

Project Title – “Assessing the Proper Functioning Condition of Waters Creek, Siskiyou NF.

Submitted as the completion step for Senior Project, Grants Pass High School, by Mike Rubin. Instructor is Mr. Gulden, project Advisor is Mike Lunn.

Introduction:

I am planning to monitor Waters Creek Proper Functioning Condition. I am going to do a series of observations to assess the PFC (Proper Functioning Condition) of Waters Creek. Proper Functioning Condition is an assessment of the probability to withstand relatively high flows such as a 20-30 year event. Waters Creek was the subject of an earlier Senior Project by Justin King in 1997. His project consisted of adding cover and habitat for salmon and other fish.

To assess the streams PFC there are seventeen questions that relate to the streams health. These questions deal with hydrology, vegetation, and erosion/deposition. The questions must be answered from fieldwork that my advisor and myself will conduct. After I conduct my study in the field, I will put together all the information I have gathered and rate the PFC of Waters Creek. The stream will be rated 1) Properly Functioning, 2) Functional at risk, 3) or Non-functional. After this I will compile a report of all my information including observations and recommendations. It will also consist of pictures from my fieldwork. This report will then be displayed on the Siskiyou NF webpage. This report will assess how healthy Waters Creek is since its improvements several years ago. I chose this project to better my knowledge and the communities' knowledge of stream management. I have been interested in ecology and streams for my whole life due to growing up hunting, fishing and hiking in the forest.

Expectations

My expectations for this project is to basically learn as much as I can about stream ecology and management in the time I have. I have grown up in Oregon and am very fascinated with nature and its ecosystem. This is just one part of a good functioning forest but it is probably one of the most important. This will give me some experience and maybe tell me if this is the career path I want to explore.

The community will benefit greatly from the work I will do. Not many people understand what effects stream health. Most people wouldn't think that too many trees around a stream can be bad but it can. I hope that it will also show that with a little effort streams can be brought to a good functioning condition. It will also greatly help the Siskiyou National Forest decide what types of things can be done to help keep streams healthy and what the quality of the Waters Creek is. The community itself and the Siskiyou National Forest needs to be informed of these things so they can be efficient when it comes to making environmental decisions.

Even though what I am going to do is not a catastrophic jump in stream management it will be good to know that I will have done something that will help the community and the future community of Josephine County.

Findings:

On 4/10/2000, I walked the main fork of Waters Creek with Advisor Mike Lunn. This fork runs slightly east of north from the Forest Boundary, and appears to carry less water than the fork that enters from the west just above the boundary.

Our determination was that the creek was in proper functioning condition, as shown by the attached field form, exhibit 1. Several recommendations are made for the Forest Service to consider that I believe would improve conditions of the stream, although neither are of major significance due to existing acceptable conditions. Following are several photos which demonstrate the general conditions I encountered.



Photo 1. Rosgen B1 stream type, large wood typical of incised canyon area.



Photo 2. Old-growth canopy over riparian. Future large wood recruitment source.



photo 3. Cutting unit fireline, direct source of sediment to creek.



Photo 4. Newly installed trail bridge. Questionable whether adequate height above flood channel to permit flows and natural debris from causing blockage and blowing out around footings.

Proper Functioning Condition Field Sheet, Front Side

Standard Checklist

Name of Riparian-Wetland Area: Right Fork Waters Creek
 Date: 4-10-00 Segment/Reach ID: Above Confluence to divide
 Miles: 1.02 Acres: _____
 ID Team Observers: Mike Lunn, Mike Rubin

Yes	No	N/A	HYDROLOGY
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1) Floodplain above bankfull is inundated in "relatively frequent" events
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2) Where beaver dams are present they are active and stable
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3) Sinuosity, width/depth ratio, and gradient are in balance with the landscape setting (i.e., landform, geology, and bioclimatic region)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4) Riparian-wetland area is widening or has <u>achieved potential extent</u>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5) Upland watershed is not contributing to riparian-wetland degradation

Yes	No	N/A	VEGETATION
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6) There is diverse age-class distribution of riparian-wetland vegetation (recruitment for maintenance/recovery)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7) There is diverse composition of riparian-wetland vegetation (for maintenance/recovery)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8) Species present indicate maintenance of riparian-wetland soil moisture characteristics
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9) Streambank vegetation is comprised of those plants or plant communities that have root masses capable of withstanding high-streamflow events
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10) Riparian-wetland plants exhibit high vigor
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11) Adequate riparian-wetland vegetative cover is present to protect banks and dissipate energy during high flows
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12) Plant communities are an adequate source of coarse and/or large woody material (for maintenance/recovery)

Yes	No	N/A	EROSION/DEPOSITION
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	13) Floodplain and channel characteristics (i.e., rocks, overflow channels, coarse and/or large woody material) are adequate to dissipate energy
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	14) Point bars are revegetating with riparian-wetland vegetation
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15) Lateral stream movement is associated with natural sinuosity
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16) System is vertically stable
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17) Stream is in balance with the water and sediment being supplied by the watershed (i.e., no excessive erosion or deposition)

(Revised 1998)

Proper Functioning Condition Field Sheet, Reverse Side

Remarks

Question #5 reading and trail construction may be contributing excess sediments not readily apparent.

Question #15 only exception was small area that was dug to relocate channel (west above trail bridge).

Question #17 Appears to be more fine sediments than would be present in natural conditions. Probably related to upland management.

Recommendation: review elevation of existing foot bridge to insure clearance of stream.

Summary Determination

Functional Rating:

Proper Functioning Condition
Functional—At Risk _____
Nonfunctional _____
Unknown _____

Trend for Functional—At Risk:

Upward _____
Downward _____
Not Apparent _____

Are factors contributing to unacceptable conditions outside the control of the manager?

Yes _____
No

If yes, what are those factors?

Flow regulations _____ Mining activities _____ Upstream channel conditions _____
Channelization _____ Road encroachment _____ Oil field water discharge _____
Augmented flows _____ Other (specify) _____

Project Area - Upper Arrow denotes point of beginning, at watershed divide, of PFC field examination. Lower arrow marks end of survey at Forest Boundary on Waters Creek.

