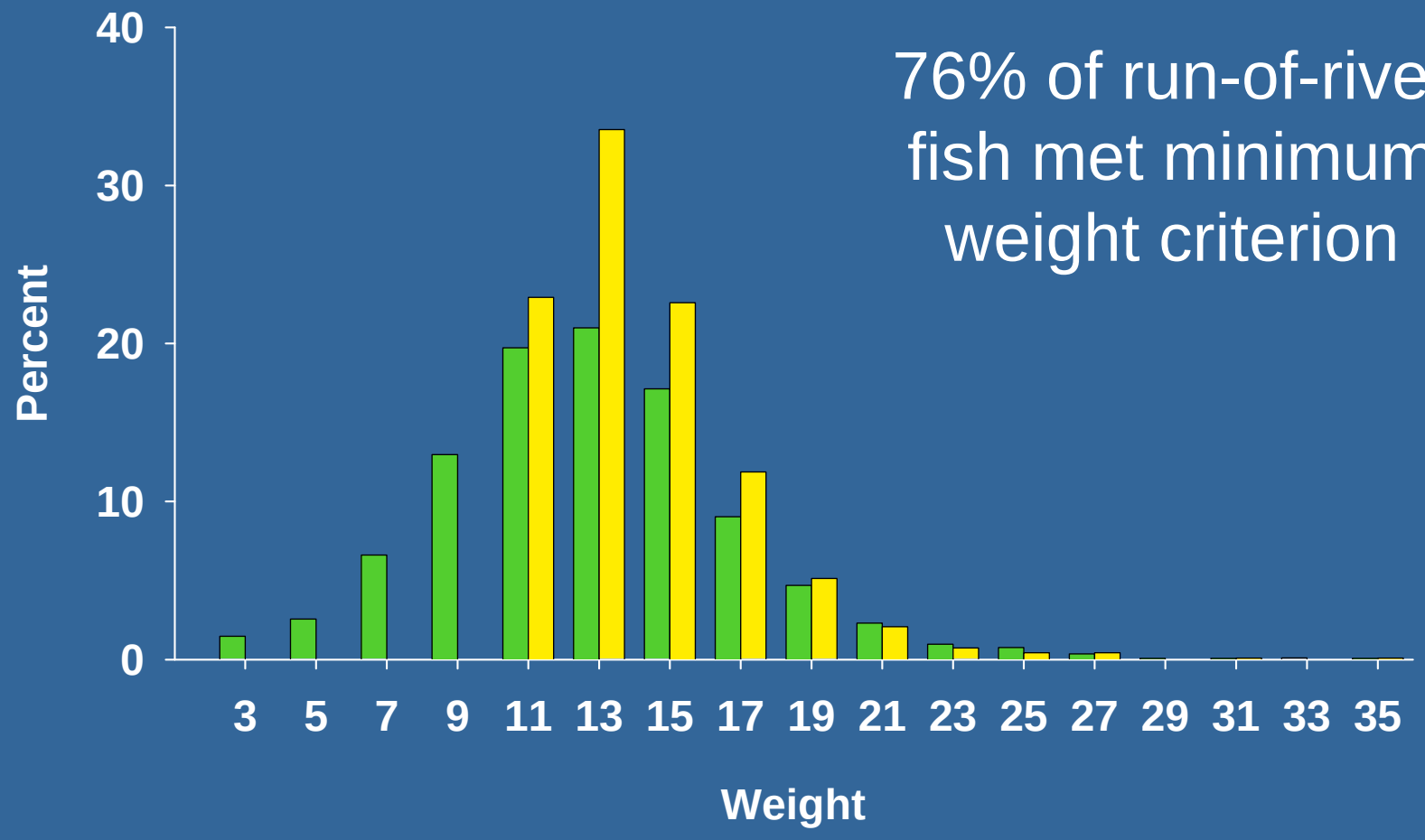
Fish Size Distribution



76% of run-of-river fish met minimum weight criterion

Run-of-river
Tagged

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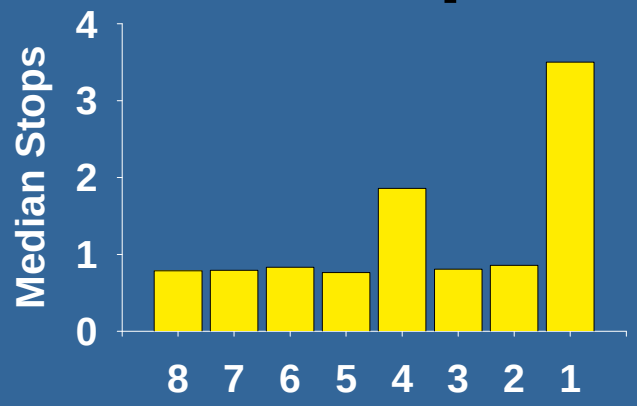
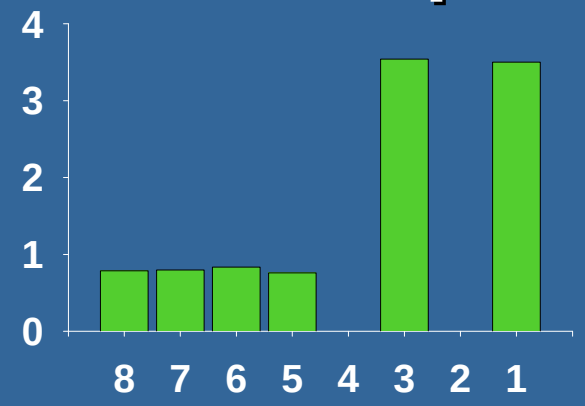
Spill Treatments

1- Stop

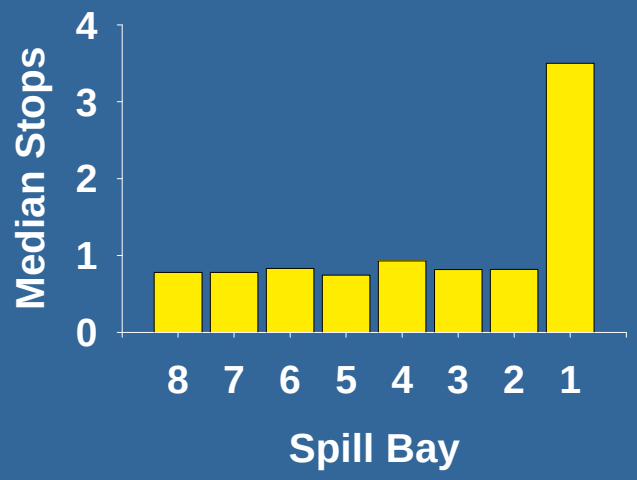
4 - Stop

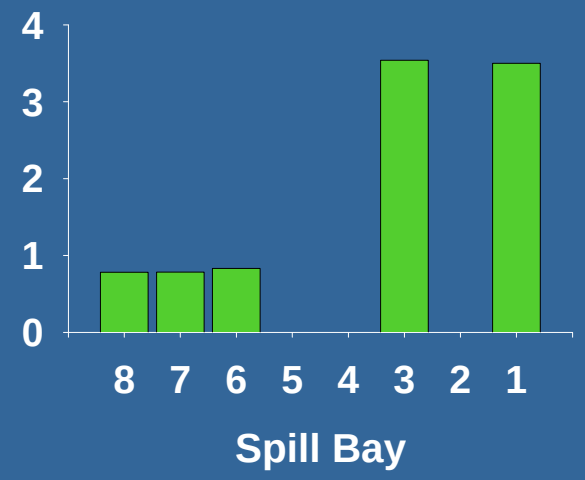
2 June to 20 June





21 June to 10 July





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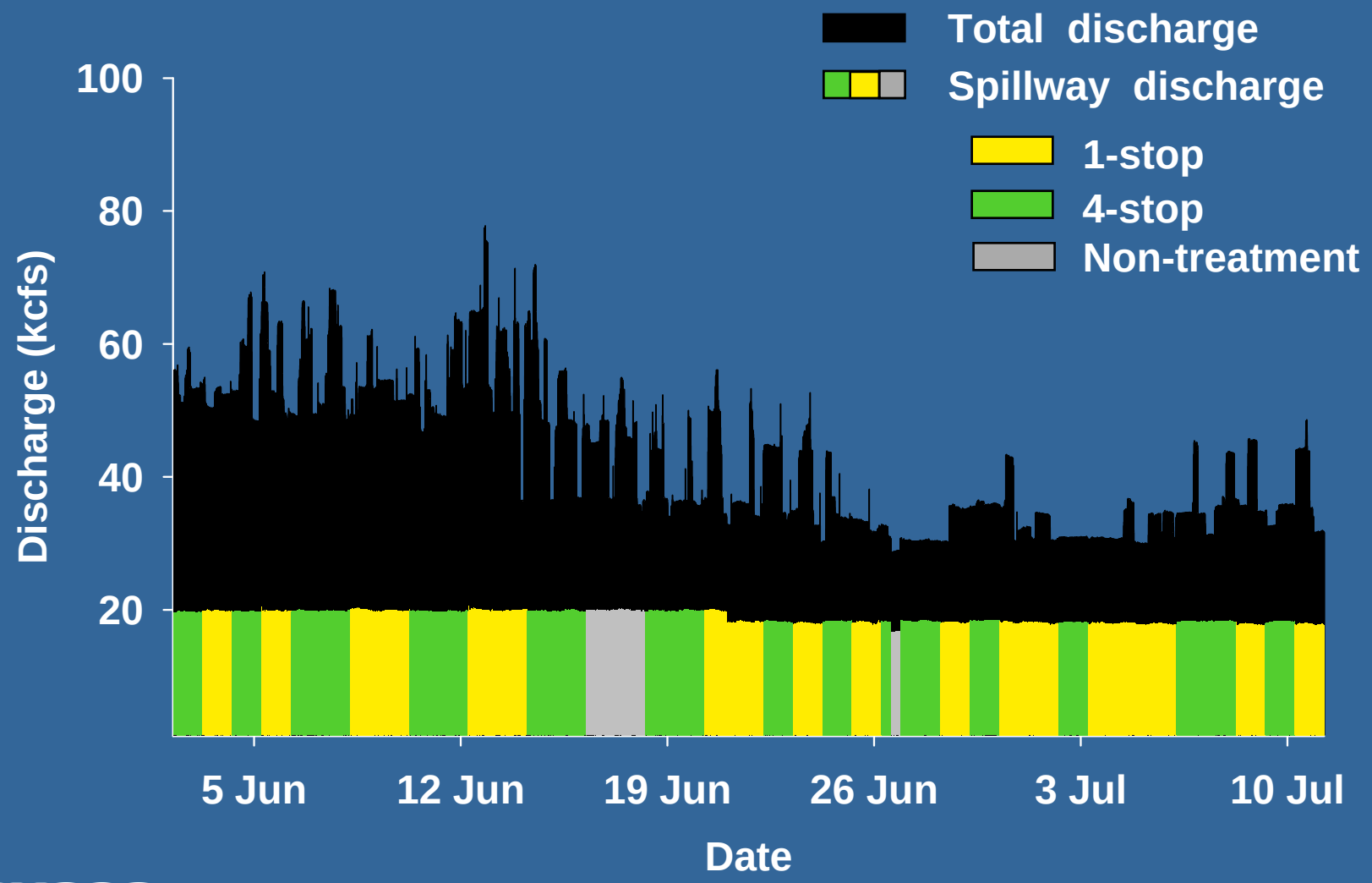
Dam Operations



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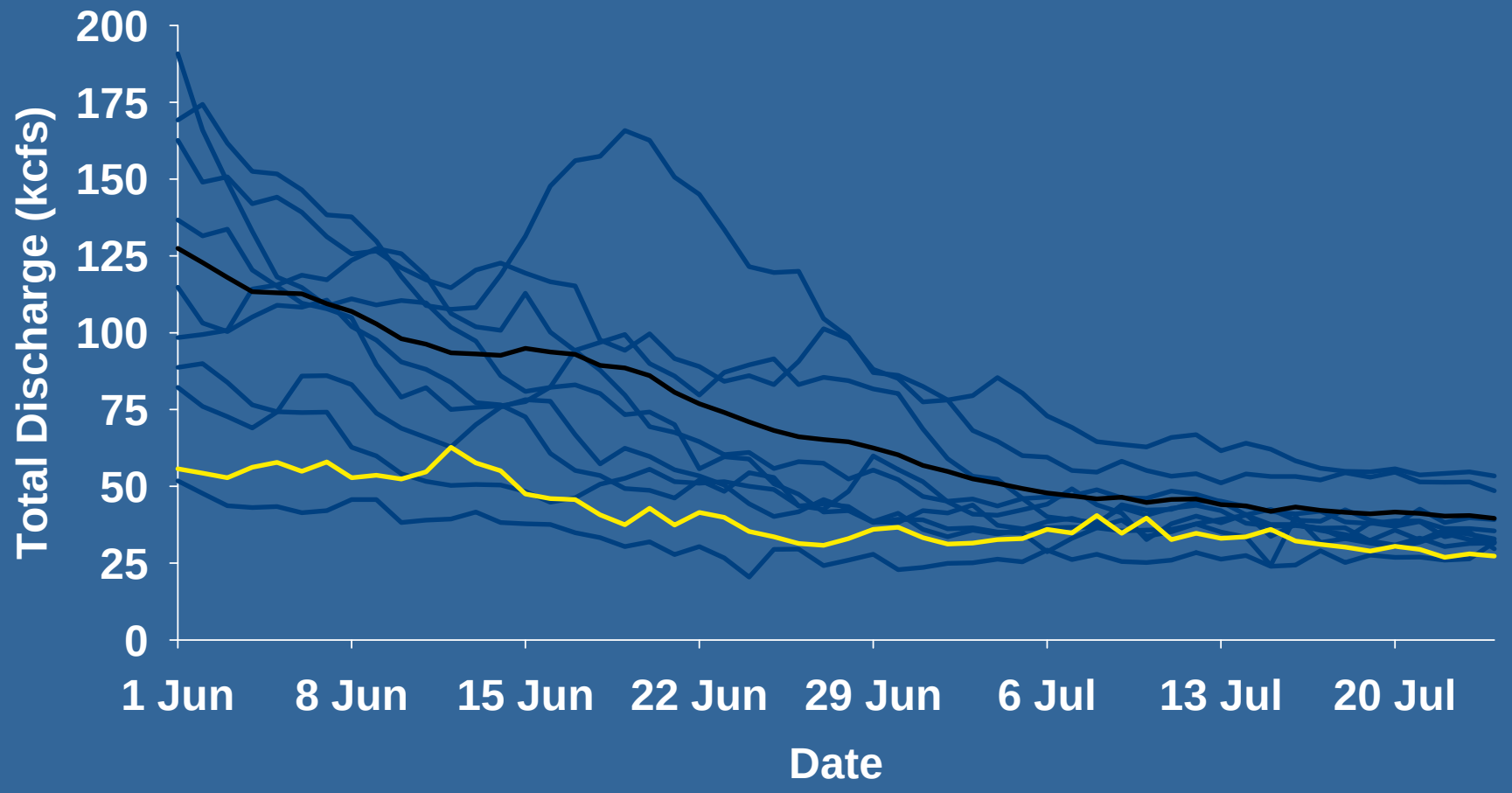
1998 – 2007 LGR Outflow



2007

10 year avg

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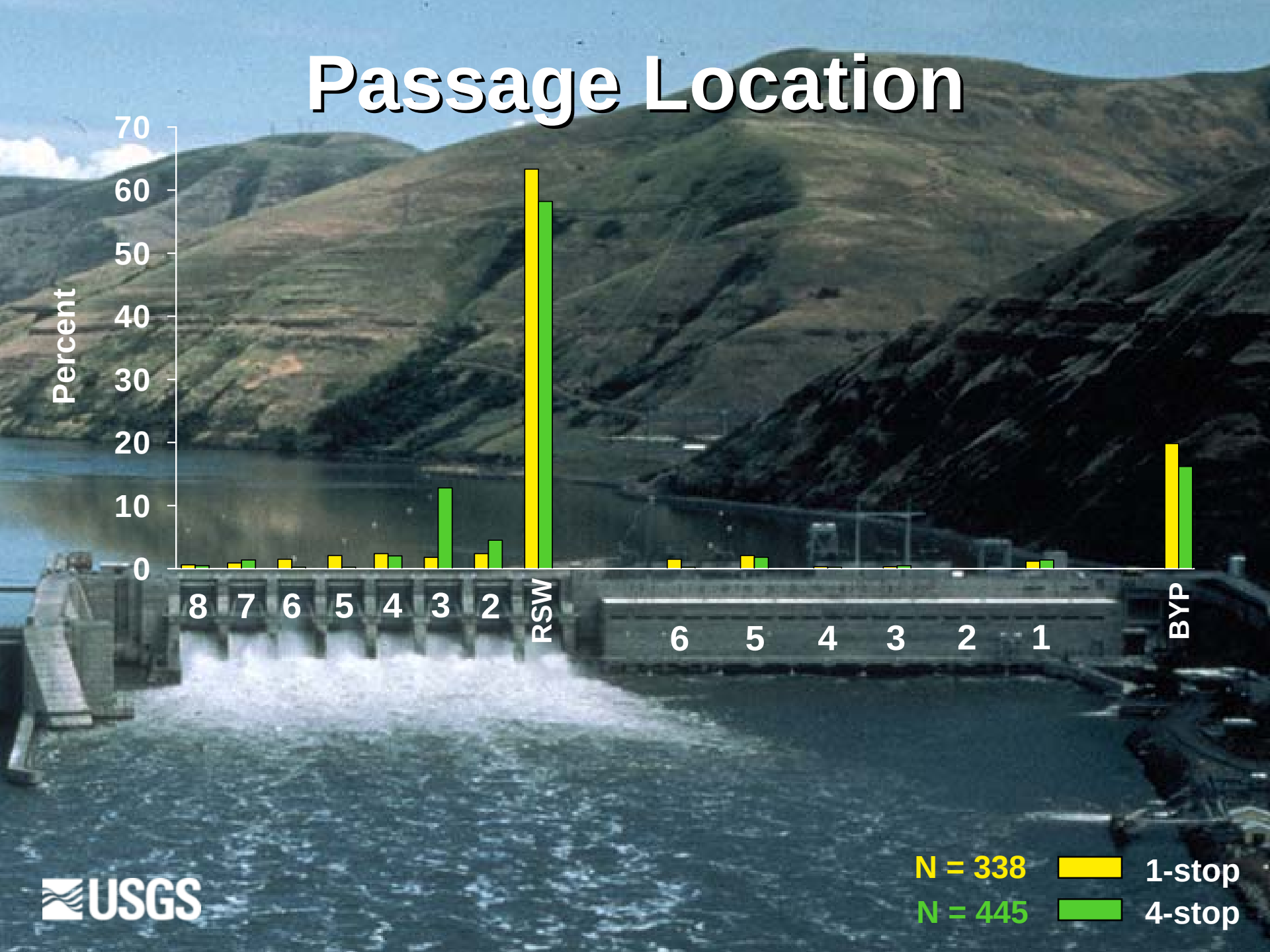
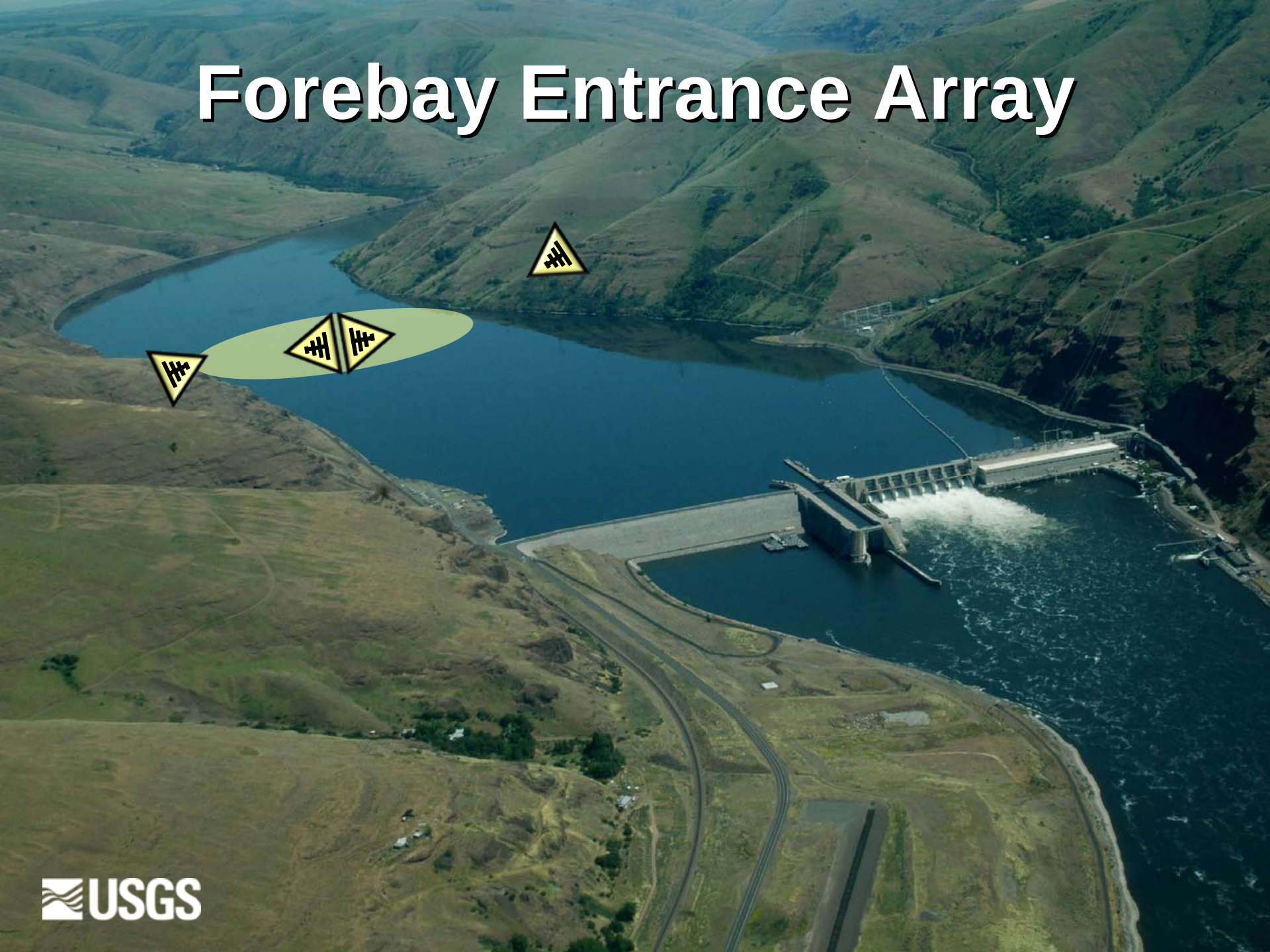
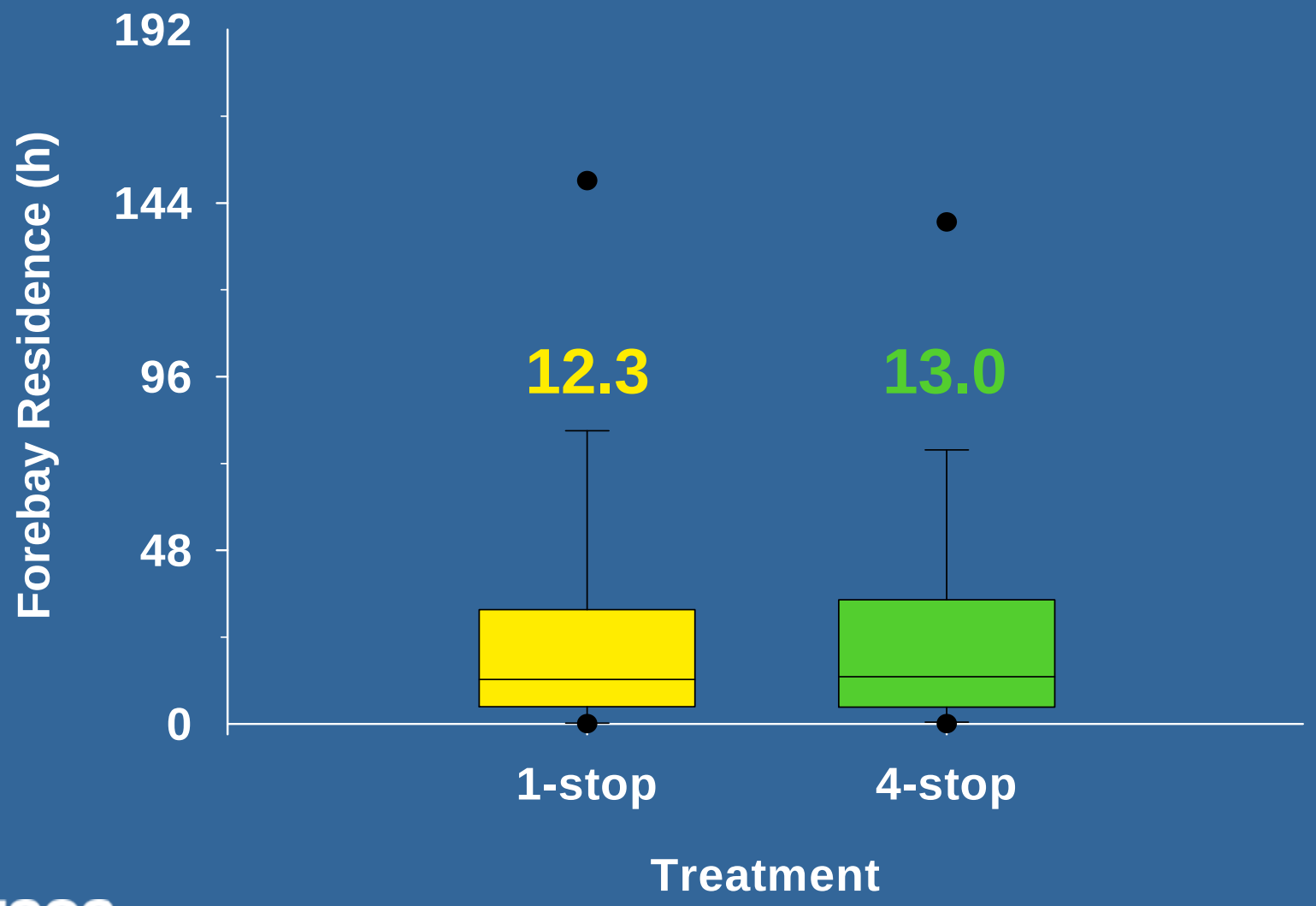
Passage Location



Forebay Entrance Array



Forebay Residence



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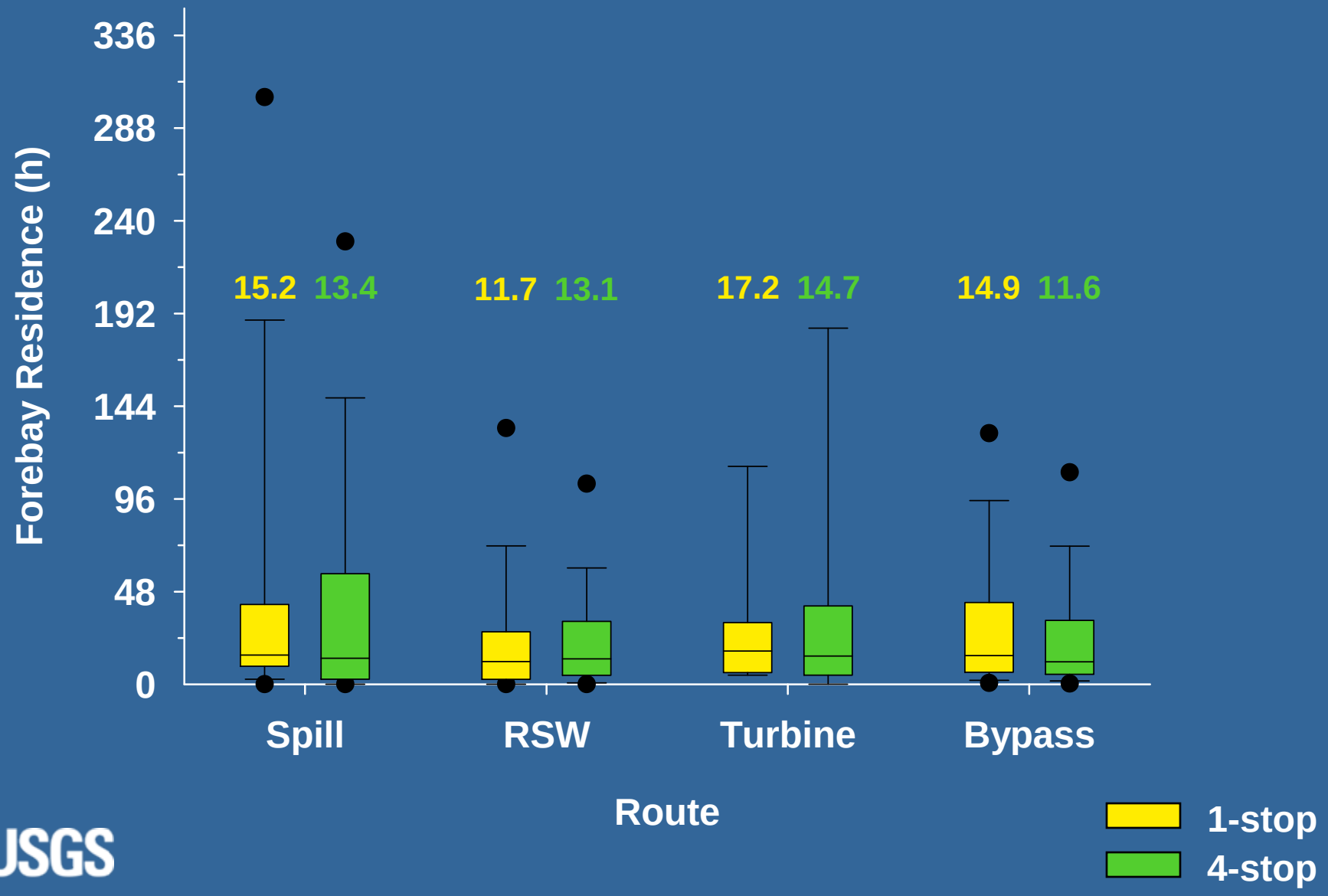
Forebay Residence



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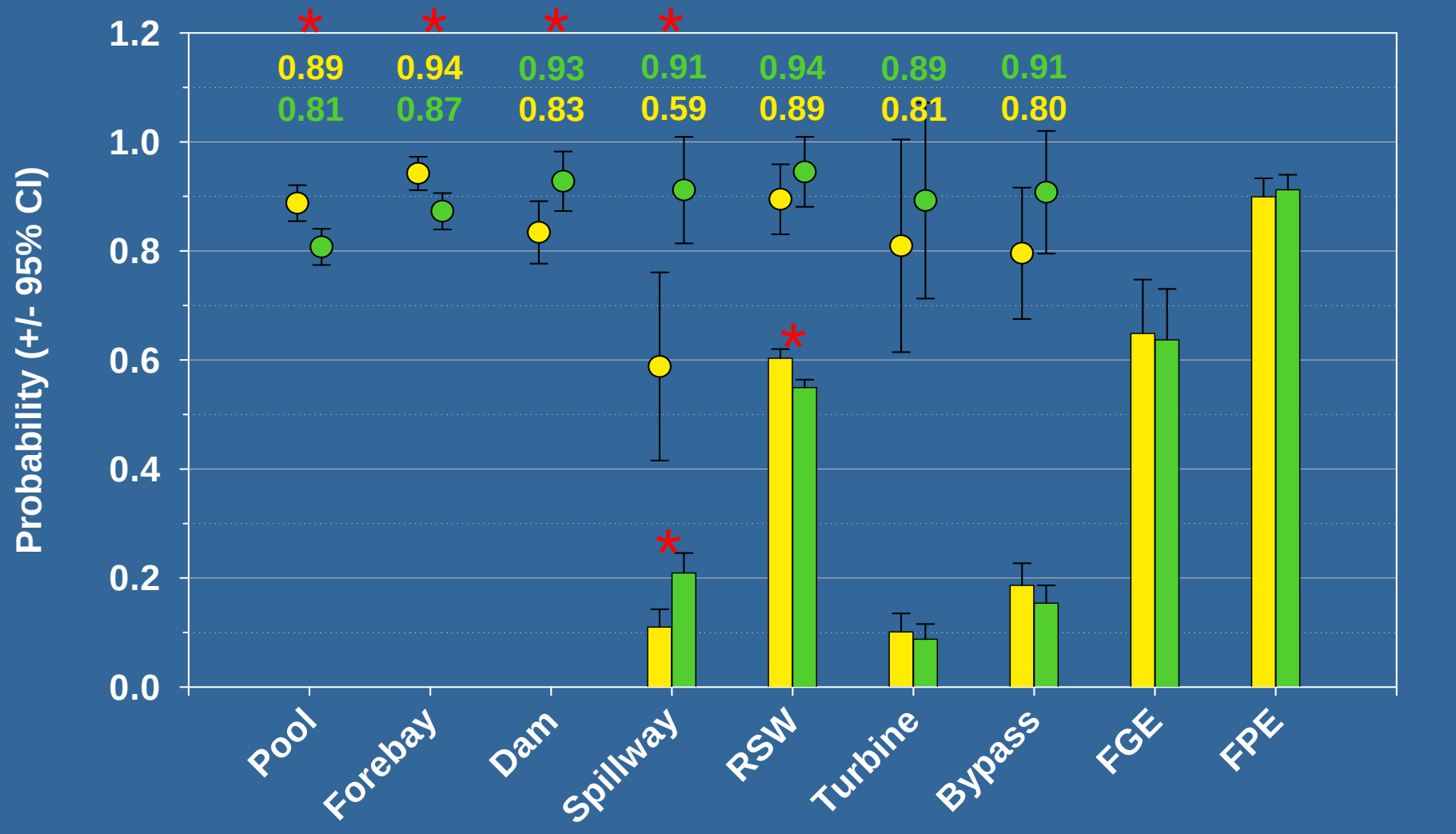
Survival and Passage



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1-stop Survival Passage

4-stop Survival Passage

Egress to Exit Station

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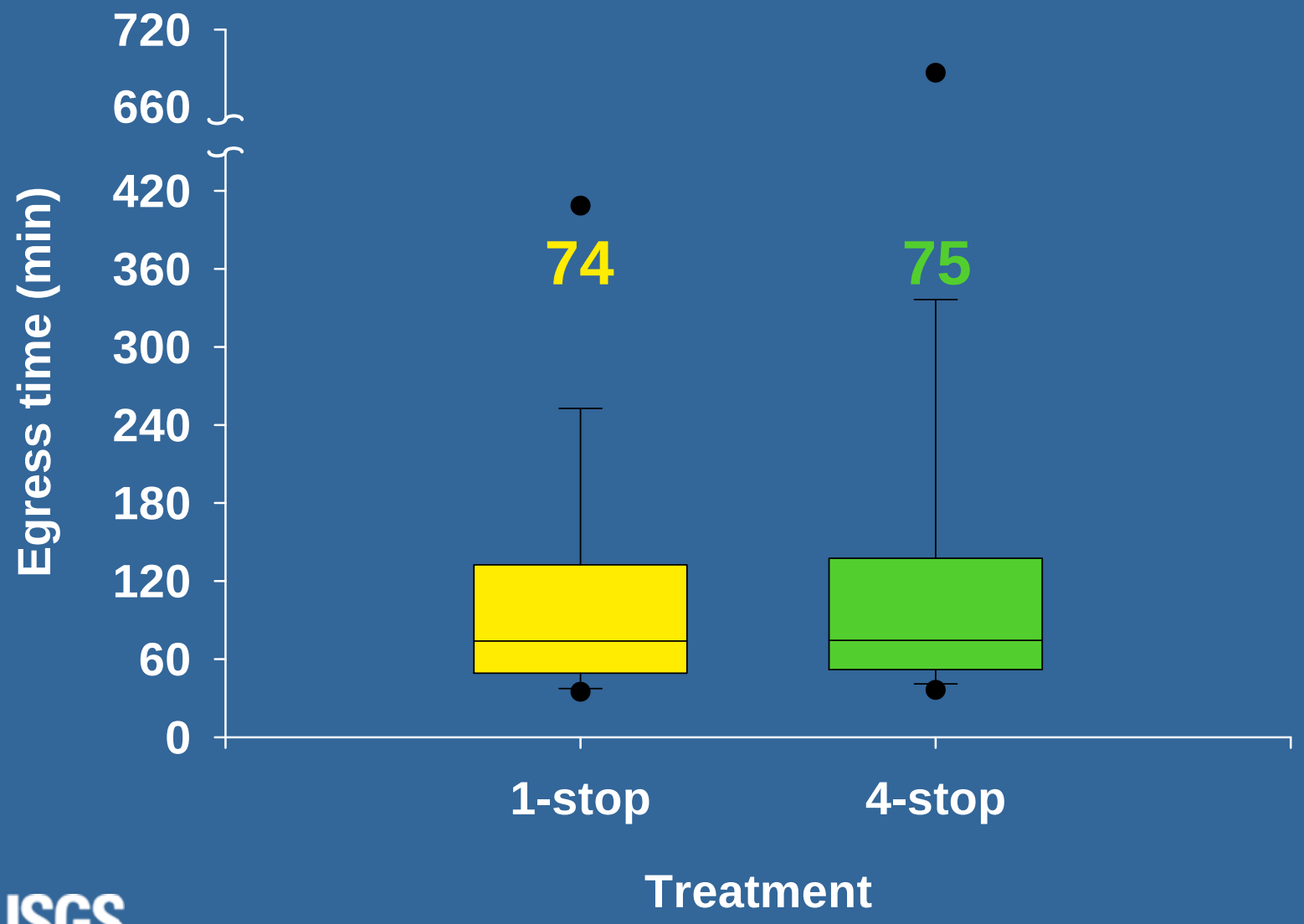
Travel Times to Exit Station



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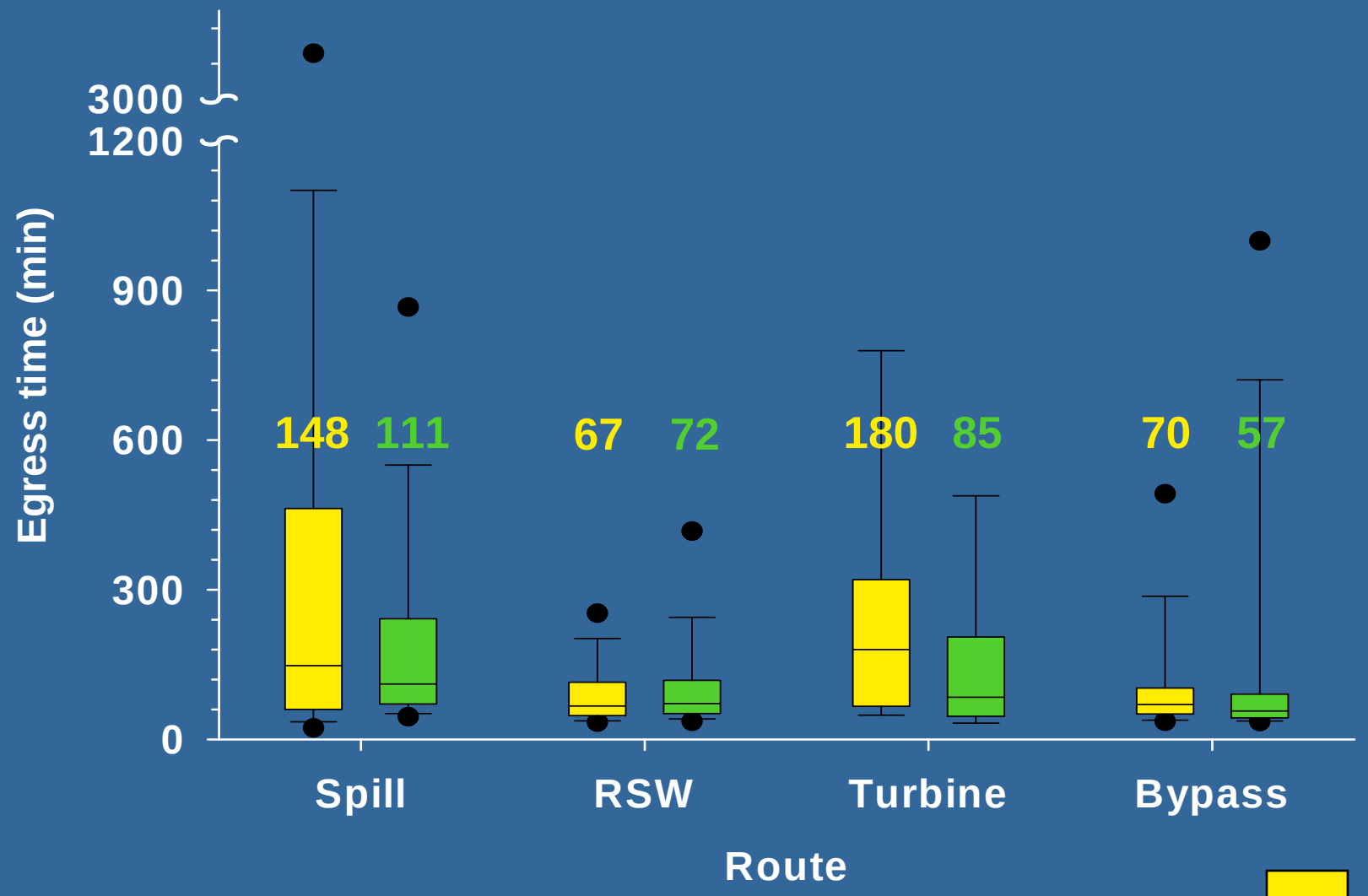
Travel Times to Exit Station



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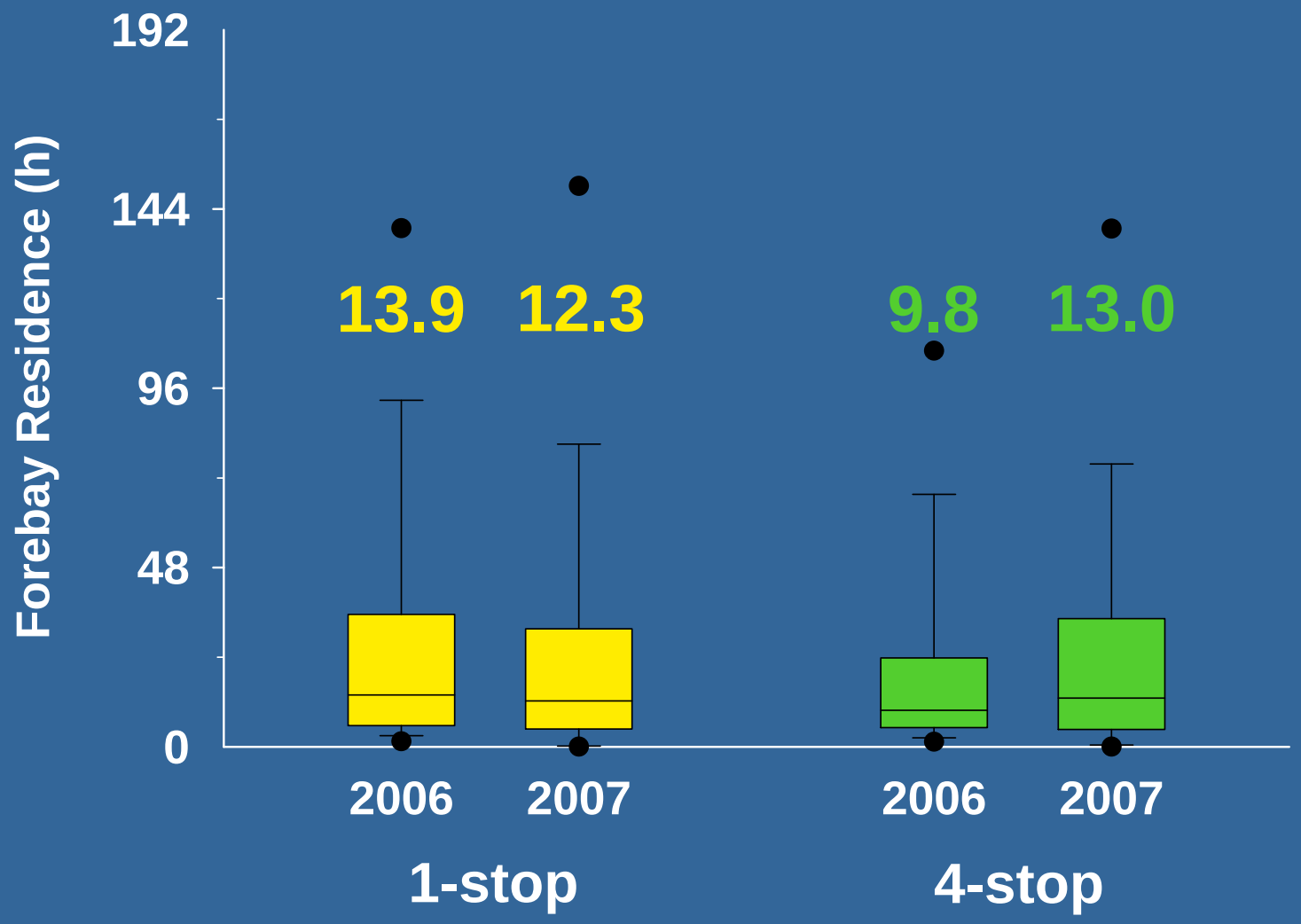
Forebay Residence



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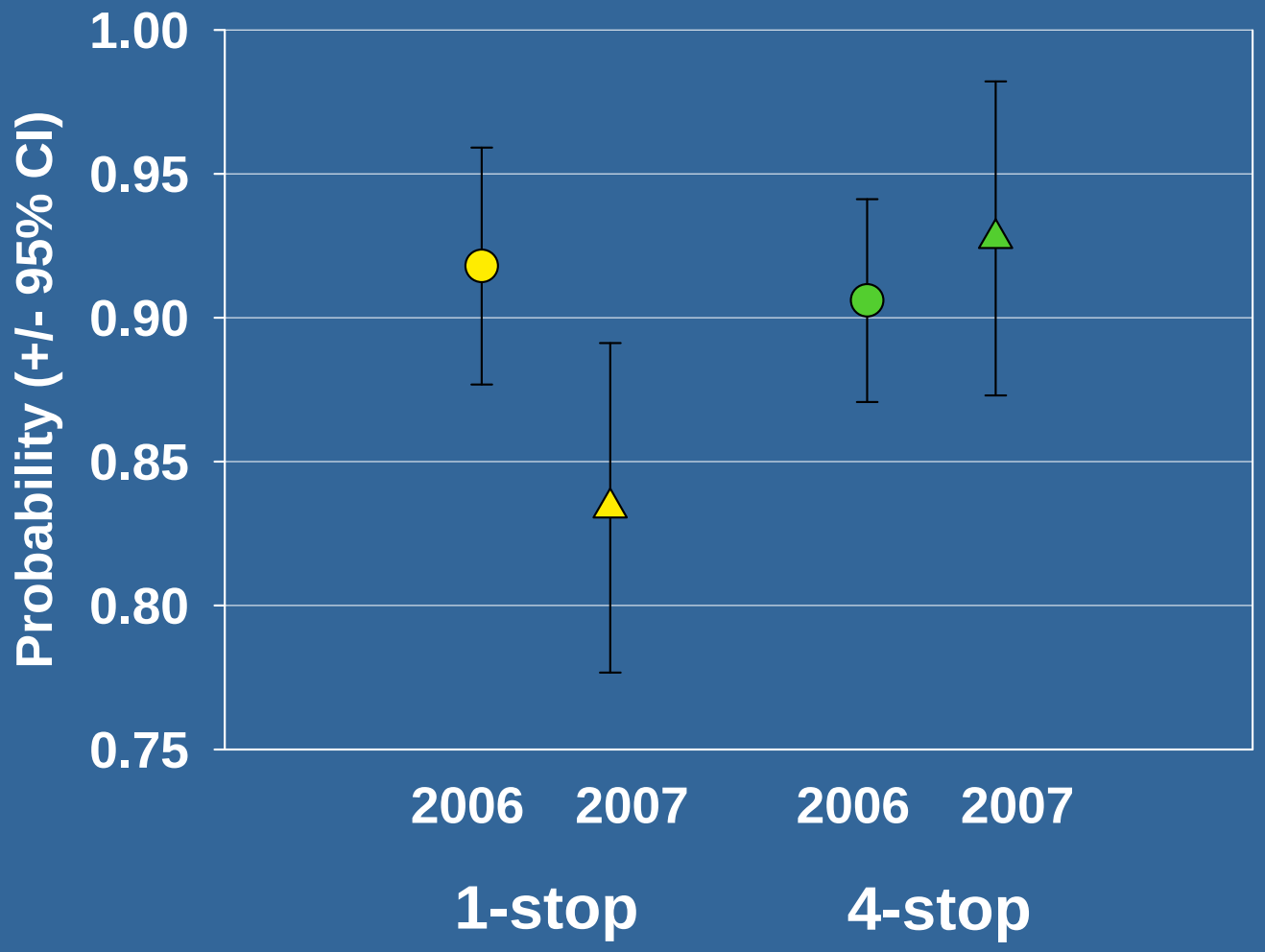
Survival



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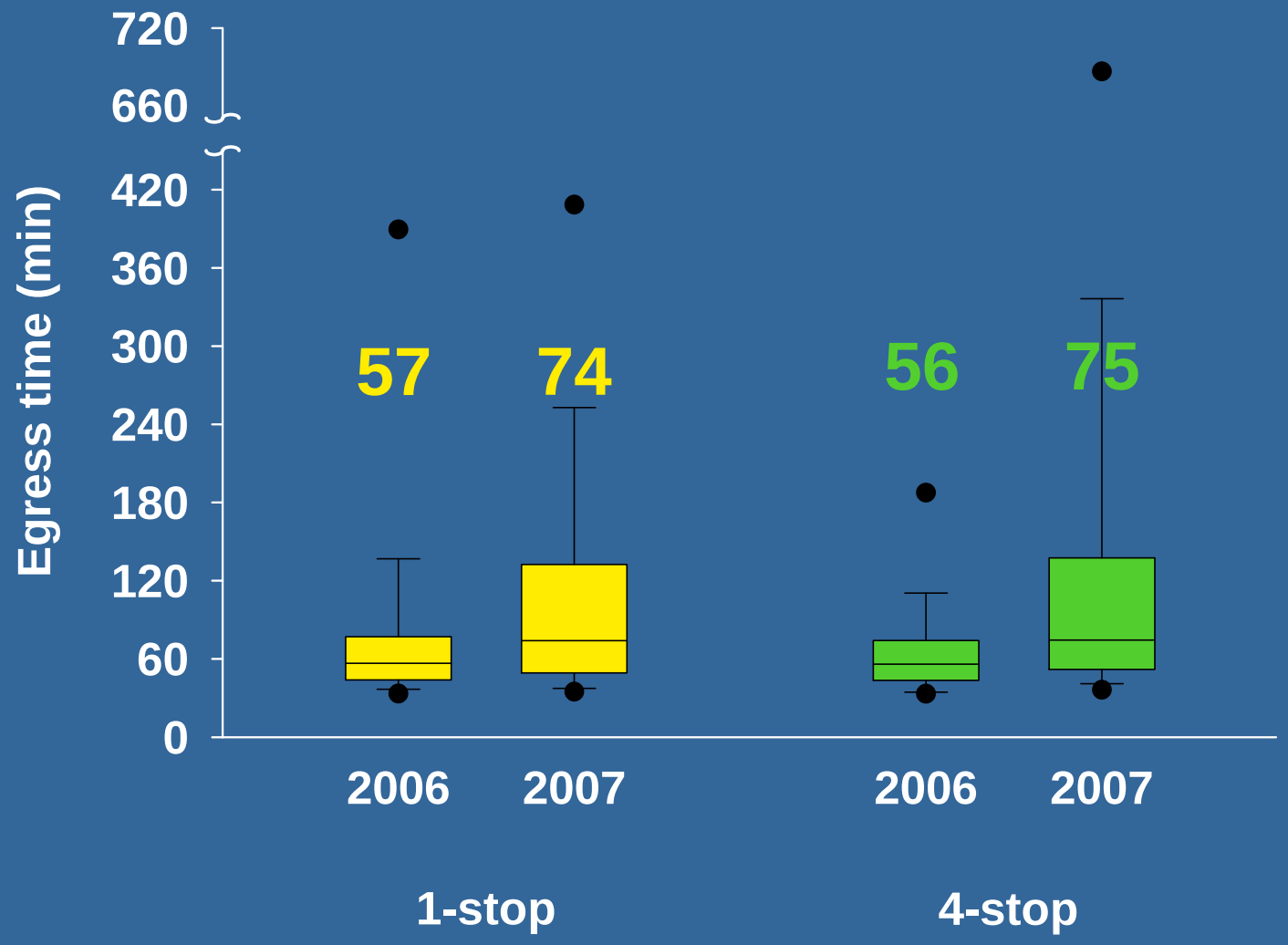
Travel Times to Exit Station



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Summary

- Median forebay residence times and egress times are shorter for all routes except the RSW during 4-stop treatment
- Median forebay residence times and egress times were similar between treatments
- The probability of fish passing through the RSW is higher during the 1-stop treatment
- Survival through the dam was higher during the 4-stop treatment

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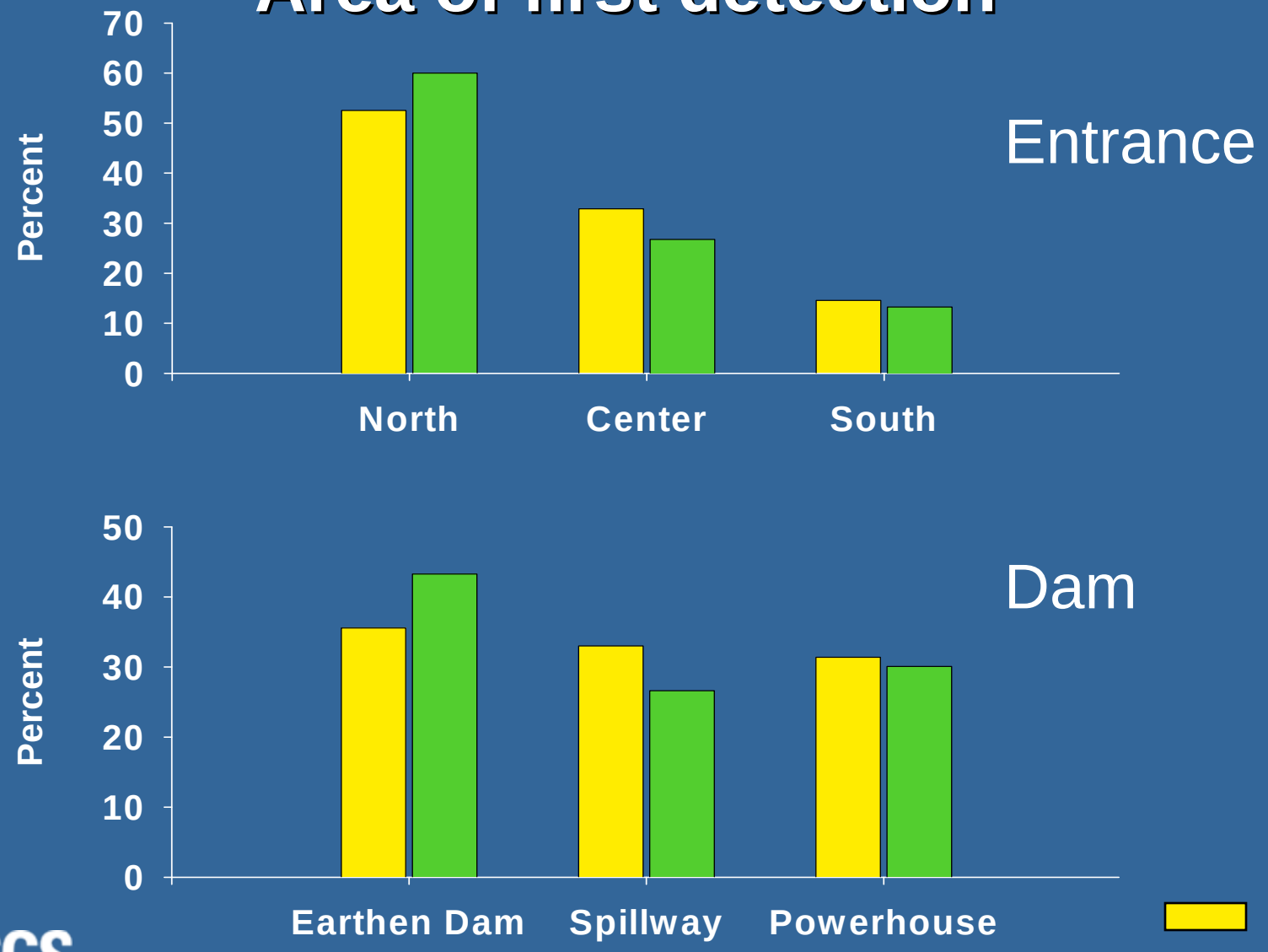
Approach

Area of first detection



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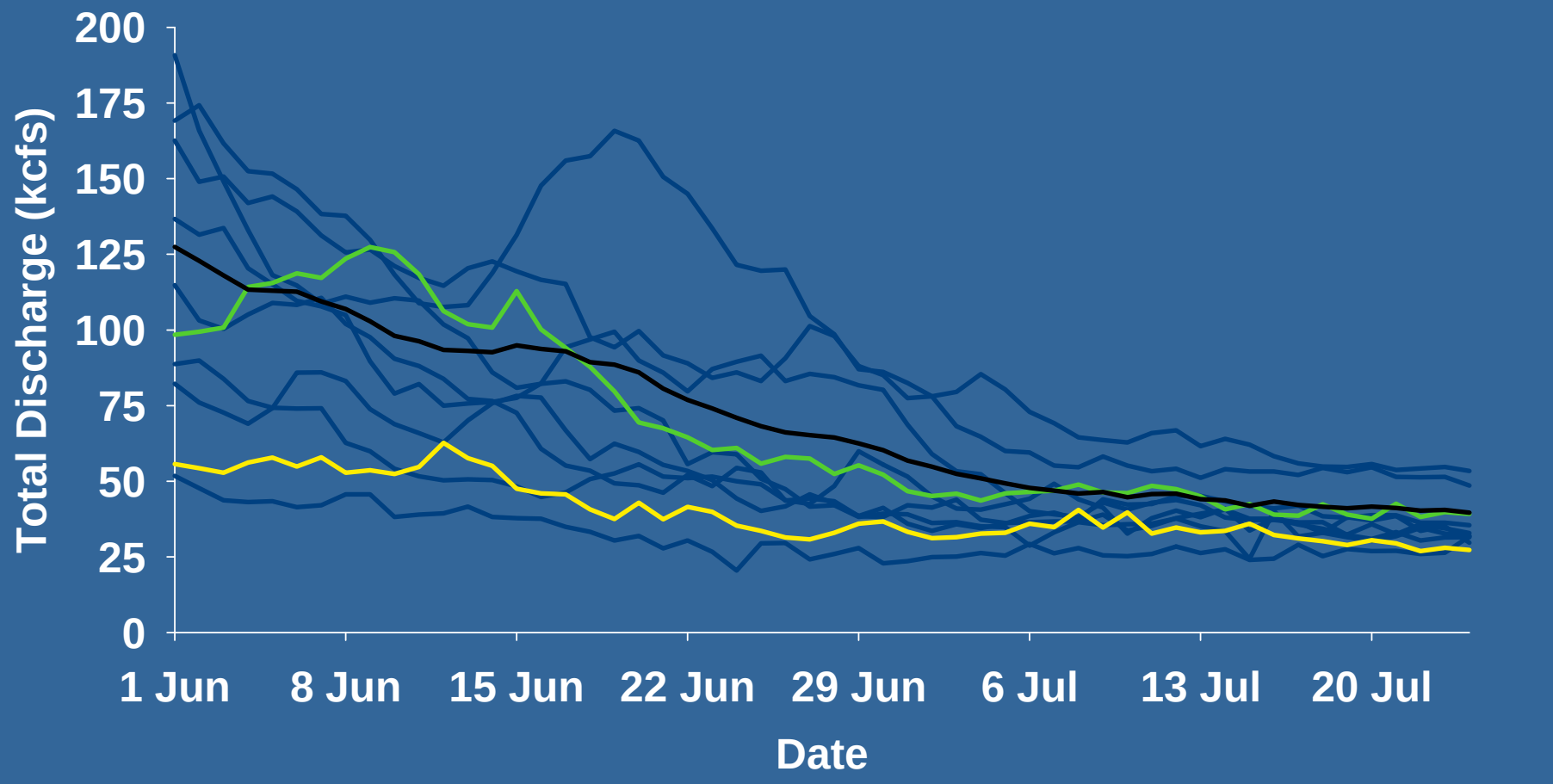

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