PROJECT TITLE: **SKAGIT BAYS INITIATIVE**

DELIVERABLES FOR TASK NO.: **3**

FINAL REPORT

PERIOD COVERED: **7/1/04 – 6/30/05**

DATE SUBMITTED: **7/20/05**

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SKAGIT MARINE RESOURCES COMMITTEE

July 2005

FIDALGO BAY FORAGE FISH SHADE PROJECT

PROJECT LEAD: ROBERT KNOWLES
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Prepared by: Lori Kyle, Skagit Conservation District and
Skagit County Marine Resources Committee Lori@skagitcd.org

City of Anacortes - Public Works Project Signage

The final portion of the City of Anacortes Parks Department's "Tommy Thompson Shoreline Trail" (from 34th Street to Weaverling Spit) was completed in December of 2004. According to the MRC "Planting Design and Species Selection Planting and Stewardship Plan" (July 16, 2004), areas where vegetation could be installed that would preserve/provide/increase shade to the backshore was identified by MRC members. At that time, (April 2004), prior to the pathway installation, existing native vegetation was also flagged to be retained during construction.

The Skagit Conservation District (SCD) provided potted stock for the project from its native nursery. Plant selection was determined by available stock comparative to the specie list in the Planting Design. The planting areas were flagged by MRC member Robert Knowles, SCD Forester Al Craney, and MRC member/SCD staff Lori Kyle on October 25, 2004 for location and species selection. Prior to installation, MRC members also met with personnel from the City of Anacortes to insure correct placement and species selection to further the goals of the trail system and the vision of the City of Anacortes. Care was made to select appropriate stock in areas where hindering landowner views is a concern. All stock is drought tolerant.

Project Lead Robert Knowles with Skagit CD Forester Al Craney. October 25, 2004

The required Quality Assurance/Quality Control component was submitted October 26, 2004, and approved by Sharon Riggs, Department of Ecology, Padilla Bay National Estuarine Reserve.

The SCD also offered the assistance of their Washington Conservation Corp (supervisor and three crew members) to assist volunteers with site prep and planting. The WCC crew performed site prep, including the removal of Himalayan blackberries prior to planting.

WCC crew members – site preparation.

Post treatment -- December 14, 2005

Vegetation as potted stock, donated by the Skagit Conservation District, was installed December 16, 2004. The WCC crew assisted eight MRC members/volunteers with the planting of 72 pots of conifers, deciduous trees, and shrubs. All installed stock was labeled with an identification number (foot along the trail) and species code written on aluminum tags. In April 2005, 10 Hooker willow (*Salix hookeriana*) whips and 10 stems of rocky mountain maple *(Acer glabrum)* as potted stock were installed.

MRC members/volunteers: Erica Pickett, Jim Ramaglia, and Paul Sund. December 15, 2005

The planted stock along the trail has been occasionally watered by project lead, Robert Knowles, using equipment he constructed and other equipment borrowed from the City of Anacortes Parks. At the time of this report, no forage fish egg surveys have been undertaken as yet under the aegis of the Skagit MRC, however the area is occasionally surveyed by Washington Fish and Wildlife technicians, whose data supports forage fish spawning habitat in this area. Forage fish eggs (surf smelt) were found along this portion of the Tommy Thompson Trail during a "Trail Walk" day, sponsored by People for Puget Sound on June 4, 2005. MRC member, Lori Kyle had the SMRC display set up.

Skagit MRC display on forage fish used at the "Walk the Trail Day" June 4, 2005

Other than random photos taken, further monitoring including growth, caliper, and coverage/shade benefits will begin in August of 2005. Two benches have been installed by the City of Anacortes along the trail, one on the landward side, and one on the shoreline.


Pre-existing vegetation-taken 7/11/05


Red Osier Dogwood-taken 7/11/05


Bench installation by the
City of Anacortes June 2005

The MRC will utilize volunteers to assist in ongoing monitoring and maintenance; including species mortality, growth rates, sun declination and hill slope shading, photo documentation, and increases in inner-tidal shading, along with watering and pruning as necessary. Lori Kyle (SCD/MRC) will train and assist the volunteers in using standardized protocols for monitoring and reporting (as approved by the Washington Conservation Commission for riparian buffer plantings). The SCD will retain monitoring information for future comparisons to like projects and will generate updates to the MRC as needed. The SCD will assist with replants as warranted. In accordance to the Planting Design, continuance of monitoring/maintenance past the completion of the project term (February 28, 2005), will be for one growing season (Fall 2006). Further dedication is dependant on volunteer participation and funding opportunities. The next scheduled monitoring will be in August of 2005.

Tommy Thompson Trail
Skagit MRC – Skagit Conservation District – City of Anacortes –Washington Conservation Corps
First planting: December 16, 2004 Additions: April, 2005

Specie	Height	Description/Habitat	Beneficial	Planted
Cascara *Rhamnus purshiana*	5-9’	Rarely over 30’ Moist well-drained soils. Full sun to full shade.	Good soil binding qualities - grows well on disturbed sites.	2
Vine Maple *Acer circinatum*	1.5 – 3’	To 25’ tall, multiple stems. Prefers some shade. Dry to moist sites	Good fall color. Soil binding qualities, flowers attract butterflies, several species of birds & mammals eat winged seeds	8
Red Osier Dogwood *Cornus stolonifera*	5’ – 6’ 9’	To 15’ moist well-drained soils. Full sun to partial shade	Excellent wildlife cover. Hosts butterfly caterpillars. Buds and fruit for birds, small mammals.	12
Serviceberry (Saskatoon) *Amelanchier alnifolia*	2’ – 2.5’	10 -12’ Drought tolerant. Full sun to partial shade.	Fruit for birds, small mammals.	18
Sitka spruce *Picea sitchensis*	1.5 – 2.5’	100 – 200’ lowland, coastal. Full sun to full shade. Moist soils	Sharp needles-good for blocking unwanted paths. Root masses can become dense, resisting washout and erosion.	7
Douglas Fir *Pseudotsuga menziesii*	2.5 – 7.5’	100 – 200’ In all but the wettest and driest areas. Prefers full sun.	Shelter, nest sites, cones for wildlife. Fast growth.	12
Western Red Cedar *Thuja plicata*	2.0 – 3.5’	200’ to 30’ in diameter. Prefers moist to swampy soils. Shade to full sun.	Seeds eaten by numerous avians. Nesting sites and cover. DOES form a shallow, widely spreading root system although tends to be windfirm except in very wet sites.	4
Shore Pine* *Pinus Contorta*	Apx 1.0’	15 – 20’ full sun – tolerant of gravely soils	Tolerant of salt and poor nutrients. Grows rapidly	9
**Rocky Mtn. Maple *Acer glabrum*	2.0-3.0’	20 - 30’ full sun to part shade – tolerant of gravely soils	Gorgeous fall color.	10
Indian Plum *Omelaria cerasiformis*	3.0’	5 – 16’ Moist to dry. Full sun to partial shade but prefers shade.	One of the first to show color in the spring. Flowers are an early nectar source for bees. Fruit edible to humans, but quickly eaten by birds and other wildlife.	2
Hooker willow *Willow hookeriana*	36”	10’- 26’ sandy, gravelly sites. Full sun.	Slope protection.	10

Specie selection, descriptions, and numbers planted.
*The shore pine was gleaned off site by Robert Knowles.
**Installed April 2005

Tommy Thompson Trail Surf Smelt Spawn Monitoring

Submitted by Paul Dinnel PADinnell@aol.com

Summer-spawning surf smelt are known to spawn in upper beach gravel of west Fidalgo Bay below the rip-rapped shoreline stretching from the old plywood mill site south to Weaverling Spit. Upon completion of the paved Tommy Thompson Trail in the fall of 2004, a variety of young trees were planted between the paved trail and the top of the rip-rapped shore. It is hoped that these trees will eventually grow to a size and configuration that will provide additional shade for developing surf smelt eggs.

One component of the shade tree planting project funded by the Northwest Straits Commission and the Skagit Conservation District was a provision to assess the degree to which surf smelt spawn below the new trail and the newly planted shade trees. These spawning assessments will be conducted by volunteers beginning in 2005 and continue into future years.

Beach gravel sampling for summer-spawned surf smelt eggs will be accomplished during low tide periods in June, July and August (one day each month) of each year. A series of 10 randomly selected sample sites containing the proper size of gravel will be marked using rebar stakes. A small core sample (size to be determined at first sampling) will be collected at each of the 10 sample sites at a location 36" north of each rebar stake (to avoid any spawning effects due to the stake itself) and to a depth of 4". All gravel samples will be returned to the laboratory where all eggs in the samples will be counted (or, if spawn is very dense, eggs will be counted in sub-samples). These sampling data will be reported at annual intervals.

Future work may also include assessments of the viability of surf smelt eggs relative to the degree of shading received at various locations. However, completion of this work will depend on the future availability of both personnel and laboratory space necessary to accomplish live/dead egg assessments.