**2015 Academic Excellence Showcase Planning Documents**

Please return all three parts **ELECTRONICALLY** to **Ethan McMahan** (Todd 321, ph: 8-8634, email: mcmahane@wou.edu) **NO LATER THAN Monday, May 4th, 2015**

**Part 1: Session Planning and Scheduling Form**

Session Chair(s): **Dr. Steve Taylor, Earth & Physical Science Department**

Session Title: **Perspectives in River Restoration**

Session Format (e.g., symposium, performances): **Symposium (Oral Theme Session)**

Session Length: **2.5 Hours (1:00 PM – 3:30 PM)**

Preferred Session Time:

(*for additional information,* *please refer to session guidelines at http://www.wou.edu/showcase*):

*For Symposia*, *Creative Arts*, *or* *Panel Discussion Sessions:*

□ morning (8:30-11:30) □**XX** afternoon (1:00-4:00) □ other (specify time) \_\_\_\_\_\_\_\_\_\_\_

*For Poster Sessions:*

□ morning (9:00-11:00) □ mid-day (11:30-1:30) □ afternoon (2:00-4:00)

Room Request:

1st Choice \_\_**HWC105**\_\_ 2nd Choice \_\_\_**HWC204**\_\_ 3rd Choice \_\_**NS101**\_ □ No preference

Session Aides (e.g., student assistants to distribute attendance “tickets”, distribute session materials, etc.):

**XX**□ Yes, I would like a session aide **“to distribute attendance tickets”**

 □ No, I don’t need an aide

□ I already have an aide. He/she is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Note**: If any of presenters have a disability that requires accommodation, please have them contact the Office of Disability Services for coordination of his/her needs. They should allow for at least 72 hours notice for services to be coordinated. The Office of Disability Services can be reached by calling 503-838-8250 (TTY, Voice).

**Part 2: Session Organization Form**

|  |  |
| --- | --- |
| Presentation Time (e.g., 9:15 – 9:30) | 1:00-1:10 PM |
| Student Presenter’s Name: | Dr. Steve Taylor |
| Faculty Sponsor: | Dr. Steve Taylor |
| Presentation Title: | Introduction to ES407 Theme Session: “Perspectives in River Restoration” |
| Audio/Visual Requests: | Smart Lecture Room with consol and projector; powerpoint software |
| Notes/Special Requests |  |
|  |  |
| Presentation Time (e.g., 9:15 – 9:30) | 1:15-1:35 PM |
| Student Presenter’s Name: | Katie Halvorson |
| Faculty Sponsor: | Dr. Steve Taylor |
| Presentation Title: | Watershed Assessment and River Restoration Strategies |
| Audio/Visual Requests: | Smart Lecture Room with consol and projector; powerpoint software |
| Notes/Special Requests |  |
|  |  |
| Presentation Time (e.g., 9:15 – 9:30) | 1:40-2:00 PM |
| Student Presenter’s Name: | Dylan Castle |
| Faculty Sponsor: | Dr. Steve Taylor |
| Presentation Title: | Salmonid Habitat as a Guiding Principle in River Restoration |
| Audio/Visual Requests: | Smart Lecture Room with consol and projector; powerpoint software |
| Notes/Special Requests |  |
|  |  |
| Presentation Time (e.g., 9:15 – 9:30) | 2:10-2:30 |
| Student Presenter’s Name: | Ryan Johnson |
| Faculty Sponsor: | Dr. Steve Taylor |
| Presentation Title: | Fluvial Hydrology, Fish Passage and Sedimentation |
| Audio/Visual Requests: | Smart Lecture Room with consol and projector; powerpoint software |
| Notes/Special Requests |  |
|  |  |
| Presentation Time (e.g., 9:15 – 9:30) | 2:35-2:55 |
| Student Presenter’s Name: | Ian McBride |
| Faculty Sponsor: | Dr. Steve Taylor |
| Presentation Title: | Riparian Vegetation, Landuse and Habitat Restoration |
| Audio/Visual Requests: | Smart Lecture Room with consol and projector; powerpoint software |
| Notes/Special Requests |  |

|  |  |
| --- | --- |
|  |  |
| Presentation Time (e.g., 9:15 – 9:30) | 3:00-3:20 |
| Student Presenter’s Name: | Esteban Quiles |
| Faculty Sponsor: | Dr. Steve Taylor |
| Presentation Title: | Channel Modification and Restoration |
| Audio/Visual Requests: | Smart Lecture Room with consol and projector; powerpoint software |
| Notes/Special Requests |  |
|  |  |
| Presentation Time (e.g., 9:15 – 9:30) | 3:25-3:30 |
| Student Presenter’s Name: | Dr. Steve Taylor |
| Faculty Sponsor: | Dr. Steve Taylor |
| Presentation Title: | Concluding Remarks: “Perspectives in River Restoration” |
| Audio/Visual Requests: | Smart Lecture Room with consol and projector; powerpoint software |
| Notes/Special Requests |  |

**Part 3: Template Proposal to Present Form**

Your Name: **Dr. Steve Taylor** Phone No.: **8-8398** Email: **taylors@wou.edu**

Title of your Presentation: **Introduction to ES407 Theme Session: “Perspectives in River Restoration”**

Abstract (100 word limit) or Photograph of Art Work (3” X 5” limit):

This theme session involves presentation by five WOU Earth Science students enrolled in ES407 Senior Seminar. The focus is on river restoration with case study examples from Oregon. Watersheds are comprised of channel networks and represent one of the most fundamental landscape systems on the Earth’s surface. They provide ecological services along riparian corridors that form critical habitat, with salmonid fishes serving as a key indicator of aquatic health in the Pacific Northwest. The historic interplay between human occupation, intensive land management, and fluvial systems has resulted in significant impairment of waterways over the past century. River restoration is the act of improving hydrologic, geomorphic, and ecological processes in a degraded watershed system; and replacing compromised elements therein. This theme session provides an overview of watershed assessment strategies and restoration techniques. Topics include: project design, evaluation, salmonid habitat recovery, fluvial hydrology, spawning gravel maintenance, fish passage, riparian vegetation, water quality and channel modification techniques.

Session Format (e.g., Presentation, Performance, Poster): **Oral Presentation**

Length of Presentation: **10 Minutes**

Audio Visual Requests: **Smart Lecture Room with consol and projector; powerpoint software**

Your Faculty Sponsor: **N/A**

Major: **N/A**

Current Academic Standing (FR, SO, JR, SR, GRAD): **N/A**

Did your project involve Human Subjects? (check one) \_\_\_\_\_\_ yes \_\_**XX**\_\_\_\_\_ no

 If so, did your project have IRB approval? \_\_\_\_\_\_ yes \_\_\_\_\_\_\_ no \_\_\_**XX**\_\_\_\_ n/a

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**Part 3: Template Proposal to Present Form**

Your Name: **Katie Halvorson** Phone No.: Email: **khalvorson08@wou.edu**

Title of your Presentation: **Watershed Assessment and River Restoration Strategies**

Abstract (100 word limit) or Photograph of Art Work (3” X 5” limit):

River restoration is important for degraded watersheds that need habitat modifications to help restore the natural system. Many of these restoration goals operate over time frames that last decades or more. River restoration methodologies include placement of woody debris to increase channel complexity, supply and movement of sediments within the stream, and increased forest cover along the riparian corridor to provide shading and decreased water temperature. Land use also has a large impact on rivers and their natural functions. As such, each watershed has a unique set of restoration priorities that vary according to geologic setting, geomorphic process and land-use history. River restoration is an on-going effort in the Pacific Northwest, the goals of which are to improve salmonid fish populations.

Session Format (e.g., Presentation, Performance, Poster): **Oral Presentation**

Length of Presentation: **20 minutes**

Audio Visual Requests: **Smart Lecture Room with consol and projector; powerpoint software**

Your Faculty Sponsor: **Dr. Steve Taylor**

Major: **B.S. Earth Science**

Current Academic Standing (FR, SO, JR, SR, GRAD): **SENIOR**

Did your project involve Human Subjects? (check one) \_\_\_\_\_\_ yes \_\_\_**XX**\_\_\_\_ no

 If so, did your project have IRB approval? \_\_\_\_\_\_ yes \_\_\_\_\_\_\_ no \_\_\_**XX**\_\_\_\_ n/a

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**Part 3: Template Proposal to Present Form**

Your Name: **Dylan Castle** Phone No.: Email: **dcastle11@wou.edu**

Title of your Presentation: **Salmonid Habitat as a Guiding Principle in River Restoration**

Abstract (100 word limit) or Photograph of Art Work (3” X 5” limit):

Restoring salmonid-rearing habitat in river systems is crucial to increasing fish populations in the Pacific Northwest. An estimated 71% of healthy aquatic habitat has been degraded in the Puget Sound area, while 42% has been compromised across the entire Pacific Northwest. These fluvial habitats are imperative for animal foraging and physiological transformations. Mitigation projects should aim to restore previously existing habitats rather than creating new ones, as artificial habitats often lack natural key processes that are not sustainable over time. Restoration actions include, but are not limited to, breaching of dikes, planting vegetation, removing fill, creating side channels, and restoring floodplain hydrology. Not all salmonid species require the same conditions to thrive. Restoration projects should be designed according to the needs of specific species (e.g. Coho, Chinook, Stealhead) so that one is not harmed at the expense of another. Completed restoration projects need to be monitored to ensure that they are beneficial to the system and achieve the desired outcomes over time.

Session Format (e.g., Presentation, Performance, Poster): **Oral Presentation**

Length of Presentation: **20 minutes**

Audio Visual Requests: **Smart Lecture Room with consol and projector; powerpoint software**

Your Faculty Sponsor: **Dr. Steve Taylor**

Major: **B.S. Earth Science**

Current Academic Standing (FR, SO, JR, SR, GRAD): **SENIOR**

Did your project involve Human Subjects? (check one) \_\_\_\_\_\_ yes \_\_\_**XX**\_\_\_\_ no

 If so, did your project have IRB approval? \_\_\_\_\_\_ yes \_\_\_\_\_\_\_ no \_\_\_**XX**\_\_\_\_ n/a

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**Part 3: Template Proposal to Present Form**

Your Name: **Ryan Johnson** Phone No.: Email: **blackhawkdown162@hotmail.com**

Title of your Presentation: **Fluvial Hydrology, Fish Passage and Sedimentation**

Abstract (100 word limit) or Photograph of Art Work (3” X 5” limit):

Many salmonid species in the Pacific Northwest spend their adult lives in the ocean, and migrate upstream for spawning and rearing. These fish require complex stream elements to accommodate all of their life-stage needs. Channel complexity is generated by sediment transport and various fluvial processes, which in turn are controlled by the hydrologic flow regime. This natural regime includes discharge, gradient, the balance of sedimentation and erosion, and the magnitude and frequency of disturbances (e.g. floods, debris flow, fires). When human activity disrupts the natural fluvial process, by direct or indirect means, it can have major repercussions not just on the channel system, but also on the local biota. For salmonid populations specifically, changes in the type of sediment deposited can make spawning environments inhospitable for salmon eggs. Additionally, barriers in the stream, usually caused by human crossings, can restrict or block salmonid migration outright, further disrupting ecological productivity.

Session Format (e.g., Presentation, Performance, Poster): **Oral Presentation**

Length of Presentation: **20 minutes**

Audio Visual Requests: **Smart Lecture Room with consol and projector; powerpoint software**

Your Faculty Sponsor: **Dr. Steve Taylor**

Major: **B.S. Earth Science**

Current Academic Standing (FR, SO, JR, SR, GRAD): **SENIOR**

Did your project involve Human Subjects? (check one) \_\_\_\_\_\_ yes \_\_\_**XX**\_\_\_\_ no

 If so, did your project have IRB approval? \_\_\_\_\_\_ yes \_\_\_\_\_\_\_ no \_\_\_**XX**\_\_\_\_ n/a

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**Part 3: Template Proposal to Present Form**

Your Name: **Ian McBride** Phone No.: Email: **imcbride11@wou.edu**

Title of your Presentation: **Riparian Vegetation, Land Use and Habitat Restoration**

Abstract (100 word limit) or Photograph of Art Work (3” X 5” limit):

In terms of ecological function in river systems, riparian vegetation, land use and habitat structure are three of the most important factors contributing to success of salmonid fisheries. First and foremost is riparian vegetation or the plant life bordering the stream channel. Riparian vegetation provides a myriad of benefits including cooling and regulation of water temperature, stabilization of banks, and reduced suspended sediment load. Second is land use. A large number of streams have been degraded by livestock grazing too closely to stream banks. Unsustainable grazing practices in close proximity to river channels can degrade riparian vegetation and dissuade regrowth. Healthy riparian vegetation is crucial for waters suitable for fish. The third consideration is sustaining fish habitat within the channel through the recruitment of large woody debris (LWD). The addition of tree fall to a river channel provides crucial features for fish habitat. LWD creates hydraulic complexity by providing low-energy refugia for fish to forage, as well as providing physical shelter from predators. Both of these benefits facilitate anadromous fish migration and creation of fertile spawning habitat.

Session Format (e.g., Presentation, Performance, Poster): **Oral Presentation**

Length of Presentation: **20 minutes**

Audio Visual Requests: **Smart Lecture Room with consol and projector; powerpoint software**

Your Faculty Sponsor: **Dr. Steve Taylor**

Major: **B.S. Earth Science**

Current Academic Standing (FR, SO, JR, SR, GRAD): **SENIOR**

Did your project involve Human Subjects? (check one) \_\_\_\_\_\_ yes \_\_\_**XX**\_\_\_\_ no

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**Part 3: Template Proposal to Present Form**

Your Name: **Esteban Quiles** Phone No.: Email: **equiles12@wou.edu**

Title of your Presentation: **Channel Modification and Restoration**

Abstract (100 word limit) or Photograph of Art Work (3” X 5” limit):

Previous decades of river restoration projects provide valuable insight on the effectiveness of channel modification techniques for the improvement of salmonid habitat. Artificial structures including constructed weirs and engineered log jams have been observed to generally increase salmonid populations over the short term. Placement of wire gabions and boulder clusters has been documented to recruit and retain high-quality spawning gravels, thus increasing the occurrence of redds. Numerous studies in the Pacific Northwest have documented that the incorporation of large woody debris (LWD) into the channel system increases hydraulic complexity and offsets losses of system function due to historic logging practice. With a 10 to 20 year design life for these engineered structures, their proper application could promote a long-term renewal of self-sustaining river processes.

Session Format (e.g., Presentation, Performance, Poster): **Oral Presentation**

Length of Presentation: **20 minutes**

Audio Visual Requests: **Smart Lecture Room with consol and projector; powerpoint software**

Your Faculty Sponsor: **Dr. Steve Taylor**

Major: **B.S. Earth Science**

Current Academic Standing (FR, SO, JR, SR, GRAD): **SENIOR**

Did your project involve Human Subjects? (check one) \_\_\_\_\_\_ yes \_\_\_**XX**\_\_\_\_ no

 If so, did your project have IRB approval? \_\_\_\_\_\_ yes \_\_\_\_\_\_\_ no \_\_\_**XX**\_\_\_\_ n/a

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