Oregon
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To: **The Honorable Brian Clem, Chair**
House Committee on Agriculture and Natural Resources

House Bill 3153
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Good afternoon Chair Clem and members of the Committee. We appreciate the opportunity to discuss House Bill 3153 with you today. HB 3153 directs ODFW to use DIDSON Sonar to count fish.

DIDSON sonar devices use sound waves to capture an image of a fish as it passes through a beam of energy. DIDSON is currently being discontinued in favor of newer technology (ARIS) that has higher resolution and greater control of the beam. The DIDSON has most famously been used to estimate salmon abundance in Alaska, but has been used in smaller river systems to evaluate small populations of ESA listed steelhead. However, DIDSON, or the newer ARIS systems, are unable to distinguish between salmonid species that are of a similar size, are unable to distinguish between fish of a different race (e.g., spring versus fall Chinook), and are unable to distinguish between hatchery and wild fish.

In most river systems in Oregon, there is overlap in run timing of spring and fall runs of Chinook, winter and summer runs of steelhead, and Coho. Additionally, Chinook and steelhead runs comprise multiple age classes of fish. Last, many river systems have considerable numbers of hatchery fish migrating at the same time as wild fish. Existing ODFW monitoring programs were designed to provide information on species, race, and hatchery or wild origin of returning salmonids to facilitate management of fisheries and/or meet the objectives of conservation and recovery plans. Thus, implementation of DIDSON would not eliminate the need to continue these programs and would require additional adult sub-sampling methods at the DIDSON site to determine the species, race, and age of fish migrating past the site during different parts of the spawning migration. Subsampling methods used in other river systems include fish-wheels and gill-nets, both of which pose logistical and social challenges.

Other issues implementing a DIDSON (or similar sonar device) relate to site security, power, and highly variable flows. Site engineering for a long-term location would require some significant planning, engineering, maintenance, and financing.

Implementation of DIDSON (or ARIS) would be significantly more costly than the methods ODFW currently uses to obtain abundance, age, and hatchery/wild origin data. Initial setup would require purchase of devices (1-2 per river plus backup devices) and software, site engineering, and a calibration period of 3-4 years. Long term monitoring using DIDSON would require maintenance and repair of each site as well as staff for biological subsampling and video analysis. Depending on the location, ODFW would still need to maintain existing programs to provide additional data needed to assess progress towards hatchery management goals, provide run size forecasts for fishery management (age of fish), or monitor the distribution of fish for conservation purposes.

ODFW has identified a need to improve existing monitoring in specific locations and are actively working to modify sample design and analysis. Additionally, and more broadly, ODFW is engaged in researching and developing alternate monitoring technologies, primarily genetic approaches that can be deployed widely to gather information on multiple species and/or a specific population. DIDSON technology was evaluated but, because of the issues identified above, is currently only proposed to be trialed in the John Day.

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