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Preliminary Cost-Benefit Analysis of the Proposed Water Typing System Rule

PRESENTED BY: Industrial Economics, Inc. (IEc)

Forest Practices Board Meeting

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Presentation Outline

1. Background and Analysis Framework
2. Baseline Water-Typing Rules and Practices
3. Incremental Costs and Benefits of the Proposed Rule
4. Impacts on Small Businesses

1. Background and Analysis Framework

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Background and Objectives

Objectives of the Rule:	• Establish a water-typing system that can be consistently applied, including a method for determining Type F waters based on fish habitat. • Reduce the use of electrofishing in stream typing.
Objectives of Cost-Benefit Analysis (CBA) under RCW 34.05.328 and Rulemaking Process:	• Do probable benefits outweigh probable costs?
Objectives of Small Business Economic Impact Analysis (SBEIS) under RCW 19.85.040:	• More than minor costs? • Are costs disproportionately incurred by small businesses? • What are steps taken to reduce the costs of the rule to small businesses?

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Analysis Framework

Meets the legal standard of identify and comparing "probable" costs and benefits:

- *Is the effect probable?*
- *If probable, is the magnitude of the effect major, minor, or negligible? Includes qualitative and quantitative effects.*

Focus on incremental effects:

- *Incremental impacts are triggered by the rule. We identify incremental effects by comparing two scenarios: the world with the rule and the world without the rule (i.e., the "baseline").*
- *The baseline reflects stream typing absent the rule (reflecting current practices under the interim final rule).*

Geographic scope and scale: Statewide effects

Timeframe: 55-years (aligns with harvest rotations in eastern Washington)

Summary of the Proposed Rule: *New Section of WAC 222-16-0301*

- **Prescribes FHAM as the protocol for future water typing surveys.**
  - Provides step-by-step instructions for implementing FHAM.
  - Includes a broad definition of PHBs: *"typically associated with underlying geomorphic conditions and may consist of natural obstacles that physically limit fish access to upstream reaches or a distinct measurable change in channel, bankfull width or a combination of the two. Natural, non-deformable obstacle PHB includes vertical drops, steep cascades, bedrock sheets and bedrock chutes"*
- **Describes the application of an AFF.**
  - Includes a broad definition of the AFF: *"the measurable physical stream characteristics downstream of which anadromous fish habitat is presumed…"*
- **Refers to Board Manual Section 23 for guidance on identifying PHBs and the AFF.**

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Differences Between Preliminary Findings Memo and Preliminary CBA

- **Scope of rule changed considerably**
  - Effects of the options evaluated in the July 2024 Preliminary Findings Memo were driven by changes in the F/N breakpoint location attributable to the specific definitions of the AFF and PHBs
  - By not including prescriptive definitions for the AFF and PHB in the proposed rule, it is unlikely that the location of the F/N breakpoint will change
  - Therefore, the effects of the rule are related to changes in the *process* of implementing surveys, not changes in the *outcomes* of the surveys

2. Baseline Water-Typing Rules and Practices

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Analytic Baseline

- **Water typing requirements and options under the interim rule (WAC 222-16-031)**
  - Use of default physical characteristics (DPCs) or protocol surveys
  - Board Manual 13 provides overarching guidance for implementing surveys
- **How industry practices have evolved over time with respect to implementing protocol surveys**
  - Industry responded, in part, to a memo from DNR's superintendent suggesting that surveyors use visual cues for identifying the likely end of fish habitat
  - Under current practices, surveyors limit the use of electrofishing by only shocking above potential "breaks" in fish habitat

Analytic Baseline

- **Baseline extent of electrofishing during protocol surveys**
  - Analyzed WDFW Scientific Collection Permit data (2019-2023) to understand current extent of fish electrofished during survey events
    - Approximately 820 – 3,700 fish electrofished annually during water typing surveys

Baseline Average No. Fish Electrofished Per Year During Protocol Surveys

Species	Low-End	High-End
Coho Salmon	31	489
Cutthroat Trout	608	1,303
Rainbow Trout/Steelhead	145	1,042
Unidentified Salmonid Species	13	13
Unidentified Trout Species	13	816
All other species	14	20
Total	**824**	**3,682**

    - Estimated between 1.6 and 7 fish experience electrofishing per stream mile surveyed each year

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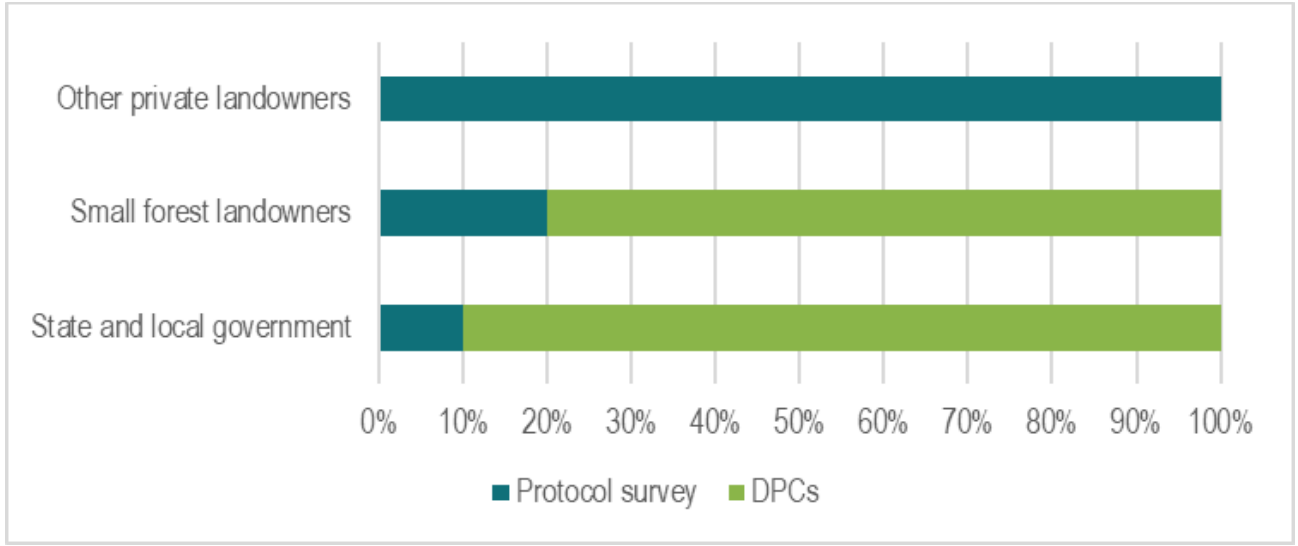
Analytic Baseline

- **Baseline number and distribution of water typing efforts**
  - Using data on historical FPAs and WTMF, we find that at least 660 protocol surveys and no more than 3,700 water typing efforts across both options (average/year)
  - Large private landowners most likely to use surveys, while SFL and government entities more likely to rely on DPCs



3. Incremental Costs and Benefits of the Proposed Rule

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Summary of Findings

Potential Effect of the Rule Evaluated	Finding of the Analysis	Incremental Costs	Incremental Benefits
Potential changes in water typing process			
Effort devoted to water typing and concurrence	Proposed rule unlikely to result in changes in effort devoted to water typing and concurrence relative to current conditions but reduces the potential for subjectivity when classifying stream water type	None	Regulatory certainty regarding appropriate process for water typing
Extent of electrofishing during FHAM implementation	Proposed rule unlikely to change extent of electrofishing relative to current survey implementation but reduces the risk for the potential increase in electrofishing in the future	None	Reduced risk of potential fish harm by codifying limits in electrofishing during protocol surveys
Potential changes in water typing outcomes			
Change in the expected location of F/N breakpoints (i.e., change in extent of Type F and Type N streams)	No effect of the rule	None	None

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1. Effort Devoted to Water Typing and Concurrence

- Steps associated with FHAM generally codify current industry practices, therefore implementing surveys should not result in a change in effort relative to current conditions
- Surveyors currently use information regarding the end of known fish use, therefore surveys unlikely to start at a different place with the addition of the AFF, therefore no change in the # of miles surveyed
- The broad definition of the AFF is unlikely to change effort devoted to concurrence
- **By codifying these practices in the WAC, the proposed rule reduces the potential for industry to diverge from its current methods in the future**

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2. Extent of Electrofishing During Survey Implementation

- Because surveys unlikely to start at a different location with the addition of the AFF, no change in electrofishing relative to current conditions
- Surveyors currently limit electrofishing by "shocking" above habitat breaks, therefore the generic definition of PHBs is unlikely to reduce electrofishing relative to current practice
- **By codifying these practices in the WAC, the proposed rule reduces the risk that surveyors may increase the use of electrofishing in the future**

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3. Changes in Water Typing Outcomes

- Proposed rule was not developed with the intent to change outcomes of water typing surveys. The specific definitions of the AFF and PHB options for the Preliminary Findings Memo did result in changes in the extent of Type F streams.
- Because the AFF is intended to capture streams that support anadromous fish, the AFF is unlikely to result in more Type F stream relative to current survey implementation practices.
- The broad definition of PHBs likely captures all ways surveyors identify habitat breaks now, therefore implementation of FHAM unlikely to result in more or less Type F stream either
- **No effect of the rule on the extent of Type F and N streams across the state**

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Probable Benefits and Probable Costs

BENEFITS

1. Reduced risk of potential fish harm
2. Regulatory certainty

- Electrofishing currently affects hundreds to thousands of fish per year.
- Proposed rule unlikely to reduce # fish affected relative to these practices, although will prevent #s from increasing in the future.
- The relevant economic benefits of this reduced risk are the values people place on fish presence. Content on these values provided in Preliminary CBA appendix.

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Probable Benefits and Probable Costs

BENEFITS

1. Reduced risk of potential fish harm
2. Regulatory certainty

- The proposed rule reduces ambiguity in future survey implementation process.
- Increasing certainty may translate into more confidence among landowners that the outcome of the survey is unlikely to differ across surveyors.

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Weighing Probable Benefits and Probable Costs

BENEFITS
1. Reduced risk of potential fish harm 2. Regulatory certainty

Analysis determination: Benefits exceed costs because the proposed rule does not increase costs of stream typing process and does not influence the expected extent of Type F stream.

COSTS
None

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Sources of Uncertainty

Key Assumption or Source of Uncertainty	Direction of Potential Bias	Likely Effect of the Uncertainty on Results
The introduction of the AFF will not change the way that landowners or surveyors determine where to start survey efforts relative to how they conduct surveys now.	**Underestimate costs.**	**Likely minor effect on results.**
The addition of the AFF does not result in fewer survey efforts in the future.	**Underestimate benefits.**	**Likely minor effect on results.**.
The broad definition of PHBs is inclusive of the criteria surveyors use now and therefore is unlikely to result in changes to survey implementation or outcomes relative to how surveys are conducted now.	**Unknown.** May overestimate or underestimate effects.	**Likely minor effect on results.**

4. Impacts on Small Businesses

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Impacts on Small Businesses

- Regulated landowners that are businesses are predominantly small businesses
- Proposed rule is not anticipated to result in costs to these businesses
- Because the proposed rule does not result in more than minor costs to businesses, a complete SBEIS is not required
- Our report provides the analysis required to make this determination

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