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DEPARTMENT OF
WATER RESOURCES

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Counsel for the United States of America

**IN THE DISTRICT COURT OF THE FIFTH JUDICIAL DISTRICT OF THE
STATE OF IDAHO, IN AND FOR THE COUNTY OF TWIN FALLS**

In Re SRBA

Case No. 39576

)
) Subcase Numbers: 51-13089, 51-13090,
) 51-13091, 51-13092, 51-13093, 51-13094,
) 51-13095, 51-13096, 51-13097, 55-13897,
) 55-13898, 55-13899, 55-13900, 55-13901,
) 55-13902, 55-13903
)
)
) **AFFIDAVIT OF SCOTT E. HOEFER**
)

STATE OF IDAHO)

)
) ss:
COUNTY OF ADA)

COMES NOW, Scott E. Hoefer, after being duly sworn before an officer authorized to administer oaths, swears and declares as follows:

I. Introduction.

1. Current position and duties. My name is Scott E. Hoefer. I am an employee of the United States, Department of the Interior, Bureau of Land Management (BLM). The following statements are based upon my personal knowledge, expertise in my field and review of BLM's claims. I am a Fishery Biologist and I am currently the Idaho BLM's Fisheries Program Lead. I have been in this position for seven years. My responsibilities as BLM's Fisheries Program Lead include: (1) providing technical fisheries expertise to BLM staff throughout Idaho regarding potential and proposed aquatic restoration, monitoring requirements, issues associated with water diversions, and effects to fish and fish habitat associated with various management activities; (2) providing technical review of fish habitat portions of National Environmental Policy Act documents, resource management plans, biological assessments, recovery plans, and restoration proposals; (3) training BLM staff to collect aquatic habitat data using approved protocols; (4) participating as a member of an interagency team that makes recommendations for aquatic habitat monitoring, conservation, and restoration to the Interior Columbia Deputy Team that consists of deputies from the BLM, Forest Service, National Marine Fisheries Service, Fish and Wildlife Service, and the Environmental Protection Agency. I review these BLM plans, assessments and proposals for sufficiency relative to fish habitat existing condition, effects of activities on aquatic habitat, and measures necessary to conserve or restore fish habitat.

2. Education. I have a Bachelor of Science degree in Fisheries Science from Oregon State University (March 1992). My Curriculum Vitae is attached hereto as Attachment A.

3. **Forest Service experience.** My experience includes more than 8 ½ years as a Forest Service Fisheries Biologist on the Naches Ranger District of the Wenatchee National Forest in central Washington state (April 1992-January 2001). My responsibilities in that position included: (1) managing the fish habitat survey program and spawning gravel sampling program; (2) coordinating and implementing riparian habitat inventory, fish sampling efforts, habitat restoration effectiveness monitoring, and timber harvest aquatic resources best management practices effectiveness monitoring; (3) analyzing and interpreting monitoring data and compiling reports; (4) identifying important processes and interactions within specific watersheds which related directly to fish habitat and water quality as part of the watershed analysis process; (5) planning and implementing fish habitat restoration projects; (6) identifying and developing management recommendations for protecting and restoring aquatic habitat; (7) analyzing and reporting effects of various activities, including water diversions, on fish habitat; and (8) recommending design modifications or best management practices to minimize effects of road, timber, recreation, and fuels projects on aquatic habitat.

4. **National Marine Fisheries Service experience.** My experience also includes 8 ½ years as a National Oceanographic and Atmospheric Administration, National Marine Fisheries Service, Fisheries Biologist in central and eastern Oregon and Washington (January 2001-August 2009). My responsibilities in that position included the following duties. (1) Completing Endangered Species Act (ESA) Section 7 consultations on a variety of project types. These consultations required me to analyze the effects of activities on ESA-listed salmonids and their habitat and determine measures that would minimize these effects. Projects ranged in complexity from site-specific projects such as culvert replacement to highly complex regional consultations such as the U.S. Bureau of Reclamation's operation and maintenance of the Deschutes River Basin

project and the Umatilla River Basin project. (2) Participating as a member of the Middle Columbia River steelhead critical habitat technical advisory group in central Oregon. We identified the habitat within the species' range that was critical for its ongoing survival and recovery. (3) Identifying limiting factors for Middle Columbia River steelhead recovery in the Deschutes and Fifteenmile subbasins in central Oregon. (4) Providing technical fisheries expertise to BLM staff throughout Idaho regarding potential and proposed aquatic restoration, monitoring requirements, issues associated with water diversions, and effects to fish and fish habitat associated with various management activities. (5) Providing technical review of fish habitat portions of National Environmental Policy Act documents, resource management plans, biological assessments, recovery plans, and restoration proposals. I review these documents for sufficiency relative to fish habitat existing condition, effects of activities on aquatic habitat, and measures necessary to conserve or restore fish habitat. (6) Training BLM staff to collect aquatic habitat data using approved protocols. (7) Participating as a member of an interagency team that makes recommendations for aquatic habitat monitoring, conservation, and restoration to the Interior Columbia Deputy Team that consists of deputies from the BLM, Forest Service, National Marine Fisheries Service, Fish and Wildlife Service, and the EPA.

5. Involvement with these subcases. As part of my responsibilities as Fishery Biologist and BLM's Fisheries Program Lead, I assisted in the preparing of the Notices of Claim that were filed for the 16 Wild and Scenic Rivers in the Owyhee Canyonlands area of southwestern Idaho within Basins 51 and 55 (Owyhee Wild and Scenic Rivers) and assigned Subcase Nos. 55-13089, 51-13090, 51-13091, 51-13092, 51-13093, 51-13094, 51-13095, 51-13096, 51-13097, 55-13897, 55-13898, 55-13899, 55-13900, 55-13901, 55-13902, 55-13903 (Owyhee Wild and Scenic Rivers claims). I participated in the quantification of the Owyhee Wild

and Scenic Rivers claims that culminated in execution of the Stipulation and Joint Motion for Order Approving Stipulation (Stipulation) and the agreement by the parties to the proposed Partial Decrees attached as Attachments 1 – 16 to that Stipulation (Partial Decrees).

6. **Purpose of Affidavit.** I have prepared this Affidavit at the request of counsel to address the manner in which BLM identified the streamflows necessary to protect the outstandingly remarkable fisheries values of the Owyhee Wild and Scenic Rivers and specifically the fish habitat base flows.

II. Necessity for Fish Habitat Base Flows.

7. **General relationship of environmental conditions and fish and other aquatic resource requirements.** River ecosystems create a temporally and spatially varied physical, chemical, and biological template within which fish and other aquatic resources can exist if they possess the proper suite of physiological, behavioral, and life history traits (Poff and Ward 1990, Orth 1987). This environmental template and species specific set of traits is often characterized as a multi-dimensional niche of environmental conditions (*e.g.*, envelopes of depth, velocity, substrate, temperature) and resources (*e.g.*, food, space) necessary for species survival. Suitable environmental conditions and resources must be available in terms of quantity, quality and timing in order to sustain a viable long term population (Statzner 1988, May and MacArthur 1972, Pianka 1974, Colwell and Futuyma 1971).

8. **Importance of streamflow to sustaining fish and other aquatic resources.** Because a variety of factors and resources are required to meet the life history requirements of species, the short and long term success of individuals, and ultimately populations, can be limited by a single factor or by a combination of factors. In river systems, the suitability of environmental conditions for aquatic resources is directly related to the characteristics of the flow regime.

Quantification of the flows necessary to provide for the long term protection of the aquatic resources must be undertaken from an ecological basis in light of the flow dependent environmental factors which may limit these aquatic resources. For example the lack of precipitation across the geography of the Southwest Idaho Canyonlands results in extremely low base flows that threaten fish passage and increase water temperatures that approach lethal levels for redband trout.

9. Objective to preserve flow regime that supports fish and macroinvertebrate habitat. In essence, flows to preserve fish habitat must represent an ecologically-based flow regime that incorporates the spatial and temporal flow conditions necessary to ensure long-term protection of the aquatic resources. The flow regime must maintain the linkage between the physical, chemical, and biological components of river ecosystems, which result in the formation and persistence of fish and macroinvertebrate habitat.

III. Quantification of fish habitat base flow.

10. Identification of flows that sustain fish habitat. The fish habitat base flow component of the Owyhee Wild and Scenic River claims was selected as the 20% exceedance flow for each stream segment from January 1 to December 31. BLM selected the 20% exceedance flow for the fish habitat base flow component based on the typical life cycle of salmonids. Salmonid population dynamics are variable over time in terms of year class recruitment. Long term populations are determined by periodic 'good' years where populations can respond favorably to flow conditions. These conditions are often associated with flows above the median monthly discharge and are a recognized characteristic of the flow regime (*i.e.*, flow variability above the mean flow) that affects fish populations (*e.g.*, see Elliott 1994). It is important to ensure that variability above the median flow is retained to allow conditions under which strong year

class production would occur and to protect the ecological processes describe in the paragraphs above.

Relative to base flows, the 20% exceedance flows reduce the risk of increased redband trout mortality associated with reduced passage and increased temperature. Base flows are important to maintain connectivity throughout the watershed relative to fish passage, expression of a fluvial fish life history (Starcevich et al 2010), and aquatic insect production (Waddle and Holmquist 2011). In addition, reduced flow can affect prey availability and subsequently fish growth (Harvey et al. 2006). Base flows are extremely important for redband juvenile foraging.

11. Identification of flows that sustain macroinvertebrate habitat. It is necessary to maintain minimum 80% exceedance base flows to support wildlife which are dependent on aquatic habitat. In particular, these base flows are necessary to maintain healthy aquatic macroinvertebrate communities. Instream flows are critical in allowing aquatic macroinvertebrates to disperse into available habitats by drifting downstream with the streamflow (Malmqvist 2002). Aquatic macroinvertebrates can use this method of dispersal to expand their distribution into previously unoccupied habitat. This is particularly beneficial when extensive macroinvertebrate mortality occurs in a section of stream in response to a disturbance. Harvey et al (2006) found that diverting 75% to 80% of the flow in a stream significantly reduced the rate of invertebrate drift. Because the 20% exceedance discharge encompasses the 80% exceedance discharge, BLM quantified the fish habitat base flow component based on the 20% exceedance discharge.

12. Water right described in Partial Decrees provides for fish habitat base flows necessary to preserve fisheries habitat. Based on the above-described analyses, the references noted in this Affidavit, and my professional experience, I conclude that the flows identified in the

Partial Decrees (*i.e.*, the base flow component described at Section 3.a.(1) of the Partial Decrees and calculated as the 20% exceedance discharge for each stream), taking into account the small depletions likely to occur under the subordinations provided for in Section 10.b. of the Partial Decrees (as addressed in the Affidavit of Fredric W. Price being filed concurrently herewith), provide a sufficient magnitude and frequency of flows to preserve the fish habitat base flows necessary to protect fisheries habitat of the Owyhee Wild and Scenic Rivers.

II. References.

13. References relied upon. In analyzing the fish habitat base flows and in preparing this Affidavit, I relied upon the following references:

Andrews, E. D. 1980. Effective and bankfull discharge of streams in the Yampa River Basin, Colorado and Wyoming. *Jour. Hydrol.* 46: 311-330.

Colwell, R.K., and D.J. Futuyma. 1971. On the measurement of niche breadth and overlap. *Ecology* 52(4):567-576.

Elliot, J.M. 1994. Quantitative ecology and the brown trout. Oxford University Press, Oxford. 286 pp.

Harvey, B.C., R.J. Nakamoto, and J.L. White. 2006. Reduced streamflow lowers dry-season growth of rainbow trout in a small stream. *Transactions of the American Fisheries Society* 135:998-1005.

Malmqvist, Bjorn. 2002. Aquatic invertebrates in riverine landscapes. *Freshwater Biology* 47:679-694.

May, R. M., and R. H. MacArthur. 1972. Niche overlap as a function of environmental variability. *Proceedings of the National Academy of Sciences, USA* 69(5):1109-1113.

NMFS. 2011. Protocol for Estimating Tributary Streamflow to Protect Salmon Listed under the Endangered Species Act. NMFS-NWR, Flow Consultation Unit, Boise, ID.

Orth D.J., 1987. Ecological considerations in the development and application of instream flow-habitat models. *Regulated Rivers: Research and Management*. Vol. 1, 171-181.

Pianka, E.R. 1974. Niche overlap and diffuse competition. *Proceedings of the National Academy of Sciences, USA* 71(5):2141-2145.

Poff, N.L. and J.V. Ward. 1990. Physical habitat template of lotic systems: Recovery in the context of historical pattern of spatiotemporal heterogeneity. *Environmental Management* 14(5):629-645.

Starcevich, S.J., P.J. Howell, S.E. Jacobs, and P.M. Sankovich. 2010. Migratory distribution of fluvial adult bull trout in relation to land and water use in watersheds within the mid-Columbia and Snake River basins. Wild Trout X Symposium – Conserving Wild Trout, Session 5: Management and Conservation of Wild Trout. West Yellowstone, Montana.

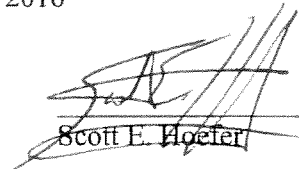
Statzner, B. 1988. Growth and reynolds number of lotic macroinvertebrates: a problem for adaptation of shape to drag, *Oikos* 51:84-87.

Waddle, T.J. and J.G. Holmquist. 2011. Macroinvertebrate response to flow changes in a subalpine stream: Predictions from two-dimensional hydrodynamic models. River Research and Applications (2011). DOI: 10.1002/rra. 1607.

Wolman M. G. and J. P. Miller. 1960 Magnitude and frequency of forces in geomorphic processes. *Jour. Geol.* 68: 54-74.

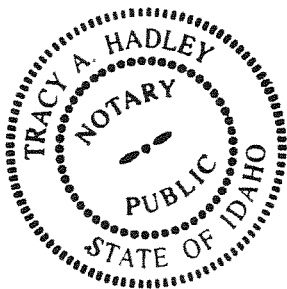
14. Further your affiant sayeth naught.

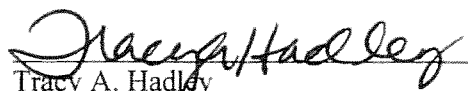
Dated this 30th day of August, 2016



Scott E. Hoefler

Witnessed by my hand and official seal.





Tracy A. Hadley
Notary Public in and for the State of Idaho
Residing at: Meridian, Idaho
My Commission Expires: 08-22-2021

CERTIFICATE OF SERVICE

I certify that on August 30, 2016, I served a true and correct copy of the foregoing **AFFIDAVIT OF SCOTT E. HOEFER; SUBCASE NUMBERS: 51-13089, 51-13090, 51-13091, 51-13092, 51-13093, 51-13094, 51-13095, 51-13096, 51-13097, 55-13897, 55-13898, 55-13899, 55-13900, 55-13901, 55-13902, 55-13903, together with ATTACHMENT A** by placing the document in the United States Mail in Boise, Idaho, postage paid, and addressed as follows:

Original to:

Clerk of the District Court
Snake River Basin Adjudication
253 Third Avenue North
P.O. Box 2707
Twin Falls, ID 83303-2707

Copies to:

U.S. Department of Justice
Environment and Natural Resources Division
550 West Fort Street, MSC 033
Boise, ID 83724

IDWR Document Depository
P.O. Box 83720
Boise, ID 83720-0098

Chief, Natural Resources Division
Office of the Attorney General
P.O. Box 83720
Boise, ID 83720-0010


Signature of Person Serving Documents

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SEP 06 2015

DEPARTMENT OF
WATER RESOURCES

**ATTACHMENT A
TO AFFIDAVIT OF SCOTT E. HOEFER
CURRICULUM VITAE**

SCOTT HOEFER

1387 S VINNELL WAY
BOISE, ID 83709

(208) 373-3819
SHOEFER@BLM.GOV

Relevant Experience

- Managed the Idaho Bureau of Land Management (BLM) Fisheries Program (2009 – Present), Threatened and Endangered Species (T&E) Program (2012 – Present), and Challenge Cost Share (CCS) Program (2012 – Present) and supervised a staff of four natural resource professionals and one litigation coordinator.
- Ensured Idaho BLM complied with the laws, regulations, policies, and procedures that direct Endangered Species Act (ESA) Section 7 consultation, listed species recovery, and the National Environmental Policy Act (NEPA) process.
- Managed an annual fisheries budget of approximately \$2 million and an annual T&E budget slightly greater than \$2 million. Managing these budgets included allocating funds between four districts and the State Office based on priority ESA-listed species recovery projects, ESA-related partnerships, priority aquatic restoration projects, ESA litigation issues, and biological opinion (BO) requirements.
- Built coalitions and partnerships with external agencies and non-governmental organizations.
- Developed recommendations for Idaho BLM managers regarding key fisheries program issues and priorities, and provided expertise to BLM staff and managers relative to BLM's obligations under the ESA.
- Provided technical fisheries expertise to BLM staff throughout Idaho regarding potential and proposed aquatic restoration; monitoring required within BOs; issues associated with irrigation diversions; effects to fisheries associated with various management activities; review of draft NEPA documents, resource management plans (RMPs), biological assessments (BAs), proposed national policy, legal documents, and ESA recovery documents.
- Worked closely with other resource specialists to develop interdisciplinary approaches to solving complex resource issues.
- Completed the Fisheries, T&E, and CCS sections of the Idaho BLM annual work plan, and negotiated proposed target accomplishments for the state with the national leads for each program.
- Worked closely with solicitors, managers, and FO staff to develop a legal strategy and ensure ESA compliance in response to ESA-related lawsuits filed by Western Watersheds Project.
- Provided technical expertise to field office staff for solving resource problems, and evaluated proposed restoration.
- Coordinated Idaho BLM's response to newly designated bull trout critical habitat by developing a strategy to update existing consultations. Completed BAs to update all NLAA and LAA consultations relative to newly designated bull trout critical habitat and received a letter of concurrence and BO from the FWS.
- Led the Idaho Northern Leatherside Coordinating Group that included Idaho State University, Idaho Department of Fish and Game, Office of Species Conservation, Forest Service, Fish and Wildlife Service, Idaho Department of Ecology, and BLM.
- Completed ESA Section 7 consultations on a variety of project types, as a National Marine Fisheries Service (NMFS) fisheries biologist. Analyzed the effects of projects on ESA listed species and composed legally defensible documents.
- Completed consultation on the Bureau of Reclamation's Deschutes River Basin and Umatilla River Basin projects.

- Played an integral role in identifying critical habitat for MCR steelhead in central Oregon, as a member of an interagency technical team.
- Managed the Naches Ranger District fisheries program. Maintained the district fisheries budget and supervised up to five employees at a time. My responsibilities also included developing and designing monitoring plans, planning and implementing aquatic restoration projects, managing the stream survey program, and managing the aquatic monitoring program.
- Provided fisheries input during the NEPA process for engineering, recreation, and timber sale projects as an active participant on interdisciplinary teams.
- Worked directly with contracting officers and contractors on the ground to provide direction to ensure that aquatic resources were protected. Provided guidance on bank stabilization, culvert replacement, and habitat restoration projects.
- Participated as a core member of the Naches Ranger District Ecosystem Assessment and Restoration Team along with a hydrologist, botanist, fire ecologist, and silviculturist. Other members included specialists from engineering, recreation, and wildlife. Completed watershed analysis and planned restoration projects for five watersheds.
- Assessed and reported the condition of fish habitat and fish populations within specific watersheds by interpreting stream survey data, sediment sampling data, and fish population data. Provided fisheries input on a variety of projects as part of the NEPA process.
- Represented the Forest Service on the Little Naches Sediment Monitoring Program group, which consisted of biologists from other agencies and a private timber company forester. The group developed a monitoring plan and then monitored salmonid spawning gravel fine sediment trends relative to management in the watershed. Statistically analyzed spawning gravel fine sediment data and presented results in a report.
- Surveyed and monitored the effects of timber sales on aquatic habitat by evaluating the implementation and effectiveness of best management practices.
- Planned, prioritized, implemented, and reported on fisheries project monitoring.

Professional History

Fisheries Biologist

Idaho State Office, USDI, BLM, Boise, ID

Aug 2009 – Present

Fisheries Biologist

Ellensburg Field Office, USDC, NOAA, NMFS, Ellensburg, WA

Jun 2005 – Aug 2009

Fisheries Biologist

Oregon State Habitat Office, USDC, NOAA, NMFS, Portland, OR

Jan 2001 – Jun 2005

District Fisheries Biologist

Naches Ranger District, Wenatchee National Forest, USFS, Naches, WA

Feb 1995 – Jan 2001

Fisheries Biologist

Naches Ranger District, Wenatchee National Forest, USFS, Naches, WA

Apr 1992 – Feb 1995

Fishery Biology Co-op Student Trainee

Naches Ranger District, Wenatchee National Forest, USFS, Naches, WA

Jun 1989 – Apr 1992

Education

1992 B.S. Fisheries Science

Oregon State University – Corvallis, OR

Job Related Training

- Leadership in Natural Resources Management - March 2015
- Supervisory Skills Workshop - February 2015
- Intermediate Leadership - May 2014
- Communication/Conflict Workshop - March 2014

- Riparian Restoration Workshop - March 2014
- Excel 2007 Basic workshop - January 2010
- Analysis of Stream Management Actions: Scientific Review, Decision Support, and Project Evaluation Workshop - May 2008
- Northwest Region Habitat Conservation and Salmon Recovery Workshop - April 2008,
- Annual Safety Training - Most Recent February 2008,
- Technical Writing Workshop - July 2007,
- Northwest Region Habitat Conservation Workshop - May 2006,
- Critical Habitat Workshop - April 2005,
- Northwest Forest Plan Analytical Process Training - January 2005,
- Advanced ESA Section 7 Workshop - July 2004,
- Design of Road Culverts for Fish Passage - June 2004,
- Integrated Streambank Protection Guidelines - June 2004,
- Northwest Region Habitat Conservation Workshop - May 2004,
- Northwest Stream Restoration Design Symposium - February 2004,
- Interagency Streamlining Workshop - February 2004,
- Lower Deschutes Geographic Response Plan Workshop - January 2004,
- Law Enforcement Case Development Training - December 2003,
- Interagency Implementation Team Grazing Monitoring Training - July 2003,
- Agricultural Riparian Management Workshop - June 2003,
- Rangelands and Rainbows Grazing and Fisheries Workshop - April 2003,
- American Fisheries Society National Meeting - August 2002,
- Basic ESA Section 7 Training - February 2001,
- International Conference on Wood in World Rivers - October 2000,
- International Conference on Riparian Ecology and Management in Multi-Land Use Watersheds - August 2000,
- Working in Watersheds Conference - October 1997,
- Integrating Personal and Professional Values - 1997,
- Interpersonal Communication Skills - 1996,
- Proper Functioning Condition - Evaluating Riparian Condition - 1995,
- Managerial Grid - 1995,
- Collaborative Learning - 1994,
- Applied Fluvial Geomorphology - 1994,
- Forest Service Aquatic Biology Module Training - 1994,
- Washington State DNR Watershed Analysis Training - 1994,
- Supervisory Grid - 1994,
- Pacific Salmon and Their Ecosystems: Status and Future Options - 1994,
- Professional Presentations Workshop - 1993,
- Watershed Analysis Workshop - 1993,
- Stream Habitat Rehabilitation Workshop - 1991