

# **Internal Audit Risk Assessment Program Public Works River and Flood Risk Identification**

*September 24, 2010*



**Whatcom County Auditor's Office**

*Shirley Forslof, County Auditor*

**Internal Audit Division**

*Fred Williams, Internal Auditor*

**TABLE OF CONTENTS**

<b><u>ABOUT THE RISK ASSESSMENT</u></b>	<b>1</b>
<b><u>RESULTS OF THE RISK ASSESSMENT</u></b>	<b>2</b>
<b><u>VIEWS OF RESPONSIBLE OFFICIALS</u></b>	<b>5</b>

Prepared by Fred Williams, Internal Auditor

---

# About the Risk Assessment

## Objective

The objective of this risk assessment is to identify significant areas of risk to County operations within the Public Works – River and Flood Division for later comparison to other County-wide risks for the purpose of considering where to best use audit resources.

## Scope

The assessment will identify all major operations of the Public Works – River and Flood Division and significant inherent risks to those operations.

This should not be construed to be a comprehensive assessment since Internal Audit Division resources are limited. This assessment does not evaluate established management controls used to mitigate these inherent risks.

## Methodology

This assessment was performed as follows:

- By meeting with management in a series of short interviews to discuss the operations and perceived inherent risks.
- Reviewing the Public Works – River and Flood Division's website.
- Reviewing applicable sections of the Whatcom County 2009-2010 Final Budget report.

# Results of the Assessment

## Early Flood Warning

The River and Flood Division provides information on short-term predictions of flood activity to emergency workers and citizens, and provide longer-term analysis of water throughput impacts for planning purposes.

This is done by using real-time data, along with information from the National Oceanic & Atmospheric Administration, National Weather Service, to identify flood risks to the community.

Real-time data is acquired by river and stream gauging stations owned by the United States Geological Survey and snow telemetry sites owned by the United States Department of Agriculture National Resources Conservation Services.

Areas of risks to this program may include, but are not limited to the following:

- Inaccuracy in forecasting
- Multi-agency responsibilities may not be clearly communicated
- Communications with citizens and agencies regarding early flood information may not be optimal
- Equipment failure

## Flood Hazard Reduction Program

This proactive program implements projects to result in long-term reduction of future flood damage and public expenditures for repairing flood damaged areas.

The implemented projects are based on the Comprehensive Flood Hazard Management Plan. Some projects may be structural to affect the water channels. Others may be non-structural, including acquisitions, relocations and elevation of structures affected by the water channels.

Areas of risks to this program may include, but are not limited to the following:

- Project selection process may not be optimal
- Construction management and oversight risks
- Grant compliance
- Possible negative impacts from structural projects

## Comprehensive Planning

The goal of comprehensive planning is to consider and strategically approach flood issues from a basin-wide perspective. Currently, the Flood Control Zone District has adopted the Lower Nooksack River Comprehensive Flood Hazard Management Plan.

The plan is developed in conjunction with the Flood Control Zone District Advisory Committee

Areas of risks to this program may include, but are not limited to the following:

- Hydraulic modeling may not accurately account for all physical processes affecting flooding
- Potential lack of coordination with public interest and other agencies
- The plan may not be sufficiently updated in an ongoing manner
- The plan may still not be sufficiently comprehensive

### **Preparedness & Response**

This program coordinates with the County's Division of Emergency Management to plan and implement a coordinated response during flood events.

Preparation measures include a newsletter: Flooding in Whatcom County, a coordinated annual meeting in October hosted by Division of Emergency Management, training of staff and volunteers regarding flood emergency response techniques, provisions of sand and bags and ensuring the availability of other equipment. Public Works road maintenance crews participate as emergency workers.

Areas of risks to this program may include, but are not limited to the following:

- Insufficient materials for sandbagging
- Insufficient volunteers during a flood
- Breakdown of coordination efforts
- Communication devices (ie. radios) may not be adequate during an incident
- Necessary equipment may not be available during an incident

### **National Flood Insurance Program**

The County participates in the National Flood Insurance Program and the Community Rating System. These federal programs provides citizens the added benefits of flood insurance, reduced insurance premiums, and availability of state and federal disaster assistance after flood events occur.

The County sets development restrictions for floodplain areas

The River and Flood Division performs the following:

- Flood reviews
- Develop and proposes permit conditions for development within floodplain areas in the unincorporated areas
- Review development permit applications for approval
- Coordinate with other County operations
- Works with FEMA to update flood plain mapping

Areas of risks to this program may include, but are not limited to the following:

- Coordinated processes with other County operations may not be optimized.
- Efficiency of permit application review
- Grant compliance.
- Compliance requirements related to the Endangered Species Act.

## **Repair & Maintenance**

Repairs and maintenance of water structures are performed in conjunction with other local sponsors, including other local districts and property owners.

Areas of risks to this program may include, but are not limited to the following:

- Cost-sharing may not be done in an equitable manner.
- Projects may not be clearly cost-beneficial.
- Compliance requirements related to the Endangered Species Act.
- Construction management and oversight risks.
- Grant compliance.

## **Technical Assistance**

The River and Flood Division collects, maintains and updates flood event data.

They provide technical assistance to private citizens and businesses located along water bodies in Whatcom County.


They provide administrative and technical assistance to roughly 22 special districts, including diking, flood control sub-zones, drainage, and a flood control district.

Risks to this program may include, but are not limited to the following:

- External parties may not design or permit a project in accordance with regulatory requirements, despite technical services provided.
- External parties may forgo the technical assistance and may initiate a project without cooperative efforts, potentially without permitting.



# MEMORANDUM

DATE: September 30, 2010  
TO: Fred Williams, Internal Auditor  
FROM: Paula J. Cooper, River and Flood Manager   
RE: River and Flood Program Risk Assessment

---

I have reviewed the final draft of the internal audit to assess risk within the River and Flood Program dated September 24, 2010, and I believe the assessment identified the major risk areas within the program.

## **ABOUT WHATCOM COUNTY'S INTERNAL AUDIT SYSTEM**

---



The internal audit system was established on July 1, 1994 by a 1993 Whatcom County charter amendment. The county auditor has the authority and responsibility for the management of the internal audit system. As an independently elected official, the county auditor has the organizational status and objectivity necessary to maintain the independence required to schedule, perform, and report audit activities.

The key purpose of the internal audit function is to promote accountability. As an independent appraisal function, internal auditing provides public officials, legislators and citizens with information regarding the operation and management of county government.

The internal audit system is chartered to perform operational and financial audits of all programs, services and accounts that come under the budget authority of the county. Our audits are designed to comply with applicable professional standards. Results of the audits are published in individual audit reports, and are made available to the public.

Comments or questions about the internal audit system can be directed to:

Shirley Forslof, County Auditor	(360) 676-6740 ext. 56744
Debbie Adelstein, Chief Deputy Auditor	(360) 676-6740 ext. 50065
Fred Williams, Internal Auditor	(360) 676-6740 ext. 50049

Copies of audit reports may be obtained in the following manner:

Request a copy in writing to:  
Whatcom County Auditor's Office  
311 Grand Avenue, Suite 103, Bellingham, WA 98225

Request a copy by telephone (360) 676-6740, or fax (360) 738-4556.