Provincial Flood Mitigation Report (2006) – Status Update
[Groeneveld Report]

2006 Report Recommendation	Status Update
AENV coordinate the completion of flood risk **maps** for the identified **urban** flood risk areas in the province.	River Forecast Section prepares flood hazard/risk maps studies on behalf of ESRD, as part of the Flood Hazard Identification Program (FHIP). Successful community adoption of flood maps currently depends on local acceptance and bylaw amendment. 57 flood hazard studies that meet FHIP standards have been completed to date. This includes studies completed in priority areas not originally identified in the 1989 Canada-Alberta Flood Damage Reduction Program list of 66 communities, such as the Cypress County hamlets of Irvine and Walsh.
AENV develop a **map maintenance** program to ensure that the flood risk maps are updated when appropriate.	Map maintenance projects, including updates, revisions and replacements, are currently done on an as-required basis. Map maintenance process development and documentation is ongoing. Eight existing studies that provide detailed information for flood hazard mapping have been revised.
AENV identify priority **rural** flood risk areas that require flood risk **mapping** and develop a program to prepare the maps.	Rural mapping program development and documentation is ongoing by River Forecast Section staff. A pilot project was conducted in fiscal year 2011/12 under the Flood Hazard Identification Program umbrella. ▪ A flood hazard study was conducted in partnership with Woodlands County as a pilot project. It was contracted out by Woodlands County and the River Forecast Section, funded by Woodlands County. ▪ The pilot project provided insight into rural flood risk mapping program challenges.
AENV co-ordinate the determination of the 1:100 year still water **lak**e elevation for all gauged lakes in the province.	To date, 25 lake level frequency analyses have been completed by ESRD's regional hydrologists. Additional work is required to complete analyses for lakes across the province.
AENV continue to **collect** high-water elevation, aerial photography and other appropriate data whenever a significant flood occurs and share this information with local authorities.	High-water mark information is collected as necessary and possible to document the severity of flood events, support flood mapping and forecasting, and aid in hydraulic model calibration. This activity is flood dependent. 243 highwater mark surveys have been conducted since 1952 ▪ at 115 different river reaches or areas, along 95 rivers ▪ for 35 different years with significant flood events ▪ 20 surveys were conducted for the 2005 floods Since the Provincial Flood Mitigation Report of 2006, 36 high-water mark surveys have been conducted. The collection of aerial flood photos is flood dependent. Aerial flood photo collection is managed by the River Forecast Section but has typically been funded by disaster recovery programs. Aerial flood photos are available for purchase from the ESRD Air Photo Distribution Centre. 240 aerial flood photo sets have been collected since 1949 Since the Provincial Flood Mitigation Report of 2006, 9 aerial flood photo sets were collected:1 set for 2007 floods in Central Alberta and 8 sets for 2010 floods in Southern Alberta.
AENV make historic flood information available to the public on its **web site**. Suitable information would include historic high-water elevations, flood risk reports, and flood photography.	Historical flood reports, high-water mark reports and aerial flood photo indices are available upon request by contacting the River Forecast Section. Some information is available on the Flood Hazard Identification Program website, including flood risk report summaries and flood hazard mapping though a GIS map viewer. Since the Provincial Flood Mitigation Report of 2006, ▪ a project to re-digitize the paper-based mapping of 32 flood risk reports was completed in fiscal year 2011/12 ▪ a pilot project that involved geo-referencing non-digital aerial flood photography was completed during fiscal year 2012/13. Similar geo-referencing work continues with additional funding in 2013/14 fiscal.

The Minister of Environment **designate** a flood risk area after the responsible local authority has had an opportunity to review the maps and provide comments on the technical elements. The recommended time period for designation is within six months of receiving the maps.	22 out of 48 finalized flood hazard/risk areas identified by the River Forecast Section are currently designated under legislation. • Designation occurred between 1991 and 2003 • 20 were designated prior to the Water Act of 1999 by both Provincial and Federal Ministers of the Environment. This designation occurred under the Flood Damage Reduction Program, as outlined in the "Agreement Respecting Flood Damage Reduction and Flood Risk Mapping in Alberta" signed by both levels of government in April 1989. • 2 were designated under the Water Act of 1999 by the Provincial Minister of the Environment: Okotoks in 2000 and Sundre in 2003.
A **notification system** be established that will inform any potential buyer that the property is located within a designated flood risk area.	Flood risk maps can be currently accessed on the government website in a searchable spatial database but are not directly linked to property title. All forms of notification and education are advantageous to achieving program objectives related to enhanced public safety and reduced future flood damages.
Alberta Municipal Affairs, in consultation with Alberta Environment prepare an **information bulletin** on the subject of planning for flood-prone lands to be circulated to municipalities.	Information regarding flood proofing and emergency preparedness is led by Municipal Affairs. Education is a critical component of successful flood management. Environment and Sustainable Resource Development and Municipal Affairs work collaboratively with municipalities on land planning. Since the Provincial Flood Mitigation Report of 2006, River Forecast Section has provided local authorities with guidance when requested.
The provincial government develop programs to **cost-share flood mitigation** measures to protect existing development in urban and rural areas. The costs should be shared among the federal, provincial, and local governments. In the case of individuals, they could cost-share directly with the federal government.	A flood mitigation committee was established after the 2010 floods in Cypress County. This committee has focused on laying out the framework for any future potential cost-sharing mitigation program.
The provincial government continues to support local authorities to **educate** their citizens on the flood risks to their communities.	Local authority and public education are central to River Forecast Section functions, including the Flood Hazard Identification Program and River Forecast Centre operations. No organized, coordinated or long-term activity is currently undertaken. Since the Provincial Flood Mitigation Report of 2006, River Forecast staff has meet with local authorities when requested.
AENV expand its **forecasting** network to provide an appropriate level of warning for all local authorities exposed to a flood risk.	Since the Provincial Flood Mitigation Report of 2006, implementation of a water information database used by ESRD and certain partners in the River Forecast Centre has been completed. Ongoing maintenance and development to support operational goals remain underway. Communication of warnings and advisories has been expanded through the use of the Alberta Emergency Alert system. New forecasting models have or are being developed through contracting out, including one project in fiscal year 2011/12 and one in fiscal year 2012/13.
AENV and MA work together to explore the potential for extending the provincial flood risk mapping program to an **emergency mapping** program.	Emergency flood mapping is directly related to flood risk mapping. This mapping can capitalize on the information and analyses conducted as part of current flood hazard identification studies. Since the Provincial Flood Mitigation Report of 2006, a prototype project was completed by the River Forecast Section in partnership with the City of Calgary in 2011/2012. This project created new emergency mapping along the Bow and Elbow rivers through Calgary and provided insight into emergency flood mapping program challenges. Numerous local authorities and the Alberta Emergency Management Agency (Municipal Affairs) have expressed interest in this product.