



“Floodplain Management 2050”

Second Gilbert F. White National Flood Policy Forum

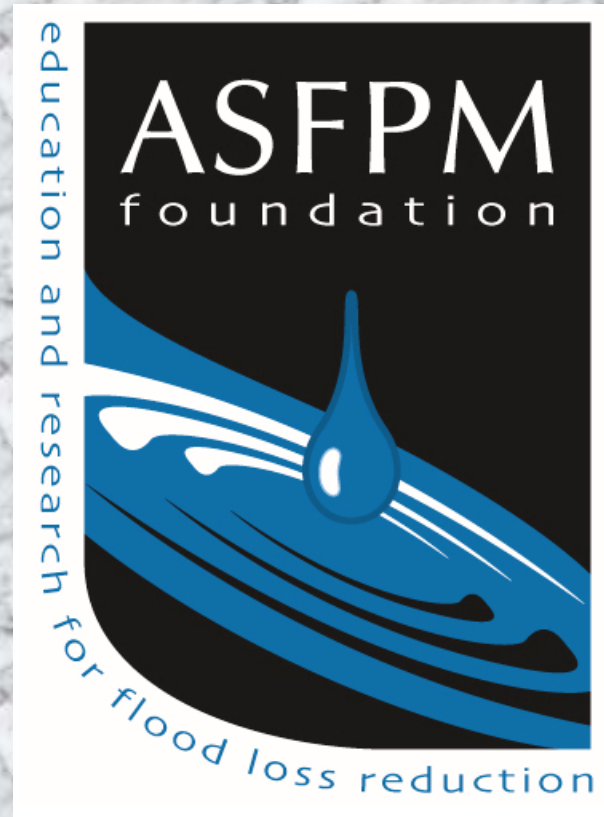
Education and Research for Flood Loss Reduction

WHERE?

George Washington University,
Washington ,D.C.,

WHEN?

November 6-7, 2007





The assembled 92 nationally and internationally recognized experts in floodplain management utilized Gilbert's 8 adjustment factors to form the framework of the Forum.



Education and Research for Flood Loss Reduction



In White's 1942 dissertation—

He iterated eight ways for humans to adjust to flooding:

- 1. Elevation**
- 2. Flood Abatement (watershed mgt)**
- 3. Flood Protection (levees, channels, etc)**
- 4. Emergency Measures**
- 5. Structural Alterations (floodproofing, codes)**
- 6. Land Use (zoning)**
- 7. Relief (public or private)**
- 8. Insurance (indemnification)**



Part I

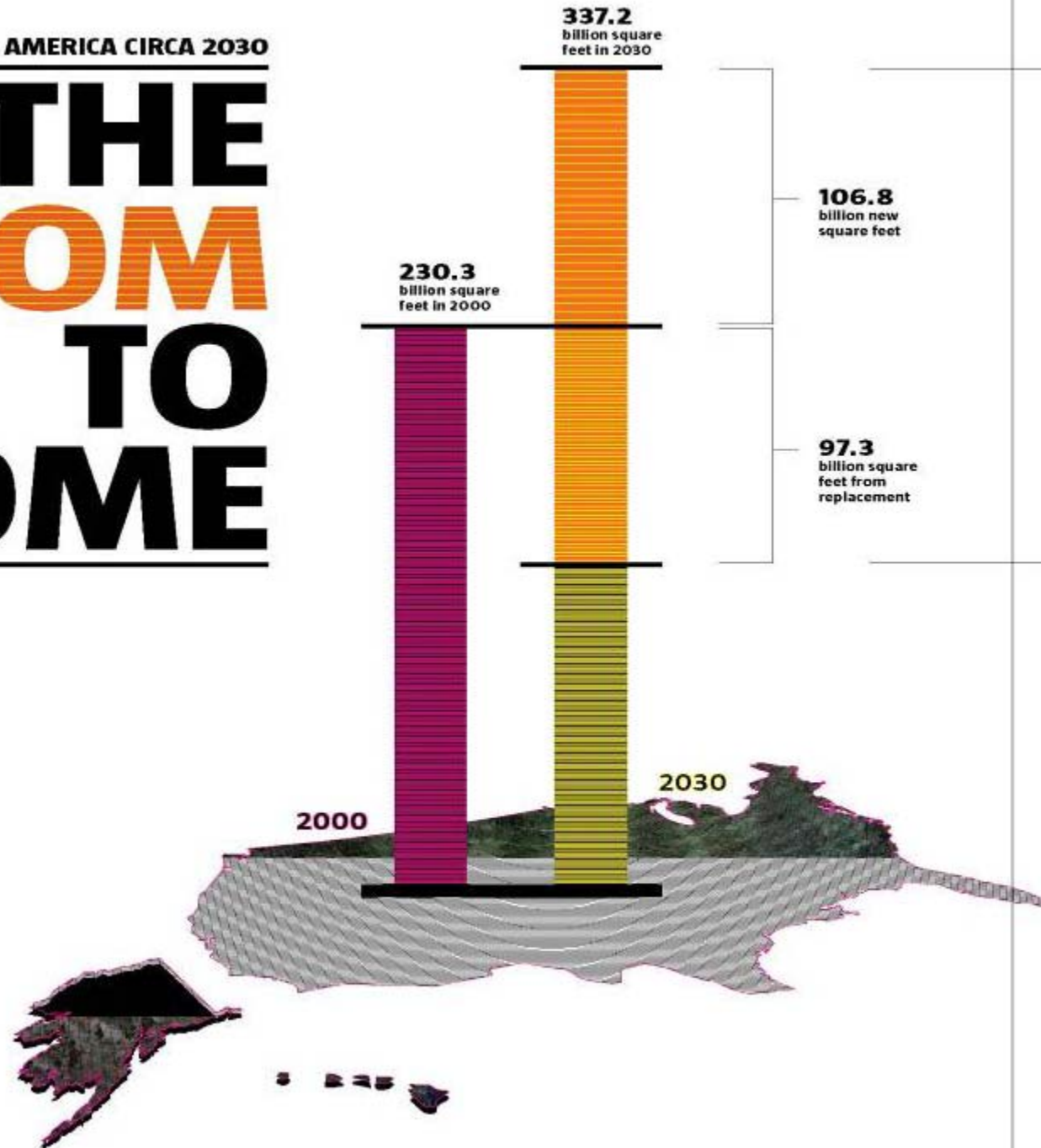
The Drivers of Change

Realities, Trends & Influences

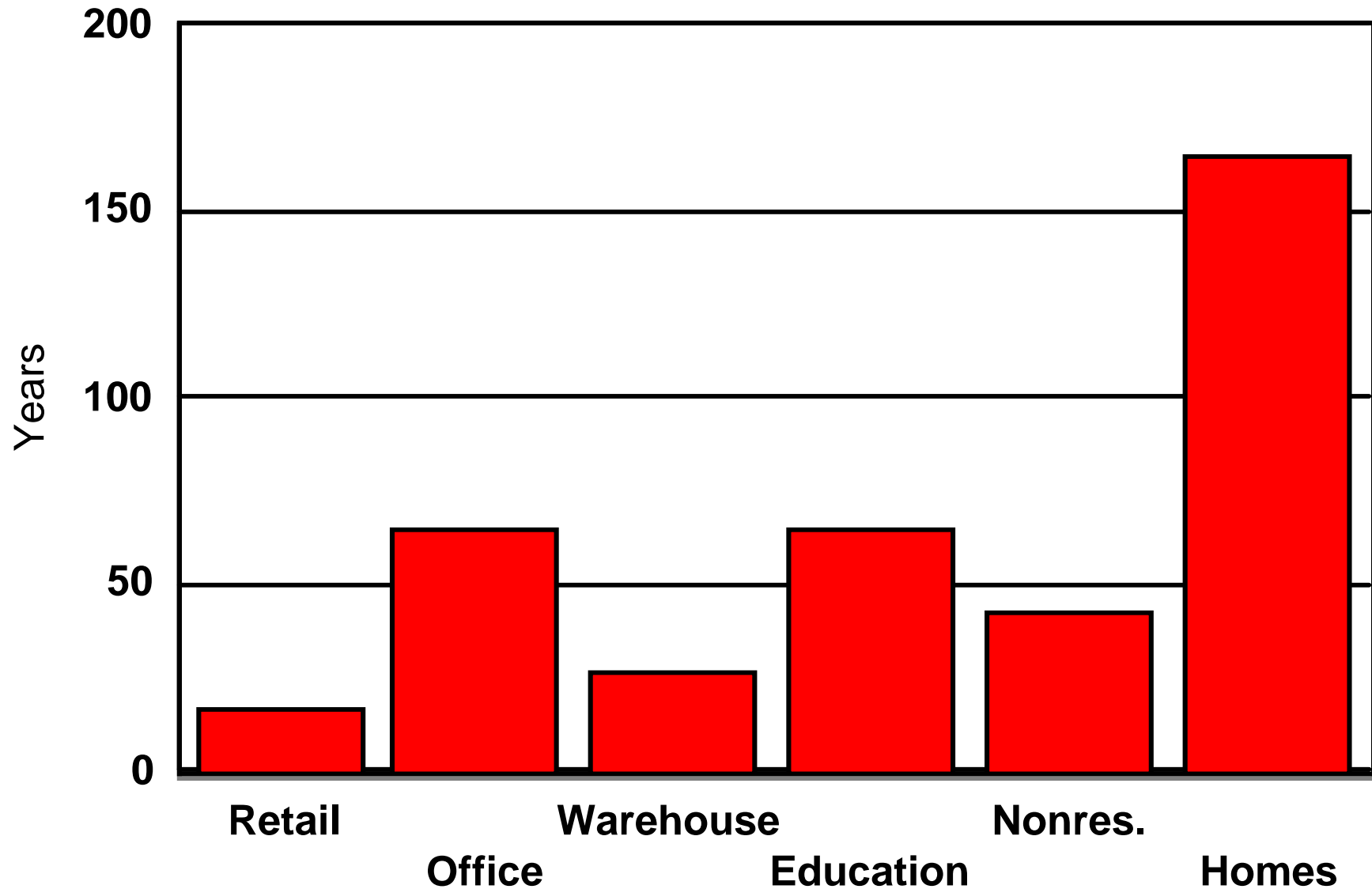
- **Demographic Drivers**
 - **More People— add 100 to 150+ million by 2050**
 - **A Pattern of Movement and Urbanization**
 - **A Different Character (have-have nots--immigrants)**
 - **Same # single head households as families—**
 - **more retired—actuarial tables now go to 120 years**
- **OPPORTUNITY**
 - **Development-40% of all building will be new**

AMERICA CIRCA 2030

THE BOOM TO COME



Life-Span of Building Space





Governance Drivers on the Road to 2050

- Devolution to State/Local Level and to the Private Sector**
- Existing Structure, Laws and Entities Changing**
- Changing Relationship between People and their Government**
- Financial Pressures and Situations**
- People expect governments at all levels to do more, yet they shrink from personal responsibility**



Governance Drivers on the Road to 2050

--Governments have more to do, with less money

--“The federal budget of the future could be almost entirely consumed by entitlements and payment on the national debt”

— G. Tracy Mehan III, The Cadmus Group

--“The planet is awash in private capital, but governments are fiscally challenged”

— G. Tracy Mehan III, The Cadmus Group



The Drivers of Change

- **Natural Resources/Environmental Drivers**
 - Loss of natural protective barriers
 - Water development in the past has occurred by trading off natural resources/environment-- tipping balance against environmental equilibrium
 - Climate change—storm intensity/sea level rise
- **Economic & Technological Drivers**
 - Global economy
 - Technology/information overload



Added factors not in play 50 years ago

- Failure to Maintain and Upgrade Infrastructure
- Recognition of the Need to Save Open Space
- Interdependencies (e.g. on-time inventories)
- Expectation of Services from Government



There Are New, And Faster, Drivers Of Change At Work Today That Affect Floodplain Management

- Other Drivers
 - We are reaching the end of the design life of much of our national infrastructure—roads, bridges, stormwater systems, dams, levees, water facilities
 - Science and technology are tending to outstrip the ability of the public and policy makers to understand and make appropriate decisions



Where Will We Be In 2050 If Business-As-Usual Prevails?

- Forum concluded there is strong potential in the decades between now and 2050 where intensified development in high risk areas accompanied by climate and weather changes, to see;
- more frequent flood disasters, and large, Katrina-like catastrophes as well, and:
- Flood losses will be horrific
- Ecosystem degradation will worsen
- All hope of sustainable communities will be lost
- Quality of life will be diminished



Part II.—Two Visions of the Future

- **Today's Road or an optimal 2050?**
 - **Land Use Management**
 - **Water & Related Resources**
 - **Standards for Development, Building & Critical Facilities**
 - **Flood Insurance**
 - **Flood Disaster Relief & Recovery**
 - **Law of externalities (who wins—who pays)**
 - **Structural Flood Protection**
 - **Awareness and education**



Where We Could Be In 2050 . . .

- **A safe and stable future is within our grasp—IF**
- Land and water (floodplains, wetlands and coastal areas) are protected as precious resources, so—
 - Nature is mitigating flooding
- The market favors sustainable development, so that floodprone construction rarely occurs.
- Development is designed and built for no adverse impact on:
 - flood levels, sedimentation, erosion, riparian or coastal habitat, or other community-designated values.

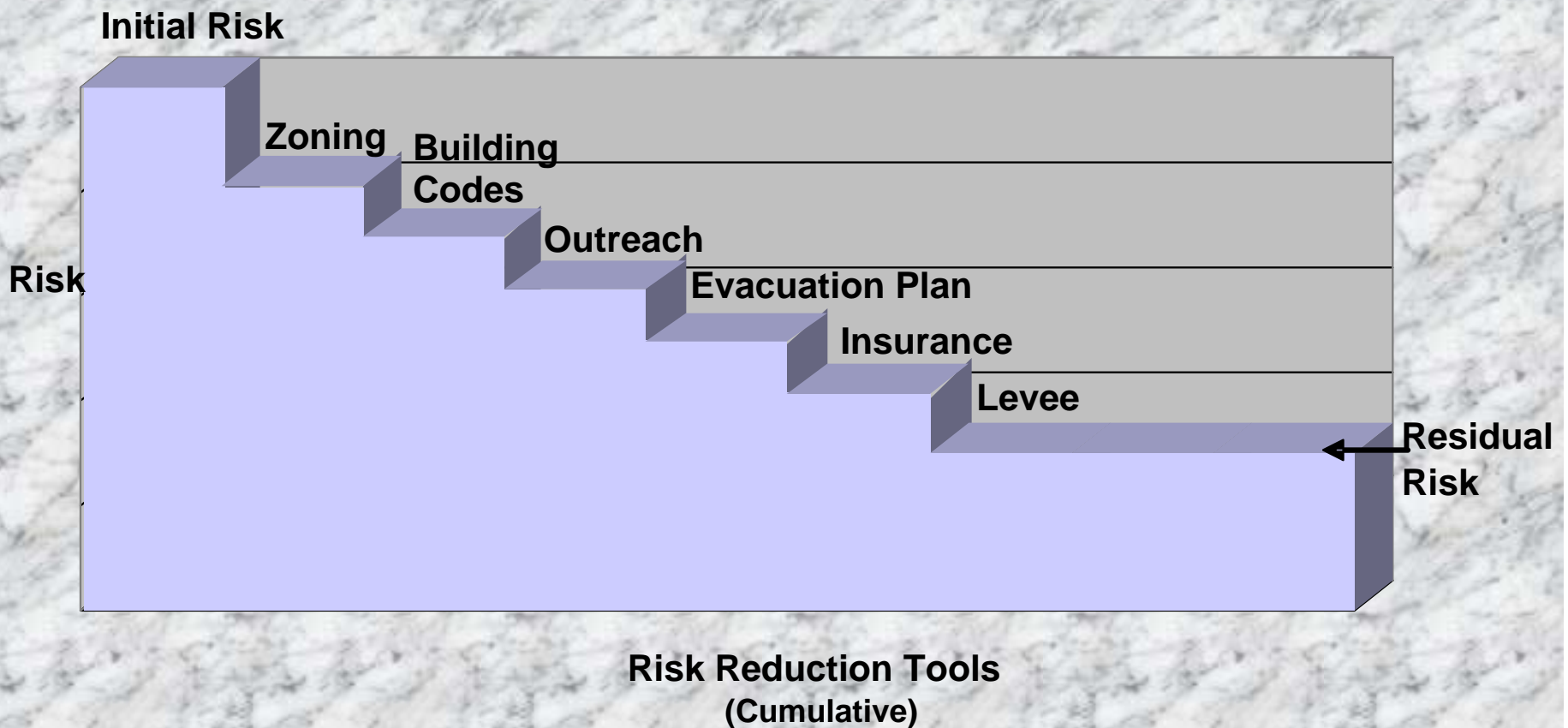


Part III.—The Path To An Optimal 2050

- **Drivers of Change as Opportunities**
 - **More Ways for Humans to Adjust to Floods**
 - **Allow space for Water—floods are natural**
 - **Personal Responsibility—(e.g. actuarial insurance—including residual risk areas)**
 - **Geographic Interdependence-business location**
 - **Awareness and Education of true risk**



FLOOD RISK MANAGEMENT: BUYING DOWN RISK

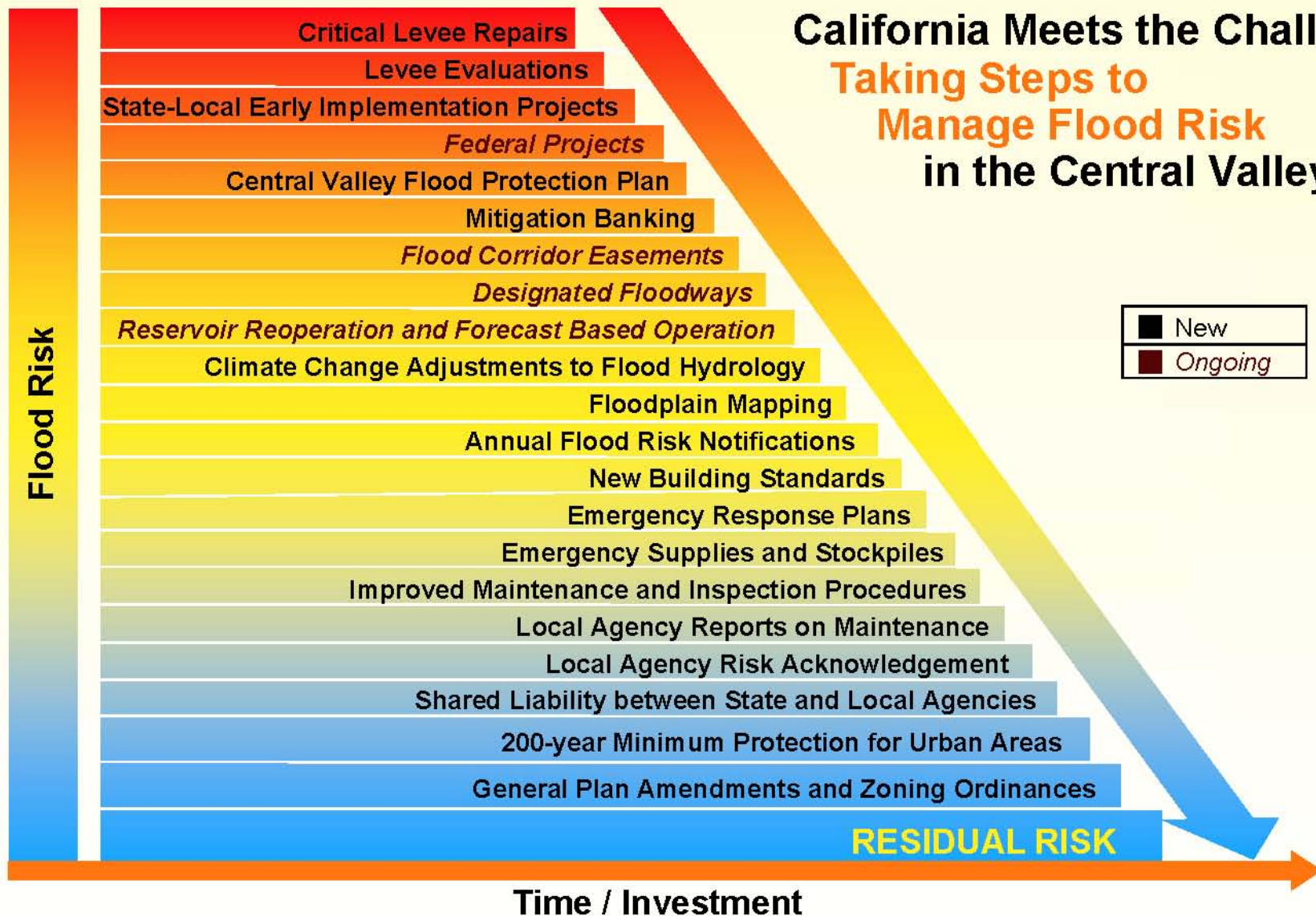


All stakeholders contribute to reducing risk!

Shared Flood Risk Management

INITIAL RISK

**California Meets the Challenge:
Taking Steps to
Manage Flood Risk
in the Central Valley**





Part IV.—An Agenda for Action

- **Retreat from/avoid High Risk Areas**
- **Build National Data Sets**
- **Use Actuarial Flood Insurance to Drive Mitigation and Wise Use of Floodplains**
- **Make No Adverse Impact a Universal Development Standard**
- **Respect the Natural & Beneficial Functions of Riverine & Coastal Floodplains**
- **Apply Scenario-based Mitigation Planning, Nationwide**

Headlines We Would Like To See In 2050

Estuaries Healthy and Expanding, Scientists Say!!!

**Great Flood of 2050 —
No Damage, No
Deaths!!!**

**Disaster Fund
Untapped for Third
Straight Year !!**



What We Need To Do Now

- **Bring About a Renaissance in Governance**
 - **Devolution---**make states the focal point
- **Make Room for Rivers, Oceans, Riparian areas**
- **Restore Natural Functions and Resources**
- **Reverse Perverse Incentives in Fed funding and water resource projects**
- **Develop Personal and Public Responsibility for Flood Risks and Resource Use**
- **Identify and Communicate True Risk**



ASFPM and ASFPM Foundation

- For added information go to:
- www.floods.org
- *Or call (608) 274-0123*