

**Purpose of '97 study:**

1. Take fresh look at Newport's long range needs and alternatives for future sources of water.
2. Also consider regionalization of water supplies.

**Findings:**

Projection of historical trends suggest Newport and region can expect to need additional water supplies in about 25 years.

**Of the Source Options:**

- Surface Water *is the best and most economical.*
- Groundwater *is too limited in County.*
- Desalination *is energy intensive and not economical.*
- Reuse *is less economical than new SW source.*
- Conservation *can delay but not eliminate future needs.*

**Surface Water Source Development:**

- New water rights are severely limited (especially from summer flows).
- Storage of winter runoff is an essential element of any new surface water source.
- Fish (& sometimes other wildlife/environmental) issues make permitting and development of storage projects very difficult.
- Search for site(s) with good potential for obtaining water rights and construction permits.
- Evaluation of top three. pro/con
  - o Big Rock Creek
  - o Big Creek
  - o Rocky Creek

**After Study:**

- Newport and Lincoln City jointly applied for water rights on Rocky Creek.
- Established the Central Coast Water Council encompassing all major water districts in Lincoln County potentially served by Rocky Creek.
- Begin investigation of Rocky Cr. site. Fatal Flaws?

Generally favorable response from State Water Resources and guardedly favorable response from most interest groups. Favorable elements include potential for regionalizing water supplies (reducing the need for multiple future water supply developments) and the potential for consolidating existing needs in a way to reduce existing impacts to salmonoid fisheries in the region.

The Rocky Creek Water Rights Application is presently on Administrative Hold at Water Resources.

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Newport - Lincoln City  
joint council mtg  
1-14-04 @ Surfrider, Fogarty Cr.

Re: status of Rocky Cr water supply project.

- Jim fuller's notes -

Idea for Mtg came from new council members.

Sam & Mark Jones made it happen. Newport picked up the tab.

Purpose: To inform new council members,

Rick Glick

- Passage of time - new members not up to speed.
- LC has WRD PFO (proposed Final Order) on Drift Cr. Very restrictive conditions. No decision on whether conditions are acceptable.
- Expect Rocky Cr PFO any time. WILL REQUIRE RESPONSE!
- Need to be meeting with staff of new Gov and w/ WRD

Mark Jones explained efforts to get political support. State & Fed contacts. PUD Salmon recovery \$\$ participation goes to BPA (\$17mil?), portion should stay in Lincoln Co., use some for Rocky Cr?

Questions re Rocky Cr schedule, costs, staging of construction, covered mostly by Bob Fuller. No specifics yet. Real message is that most of this needs to be worked out. Depends on project definition by members of CCWC, conditions imposed by wtr rts, etc, etc.

Important issues:

- Regionalization is important to obtaining wtr rts. CCWC is mechanism.
- Project costs are important, BUT the real issue is: can Lincoln County afford not to do it. What are the other choices?

There are really only two options for future water supplies; Surface Water & the Ocean. It is becoming next to impossible to permit new surface water supplies (& storage) because of new laws and regulations protecting fish. Rocky Cr is a unique case w/ few new impacts. Ocean - Desalination, is energy intensive and has it's own environmental issues. High cost.

Feb 8, 1999

## Rocky Creek

A regional water supply solution for coastal Lincoln County.

The Rocky Creek site offers a unique opportunity for developing a long-term solution to the region's water supply with no additional impacts to the anadromous fishery.

Development of the Rocky Creek supply will provide for the growth in water needs for coastal Lincoln County through 2050 and beyond.

Regional use of this project will reduce or eliminating the necessity for each water district or city to independently develop new water supplies.

An additional benefit of the Rocky Creek basin is that, if needs continue to grow beyond what is projected for year 2050, a second storage project can be developed in the basin. Winter diversions pumped from the Siletz River through a two-mile pipeline could insure filling the second reservoir, thereby avoiding additional impacts to Mid-Coast Basin streams during the low flow season.

Present thinking is that Rocky Creek water will be treated at the source. However, there could be a development period during which raw water is delivered to existing treatment systems.

The delivery pipeline system would be developed over time to complement the existing pipelines and to provide the needed capacity.

### Project data:

- Rocky Creek is located near Cape Foulweather, about two miles south of Depoe Bay.
- Depoe Bay has an intake on Rocky Creek and a 4 cfs water right.
- The regional water rights application is for 9,000 Ac-ft and 6 cfs.
- Rocky Creek was blocked to anadromous fish passage by Highway 101 in the 1950's.
- The dam would isolate about 800 feet of stream between the dam and the highway.
- Drainage basin = 5.3 sq. mi.
- Estimated average year runoff = 12,000 ac-ft
- Dam height = 140 ft.
- Reservoir area = 195 Ac.

**MEMORANDUM**

TO: Sam Sasaki, City Manager, Newport  
Bob Mack, City Manager, Lincoln City

FROM: Jim Fuller

DATE: September 28, 1998

SUBJECT: Status of the Rocky Creek Regional Water Supply Project

**WATER RIGHT APPLICATION:**

April 15, 1998; Water Right applications submitted to WRD.

- R-83810 to store 9,000 Ac-Ft.
  - Ph I for 10 ac-ft by Nov 2002.
  - Ph II for 4,000 ac-ft by 2020.
  - Ph III for 9,000 ac-ft by 2035.
- S-83809 to use the storage plus available stream flow up to 6 cfs.

May 12, 1998; Supplemental mapping provided to meet WRD requirements.

July 21, 1998; Notice received from WRD of favorable preliminary analysis of the applications.

August 7, 1998; Requested meeting with WRD for Thursday, October 1, 1998, to discuss the application process and the alternatives for allowing the applicant time to address the issue of fish passage.

**SUMMARY OF FATAL FLAW ANALYSIS:****ENGINEERING ASSESSMENT**                      Good Damsite and Acceptable Reservoir site

The project site was visited by Roger Lindquist(Geotechnical Engr) and Doug Hansen(Engineering Geologist) of CH2M HILL in January of 1998. Their opinions are based on a one day site visit and a review of published USGS geologic mapping. No site specific subsurface information was available for the assessment.

This assessment was a visual site evaluation as the basis for forming a professional judgment on the suitability of the site for constructing a 150 foot dam including identifying potentially limiting geologic or engineering conditions that might preclude constructing a dam at this site. The following is a brief summary of the initial site assessment.

**Site Geology****Favorable geologic setting.**

- o Dam site: Located in the Cape Foulweather Basalt Formation. The rock at the dam site is a volcanic breccia or agglomerate that forms a narrow canyon with steep side slopes. The volcanic materials are

massive (few joints). An area on the north side of the stream has an exposure of greater than 50 feet with essentially no joints. Some jointing exposed in the road cut is mostly high angle (> 60 degrees) and north trending. An alluvium layer in the valley bottom at the dam axis appears to be a relatively thin.

o Reservoir site: Located in the Astoria Formation; a sedimentary series of sandstone and siltstone. The Astoria Formation sediments tend to erode into topography with 20 to 30 degree slopes typical of the coast range mountains. The Astoria Formation sediments dip to the west at about 10 to 20 degrees which should place the contact between the volcanic and the sedimentary formations 100 to 200 feet below the stream bed at the dam location. The surface contact of these two formations crosses Rocky Creek about 600 feet upstream from the dam site. This contact is coincidental with a mapped fault.

### Engineering Considerations

Dam foundation and abutments.

Strong

The dam would be founded on the volcanic breccia or agglomerate. These materials are sufficiently strong to support an earthfill, rockfill or concrete gravity dam.

Seepage.

Low seepage potential

The rock at the dam site is massive - that is, it has few joints and therefore is expected to have low potential for seepage. Although the foundation rock is expected to be tight and allow little seepage, it may still be necessary to grout the foundation during construction.

Topography.

Favorable damsite

Acceptable reservoir

The topography at the damsite (narrow, steep sided valley) is favorable for a dam. The length of dam necessary to span the valley is not great and this will limit the volume of material needed to construct the dam. The topography in the reservoir is not ideal but is acceptable. The valley widens, the slopes flatten and the stream gradient is relatively flat upstream from the damsite. The height of dam necessary to store 9,000 ac-ft is about 150 feet.

Permission needs to be obtained from Boise Cascade to perform a survey of the reservoir area. This survey is necessary to improve on the USGS quadrangle map's 40 foot contour interval topography and to have a better basis for stating the height of dam necessary to store 9,000ac-ft.

Hazards.

No unusual hazards

Potential hazards to the project include earthquakes, floods and slope movement. These are hazards that need to be considered in the design of any dam. No hazard that would exclude the development of a dam was identified.

Construction.

Ordinary construction considerations

A survey of potential construction materials will be needed to help decide the best and most economical type of dam to build at this site. Possible types of construction include earth or earth/rock fill, and roller compacted concrete. The goal would be to identify a source of local materials for the construction to minimize the volume of imported materials. The construction will be visible from Highway 101 and the primary access to the site will be from Hwy 101.

Operation.

Acceptable conditions

Watershed ownership is by a few timber companies. Most water supply reservoirs in western Oregon have timber operations in their drainage basins. It is desirable to work with timberland operators to insure operations that are compatible with a water supply. Good road building and logging practices are necessary to limit reservoir siltation, and in conjunction with careful control of the reservoir levels, are necessary to limit the potential for slides in the basin and reservoir area.

ENVIRONMENTAL ASSESSMENT

Generally favorable

Rocky Creek fish issues were reviewed by Chuck Huntington of Clearwater BioStudies, Inc. The proposed ODOT passage under Hwy 101 was reviewed by Paul Tappel of Fisheries Consultants.

Fish.

No anadromous fish since mid 1950's.

Highway culvert discharge to ocean - about 800 feet downstream from the damsite drops about 35 feet into the ocean blocking fish passage.

The presence of the dam and reservoir would transform a portion of Rocky Creek from a stream environment to a reservoir environment.

Approximately 800 feet of stream between the dam and Hwy 101 would be transformed from the normal streamflow to a greatly reduced flow. Much of this area is a small pond that would still be maintained by seepage flows and minor releases.

A natural barrier at about RM 2.7 (very close to the 9,000 ac-ft normal pool elevation) limits the potential for a restored anadromous fishery.

Providing passage at Hwy 101 has been estimated by ODOT to cost about \$1.5 million. (I think this understates the difficulty of this project by a significant margin. ODOT's estimate is very preliminary. When the problem of tunneling into the surf zone is factored into the estimate the costs are likely to escalate by a factor of two or more.)

The native population of Rocky Creek no longer exists to repopulate the stream if passage were restored. Restoration with hatchery fish

would probably be unacceptable. Natural repopulation by stray native fish is the likely preferred mode, but could take many years. At a 5% return, a 'fully restored' (includes stream reach above natural barrier) Rocky Creek system could support 386 adult coho (Present worth of \$1.5 mil at 8% for 30 years = \$133,000 / 386 = \$345 / fish, when it is normally considered a cost effective passage project at no more than \$100 / fish and marginally cost effective at up to \$400).

#### Other wildlife and Wetlands.

The wetlands that would be impacted by this project are typical coastal stream margin wooded wetlands. A plan would be required to mitigate for their loss.

### REGULATORY CONSIDERATIONS

Water Rights                      Perfect example of Legislature's and WRD's stated preference for a water supply development

This is one of only a few regional water supply applications. The review process will need to be monitored closely.

Fish Passage Issue                      Potentially a killer issue

Fish passage is an issue because the present interpretation of the law is that every dam shall provide for fish passage. The Rocky Creek project is an excellent example of a project that should be exempt from the requirement for passage.

1. There are no anadromous fish.
2. There will be less than 800 feet of affected stream downstream from the dam. Seepage and minor releases from the dam will keep this part of the stream alive but separate from the remainder of the Rocky Creek basin.
3. The full development of this site for municipal water has the potential for limiting further development of existing supplies that now affect anadromous streams. It would also make it unnecessary for communities in the service region (potentially all of coastal Lincoln County) from having to develop their own new supplies to meet future growth needs.
4. It is in the public interest to provide a way to meet future growth in water needs with no additional impact to the anadromous fishery.

Salmon Listing                      Potentially a killer issue

Federal listing of the various fish species serves to put pressure on resource agencies to enforce permit conditions that are not compatible with a water supply.