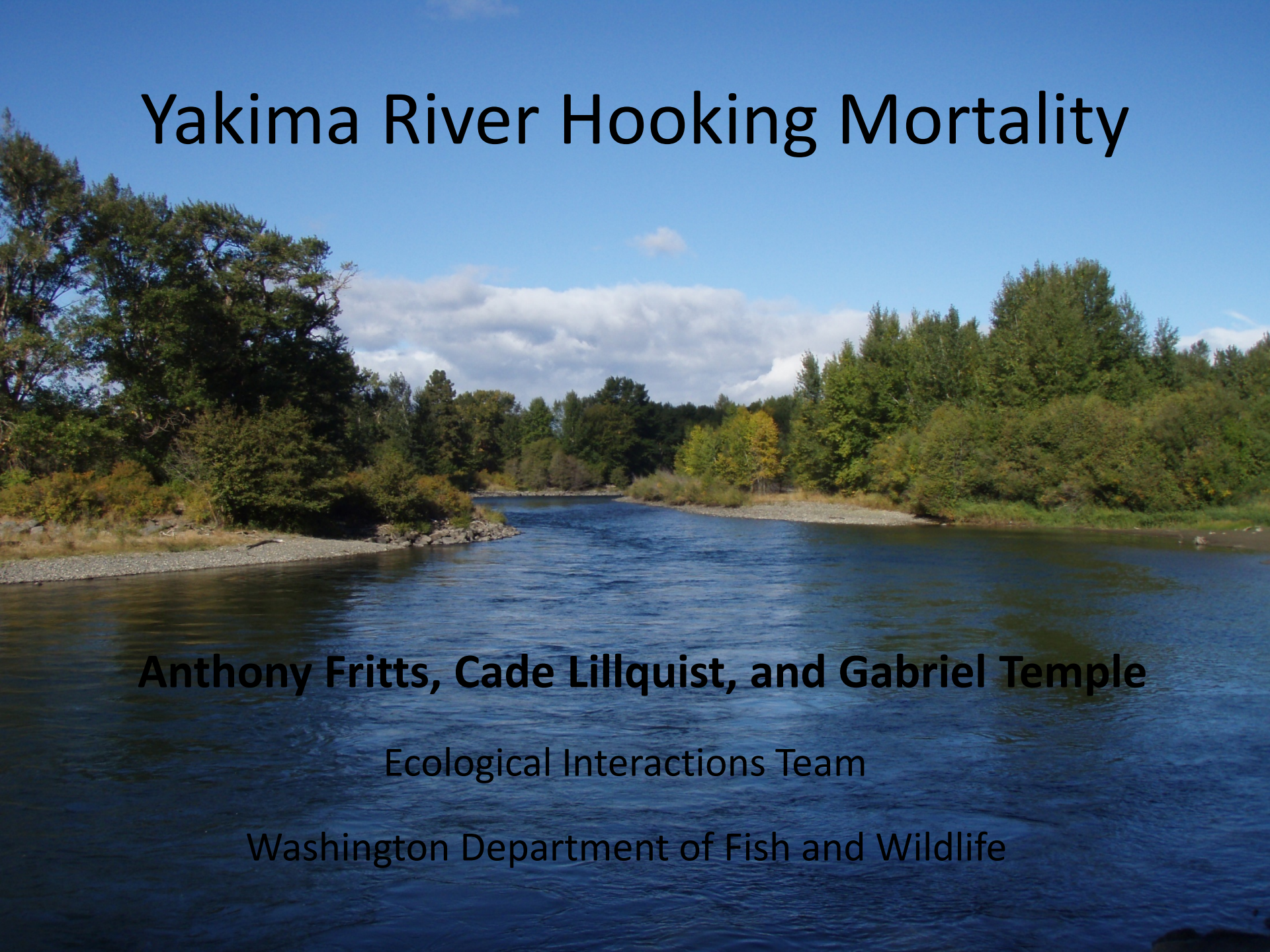
Yakima River Hooking Mortality



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Purpose

- Estimate long-term mortality of spring Chinook salmon caught and released in the fishery below Roza Dam
- Standard 10% rate currently used
- Potential use for take estimates in other fisheries with ESA considerations

Fishery

- Anchor-tag Chinook salmon in fishery below Roza Dam as they are caught
- Record where fish is hooked, severity of bleeding, gear type, play time

Radio-tagging

- Radio-tag treatment fish when they show up at Roza
- Radio-tag an equal number of control fish (HO)
- Both groups receive the same amount of handling at RAMF

Tracking

- Track tagged fish through spawning to determine ultimate fate
- Snorkel to determine if holding fish are alive

Analysis

- Used Sept. 1 as beginning of spawning
- Mortalities were fish that were found dead or dropped well downstream of historic spawning areas prior to Sept. 1
- Hooking mortality calculated as $1-P_{ts}/P_{cs}$

2012 Results-Fishery

- Anglers were instrumental in effort
- 107 adults and 14 jacks anchor tagged in fishery
- Jacks were not radio tagged at Roza because of size and are not included in analysis

2012 Results-Mortality

- Mortality of treatment fish from Roza to spawning was 11% higher than controls
- Only 75% were recaptured at RAMF*
- No controls for this short stretch of river

2013 Methods

- PIT-tagged and radio tagged fish as soon as they are caught below Roza Dam using portable electronarcosis unit
- Tagged HO controls at Roza using electronarcosis
- Released subsample (N=26) of HO controls below Roza Dam

2013 Results

- Tagged 70 adults below Roza
- 85% made it over Roza (92% of controls)
- 74% T & 82% C survived to 9/1
- 9.8% mortality
- Revised method allowed us to account for treatment fish below Roza

Current

- Repeating 2013 methods for final year of study
- 116 adults tagged as of 6/17
- 3 have been detected in the Naches River

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