

# Kootowis Riparian Restoration

## Objectives

The objective of this project was to improve riparian attributes needed for restoration of fish habitat, water quality, channel stability, wildlife, and biodiversity. These included: 1. sites where brush competition has resulted in low conifer stocking; 2. overstocked western red cedar plantations that lacked species diversity. Treatments consisted of brushing out selected long-lived conifers and fertilizing these released trees in the brush dominated sites. In the overstocked western red cedar plantations, thinning treatments focused on increasing the species diversity in the post-treatment stand by retaining as much western hemlock and Sitka spruce as possible.

**FRBC Region / MELP Region**  
Pacific / Vancouver Island

**Author(s)**  
Bart Simmons  
Warren Warttig, RPBio

**Proponent/Partners**  
Central Westcoast Forest Society  
Interfor

**Watershed / Stream**  
Kootowis Creek

**Location**  
The Kennedy Watershed is located on the West Coast of Vancouver Island between Tofino and Ucluelet. Kootowis Creek is located in the southwest corner of the watershed in an area known as the "Kennedy Flats".

**Introduction**  
Forest harvesting practices from the 70's and 80's have resulted in the logging of old growth riparian stands and replacing them with young seral stands that have limited functionality in terms of fish habitat, water quality, channel stability, wildlife, and biodiversity.

## Assessments and Prescriptions

- Level 1 and level 2 prescriptions were completed by Poulin and Simmons on the watershed in 1999 (March, 1999). These prescriptions recommended altering current stand densities and species compositions by hand falling and spacing of retained trees, releasing conifers in brush dominated areas by removing competing shrubs as well as planting rapidly growing Black Cottonwood trees along shade deficient areas of Kootowis Creek. Phase 1 of the implementation of these prescriptions was carried out in the fall of 2000. Phase 2 was carried out in June of 2001.

## Rehabilitation Work

Restoration work for the 2001 project season was conducted from June 18<sup>th</sup> – June 26<sup>th</sup>, 2001. 7 workers were hired on to the project, working a total of 63 person days. All were returning crewmembers, some having over 6 years of experience on Kennedy Flats in-stream restoration and riparian restoration projects. Most of the polygons treated in phase 2 involved either brushing high value conifer trees to release and fertilizing these released trees or thinning treatments that focused on increasing the species diversity in the post-treatment stand by retaining as much western hemlock and Sitka spruce as possible.

## Cost Summary

Wages	\$15,870.35
Fertilizer	\$ 360.00
Vehicles	\$ 1,537.20
Supplies	\$ 2,249.95
Consultants	\$ 6,885.45
Rentals	\$ 2,412.50
Total	\$29,315.45

## Outputs

In June, 2001, a total of 21 ha's of riparian restoration was completed in Phase 2 within 4 riparian polygons. An additional 7 hectares of fertilization was undertaken in polygon 13, previously treated in Phase 1.

**Table 1** Restoration areas.

<b>Restoration Polygons</b>	<b>Ha's</b>
Polygon 5	3.4
Polygon 8a	9.3
Polygon 7	6.3
Polygon 10	2.0
<b>Total</b>	<b>21.0</b>
<b>Fertilization Polygons</b>	<b>Ha's</b>
Polygon 13	7.0
<b>Total</b>	<b>7.0</b>

**Monitoring/Restoration Results**

Monitoring of the riparian restoration in polygon 13, previously treated in Phase 1 was undertaken at the time of fertilization and indicated minimal re-growth of the competing brush. The planted black cottonwoods all were doing well and had leafed out and established sufficient root growth.

**Proposed Work**

The 2002 work plan will aim to complete the riparian restoration in as many remaining riparian polygons under prescription as funding will allow and hopefully to complete the remainder of the watershed.

**UTM (NAD83) Coordinates**

Kootowis Creek - Zone 10 301010E 5441122N

**Watershed Code**

Kootowis Creek - 930-300800

**For Further Information, Contact:**

Len Dziama  
 Central Westcoast Forest Society  
 Box 405, #6 Davison Plaza  
 Ucluelet, B.C., V0R 3A0  
 Tel: (250) 286 4547 ext. 24  
 Email: cwfs@cedar.alberni.net

Fig. 1. This photo shows post treatment species diversity in western red cedar plantation along Kootowis Creek.



Fig. 2. Photo shows 2 understory, released Sitka spruce juvenile trees post brushing treatment. Treatment focused on brushing willow and alder competition.



Fig. 3. Photo shows Black cottonwood whip leafed out in fertilization polygon 13.