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December 3, 2008

#### MEMORANDUM

- **TO:** Fish and Wildlife Committee
- FROM: Karl T. Weist
- SUBJECT: StreamBank Presentation

Joe Whitworth, Executive Director of Oregon Trout, will brief the Fish and Wildlife Committee on StreamBank® a web-based tool designed to streamline the process for private landowners and watershed restoration specialists to identify and obtain restoration funds from a variety of sources and to obtain the necessary permits to complete restoration work in an expedited manner.

Please see the enclosed materials for more information on StreamBank.®

# A Plan for Healthy Waters. Now.

# **Executive Summary**









# A Plan for Healthy Waters. Now.

#### **Executive Summary**

Pilot : 2007-2008

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This executive summary was compiled from the following Oregon Trout documents:

- "StreamBank: A Plan for Healthy Waters Statewide. Forever" (June 2006)
- "Healthy Waters Institute: The Plan for Education Program Expansion" (February 2004)
- "Every Stream. Every Student" PowerPoint presentation (June 2006)
- "StreamBank Pilot Budget" (June 2006 and February 2007)
- "StreamBank Communications Plan" (June 2006)

These documents are available upon request, either digitally or in print. Please call or write for more information:

Alan Horton Managing Director Oregon Trout 65 SW Yamhill St., Suite 300 Portland, OR 97217 (503) 222-9091 ext. 22

COVER: Donner und Blitzen River, Steens Mountain Area (top); Coquille River, South Coast (middle); Wilson River, North Coast (bottom).

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# A Looming Freshwater Crisis

Healthy freshwater ecosystems across the globe are in a race they currently have no chance of winning. Worldwide, the majority of this loss occurs on private lands. The situation across the United States and in Oregon is no different. Rather than being a leader in stream health, the most recent national sampling shows Oregon's freshwater systems to be less supportive of aquatic life, less able to provide fish the people can safely eat, and more chemically unsafe to swim as compared to the national average.<sup>1</sup> With a projected 1 million new resi-



dents arriving here in the next 20 years<sup>2</sup>, pressure will continue to mount on the quantity and quality of water in the state's rivers, streams and other freshwater sources. Climate change over the next 100 years will also cause significant changes to temperature regimes and precipitation patterns nationwide. These pose serious risks for inland freshwater ecosystems (lakes, streams, rivers, wetlands) and coastal wetlands, and may adversely affect numerous critical services they provide to human populations.<sup>3</sup>

# A Solvable Problem

Conservation groups around the nation and state, including Oregon Trout, have demonstrated time and time again that this is a solvable problem. We have the technology and know-how to restore rivers and streams. From our own

2 U.S. Census Bureau data (estimate of 1 million additional people in Oregon by 2025), see: http://www.census.gov/population/projections/state/9525rank/orprsrel.txt 3 Poff, N.L.,M.M. Brinson, J.W. Day Jr. 2002. Aquatic Ecosystems and Global Climate Change: Potential Impacts on Inland Freshwater and Coastal Wetland Ecosystems in the United States. Prepared for the Pew Center on Global Climate Change, January 2002.

# Wood River, Klamath Basin (Oregon Trout project, 1999-2003)



- Wetland health restored
- · Fish nest (redd) counts increased
- Better, cooler water temperatures
- Water filtering function improved

<sup>1 &</sup>quot;Water Quality Conditions in the United States: A Profile from the 1998 National Water Quality Inventory Report to Congress." U.S. Environmental Protection Agency, Office of Water, Washington, D.C. (EPA 841-F-00-006) (June 2000).

experience, we know that private landowners have an interest and inclination to fix their land when possible and affordable.

Furthermore, there are significant and available funds for this work. Nationally, \$53 billion is spent each year on freshwater health.<sup>4</sup> In Oregon alone, over \$6 billion is available in federal money for restoration and freshwater health.<sup>5</sup> So what's the problem?

### The Current System for Restoration

While funding for restoration is available, it is difficult and time-consuming for private landowners to access. The rate at which restoration takes place makes it unrealistic to restore stream health within any reasonable time frame.

### Boatman Grove (on Coquille River) Oregon Trout Project, 2004-2008



- Many government agencies and private funders can take up to one year to approve applications.
- One stream mile of restoration often takes three or more years to fund, permit and complete.
- At the current rate, restoring just the 30,000 of Oregon's 115,000 stream miles that "fail to support aquatic life" would take hundreds of years.<sup>6</sup>
- The current system for permitting, originally designed to keep bad things from happening, now prevent good work from happening efficiently.

4 "President Clinton's Clean Water Initiative: Analysis of Costs and Benefits." U.S. Environmental Protection Agency (1994).
5 "Funding for Habitat Restoration Projects: A Citizen's Guide." President's Budget (2006).
6 See note 1 above.

# A Private Landowner's Typical Experience in Restoration



#### BARRIERS TO ACTION: Oregon Trout's Boatman Grove Project

Oregon Trout is currently working with a South Coast landowner with a stream re-meander project of roughly one mile. The actual dirt moving and planting will take about 60 hours. However, it will take some four years to work through the funding and permitting cycles. This is typical under the current system for restoration.

Given that 26% (30,000) of Oregon's 115,000 stream miles need work<sup>7</sup>, and assuming no further loss of habitat statewide and that 250 such projects were undertaken each year, we would not get done for over 360 years. True, many of Oregon's degraded stream miles can be fixed with simpler projects than Boatman Grove, but also consider that Oregon completes fewer that 250 projects annually. Oregon's primary restoration funder, OWEB,

If barriers to action are not removed or lowered, the United States will continue to suffer a net loss of healthy freshwater ecosystems.

only supports around 100-150 projects per year, not all of which focus on stream restoration. State by state, the situation is similar. Federal permitting and funding agencies operate largely the same nationwide, and state agencies present similar barriers to action in each of their respective regions. If barriers to action are not removed or lowered, the United States will continue to suffer a net loss of healthy freshwater ecosystems. Alternatively, if we properly align on returning form and function to streams, engaging local communities with on-the-ground work, and streamline access to funding and permits, we will generate meaningful restoration progress and gird our freshwater systems for coming pressures of population growth and climate change.

7 See note 1 above.



#### THE SILO PROBLEM

Restoration progress is also inhibited by government systems and structures. Agencies that today fund and strive to achieve restoration on public and private land face the difficulty of sharing an institutional genesis and history that does not stem from or tie to restoration. Restoration work is a relatively recent "add-on" to original extractive missions, agency cultures and programs of work that often ran contrary to restoration progress. Further, the management jurisdiction of each of these agencies is generally limited in scope to certain types of lands or waters (e.g., wetlands, forest lands, range lands), certain land uses or impacts (e.g., pollution, water use, logging, dredging), or specific geopolitical boundaries (e.g., parks, national forests, wildlife refuges). These limitations generally do not correspond to natural watershed or ecological boundaries that comprehensively address freshwater ecosystem restoration. Given this history, scientific research conclusions like the following are not surprising:

Unfortunately, most attempts to manage or restore aquatic systems address isolated components-for example, individual lakes, rivers, or wetlands. Agency responsibilities are oriented toward components rather than whole ecosystems (Leopold 1990), and the expertise needed for restoration is divided among various disciplines (National Research Council 1992). In practice, this division creates problems because uplands, wetlands, groundwater, rivers, lakes, and estuaries are interconnected by flows of water and nutrients and by migrations of organisms. At present, no organization or institution in the United States is responsible for the integrated view that makes watershed restoration practical (Cairns 1994).

### The Solution: StreamBank<sup>®</sup>

StreamBank<sup>®</sup> will accelerate how restoration happens, enabling landowners, restoration professionals, agencies and private funders to take effective action. StreamBank<sup>®</sup> provides a positive and practical path to achieving stream restoration on a meaningful scale and within a meaningful time frame. Further, it does so in a way that benefits rural work forces and empowers local landowners and communities to control their future, while connecting the next generation to stewardship through education. The recent closure of the salmon fishery in the Klamath basin highlights the critical ecological, economic and social issues at work.

## StreamBank<sup>®</sup> web tool screen shot



The taxonomy of this tool keys directly from regulatory design criteria that can be adjusted for watershed or biological realities. Because results will be monitored and certified, landowners, restoration organizations and ecosystem services investors will be positioned through StreamBank<sup>®</sup> to create natural assets for the long term, with real implications for freshwater health on a scale never before seen. There are three primary goals for StreamBank<sup>®</sup>:

- 1. Dramatically accelerate the pace and scale of stream restoration by lowering barriers to action.
- 2. Produce economic and ecological positives for communities, landowners, and investors.
- 3. Ensure streams stay fixed through monitoring, maintenance and engaging the next generation of watershed stewards.

The taxonomy of this tool keys directly from regulatory design criteria that can be adjusted for watershed or biological realities.

#### HOW STREAMBANK® WORKS

Though every piece of land or stream reach is different, there are approximately 14 ways to "fix" a stream.<sup>8</sup> Because the biological outcomes and funding requirements associated with stream restoration work hold common denominators, we can build algorithms to automate processes that increase funding speed and funding leverage while ensuring achievement of biological outcomes.

#### One-Stop Shopping: A Web-Based Accelerator

Users access StreamBank<sup>®</sup> via a Web site. The site guides the user through a flow of questions, gathering information on the proposed project. In the background, algorithms parse this information into the categories necessary to evaluate, prioritize, budget and fund the project:

- 1. The project location allows StreamBank<sup>®</sup> to identify relevant partners (restoration professionals, funding sources and agencies) in the StreamBank<sup>®</sup>database.
- 2. The project type further refines the field of potential partners.
- 3. Again based on project location and type, StreamBank<sup>®</sup> matches potential ecological benefits with a database of watershed priorities and design criteria, necessary to further refine budget and funding.
- 4. If the project meets StreamBank<sup>®</sup> project criteria, the tool generates a project budget, contract and invoice to provide the user with planning and design support. The user will return to the tool throughout the project to upload design documents and photos, generate and RFP for contractors, invoice for project implementation, provide a final project report, etc.
- 5. After the project is complete, rigorous monitoring and evaluation set stage for certification of the natural asset.

#### StreamBank<sup>®</sup> Algorithms: The Underlying Magic

This is where the agencies' technical language and formal requirements are translated for the user. Because all funders are basically seeking similar outcomes (despite differences in agency vernacular), StreamBank<sup>®</sup> can properly match projects to funders while radically decreasing the time required under the current system for restoration funding. StreamBank<sup>®</sup> can also certify results to project design criteria and potentially streamline permitting for certain project types.

• Algorithm 1: project estimation and funding. Each agency restoration program has varying funding requirements, land/landowner eligibility, geographic restrictions/emphases, matching fund components/ratios or costshares, time lines, and reporting. The algorithm will include federal, state, and private funding mechanisms.

<sup>8</sup> Roni, P., et al. A *Review of Stream Restoration Techniques and a Hierarchical Strategy for Prioritizing Restoration in Pacific Northwest Watersheds*. North American Journal of Fisheries Management 22:1-20 (2002). The broad categories include: riparian planting, rest-rotation/grazing strategy, invasives removal, conifer conversion, fencing, artificial log structures, large woody debris, boulder placement, meander, culvert removal, off-channel habitat, estuarine reconnect, road alteration, dam modification/removal.



- Algorithm 2: biological outcomes. Each agency restoration program has varying biological requirements: entity eligibility; habitat type; restoration activity type; geography; desired function; monitoring. StreamBank<sup>®</sup> will assure compliance with these criteria.
- Algorithm 3: local resources. A database of already known local watershed councils, Soil and Water Conservation Districts (SWCDs) coordinators, Natural Resources Conservation Service (NRCS) technicians, restoration contractors and others can provide technical assistance to the landowner. Local schools with field-based learning opportunities, students undertaking service-learning projects, or other volunteers can provide labor.

#### The Local Connection: Landowners and Communities

StreamBank<sup>®</sup> is not aimed at supplanting local restoration infrastructure but rather enhancing its effectiveness by addressing the obstacles faced by watershed councils, SWCDs, NRCS reps, local 4-H and Extension programs, and other on-the-ground state, federal, and tribal connections. While StreamBank addresses funding, permitting and



bureaucratic inefficiencies, it still relies on these local resources for primary project planning, landowner relations, and implementation.

By addressing the funding and permitting side of project development, StreamBank<sup>®</sup> aims to free the time local restoration entities currently invest in managing bureaucracy for more landowner outreach, more project design, more technical support ... and in the end, more on-the-ground restoration work.

#### The "Jobs vs. the Environment" Myth

StreamBank<sup>®</sup> directly aims to create more jobs through environmental work rather than playing into the false choice that environmental and economic health are mutually exclusive. Stream restoration work is local, and the money and jobs associated with this work generally stays local. Moreover, this work commonly involves actual active, on-the-ground work, which commonly requires skills and machinery that can be located in the local workforce. More restoration work translates to more jobs, which translates to incentives for business growth in the stream restoration sector, which translates to diversification and strengthening of local economies in rural Oregon. This is not just a green dream; existing numbers back it up.

In a review tracking the flow of Oregon Watershed Enhancement Board (OWEB) grant dollars, a University of Oregon survey found that over 80 cents of each OWEB dollar stays in the county where the project is located, and over 96 cents of every dollar spent stays in Oregon. The local private sector captured the largest portion of these dollars as compared to any other industry sector, with the majority of the money spent on watershed council coordinators and construction workers (excavators, heavy equipment operators, etc.) who live in or near the communities in which the project exists. In addition, the research noted that every OWEB dollar spent on restoration work indirectly generates, on average, an additional \$1.68 to \$2.50 in spending within the county as original grant dollars are re-spent locally by those who directly earned them. Both through the sale of goods and supplies and in creating jobs, stream restoration work is a direct investment in the local economy. Under the current structure and at the current rate of

Value to Users and Partners

project implementation, however, these benefits cannot scale to a level that would drive meaningful growth in this high-potential economic sector.

#### Benefits for Agencies

Once through the web tool, the local resource contact or contacts would engage the landowner in the on-the-ground project planning and design work. Required monitoring and reporting would ensure compliance with these criteria and achievement of these objectives. Because this contract and accountability for compliance would be between StreamBank<sup>®</sup> and the landowner, with assistance from local resources, StreamBank<sup>®</sup> would address the reluctance of some landowners to engage government programs and public agencies would not have to find themselves playing the role of the enforcement bad-guy. In addition, with the private fund of dollars associated with StreamBank<sup>®</sup>, agency dollars would be leveraged to a much greater degree than exists today, and with real money. Leveraging would occur in large blocks instead of the current ad-hoc, project-by-project application process, thereby reducing transaction time and costs.

# The StreamBank® Pilot

The software is currently being tested on three on-the ground pilot projects:

- Farr Ranch (South Coast / Elk River). Project will construct an off-channel water system and riparian fence, place large wood an Elk River tributary, remove invasive weeds and plant native vegetation along 1.5 miles of stream. START: 8/15/07. FINISH: 1/15/08.
- Arrah Wanna Side Channel (Sandy River Basin). Project will treat invasive weeks and plant native vegetation on 2.5 acres of riparian habitat. START: 9/15/07. FINISH: 1/15/08.



• Blakesely Creek (Willamette River Basin). Project will construct fencing, plant a denuded riparian section and place large wood along 1 mile of stream. START: 9/15/07. FINISH: 11/15/07.

### Assumptions

- Most landowners have a stewardship ethic. Landowners and communities do not begin each day thinking, "how can I best work to harm my local waters and put the hurt on fish."
- No economies of scale exist today—inefficiency shackles progress. Through addressing funding limitations, desired agency and public outcomes, and regulatory inefficiencies, the quantity and efficiency of restoration projects can be greatly improved.
- Public funding agencies do not effectively leverage public/private dollars. StreamBank<sup>®</sup> will better ensure that public dollars actually reach the ground and are leveraged with matching dollars. Taxpayers stand to benefit.
- Permitting agencies have long sought ways to streamline permits, from General Authorization (GA) permits for certain types of work, to uniform application for multiple agencies.
- Too much grant writing. Local stream restoration entities spend an inordinate amount of time on grant writing and grant monitoring, with the opportunity cost of having less time to spend doing landowner outreach and other on-the-ground professional services.
- Locals are the best and most appropriate leaders of restoration efforts. Instead of fighting for turf or displacing local entities, Oregon Trout maximizes its effectiveness through the StreamBank<sup>®</sup> approach. We don't have to lift every shovel, but we need to help better facilitate the volume and efficiency of shovels being lifted.



2007 StreamBank Tracks for Success



2008 StreamBank Tracks for Success



#### Theodore R. Kulongoski Governor

January 11, 2008

Joe Whitworth, Executive Director Oregon Trout 65 SW Yamhill Street, Suite 300 Portland, OR 97204

Louise Solliday, Director Oregon Department of State Lands 775 Summer St. NE Suite 100 Salem, OR 97301-1279

Dear Mr. Whitworth and Ms. Solliday:

Thank you for your letter requesting an Oregon Solutions designation for the StreamBank project. I believe that collaborative development of the StreamBank project can result in a tool that will advance restoration efforts in Oregon, and I support its designation as an Oregon Solutions project. I am appointing Ken Bailey, CFO of Orchard View Farms and Member of the State Board of Agriculture, as the convener.

The StreamBank Project has the potential to meet many of the State's environmental, economic and social objectives. A streamlined, web-based process that results in quality restoration projects will be a dynamic new tool for achieving a sustainable Oregon. Such a process should expedite approvals and deliver ecologically needed restoration projects in a way that is quicker, benefits the rural workforce, and empowers local efforts to restore and maintain a healthy, functioning landscape. I expect that an Oregon Solutions process can align partners for at least 20 projects in 2008 to further test and develop the StreamBank tool. Using StreamBank at this scale in the coming months will allow for a better understanding of the vision and potential for this tool in the years ahead.

The opportunity presented by non-profit and private investments to develop the StreamBank tool, and use of the tool to better leverage existing and new resources for on-theground restoration projects, can benefit our state while also elevating this web-based tool to attract national attention.

The Oregon Solutions staff will help you bring effective partners to the table to integrate resources for an implementation strategy, and to sign a "Declaration of Cooperation" for the project. I look forward to hearing about your progress.

Sincerely,

DORE R. KULONCOLON

THEODORE R. KULONGO Governor

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### Oregon Trout Key Staff

Over 50 years cumulative senior experience in conservation and management.

Joe Whitworth, Executive Director Years in the Field: 16 Alan Horton, Managing Director Years in the Field: 16 Brett Brownscombe, Conservation & StreamBank® Director Years in the Field: 12 Mark McCollister, Fish Refuge Director Years in the Field: 12



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