

Souris River Joint Water Resources Board

Structure Acquisition, Relocation
or Ring Dike (StARR) Program

Meeting Materials










- Meeting Attendance Sign-In
- Right of Entry Form
- Draft StARR Program Document
- Comment / Question Forms
- Site Identification on Maps (Sticky Notes)
 - Name
 - Mailing Address
 - Phone Number
 - If you know your neighbor...please list their name and phone number as well

Meeting Overview







- Mouse River Project Rural Alternatives
- StARR Program Overview
- Silver Jackets Assistance
- U.S. Army Corps of Engineers Scope of Work
- What to Expect
- Other Options for Rural Flood Risk Management
- Questions

Mouse River Rural Alternatives

• Evaluation of 12 Alternatives

Alternative	Effectiveness Assessment		Implementation Evaluation		
	Agricultural Impact Reduction	Infrastructure Impact Reduction	Overall Implementability	Greatest Challenges	Anticipated Cost Range
ALTERNATIVE 1 Advanced Discharge from Lake Darling 	Effective at reducing duration of inundation from Velva to Bantry during 1999 and 2001 floods; also somewhat effective for the 1975 and 1979 floods	Minor reduction of impacts for other select floods		Concerns about increased winter discharges; requires modification of Annex A; possible water rights and refuge compatibility issues	\$ Minimal capital cost
ALTERNATIVE 2 Increased Target Discharge at Minot	Minor reduction of impacts for the 2011 flood; effective at reducing duration of inundation from Velva to Bantry for the 1975, 1976, and 1979 floods	Minor reduction of impacts for the 2011 flood; infrastructure impacts worsened for the 1975, 1976, and 1979 floods		Increased inundation for some floods; more homes in 100-year floodplain; possible water rights compatibility	\$ Minimal capital cost
ALTERNATIVE 3 Non-Structural Flood Storage Increase in Lake Darling 	Effective at reducing duration of inundation from Velva to Bantry for the 1970, 1974, 1975, 1976, and 1979 floods	Minor reduction of impacts for other select floods		Concerns about increased winter discharges; requires modification of Annex A; possible water rights and refuge compatibility issues (more so than Alternative 1)	Capital cost
ALTERNATIVE 4 Structural Flood Storage Increase in Lake Darling	Minor reduction of impacts for the 2011 flood	Minor reduction of impacts for the 2011 flood		Relocations; coordination with Canada; recreational concerns	\$\$\$ (\$200-700 million)
ALTERNATIVE 5 Ring Dikes 	No agricultural impact reduction (ring dikes only protect structures)	Effective at reducing impacts to buildings for floods up to the 2011 magnitude flood, but no reduction of impacts to roadways, railroads, or bridges		Individual landowners must provide cost share and conduct maintenance	\$\$ (\$10-50 million)
ALTERNATIVE 6 Boundary Diversion	Effective at reducing impacts for the 2011 flood in all reaches	Effective at reducing impacts for the 2011 flood in all reaches		Major negative impacts; many for many of the criteria, including permits, impacts to Canada, relocations, constructability	\$\$\$\$ (\$2-8 billion)

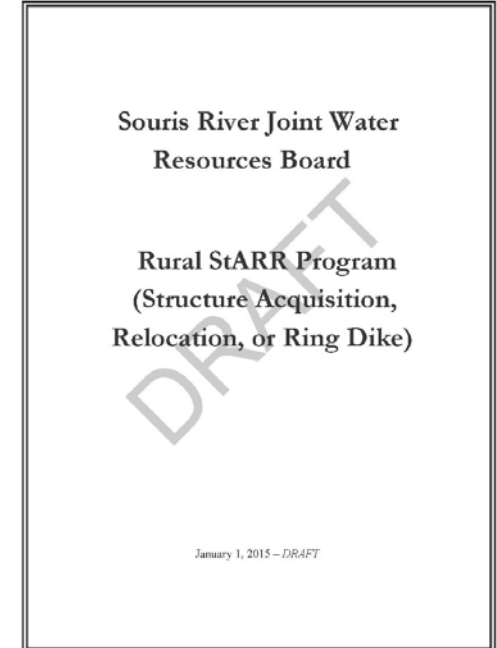
StARR Program

Alternative	Effectiveness Assessment		Implementation Evaluation		
	Agricultural Impact Reduction	Infrastructure Impact Reduction	Overall Implementability	Greatest Challenges	Anticipated Cost Range
ALTERNATIVE 7: Channelization Improvements Downstream of Velva	Minor reduction of impacts	For the Velva to Bantry reach, effective at reducing impacts to buildings for the 2009 flood; minor reductions in impacts to roadways and railroads for the 2009, 2010, and 2011 floods		Likely difficulty in obtaining USACE permit for channel excavation	\$\$ (\$100-400 million)
ALTERNATIVE 8	Minor reductions of impacts	Effective at reducing impacts to bridges, but minor or no reduction of impacts to buildings, roadways, or railroads		Some environmental and erosion/sedimentation impacts	\$\$ (\$30-100 million)
ALTERNATIVE 9 Modify JCSNWR Dam Operations	Minor reduction of impacts for the 2010 flood in the Bantry to Westhope reach	Minor reduction of impacts to roadways and railroads for the 2010 flood in the Bantry to Westhope reach		Likely difficulty in obtaining USFWS and USACE permits; compatibility issues with refuge missions	\$ Minimal capital cost
ALTERNATIVE 10 Modify JCSNWR Hydraulic Structures	Minor reduction of impacts for the 2009, 2010, and 2011 floods in the Bantry to Westhope reach	Minor reduction of impacts for the 2009, 2010, and 2011 floods in the Bantry to Westhope reach		Likely difficulty in obtaining USFWS and USACE permits; compatibility issues with refuge missions	\$\$ (\$30-100 million)
ALTERNATIVE 11 Remove Trapped Water after the Flood Recedes	Impact reduction is likely if (1) topography allows the trapped water to be conveyed back to the channel by gravity and (2) elevation of the river has receded below the drain outlet by approximately May 31	Minimal reduction of impacts expected; depends on final locations implemented		Concerns about erosion downstream of culverts; ongoing maintenance to maintain effectiveness	\$ (\$3-10 million)
ALTERNATIVE 12 Flood Storage on Tributaries to the Mouse River	50% and 70% reduction scenarios are effective at reducing inundation during the 2009 and 2010 floods	50% and 70% reduction scenarios are effective at reducing inundation during the 2009 and 2010 floods		Site identification; possible difficulty in obtaining permits	\$\$ (\$10-340 million)

StARR Program Overview

StARR Program Document and Rules Currently in DRAFT Form

- Modifications Based on Input from Rural Residents
- Modifications Based on Input from Funding Agencies
- Final Policy Determination by Souris River Joint Board



StARR Program Overview

SRJB Will Provide Financial and Technical Assistance to:

- Remove Structures from 2011 Flood Plain
 - Purchase and Demolition (Acquisition)
 - Relocation to Higher Ground
- Protect Structures within 2011 Flood Plain
 - Construction of Ring Dikes
 - Will not Remove Requirement for Flood Insurance

StARR Program Overview

Land Owners Will Agree to:

- Provide Access to the Property
 - Right of Entry Agreement
- Prevent Construction of Future Structures within 2011 Flood Plain
 - Funding Agency Requirements
 - No-Build Easements, Deed Restrictions, etc.

StARR Program Overview

The Process:

1. Contact by Interested Land Owner / Right of Entry Authorized
2. Determine Eligibility of Structure(s)
 - In 2011 Flood Plain, In 100-Year Flood Plain, Previously Abandoned, etc.
3. Appraisals of Structure(s)
 - Establishes Maximum Participation from SRJB
4. Selection of Risk Reduction Method (Acquisition, Relocation, Ring Dike)
5. Implementation and Closing

StARR Program Overview

Current Unknowns:

- Final Policy Determination
 - Input from Stakeholders
 - Input from Funding Agencies (SWC, Minot, etc.)
 - Action by SRJB
- Local Cost Share
 - There will be a local cost share requirement (5%-25%)
 - SRJB is working to minimize local cost share through ongoing work with funding agencies (SWC, Minot, County Commissions, etc.)

StARR Program Overview

Preliminary Schedule:

- Rights of Entry Secured by May 2015
- Field Work Completed August 2015
- Final Report Completed October 2015
- Final Policy Determination October 2015
- Implementation Start November 2015
- Implementation Complete November 2017

North Dakota Silver Jackets

...are a Flood Risk Management Team formed for the purpose of enhancing intergovernmental partnerships that result in comprehensive and sustainable flood risk reduction measures for North Dakota.

Includes representatives from:

- North Dakota State Water Commission
- North Dakota Department of Emergency Services
- U.S. Army Corps of Engineers
- FEMA
- NRCS, NWS, USFWS, USGS, NDGS



North Dakota Silver Jackets

N.D. Silver Jackets Projects Include:

- Aerial Photography and LiDAR Data Collection
- Community Assistance w/ Levee Safety Issues
- Development of Hydrologic and Hydraulic Models for Flood Emergency Preparedness Planning



North Dakota Silver Jackets

N.D. Silver Jackets Projects Include:

- Basin-Wide Precipitation and River Gage Analysis
- Facilitating Development of Emergency Action Plans
- Facilitating Flood-Proofing Workshops
- Collection of Data for Rural Flood Risk Reduction (i.e. the StARR Program)



US Army Corps of Engineers Scope of Work

- Establish Site Bench Mark / Elevation
- Collect Finish Floor Elevations of House, Outbuildings, etc.
- Document Locations of Wells, Septic Tanks, Utility Pedestals, etc.



US Army Corps of Engineers Scope of Work

- Photos of Structures
- Estimate Values of Structures for Planning Purposes (Not an Appraisal)
- Compile Data and Deliver to Souris River Joint Water Resources Board
- SRJB and U.S. Army Corps of Engineers Personnel Will Not Enter Buildings or Disrupt Personal Property



Site Survey Work Process

What to Expect:

- Right of Entry Must Be Signed Giving Permission for the USACE and SRJB Teams to Access the Property
- Right of Entry Sent to Souris River Joint Board
- Right of Entry Signed by U.S. Army Corps of Engineers and Copy Sent to Land Owner

Site Survey Work Process

What to Expect:

- Land Owners Will Be Contacted by Souris River Joint Board With Anticipated Schedule Ahead of Survey Team Arriving
- Survey Team Will Be On Site Collecting Data for Approximately 1-2 Hours
- Land Owners Will Be Contacted by Souris River Joint Board to Discuss the Land Owner's Preferred Risk Reduction Options (Acquisition, Relocation, or Ring Dike)

StARR Program Implementation

What to Expect:

- Additional Meetings Will Be Held to Discuss Final Program Rules Following 2015 Harvest
- Eligibility Contingent Upon Participation in Survey / Granting Permission for Access (i.e. Signing Right of Entry)

Other Options

- There are other alternatives that may be considered (flood proofing, raising structures, etc.)
 - Currently Not Eligible Based on Funding Agency Requirements
- There will be a day-long technical workshop in mid-April to discuss these alternatives

Questions?

Please Don't Forget:

- Meeting Attendance Sign-In
- Right of Entry Form (Forms Must Be Received by May 1st)
- Draft StARR Program Document
- Comment / Question Forms
- Site Identification on Maps (Sticky Notes)