CHaMP Camp 2015
Advanced Modules for Using CHaMP Tools, Models, and Products
Tuesday, June 2 - Thursday June 4, 2015
7:30 am – 4:30 pm

Dates: Tuesday, June 2, Wednesday, June 3, Thursday, June 4, 2015

Location:
Ascension Camp
1104 Church St, Cove, OR 97824

Times: 7:30am to 4:30pm

Workshop Purpose: To review tools, models and products of the Columbia Habitat Monitoring Program (CHAMP) and gather and discuss information that will be used by program staff, managers, and field biologists who will be making decisions based on the outputs.

Overview: CHaMP Camp 2015 advanced tools, models and products modules is designed to give CHaMP users insight into and a hands-on experience with the different outputs generated using CHaMP data.

	Date & Time	Topic Overview	Area of Interest
Day 1	Tuesday, June 2 7:30 am – 4:30 pm	Data Review Design and Model analysis	Technical
Day 2	Wednesday, June 3 7:30am – 4:30 pm	CHaMP GIS developed tools	Technical
Day 3	Thursday, June 4 7:30 am – 4:30 pm	Collaborator use of CHaMP data, more models and tools	Technical

Participation: The meeting is open to all pre-registered participants. The core group on all three days will be primarily CHaMP 2015 participants and collaborators with three to four years of experience with the project, including BPA, BOR, Tribal, and NOAA staff, crews interested in participating in the CHaMP project in the future, and other scientists and salmonid habitat researchers.

Fees: If you are attending the entire CHaMP camp training, the fees will be included with the CHaMP camp tuition, otherwise contact Sarah Walker (sarahm_walker@yahoo.com) for more information.

Lodging: If you are not staying at the Ascension Camp, there are hotel rooms located in LaGrande, OR.

Day 1: CHaMP Data Availability and Organization, Review of CHaMP Study Design and GRTS roll-up Analysis Temperature Model, River Styles, Network Tool Box
Tuesday, June 2, 2015
7:30 am – 4:30 pm

From 2011-2014, salmonid habitat data were collected at sites in the Columbia River drainage that support 10 major population groups of ESA-listed salmonids using the CHaMP habitat protocol. The protocol was first implemented in 2011. The 2014 field season marked the completion of the CHaMP pilot study and the first year of rotating panel year one-site re-visits. In this first day of modules we will explore a provisional data set by: 1) Locating and reviewing all data types generated from the 2011-2014 data sets, and 2) Using the Generalized Random Tessellation Stratification (GRTS) roll-up to determine the habitat status of a subset of CHaMP metrics. The purpose of this session is to inform users about the GRTS process and to solicit input to assist CHaMP in developing an analytical framework to address key regional management questions.

7:30 a.m.	**Workshop Welcome** • Introductory remarks/ground rules • Focus of the 2015 workshop	**Bouwes**
7:45 a.m.	**CHaMP Data Accessibility and Organization** • Describing and identifying the different kinds of CHaMP data GIS, Access databases • Location of data FTP site , CHaMP Monitoring	**Volk**
8:30 a.m.	**Design based Analysis and Model based Analysis** • Status and trend • Year effect /Interaction • Design weights and weight adjustment • Model based elements • Sample data sets using R	**Nahorniak**
11:30- 12:30	**LUNCH**	
12:30 p.m.	**Temperature Model** • What is the Model • What goes into the model from CHaMP? • Technical summary of the model	**McNyset**
1:00 p.m.	**Geomorphic Context** • Reach Typing • Condition Assessment • Recovery Potential	**Wheaton**

2:15 p.m.	**BREAK**	
2:30 p.m.	**Network Tool Box** • VBET – valley bottom estimation tool • Confinement tool • Sinuosity • Valley Line • Transfer of attributes to individual line work	**Volk/Whitehead / Wheaton**
4:30 p.m.	**ADJOURN**	

Day 2: CHaMP GIS Tools: Using the River Bathometry Tool Kit and the Geomorphic Change Detection Tool
Wednesday, June 3, 2015
7:30 a.m. – 4:30 p.m.

This second day of the modules will focus on the development and use of some of the CHaMP GIS tools and resulting products. We will then review the different outputs of the tools in the form of metrics, histograms, reports, and images. Students will work with the different tools using CHaMP data sets to better help better understand the processes involved in producing the different outputs.

7:30 a.m.	**Workshop Welcome** • Introductory remarks	**B. Bouwes**
8:15 a.m.	**RBT (River Bathymetry Toolkit)** • RBT desktop vs. automated • Demonstration of RBT outputs using CHaMP data sets • How do you use RBT? • Exercise of running RBT with crew datasets.	**Bailey**
10:15 a.m.	**BREAK**	
10:30 a.m.	**CHaMP Workbench** • What is it?| • How to use it • Use it!	**Bailey**
11:30-12:30	**LUNCH**	
12:30 p.m.	**GCD (Geomorphic Change Detection)** • Introduction • Restoration Applications of GCD • Review of CHaMP Topographic data sources • Interpreting outputs of GCD	**Wheaton**
2:15 p.m.	**BREAK**	
2:30 p.m.	**GCD (continued)** • Self-Paced Change detection exercises	**Wheaton/Bailey**
4:30 p.m.	**ADJOURN**	

Day 3: Implementation and Use of CHaMP Data in other Models and Discussion of Key Management Questions
Thursday, June 4, 2015
7:30 a.m. – 4:30 p.m.

This third day of the modules will focus on the use of CHaMP data by The Columbia River Inter-Tribal Fish Commission (CRITFC) and by Oregon Department of Fish and Wildlife (ODFW) as input data into different models that assist in making decisions of the habitat potential of streams within the Grande Ronde drainage. We will also explore the use of marrying Lidar data with CHaMP topographic data within CHaMP drainages. In addition, we will explore the development and use of the Geomorphic Unit Tool (GUT) and the application of GUT in River Styles. The last part of day three will focus on the different uses for discharge data in the form of a Hydraulic Flow model, Habitat Suitability Index (HSI), and the Net Rate Energy Index (NREI) model.

7:30 a.m.	**Workshop Welcome** • Introductory remarks	**B. Bouwes**
7:45 a.m.	**Collaborators** • Extrapolating CHaMP data to unsampled locations using mixed-effects models • Structural Equation Model • Hab Rate Model	**Justice/White/Sedell**
8:45 a.m.	**LiDaR** • What is Lidar and where is it located within CHaMP? • Intersecting CHaMP data with Lidar challenges and concerns • CHaMP plan for 2015	**Demeurichy**
9:15 a.m.	**GUT (Geomorphic Unit Toolkit)** • What is GUT? • Fluvial landform taxonomy • Role of geomorphic units in upscaling, extrapolation and better fish habitat relationships	**Wheaton**
10:30 a.m.	**BREAK**	
10:45 a.m.	**Hydraulic Model** • Background and steps • Data inputs • Optimizing Model parameters • Output files	**Nahorniak**

11:30-12:30	**LUNCH**	
12:30 p.m.	**FHM (Fish Habitat Model)** • Background and differences between habitat suitability (HSI) and fuzzy inference system (FIS) models • Tool development • CHaMP Data inputs and species/life stages • Output metrics/plots	**Bailey/Wheaton**
2:30 p.m.	**BREAK**	
2:45 p.m.	**HSI Exercise** • Crews working with their own data or provided data	**Bailey**
4:15 p.m.	**NREI** • Tool development • CHaMP Data inputs • Output metrics/plots	**McHugh**
4:30 p.m.	**ADJOURN**	