CHAPTER EIGHT: PRIORITIZATION OF ENVIRONMENTALLY THREATENED ALASKA NATIVE VILLAGES FOR FUTURE RISK MAP STUDIES

A long-identified need for providing assistance to Alaska's at-risk communities is a fair, defensible methodology which identifies the communities at greatest risk, thereby enabling resources and assistance to be prioritized to the greatest need. In 2009, the Immediate Action Working Group noted in its Recommendations Report to the Governor's Climate Change Sub-Cabinet:

> *"The number of potentially affected communities impacted by climate change phenomena will grow and will require a systems approach if the State of Alaska is to effectively address the increased needs for each community on a prioritized basis."*

Partially in response to this need, in March 2017 the Denali Commission funded the U.S. Army Corps of Engineers Alaska District, the Cold Regions Research and Engineering Laboratory, and the University of Alaska Fairbanks in a Statewide Threat Assessment Project. The goals of this study were to:

1) Assess individual threats to public infrastructure associated with erosion, flooding, and thawing permafrost in Alaska communities
2) Evaluate the combined threat imposed by interactions between erosion, flooding, and thawing permafrost in Alaska communities; and
3) Provide guidance to decision makers regarding the technical information required to develop mitigation or adaptation strategies related to those threats. The assessment focused on 186 communities and was completed in 2019.

Normalized community scores and community ranks were developed for each threat, after which the data was plotted, evaluated, and grouped according to the relative threat level. Communities placed in Group 1 were under the greatest threat from erosion, flood, or thawing permafrost, while communities placed in Group 3 were the least threatened. Group 2 communities were associated with a moderate threat. Criteria for development of each group were based on immediacy, impact, the presence of life safety concerns and required support from outside the region. Communities were also ranked according to combined scores to provide insight into how the threats may compound.

The watersheds selected (pages 155-156) for future Risk MAP studies were identified in the following manner:

- The communities in the Threat Assessment with combined threat scores of less than 30 were initially selected. These were the most threatened communities, all belonging to Group 1 for at least one of the hazard threats, and most belonging to Group 1 for two or all of the three threats (erosion, flooding and permafrost thaw).

- Kivalina, Newtok, Shaktoolik and Shishmaref were removed because these communities have already undergone significant hazard studies, are at the point of implementing solutions, and therefore would not benefit as much as other communities from the Risk MAP process. Emmonak and Kotlik were removed because they have already been prioritized for Risk MAP studies.

- The remaining communities were then grouped by HUC-8 watershed.
  - Communities with combined threat scores of less than 20 (more threatened) were ranked as primary communities.
  - Communities with combined threat scores of 20 or more (up to 29) were categorized as secondary communities.
  - Using this method, if Risk MAP begins in a watershed, primary communities will be studied first and secondary communities will be studied as time and resources allow.

- If a watershed had no primary communities (e.g. only secondary communities), that watershed was removed from the current prioritization and will likely be prioritized at a later date.

Assistance to Environmentally Threatened Communities

In 2019, the State Risk MAP Coordinator developed a new webpage and interactive map on the communities identified as highly vulnerable in the Statewide Threat Assessment:

- Assistance to Environmentally Threatened Communities webpage: https://www.commerce.alaska.gov/web/dcra/PlanningLandManagement/EVCs.aspx
- Interactive Map of Environmentally Threatened Communities: http://dcced.maps.arcgis.com/apps/MapSeries/index.html?appid=8cd30ff01c024413bad404154db699c7

The State Risk MAP Coordinator will provide assistance to these communities to help reduce their risk to natural hazards through community planning assistance and the identification of local mitigation projects. While the village of Kotlik is the first of these communities* to be involved in a Risk MAP study, the plan is for more of these communities to participate in Risk MAP in the future.

**Emmonak, identified as a highly vulnerable community, is also an NFIP-participating community which completed Discovery in 2015.*