



UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

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COMMUNITY AND ECONOMIC
DEVELOPMENT DIVISION

MARCH 22, 1979

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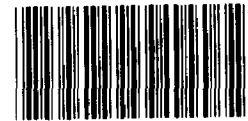
The Honorable Patricia Roberts Harris
The Secretary of Housing and
Urban Development

REC 000203

Dear Mrs. Harris:

The General Accounting Office recently completed a survey of Federal, State, and local efforts to reduce flood losses including certain aspects of the national flood insurance program. During the survey, we identified several issues which we believe warrant your attention. We found that

- mapping program problems continue,
- more emphasis is needed on flood plain management,
- communities need more help to implement the program,
- the 100-year flood plain standard needs to be evaluated, and
- improvements are still needed in the monitoring program.



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This report presents our findings, conclusions, and recommended changes to the insurance program. It also confirms the discussions we had with the Administrator and staff of the Federal Insurance Administration (FIA) on November 30, 1978, and January 17, 1979. They told us that, based on the results of an internal task force study, the Administrator, FIA, decided in November 1978 to make several changes to improve the flood insurance program. Because these changes will affect the other areas we also found deficient, we do not plan any additional work. In about 6 months, we plan to make inquiries to determine the extent to which changes have been made.

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report

BACKGROUND

The National Flood Insurance Act of 1968 (Public Law 90-448) established the national flood insurance program. At first, community participation was voluntary and the response was small. However, the Flood Disaster Protection Act of 1973 (Public Law 93-234) required participation. Subsequently, the number of participating communities increased dramatically from about 2,800 in December 1973 to 16,000 in August 1978. However, FIA has estimated that 20,000 communities are flood prone. The program uses a "carrot and stick" approach in that continued eligibility for participation is contingent upon community adoption of federally set standards designed to control construction of facilities in the 100-year flood plain.

About 3 years ago we reviewed FIA's administration of the flood insurance program and issued a report to the Congress entitled "Formidable Administrative Problems Challenge Achieving National Flood Insurance Program Objectives" (RED-76-94 Apr. 22, 1976). We found FIA had to overcome several major problems inhibiting the timely completion of flood insurance studies and rate maps before the 1983 deadline set by law. Also, FIA needed an effective system to monitor participating communities' compliance with program requirements. FIA agreed that improvements were needed and that our recommendations would be implemented.

Previously, we reviewed the progress toward curtailing disastrous flood losses through controls over the development of flood hazard areas at the Federal, State, and local levels. We found that [Federal agencies had not adequately evaluated the flood hazard before investing in public and private facilities, Federal agencies needed to put more emphasis on technical assistance, and some States and localities had not enacted land use ordinances which would minimize the flooding hazard.] We issued a report to the Congress entitled "National Attempts to Reduce Losses From Floods by Planning for and Controlling the Uses of Flood-Prone Lands" (RED-75-327 Mar. 7, 1975).

Our latest survey was designed to (1) follow up on these reports and (2) identify new problems affecting program administration and the attainment of legislative objectives. We made the survey at FIA headquarters and offices in regions II, III, and VI. We visited cognizant agencies in 4 States and met with officials in 18 participating communities.

We also obtained information from several other Federal agencies, two river basin commissions, and private sector experts. In enclosure I we have identified locations visited. Our observations, conclusions, and recommendations follow.

MAPPING PROGRAM PROBLEMS CONTINUE

Followup on our prior report showed that, although FIA was doing several things to speed up the completion of the flood insurance rate maps, the problem of meeting the 1983 deadline persisted. By 1983 all communities are required to be in the regular insurance program, and rate maps are necessary for a community to participate in the regular program. Rate maps are used to determine the actuarial insurance rates for residential and business properties in the flood hazard area based on the projected elevation of a 100-year flood. As of October 31, 1978, only 2,818 of 16,116 participating communities were in the regular program. FIA said that, although all of the initial rate maps would not be completed by 1983, all would be started by then.

Participation in the regular insurance program allows the purchase of much more coverage for buildings and contents at rates which are still partially subsidized by the Federal Government. For example, the maximum amount of coverage for a single family residential property increases from \$35,000 while a community is in the emergency program to \$185,000 in the regular program. In exchange for the higher coverage, communities must adopt and enforce more stringent flood plain management regulations and have them approved by FIA.

Most of FIA's resources at the field office level and a large share of headquarters resources were directed toward the mapping program. The work was being started faster, but the entire process was still taking about 4 years to complete. FIA was shifting much of the study and mapping work to private firms and away from Federal agencies. FIA said the Federal agencies did not have the resources to handle the workload of the accelerated mapping program and that FIA had better control over the work schedules of private contractors. Through fiscal year 1978, about \$440 million was spent for rate maps and studies.

Other techniques were being used to quickly increase the number of regular program communities. For example without doing any detailed field work, communities were changed from the emergency program to the regular program. These "special conversions" are made for selected, lightly developed communities where no additional development is expected.

In other cases only part of a community was studied in detail, and an approximation method was used in the other part. Thus, those communities were provided an insurance rate map with elevation data for only that part of the community where the flood hazard would affect developed areas.

One State official expressed concern that using an approximation method to map a part of a community and a detailed study method for another part may cause the community some legal problems in equally enforcing its flood plain management ordinances. FIA officials said that this has not yet been a problem. Also, those communities which were converted to the regular program without having a rate map showing flood elevation data may experience problems in implementing the required flood plain management ordinances when needed in the future.

As the mapping program expanded, complaints about map quality grew. The most common complaints we heard at the community level were (1) maps were inaccurate and out of date when issued (under agency rules, maps are to be based on "as is" conditions), (2) engineering firms doing the mapping were unfamiliar with local conditions and did not seek technical input from local officials, although they are required to do so by FIA, and (3) map scales were too large to be of any use. They also did not show topographic information for land areas in the flood plain. The type of detailed map data desired by local planners and building officials was available in the FIA files, but FIA did not make it available to communities.

In May 1978, the agency awarded a contract for a lengthy, \$283,000 study to be completed in November 1980 on ways to improve the mapping. Because of changes in hydrology, especially after a severe storm event, and development inside and outside a community's boundaries, the area which could be inundated by a 100-year flood will change and FIA will have to periodically update maps. The agency expects that its study will benefit the remapping effort more than the initial mapping.

Forty-four States have flood hazard area land use regulations, most of which include the 100-year flood as the standard, according to FIA. Some communities, acting under State enabling legislation, go beyond the flood insurance program regulations and restrict the types of facilities allowed in the 100-year flood plain. For example, some prohibit all residential use. In one large Pennsylvania county, the planning policy is to prohibit all development in an area slightly greater than the 100-year flood plain. In Indiana, communities base their regulations on the flood of record if it was greater than a 100-year flood.

RECOMMENDATIONS

Based on the complaints of local officials, the need for continuous remapping, and the use of more stringent flood plain standards in some communities, we recommend that the Secretary of Housing and Urban Development have FIA:

- Provide communities with all of the detailed data available in FIA files, such as detailed work maps, to help them implement the program.
- Establish a cost-sharing arrangement with localities for the remapping work that will continuously have to be done as a consequence of new development inside and outside the community. We believe local communities should share in the cost to reduce Federal outlays.
- Prepare its rate maps to reflect community flood plain standards if the community's standard is more stringent than FIA's minimal 100-year flood standard. If the community subsequently changes its standard, we believe it should pay the full cost of remapping.

AGENCY COMMENTS

FIA concurred with our observations and the concerns expressed by local and other officials. Regarding the August 1983 deadline for completing the initial rate mapping, FIA stated that it was predicated on an original estimate of only 5,000 flood-prone communities, instead of the 20,000 FIA is now trying to deal with. Also, the

emphasis that FIA put on the mapping program caused other important activities, such as flood plain management, to get less attention than they should have.

FIA also said the entire approach to the mapping program recently was reevaluated with the assistance of outside experts. As a result, several major changes are scheduled for implementation by April 1, 1979. These changes will not only allow FIA to meet the 1983 deadline, but also will reduce the cost of the mapping program. FIA plans to:

- Put rate maps on microfiche, or another system if more efficient, and set up a toll free number so that lenders and insurance agents can call FIA to ascertain if a property is in the flood plain and what the insurance rate should be. The contracting process for the selected system should be completed by July 1, 1979. FIA will use census tract maps or other source maps with the rate maps to verify locations. This process will eliminate the expense of printing thousands of copies of maps and the problems encountered in using them.
- Reassess the number of communities which actually need rate maps. FIA will allow the smaller, less developed communities with minimal flood hazard to either drop out of the insurance program without sanction or convert directly to the regular program phase. If they choose the latter, they will not be required to adopt the ordinance normally required of regular program communities. FIA currently estimates it would need to study in detail only 10,000 to 13,000 communities instead of 20,000.
- Have the Corps of Engineers take over the entire management of the rate mapping program. This would allow FIA to concentrate its personnel resources on other important matters, such as flood plain management.
- Revise the flood insurance rate maps by including other data needed for flood plain management activities, thereby making them more useful.

FIA agreed that our three recommendations had merit. Accordingly, FIA will begin to study the feasibility of using the cost-sharing arrangement and changing FIA maps to reflect local standards. Concerning the first recommendation, FIA said it had already instructed its regional offices to provide communities all available data. The revised flood insurance rate maps will also help local officials implement the program.

MORE EMPHASIS NEEDED ON
FLOOD PLAIN MANAGEMENT

FIA has not sufficiently stressed the flood plain management aspects of the program beyond those activities associated with eligibility for participation in the insurance program. Section 1361 of the National Flood Insurance Act of 1968, for example, calls for FIA to guide development away from flood hazard areas. Research has shown, however, that development of the Nation's flood plains continues and, in certain coastal areas, the availability of flood insurance has actually enhanced development in high hazard zones. In eight of the communities we visited, officials told us that their flooding history had not caused changes in the use of their flood plains.

We also observed that FIA only recently began to study the feasibility of implementing section 1362 of the act, which authorizes FIA to acquire substantially damaged properties. The study will be completed in April 1979. FIA said it was unable to make the study earlier due to lack of funds. We interviewed 23 people living in privately owned residences in the flood plains of 2 communities and obtained their views on the idea of the Federal Government buying their properties and giving them relocation assistance. Seventeen of the people expressed support for an acquisition and relocation assistance program.

FIA policies which appear to be contrary to the objective of minimizing future flood damages include allowing (1) the replacement of structures in the floodway, the area of greatest hazard, --so long as the new structure is of the same size and (2) new construction to raise the height of the 100-year flood level by as much as 1 foot. This could cause damage to the existing structures built to the 100-year flood level.

RECOMMENDATIONS

We recommend that the Secretary of Housing and Urban development have FIA:

- Increase emphasis on features of flood plain management which can lead to minimizing flood damages to the community.
- Inform each community of the consequences of flood plain development and the environmental and other benefits of open flood plains. *and*
- Research the attitudes of flood plain occupants (both residential and business), community influentials, and local officials toward Federal property acquisition and relocation programs.
- Reevaluate its policy on equal density replacement in the floodway and the allowance of a 1-foot rise in flood heights. *7*
- Begin implementing section 1362 of the act in those communities that want to start clearing their flood plain.

AGENCY COMMENTS

FIA had already started redirecting the thrust of its flood plain management activities along the lines we recommend. It also agreed to reevaluate its policies concerning replacement of structures in the floodway and/or allowing a 1-foot rise in flood heights. Any changes to these policies would have to be based on studies of the impact of the changes on communities, especially those with extensive waterfront development. FIA further said that new policies designed to discourage development in coastal high hazard areas need to be formulated. In this regard, FIA is preparing to contract for a study of the costs and benefits of adding a factor for wave heights to flood insurance studies and rate maps for coastal communities.

FIA also agreed to research attitudes toward property acquisition and relocation.

COMMUNITIES NEED MORE HELP
TO IMPLEMENT THE PROGRAM

The availability of technical help could be critical to the progress communities make toward achieving the flood plain management objectives of the law. However, officials in about half of the communities we visited said that, after joining the program, they had no contact with FIA. Some, particularly those in the smaller communities, said they were confused by the complex requirements or did not have the technical expertise needed to make some of the required judgments, such as whether a structure in the flood plain would raise flood heights more than 1-foot. Consequently, some requirements may not have been implemented. Some also complained that FIA does not inform them of rulings, changes, or other program developments.

Officials in only three of the communities we visited said they had received technical assistance on the insurance program requirements or flood plain management in general. In this regard we found that, although several Federal agencies such as the Corps of Engineers and the Soil Conservation Service provide technical help, their programs were essentially passive in nature--they do not volunteer information unless communities ask for it--because of limited resources. In addition, there was no interagency plan for organizing their programs to support the needs of the insurance program.

FIA stated that its emphasis on the mapping program kept its limited personnel from providing more assistance and personal contact with communities in the program. At the same time, we observed that State agencies and river basin commissions with qualified personnel familiar with the flooding problems were not given a role in the administration of the insurance program, although they desired to participate.

Several States and community officials also believed that FIA should establish a training program not only for local operating personnel, but for supervisory and elected officials, too. In this regard, we noted that only one of the three FIA regional offices we visited had prepared a program administration handbook for local officials.

RECOMMENDATIONS

Based on our discussions at the local level and the questions raised about the meaning of certain program requirements, we believe there is a need for more technical help, training, and communications with communities. To supplement Federal resources, we recommend that ^{the} Secretary of Housing and Urban Development have FIA:

- Give State agencies and other entities with qualified personnel a role in the program.
- Initiate a training program which addresses the needs of local officials.
- Use a newsletter or similar device to inform communities of program changes and developments.]

AGENCY COMMENTS

FIA concurred with our recommendations on the need for more technical assistance and communication with communities as well as the need for a training program. Its own study had also shown this. Accordingly, it plans to devote much more time and effort to these areas as its planned changes in the mapping program are implemented. The central office staff and regional staffs will be trained in technical assistance to flood-prone communities beginning in February 1979. Also, the State coordinators for the flood insurance program, as well as regional and local officials, will receive related training to develop local and regional expertise to carry out an effective flood plain management effort of national significance.

Regarding the communities' complaints about not being informed of changes in the programs, FIA routinely sends letters to local officials to advise them of any changes and therefore could not understand the reason for the complaints.

THE 100-YEAR FLOOD PLAIN STANDARD
NEEDS TO BE EVALUATED

FIA flood plain management regulations by themselves can be a vehicle for minimizing flood losses only to those structures that have been elevated or flood-proofed and then only if future floods are less severe than a 100-year event. This is because the flood plain management regulations are concerned with a specific geographic

area--the 100-year flood plain. No controls are required outside of that area, although property owners there can also obtain the insurance. The same standard is used to control most Federal investment in facilities in flood-prone communities, as required by Executive Order 11988 of May 25, 1977.

Using the 100-year flood plain as the single national standard regardless of regional flooding conditions has caused considerable controversy over the years. It was a key issue during hearings held by the Senate Committee on Banking, Housing and Urban Affairs on the Flood Disaster Protection Act of 1973.

Public officials and land developers from areas with wide, relatively flat flood plains subject to low velocity, slow-rising flooding conditions argue that the standard is too restrictive. Too much of their developable land has to be controlled under the insurance program. Also, when newer structures are elevated to the required height by grading the land, runoff causes flooding problems and ponding on adjacent, older properties. Only one community, however, actually made a formal appeal for a lower standard on the basis of the adverse economic effects of the 100-year standard, as provided for in the Federal regulations. But, the appeal was denied.

On the other hand, one study revealed that more than 60 percent of the flood damages from 1959 through 1974 were caused by floods greater than a 100-year flood. Thus, in some other areas of the country, adequacy of the 100-year standard is questionable. For example, a special study of the natural hazards in the Appalachian region found that the 100-year flood plains in several parts of the region were subject to repetitive, dangerous floods. Between 1968 and 1978, there were 127 floods which equaled or exceeded the 100-year flood level in 62 counties. The study concluded that in northern and southern Appalachia there was generally enough land available that was not subject to flooding to support foreseeable development. Thus, more development and expansion in flood hazard zones was unwarranted. Also, great devastation can occur in those communities such as Johnstown, Pennsylvania, with concentrated development near channels designed to carry the waters of a 100-year flood. In those cases, there is, in effect, no flood plain to regulate so the program requirements are meaningless.

We attempted to evaluate the adequacy of the 100-year flood plain standard based on the number of communities actually hit by a flood of that magnitude or greater. However, the evaluation could not be made because data is not maintained by any Federal or State agencies as to the number of communities flooded and the magnitude of the flood in each community. Readings from river and stream gauges can show the flood level at that point, but the number of communities actually affected is not known. Moreover, data is not acquired on the distribution of flood damages on a community basis or the number of flood insurance claims paid inside and outside the 100-year flood plain.

RECOMMENDATION

We believe the appropriateness of the 100-year flood plain as a national standard should be evaluated because of its significance. We recommend, therefore, that the Secretary of Housing and Urban Development have FIA coordinate with other agencies to begin collecting the data required for the evaluation.

AGENCY COMMENTS

FIA concurred with our recommendation.

IMPROVEMENTS STILL NEEDED IN THE MONITORING PROGRAM

Since our last report, FIA established a monitoring program comprised of evaluation visits to communities and an annual report in which communities are to inform FIA of activities such as the number of building permits and permit variances granted for construction in the flood hazard area.

We found, however, that FIA makes relatively few visits to communities. During fiscal year 1978, FIA regional staffs made only 347 visits to the 16,000 participating communities. Also, although communities remain in the emergency program phase for as long as 4 years, the visits usually are limited to communities in the regular program. We observed major differences in the approach, scope, and duration of the visits conducted by personnel from two different regional offices. For example, one regional staff physically checked the elevations of new buildings in the flood plain to verify the records, but the other staff made no such tests. Moreover, the unstandardized narrative reports of the visits do not, in our view, enable ready analysis of problems and trends.

There are also weaknesses in the annual reporting system. The initial response rates have been relatively low (about 66 percent). FIA personnel voiced concern about the accuracy of some reports and, overall, only limited use was being made of the data reported. Moreover, restricting the reporting data to the flood plain does not give an adequate picture of construction activity which could affect flooding conditions. Construction outside the flood plain which could lead to increased storm water runoff should be considered. FIA stated that its regional offices screen the reports to select communities reporting a relatively high amount of activity for an evaluation visit.

RECOMMENDATIONS

Concerning the need for more community visits, we recommend that the Secretary of Housing and Urban Development have FIA:

- Make more visits to communities.
- Visit communities in the emergency program as well as the regular program.
- Standardize the procedure and reporting format for evaluation visits.

With regard to the annual reporting system, we recommend that the Secretary of Housing and Urban Development have FIA:

- Either improve the accuracy, response rates, and utilization of the annual reporting system or eliminate it in the interest of reducing paperwork.
- If the annual reporting system is to be retained, collect data on construction outside the flood plain which could lead to increased storm water runoff.

AGENCY COMMENTS

FIA agreed with our recommendations regarding the community visits but wants to stress the technical assistance aspects of the visit rather than enforcement of FIA regulations. Budget constraints have prevented FIA from hiring additional staff needed so that more monitoring visits could be made.

Regarding the annual reports, FIA believes they should be continued until another method of getting the data is established. FIA could possibly obtain more accurate data on the extent of new development from the U.S. Geological Survey, which monitors development in communities in standard metropolitan statistical areas. Also, FIA agreed that data on building activity outside of the flood plain should be obtained.

OTHER MATTERS

Our followup on the issues covered in our previous report on the program disclosed that the problem of inconsistent Federal policy on requiring flood insurance in the secondary mortgage market is still unresolved. Some federally regulated financial institutions had not been instructed to require flood insurance when purchasing loans in the secondary market from nonfederally regulated institutions. This was because the Federal Reserve Board, the Federal Deposit Insurance Corporation, and the Comptroller of the Currency construed the mandatory flood insurance purchase requirements of the act to apply to original mortgage loans only. On the other hand, the Federal Home Loan Bank Board interpreted the act as applying to both original loans and the purchase of mortgage loan portfolios in the secondary market.

We were informed that the Secretary of Housing and Urban Development forwarded to the Office of Management and Budget in September 1978 a recommendation for legislative change which would resolve the problem by requiring all federally regulated lenders to obtain the insurance.

As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the House Committee on Government Operations and Senate Committee on Governmental Affairs not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

B-167790

We are sending copies of this report to the Chairman, Subcommittee on Housing and Urban Affairs, Senate Committee on Banking, Housing and Urban Affairs; the Chairman, Senate Committee on Environment and Public Works; the Chairman, Subcommittee on Housing and Community Development, House Committee on Banking, Finance and Urban Affairs; and to Senator Thomas F. Eagleton. A copy is also being sent to the Administrator, Federal Insurance Administration.

Sincerely yours,

A handwritten signature in black ink that reads "Henry Eschwege". The signature is written in a cursive style with a large, prominent initial "H".

Henry Eschwege
Director

SURVEY LOCATIONS VISITEDFederal

Water Resources Council	Washington, D.C.
U.S. Geological Survey --Headquarters	Reston, Virginia
U.S. Department of Commerce National Oceanic and Atmospheric Administration --National Weather Service	Silver Spring, Maryland
Economic Development Administration --Headquarters --Regional office	Washington, D.C. Philadelphia, Pennsylvania
Veterans Administration --Headquarters --Veterans Administration Center	Washington, D.C. Philadelphia, Pennsylvania
U.S. Department of Housing and Urban Development --Headquarters --Regional office --Area offices	Washington, D.C. Philadelphia, Pennsylvania Philadelphia, Pennsylvania Camden, New Jersey
Federal Insurance Administration --Headquarters --Regional offices	Washington, D.C. Philadelphia, Pennsylvania New York, New York Dallas, Texas
Federal Disaster Assistance Administration --Headquarters --Regional offices	Washington, D.C. Philadelphia, Pennsylvania New York, New York
Environmental Protection Agency --Headquarters --Regional office	Washington, D.C. Philadelphia, Pennsylvania

ENCLOSURE I

ENCLOSURE I

General Services Administration
--Headquarters

Washington, D.C.

U.S. Department of the Army
Corps of Engineers
--Headquarters
--Division office
--District office

Washington, D.C.
New York, New York
Philadelphia, Pennsylvania

U.S. Department of Agriculture
Soil Conservation Service
--Headquarters

Washington, D.C.

State

Pennsylvania Department of
Community Affairs
--Bureau of Planning
--Bureau of Housing and
Development

Harrisburg, Pennsylvania
Scranton, Pennsylvania

Pennsylvania Department of
Environmental Resources
--Division of Water
Resources

Harrisburg, Pennsylvania

Texas Department of Water
Resources

Austin, Texas

Louisiana Department of Urban
and Community Affairs

Baton Rouge, Louisiana

Regional

Susquehanna River Basin
Commission

Harrisburg, Pennsylvania

Delaware River Basin Commission

Trenton, New Jersey

Montgomery County Planning
Commission

Norristown, Pennsylvania

Sixth District Council of Local
Governments

Rapid City, South Dakota

ENCLOSURE I

ENCLOSURE I

Localities

Pennsylvania

Bloomsburg
Elizabethtown
Hemlock Township
Horsham Township
Lock Haven
Milton
Whitemarsh Township

New Jersey

Carteret
Lincoln Park
Scotch Plains
Sea Isle City

Texas

San Marcos
Houston
Baytown

Louisiana

Jefferson Parish
East Baton Rouge Parish
Denham Springs

South Dakota

Rapid City