

April 25, 2006

MEMORANDUM

TO: Oregon Watershed Enhancement Board

FROM: Ken Bierly, Deputy Director

**SUBJECT: Agenda Item P: Restoration Priorities Adoption
May 16-17, 2006 OWEB Board Meeting**

I. Introduction

This staff report asks the Board to adopt the format and approach to establishing regional priorities for restoration projects for the South Coast Basin. The priorities are intended to be used as guidance by OWEB in the review of grant applications and to help ensure a clear and strategic approach to prioritizing the funding of projects. Formal administrative rules will be proposed to define how the priorities will be used when priorities are completed for the whole state.

II. Background

The Board has identified the development of funding priorities as a significant need for project review and evaluation in OWEB's grant program. In September 2002, the Board authorized staff to contract for the facilitation of efforts to develop restoration priorities in two pilot basins.

Staff reported on the process for developing priorities at the January 2006 Board meeting. In each basin, a local working group has been meeting and developing proposed priorities with the assistance of a consultant. Each working group has developed a list of limiting factors and has identified priorities for watershed geography, typically at the watershed (Hydrologic Unit Code or HUC 5) scale.

The approach and content of the two pilot restoration priorities for the Willamette and Rogue basins were presented to the Board in March 2006. The Board then adopted both the approach to establishing regional restoration priorities by identifying limiting factors and the content of the Willamette and Rogue basin restoration priorities.

III. Status and Approach

The South Coast restoration priorities project was contracted to the South Coast Watershed Council, who has conducted watershed assessments for each of the drainages in the basin and developed a "Curry County Action Plan" that includes nearly all of the drainages in the South Coast Basin.

Following adoption of the priority approach for the Rogue and Willamette basins, the final product for the South Coast Basin has been completed using a similar format. The product includes a summary report and a matrix for each watershed. Limiting factors matrices for 5th field HUCs are presented to identify priority actions. The information in the matrix identifies factors that limit watershed function for each 5th field HUC. The final product for this basin is compatible with those of the Rogue and Willamette basins.

Attachment A shows the limiting factors matrix for the South Coast Basin. Attachment B describes the limiting factors identified in the South Coast matrix.

A full copy of the South Coast Basin Restoration Priority report will be available at the Board meeting. The document is also available online to review on the OWEB web site at www.oregon.gov/OWEB/restoration_priorities.shtml.

IV. Recommendation

Staff request the Board approve the approach and content of the South Coast basin regional restoration priorities.

Attachments

- A. South Coast Limiting Factors Matrix
- B. South Coast Watershed Limiting Factors Matrix Key

Attachment A

South Coast Watersheds - Limiting Factors Matrix -- 2006

Known limiting factor, high priority restoration
 Suspected limiting factor, but need more information
 Need more information

	Estuary	Wetland	Migration Barriers	Water Quality	Water Quantity	Channel Modification	Hydrologic Function	Riparian Shade	Large Wood (Potl & Stored)	Sediment (Potl & Stored)	Noxious Weeds
New River	Beach grass and breaching complicate water exchange	Need assessment of high value wetlands	No known barriers in Morton, Butte, Bethel	High Temp; suspect nutrients from Croft Lake	Irrigation withdrawls unkown on ranch and farm lands	Straightened, loss of beaver, effects of breach	Periodically bar-bound	Potential shade inc on Morton, Langlois, Butte	Tribs lacking wood to help store sediment	Suspected upland sources; investigate Morton & Bethel	Aquatic weeds, Reed Canary Grass
Floras Creek	PFC analysis completed	Field check function. Restore potl veg & water connection	Investigate barriers in upper watershed	High Temp, Sediment & nutrients. Constructed wetlands to treat runoff.	Instream rights not met. Opportunities w/ 80% of rights junior to instream.	Channel straightened & armored, loss of beaver, assessment incomplete	ID critical rds, ditches, floodplains, wetlands. Restore wetland/ floodplain Willow Ck	Willow Ck critical to cool mainstem. Hi potl incr on Willow, N Fk & mainstem. Planting & riparian silv	Willow Ck, wood for sed storage & fish habitat	Earthflows, rd drainage in Willow, N, E & W Forks, U. Mainstem; potl in M mainstem	Aquatic weeds in Floras Lake
Sixes River	Reduce nutrient inputs from ranches	High value wetlands in lower watershed (Brophy Report)	Unknown in upper watershed	High Temp, Sediment & nutrients. Mercury reports	Instream rights not met: Crystal Edson, mainstem opportunities	Lack of off-channel habitat, esp below 101	Unknown potl for improved connection of lwr mainstem to floodplain	Some potential for lower mainstem; also Crystal Creek	Most tribs and mainstem lack adequate large wood	Potl in Big/Otter, Dry Ck, Elephant Rock & N Fk. Stored: ch widening	Gorse; blackberries; Japanese knotweed
Elk River	Unknown if fishing pressure at mouth impacts fish	Improve lwr mainstem wetlands (inc. Van Loo), Bagley Ck	Bagley Creek; Blackberry Creek (FS)	Excellent WQ, but high temp. Effects of agriculture & hatchery unknown	Instream water right usually met	Assessment not complete	Reconnect floodplain in lower mainstem; multiple ranches	Lower mainstem planting & riparian silv, off-channel water	L. mainstem tribs: Indian, Bagley & Chapman. Side-channel jams	Potl on steep slopes, hi amts stored from granitic rocks	Gorse & Himalayan blackberry, need prioritized control plan
Port Orford Watersheds	Hubbard Crk - periodic high readings of bacteria	Assess wetlands & riparian areas abv Garrison Lake & along Hubbard Ck	N. Fork Hubbard reservoir; Brush Ck bypass; Mill Crk	Lake & urban WQ (stormwater, septic...). Reservoir cool water intake.	Drinking water issues for city	Brush Ck along Hwy 101, Hubbard dam, assessment incomplete	Increased peak flow to Garrison from urban area	Unknown if there are opportunities for inc shade	Hubbard Creek lacks wood. Mill Crk potential?	Potl from Beartrap Ck on steep granitics. Potl sed in drinking water	Gorse in municipal watershed; Aquatic weeds (?) in Garrison Lk

	Estuary	Wetland	Migration Barriers	Water Quality	Water Quantity	Channel Modification	Hydrologic Function	Riparian Shade	Large Wood (Potl & Stored)	Sediment (Potl & Stored)	Noxious Weeds
Euchre Creek	Small estuary. Effects of Highway 101	Isolated from channel by levee and Hwy 101. Field check function	Several barriers clustered in Cedar Creek	No DEQ WQ sampling Effects of agriculture & rural res unknown	Instream rights are rarely met. Opportunities in Cedar Ck	Cedar Ck straightened assessment not complete	Lower portion (below Boulder Crk) modified -- explore off-channel rearing?	Lower mainstem & Cedar Ck: plant, riparian silv, off-channel water	Few stands in mature or high reprod for future supply. Add to mainstem & Cedar	Potl: L Euchre & Cedar. Stored deposits on mainstem	Weed control needs?
Hunter Creek	Expand small size, Increase complexity Limit addl fill	Consider acquiring ODOT wetlands adjacent to estuary	No known barriers	No DEQ WQ sampling High Temp. Rural residential effects on nutrients?	Subsurface flow due to high sed load. Influence of wells & springs?	Gravel extraction, road fords. Other assessment incomplete.	Rural residential protected with rip-rap	Mainstem & Big South Fk reaches w/ potl increase: plant, riparian silv, off-channel water	Riparian silv to promote wood. ID reaches needing sed storage	Potl in Big South Fork, L & M mainstem. Assess roads on earthflows	Minor -- some blackberries
Pistol River	Extended estuary migrates north and south	Field check function. Restore potl veg & water connection, esp Crook Ck, oxbows	No known barriers	High Temp, low diss oxygen. Biochem oxygen demand highest.	Instream water right usually not met. Opportunities from large ranches.	Hwy 101 xing straightened assessment not complete	Rip-rap on ag lands	ID reaches w/ potl increase: plant, riparian silv, off-channel water	Riparian silv to promote wood. ID reaches needing sed storage	Potl & stored in Glade & Deep Area, L. mainstem, South Fork	Minor issue - not limiting
Chetco River	Restore connectivity, flood control levees	Field check function	Tuttle Crk; Mtn Home Crk; others ?	Boat basin aerators for DO. Estuary sampling to ID limiting factors	Instream right usually met. Municipal growth & conservation	Gravel extraction, assessment not complete	Urban/rural runoff causing flooding, potl effects on WQ	Potl increase in L. N Fk & tribs to coastal mainstem	Opportunity on North Fork Chetco	Potl on most pvt lands. Historic channel widening	Isolated patches of gorse a concern
Winchuck River	Filled by Hwy 101, expand, restore complexity	Field check function	Numerous barriers to be addressed	WQ effects of agriculture on bacteria, nutrients, & algae unknown	Instream right usually met. Rural-residential growth & conservation	Assessment not complete	Explore constructed wetlands in critical runoff areas: rural - residential & ag lands	Assessment to be completed 2006; encourage off-channel water	ID sites for sediment stabilization and habitat	Potl on Deer Ck, South Fk, & Bear Ck. Stored: Wheeler Ck slide	Minor

South Coast Watersheds Limiting Factors Matrix Key - April 7, 2006

In the year 2000, the South Coast Watershed Council completed a Watershed Assessment for the ten watersheds shown on the attached matrix. To complete a synthesis of the available information, an interdisciplinary team met for two days in Gold Beach to examine interactions, list limiting factors, and prioritize action items. The team consisted of local specialists in geology, soils, hydrologic processes, water quality, riparian processes, and fisheries.

This matrix is now updated for 2006, with new information from our monitoring and assessment work over the past six years.

This matrix illustrates limiting factors in the watersheds, arranged from north to south, using the synthesis process developed by specialists, and then “ratified” by local watershed councils. The matrix is color-coded to express **known limiting factors** in blue (high priority restoration), along with two other colors to express areas of uncertainty, or where we know we need more information.

The limiting factors are described briefly below. For more information, please see the complete assessments for each watershed, available on CD or online at www.currywatersheds.org

Estuary - Estuarine habitat is important for summer rearing and overwintering of most salmonid species. Estuaries are especially critical for chinook. Adequate circulation, water volume, water quality, cover, and complexity are required. (Water quality is addressed as a separate limiting factor.) Most of the river systems in Curry County have small, but intact, functional estuaries. Because our estuaries are so small, their importance as a part of the salmon life cycle is magnified.

Wetland - Wetland habitat is a crucial part of the coho salmon life cycle. Wetlands also perform other functions in moderating floods, storing and filtering water, capturing sediment and other nutrients, and providing cover and food for fish. In some areas they also provide off-channel fish habitat.

Migration Barriers - Barriers include structures such as dams and culverts that do not meet state guidelines for passage of adult and juvenile salmonids. Salmonids need to pass during spawning migration, while rearing, and while overwintering, to escape from high velocity flows. Barriers are limiting when habitat is inaccessible in a watershed, or when several small tributaries are inaccessible from the mainstem. Full, unimpeded access to off-channel areas is also important.

Water Quality - Good quality water is critical for all life stages of aquatic organisms and humans. Sampling by DEQ shows that water quality in these river systems ranges from excellent to poor, and indicates possible pollutant sources and which watersheds need improvement. The sampling frequency, number of sites, and range of parameters need to be increased so that we can better understand and address sources of pollution.

Water Quantity - Adequate summer stream flows are needed for fish and other aquatic organisms. In the past, in-stream water rights were established at values not to exceed the median stream flow. In-stream rights tend to be junior to most of the out-of-stream water rights. Opportunities for restoring flow include water conservation, lease, acquisition, forfeiture of existing water rights, and regulation of junior water rights when streamflows drop below the instream water right.

Channel Modification - Typical channel modifications include gravel extraction, channel straightening and bank armoring, and channel relocation. This module was not formally completed for the 2000 watershed assessment, but known modifications are listed. Channel modification (and the attendant loss of complexity) has become recognized in the last six years as a major limiting factor for coho.

Hydrologic Function - Impermeable and compacted surfaces cause excessive runoff and can augment the size of peak flows. Disconnection of floodplains, side channels, and wetlands prevent floodwaters from being stored, and then released more slowly over time. Ditches and improperly-drained road surfaces also speed runoff to channels. Increased runoff causes erosion, transports pollutants, and may alter channel and habitat characteristics in extreme cases.

Riparian Shade - Streamside shade is needed to minimize exposure to solar radiation, a dominant influence on high stream temperatures. Reaches with high potential increases in shade were identified with a *SHADOW* model. Improvements can include planting, thinning, and converting alder-dominated stands to conifer, where appropriate. Off-channel watering systems can be an important part of projects to address this limiting factor. See also potential large wood.

Large Wood (*Potential and Stored*) - Large wood helps stabilize channels; promotes sediment storage and revegetation; develops pools and habitat complexity; increases roughness to reduce water velocity; provides cover and traps woody material; and enhances macroinvertebrate diversity and processing of nutrients & organic matter. Riparian reaches that lack mature trees, or high reproduction potential, have low potential for large wood recruitment. Habitat surveys indicate where large wood is not present (stored) in stream channels. The IMST report indicates lack of large wood is a major limiting factor in our area of both the Oregon Coast area (north of Blanco) and the Klamath Mountains Province (south of Cape Blanco to the California border.).

Sediment (*Potential and Stored*) - Excessive volumes of both fine-and coarse-grained sediments can be limiting. Fine-grained sediment impairs filter-feeding organisms, circulation of dissolved oxygen in redds, and sight-feeding visibility. Gill abrasion may occur in extreme cases. Coarse-grained sediment increases gravel bars while decreasing pools for rearing. Shallower, wider (aggraded) channels also heat more readily.

Potential Sediment - Sub-watersheds are ranked by density of stream crossings and roads on steep slopes. Road inventory determines priorities for treatment based on probability and consequences of slope failure and erosion.

Stored Sediment - Channel deposits tend to be colonized by short-lived species such as alder. When alder stands decline, sediment transport reactivates unless stabilized by promoting other riparian species with silvicultural treatments or by adding large wood.

Noxious Weeds - Invasive species limit the restoration of native riparian and wetland vegetation. In addition, in large areas of gorse burn, valuable lowland riparian stands can be lost to an intense fire. Exotic aquatic weeds displace native species, modify lake ecosystems, and may cause impaired water quality.