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NEWPORT, OREGON 97365

COAST GUARD CITY, USA

NEWPORT
OREGON

www.newportoregon.gov

MOMBETSU, JAPAN, SISTER CITY

April 1, 2019

Senate Committee on Environment and Natural Resources
State of Oregon Legislature
900 Court St. NE, Salem OR 97301

RE: Support for SB 894

Dear Chair Michael Dembrow and Committee Members:

Please accept this written testimony in support of SB 894, introduced by Senator Arnie Roblan and Representative David Gomberg, which proposes funding to secure the City of Newport's sole source of potable water. Commitment of financial support from the State of Oregon Legislature is necessary now to avoid delays that put our community, residents, businesses, and environment at risk.

The Big Creek Dams hold the City's sole source of potable water to 10,000 residents and 2.5 million visitors per year and **face a threat of total failure** in the event of a moderate earthquake of M3.5 or higher. *Without action from the State of Oregon, the lives and economic livelihood of our community are at risk.*

To ensure the safety of Newport's citizens, environment, and economy, the City respectfully requests an allocation from the State of Oregon's budget this biennium. This funding is necessary to take the next critical steps in replacing the outdated and at-risk infrastructure of the Big Creek Dams with a long-term and seismically-sound solution.

Due to the dams' risk of failure during a likely seismic event, Oregon's Dam Safety Engineer has rated the Big Creek Dams the 2nd and 3rd most structurally deficient dams in the state. Because of the City's close proximity to numerous fault lines, the question of an earthquake affecting the community is a question of *when* – rather than *if*.

This imminent vulnerability is of great concern to City officials and its citizens, as demonstrated by numerous news articles (see attached list) published over the past three years in local publications. In February of this year, a M3.0 seismic event occurred in Lincoln County (Rose Lodge, OR), which is just 37 miles from Newport.

In the case of a moderate or severe earthquake in the region, the dams are vulnerable to complete failure — causing potential loss of life and devastating risks for the health and safety of Newport's citizens and visitors. The immediate threat of failure is compounded by severe threats to the region's fishing economy, which revolves around having access to potable water. **Approximately 7,500 jobs would be impacted by the loss of water supply, and healthcare facilities would be unable to operate. The total economic impact could reach $1B in three years, and could grow to $2B in five years** following the loss of water due to a seismic event.

To avoid these catastrophic results, the time to act to protect water infrastructure is now. Without immediate help from the State, the City is unable to adequately address the most critical infrastructure issue currently facing the Mid-Coast region.

An investment from the State of Oregon to support the replacement of the Big Creek Dams will (1) provide necessary funding to construct the preferred solution, (2) demonstrate that elected officials consider the safety and livelihood of coastal citizens a priority of the State, and (3) provide matching fund to compete for a FEMA 2019 Pre-Disaster Mitigation Resilient Infrastructure Grant the City is pursuing later this year.

Research and identification of the preferred solution, a roller-compacted concrete dam, was thoroughly vetted and underwent many rounds of expert review, including a value engineering assessment. To date, the City has invested over $2.5 million in the project, and the total cost for the dam replacement is estimated at nearly $70 million.

Senator Arnie Roblan and Representative David Gomberg have been kept informed of the problem since 2015, and recently co-sponsored SB 894 to propose funding in a future biennium for the construction of the replacement dam.

We thank you for your consideration and look forward to working with the state to help ensure the health, safety, and economic resiliency of our community.

Sincerely,

Dean Sawyer
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Spencer Nebel
City Manager
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Timothy Gross
Director of Public Works/City Engineer
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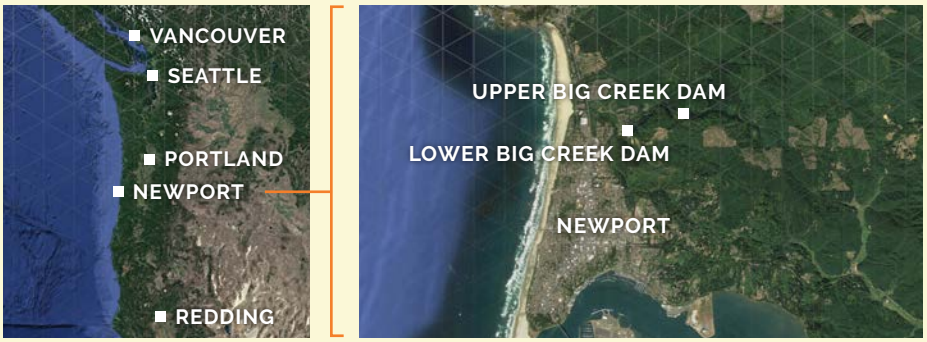
EST. 1882

LOCAL NEWS ARTICLES RELATED TO THE BIG CREEK DAM VULNERABILITY (as of 4/1/19)

Date	News Article Title	Source	Link
3/6/19	Oregon's 90-year-old dam safety laws are getting ...	Statesman Journal	https://www.statesmanjournal.com/story/tech/science/environment/2019/03/06/oregons-safety-laws-review-overhaul/3056945002/
2/21/19	City to highlight vulnerable water supply	Newport News Times	https://newportnewstimes.com/article/save-our-supply
2/5/19	Officials grapple with dam vulnerability	Newport News Times	https://newportnewstimes.com/article/officials-grapple-with-dam-vulnerability
11/20/18	New dam for Newport and vicinity: $70 Million	News Lincoln County	http://www.newslincolncounty.com/archives/212446
4/2/18	Affordable Housing...Grants for new Big Creek Dam, and Gathering Pavilion at the Airport	News Lincoln County	http://www.newslincolncounty.com/archives/199595
10/3/17	Reservoir upgrades urgent	Newport News Times	https://newportnewstimes.com/article/reservoir-upgrades-urgent
4/3/17	Oregon lawmakers push for increased dam safety	Statesman Journal	https://www.statesmanjournal.com/story/news/politics/2017/04/03/oregon-lawmakers-push-increased-dam-safety/100005308/
3/16/17	Multi-use trail system proposed for Big Creek area	Newport News Times	https://newportnewstimes.com/article/multi-use-trail-system-proposed-for-big-creek-area
2/17/17	Newport residents worry about local dam failure	Statesman Journal	https://www.statesmanjournal.com/story/news/2017/02/17/newport-residents-worry-local-dam-failure/98064624/
2/15/17	Two Of Oregon's Unsafe Dams Are In Newport	KLCC - NPR (Oregon)	https://www.klcc.org/post/two-oregons-unsafe-dams-are-newport
2/13/17	7 Oregon dams in 'unsatisfactory' condition	Statesman Journal	https://www.statesmanjournal.com/story/tech/science/environment/2017/02/13/7-oregon-dams-unsatisfactory-condition/97876214/
2/6/17	Big Creek Road between reservoirs	News Lincoln County	http://www.newslincolncounty.com/archives/175618
1/19/17	Exploratory drilling	Newport News Times	https://newportnewstimes.com/article/exploratory-drilling
Jul-15	Newport Facing Major Financial Hurdles to Replace Big Creek Dams	Eugene Daily News	http://eugenedailynews.com/2015/07/newport-facing-major-financial-hurdles-to-replace-big-creek-dams/
7/21/15	Newport Dams Evaluated In New Seismic Report	KLCC - NPR (Oregon)	https://www.klcc.org/post/newport-dams-evaluated-new-seismic-report
1/22/15	Newport ponders Big Wet Elephant in the room...	News Lincoln County	http://www.newslincolncounty.com/archives/134165

CITY of NEWPORT

Big Creek Dams Improvement Project May 2018



The Big Creek Dams are located in the City of Newport, on Oregon's Central Coast.

Background Information

Construction

- Earthen dams
- 1951: Big Creek Dam #1 (Lower Dam)
- 1969: Big Creek Dam #2 (Upper Dam)

Reservoir (Water Storage) Capacity

1200 acre-feet of water
(390 million liquid gallons)

Water Usage

- Winter (year-round residents): 2.5 million gallons/day
- Summer (peak tourist season): 5 million gallons/day

Water Supply At Capacity

- The Big Creek Reservoirs are Newport's sole water supply
- Reservoirs can support a community of 10,000 year-round residents; not the additional 2.5 million tourists per year
- Current water supply is not sized to accommodate future demand or growth
- Reservoirs are unable to store sufficient water to avoid critically-low water levels during peak demand times

Current Situation

Seismically Unstable Water Infrastructure

The soils below either dam could liquefy during a seismic event (3.0 or greater on the Richter Scale), causing significant damage to and/or failure of the dams. As of 2013, **two of the top three most-critical, high-hazard dam projects** in the State of Oregon according to Oregon's Dam Safety Engineer are **the Upper Big Creek Dam and the Lower Big Creek Dam.**

Seismic Threats

1. Cascadia Subduction Zone (CSZ)
2. Crustal Faults within 62 miles (100km) of the Big Creek Dams
3. A significant tsunami is likely to follow any seismic activity of 7.0 magnitude or above

IN THE NEXT 50 YEARS

1 IN 3 CHANCE OF A
BIG CASCADIA EARTHQUAKE

1 IN 10 CHANCE OF A
M9+ CASCADIA EARTHQUAKE

Oregon State University professor Chris Goldfinger,
The New Yorker, July 20, 2015

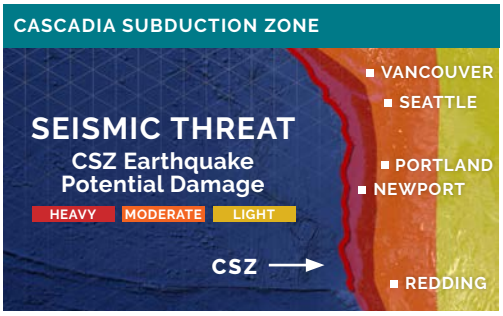
STATEMENT OF NEED

If the dams fail due to seismic vulnerability:

- Newport's sole water supply will be impaired for years
- Bridge failures and landslides will block access roads
- The City will be isolated for long periods of time adversely affecting the population, regional economy and environment

SOLUTION

To obtain the funding to design and construct a Big Creek replacement dam.



CRUSTAL FAULT	MAXIMUM MAGNITUDE	DISTANCE AWAY
Yaquina Faults	6.1	1.9 mi
Waldport Fault	6.4	13.0 mi
Stonewall Anticline	6.8	21.7 mi
Daisy Bank Fault	7.3	28.0 mi
Alvin Canyon Fault	7.2	32.3 mi
Wecoma Fault	7.3	32.3 mi
Turner and Mill Creek Faults	6.6	48.5 mi
Happy Camp Fault	6.6	51.6 mi

Parameters for Faults within 62 miles (100 km) of the Big Creek Dams, USGS 2014

SAVE OUR SUPPLY

Potential Impacts of not replacing the Big Creek Dams

Community & Human

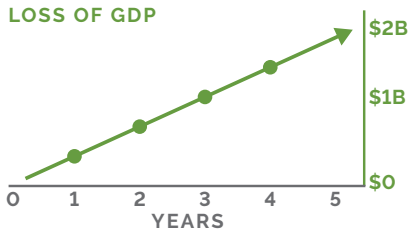
- More than 10,000 year-round residents (in Newport's 6000 households) and 2.5 million tourists could be without a public water supply for at least one year
- Almost 7,500 jobs would be significantly impacted or lost, reducing income for citizens in the region
- There is potential for loss of life
- The City's health care facilities and many businesses may be unable to operate without water
- Seniors and families may not be able to remain in their homes long-term

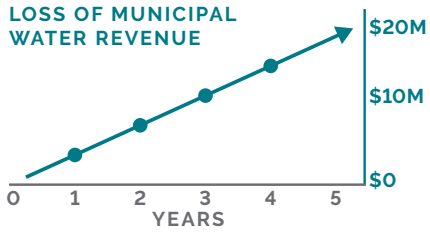
Environmental

Crucial infrastructure, property and land would be at risk of being heavily disturbed or destroyed.

Economic

The economic impact of a water supply loss will only continue to grow over time.





- Partial or complete disruption to the City's water supply will negatively affect the operation of local industries such as tourism, fish processing, brewing & distilling, and oceanographic research & education
- Businesses and citizens will relocate to other communities

Project Projections

Estimated Costs

The City has an opportunity to combine local, state and federal resources to complete the dam project, while minimizing the tax burden on Newport citizens.

EXPENSE	COST RANGE
Dam solution implementation (construction of new dam and decommissioning existing dams)	$32–39M
New access roads, ecological restoration, other necessary amenities and infrastructure	$7–8.5M
Watershed restoration at Big Creek	$1–1.5M
Design and construction contingencies	$21–26M
Total Costs	**$61–75M**

Estimated Timeline

PHASE	DESCRIPTION	DURATION	TARGET TIMELINE
1	Design Concepts for New Dam	1 Year	2018
2	Design, Permitting, Bid Period	2 Years	2019 & 2020
3	Construction	3 Years	2021–2023
	Total Project Duration	**4–6 Years**	**Present–2023**

NEXT STEPS

Significant research, environmental permitting and design work is needed before construction of the project can begin. Without state and federal support, the City cannot complete the work.

A. Continue replacement option research

B. Pursue funding

C. Replace the dams