

An Overview of New Jersey's
**Flood Hazard Area
Control Act Rules**

*State of New Jersey
Department of Environmental Protection*

Chingwah Liang

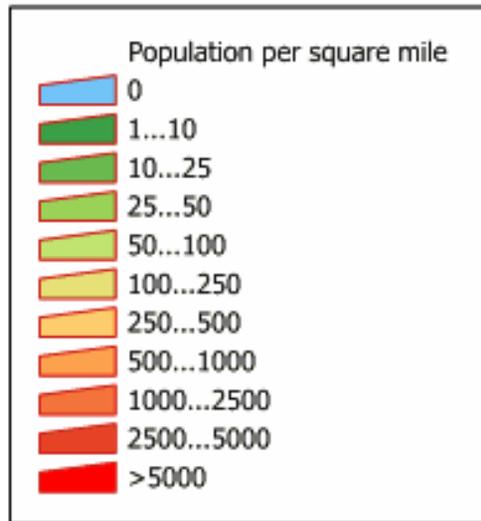


Why Regulate NJ's Floodplains?

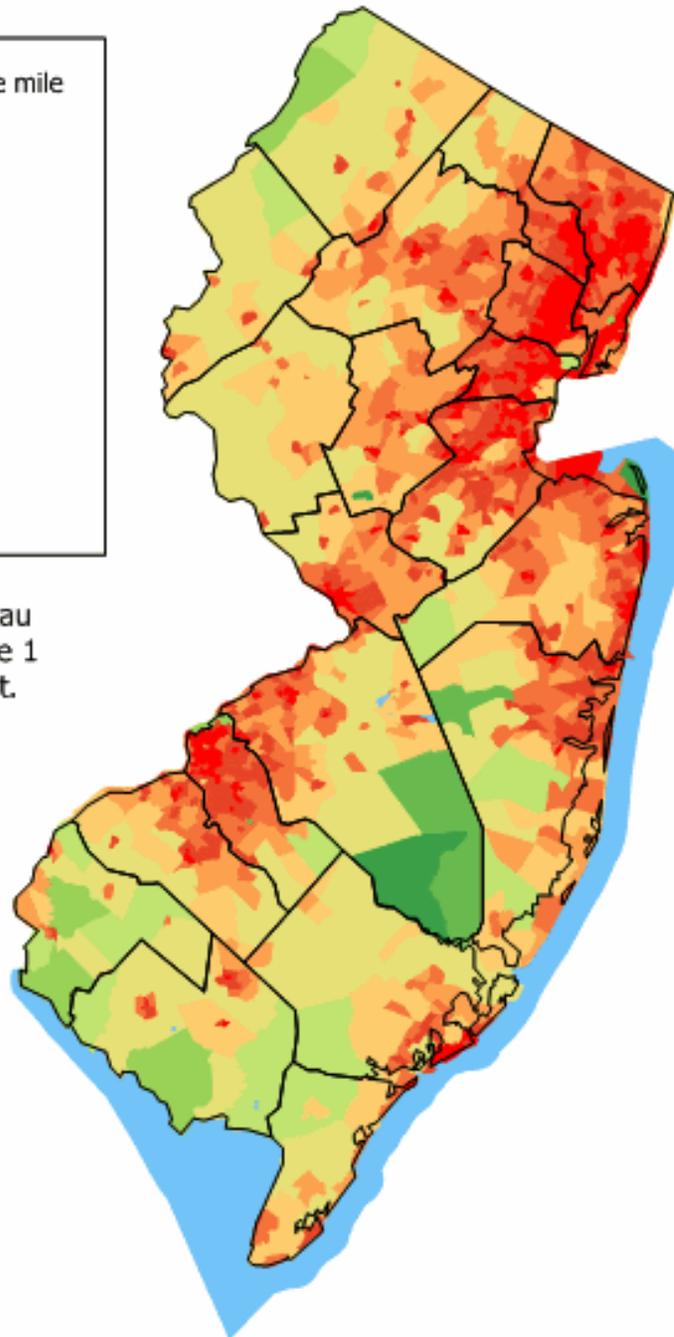
1. New Jersey endures enormous & chronic flooding problems due to its **geography, location,** and high level of **existing development**
2. Unwise development increases flooding
3. Greater flooding leads to greater flood damage
 - Loss of life and property
 - Strain on emergency services
 - Huge economic losses

Flooding in New Jersey

- Our location along the eastern seaboard **guarantees** periodic storms and flooding
- New Jersey contains thousands of miles of waterways, **all of which will eventually flood**
- It has been estimated that **35% of New Jersey** lies in a flood hazard area



Source: U.S. Census Bureau
Census 2000 Summary file 1
population by census tract.



- New Jersey's original settlements were along navigable waterways
- As a result, many of the State's population centers are within flood hazard areas today

Tougher Rules Over Time...

1929: NJ begins regulating stream encroachments

1962: Mapping of **100-year floodplains** begins

1975: **Floodway** rules adopted

1977: **0% net-fill** enacted in Central Passaic Basin

1980: Flood Hazard Area Control Act adopted

1984: **20% net-fill** enacted outside CPB

1995: Stream buffers of 25 and 50 ft adopted

...But Flood Damages Increase

■ Between 1994 and 2003:

- NJ residents filed more than **19,000** flood insurance claims
- NJ residents received nearly **1/4 billion dollars** in flood insurance payments

■ Between 1996 and 2006:

- **Nine Major Disaster Declarations** by FEMA in NJ related to flooding

**“Flooding
is New Jersey’s
#1 Natural Hazard”**

FEMA, August 4, 2004















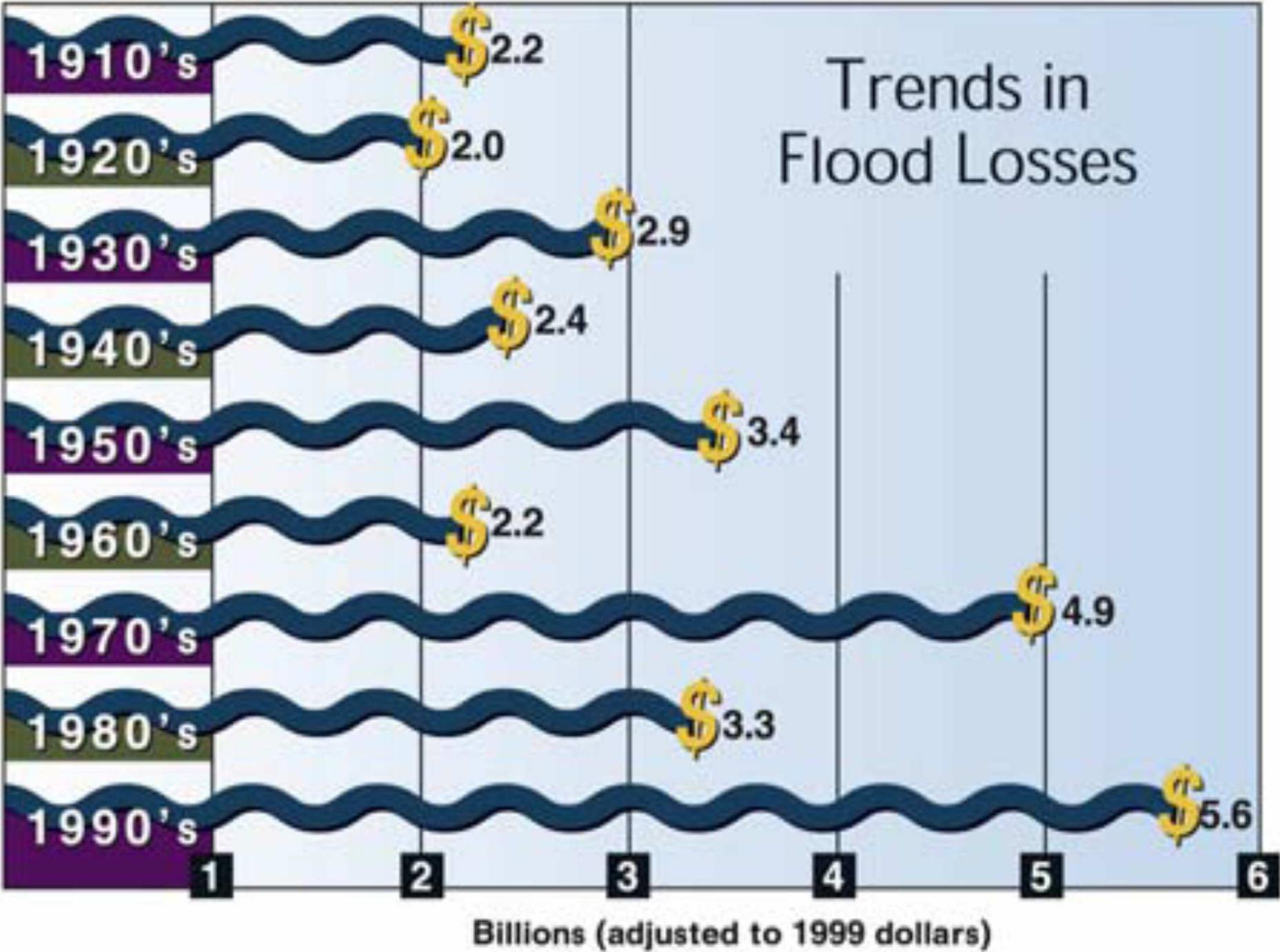






Extreme Financial Implications

- In 2005, Katrina and other hurricanes created **\$18.75 billion in debt** in the U.S. Treasury
- Nationally: 5.6 million policies with an **insured exposure of \$1.2 trillion**
- NJ policies: 228,347 (< 3% of population)
- NJ insurance value: \$50,700,407,700
- NJ losses (1/78 - 7/10): 89,359 (39% of policies)
- NJ payments (1/78 - 7/10): **\$957,649,135**



National Implications

- Despite billions of dollars spent to reduce flood risk, statistics show that flood losses are increasing
- Flood damages and associated costs continue to increase, despite minimum federal standards
- Other factors like demographic shifts toward the nation's coasts and catastrophic events like Hurricane Katrina suggest that this pattern is likely to continue

Implications for New Jersey

- Most densely populated state**
 - + Chronic flooding issues**
 - + 35% of state lies in a flood hazard area**
 - + Enormous development pressure**
 - + Development increases flooding**
-
- = Unsustainable Condition**

Sustainable Development

- Development that meets the needs of the **present** without compromising the ability of **future generations** to meet their own needs. *(The Brundtland Commission of the United Nations, March 20, 1987)*

Creation of Current Rules

- **April 18, 2005:** Acting Governor Codey forms Flood Mitigation Task Force
- **August 22, 2006:** Governor Corzine releases final task force report:
 - Recommends sweeping changes to New Jersey's policies regarding development in flood hazard areas and riparian corridors
- **November 5, 2007:** New Flood Hazard Area Control Act rules enacted

Theme

- **No Adverse Impact:** Ensuring that “...the action of one property owner does not adversely impact the rights of other property owners, as measured by increased flood peaks, flood stage, flood velocity, and erosion and sedimentation...” *Association of State Floodplain Managers, NAI White Paper, April 29, 2004*

Goals

- **Ensure flooding does not increase**
 - Preserve flood storage
 - Prevent obstructions to flow
- **Protect public safety**
 - Construct new buildings and roads above the flood hazard area elevation
- **Provide healthy riparian corridors**
 - Preserve vegetation & channel integrity
 - Protect habitat and water quality



Jurisdiction

- **Step 1:** Determine if you are along a **regulated water**
- **Step 2:** Determine if you are within a **regulated area** along this water
- **Step 3:** Determine if you are proposing a **regulated activity**

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Step 1: Regulated Waters

All surface waters in New Jersey are regulated except:

- 1. Manmade canals: N.J.A.C. 7:13-2.2(a)1**
- 2. Coastal wetlands: N.J.A.C. 7:13-2.2(a)2**
- 3. Waters that drain less than 50 acres in three particular cases described at N.J.A.C. 7:13-2.2(a)3**

Step 1: Regulated Waters

A surface water is not regulated if it drains less than 50 acres and meets one or more of the following:

- 1. The water has no discernible channel
- such as a freshwater wetlands swale**

OR

SEE N.J.A.C. 7:13-2.2(a)3i

Step 1: Regulated Waters

- 2. The water is confined within a lawfully existing, manmade conveyance structure or drainage feature, such as a pipe, culvert, ditch, channel or basin (not including any water that historically possessed a naturally-occurring, discernible channel, which has been piped, culverted, ditched or similarly modified) OR**

SEE N.J.A.C. 7:13-2.2(a)3ii

Step 1: Regulated Waters

- 3. The water is not connected to a regulated water by a channel or pipe, such as an isolated pond or depression that has no outlet**

Important: If a water drains less than 50 acres, but doesn't meet at least one of these three criteria, then it is regulated

What is a “Drainage Area?”

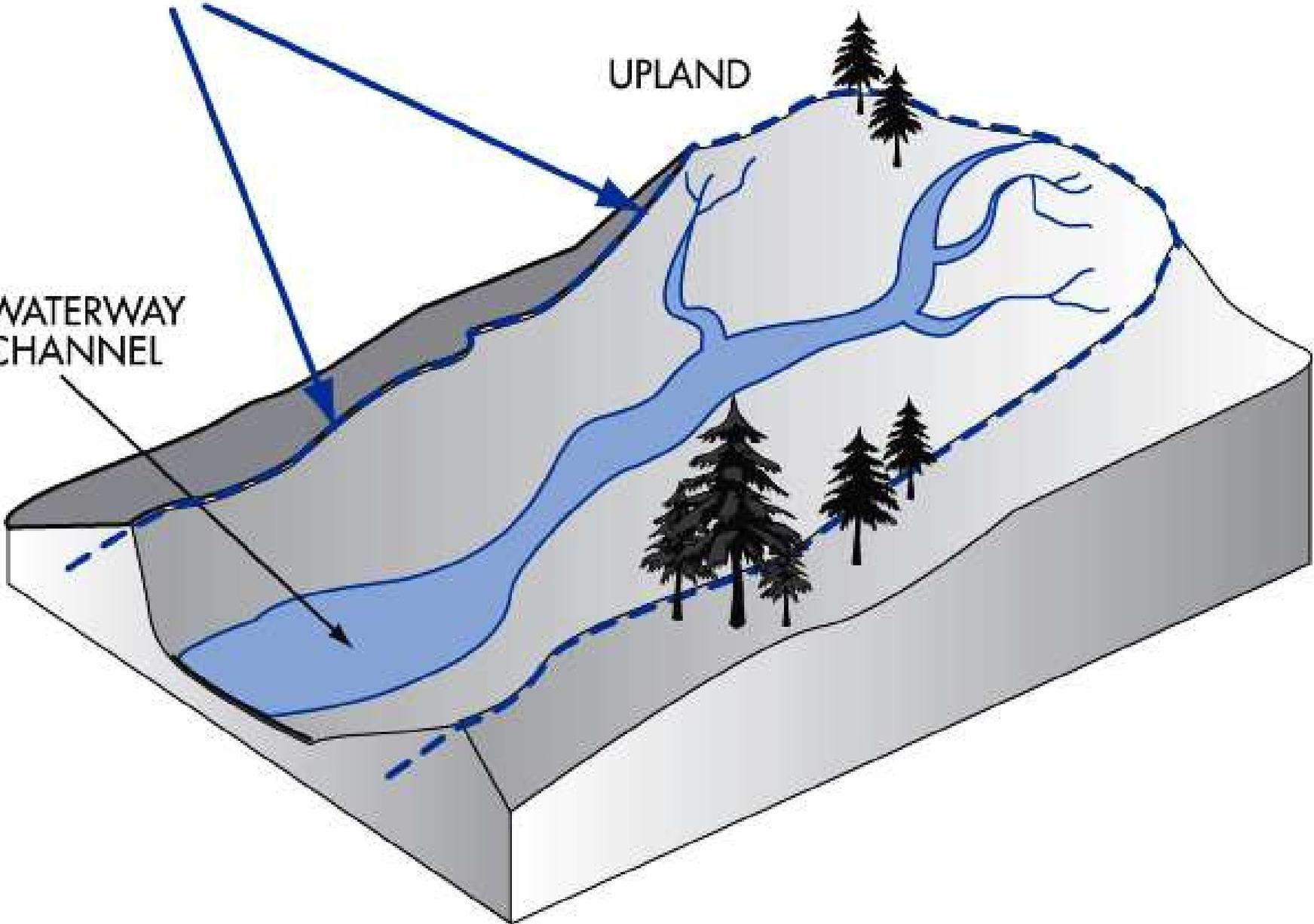
- “Drainage area” means a geographic area within which water, sediments and dissolved materials drain to a particular receiving waterbody or to a particular point along a receiving waterbody
- So, all the land around a waterbody that slopes toward it is part of its drainage area
- Also called “watershed”

SEE N.J.A.C. 7:13-1.2

WATERSHED BOUNDARY

UPLAND

WATERWAY CHANNEL



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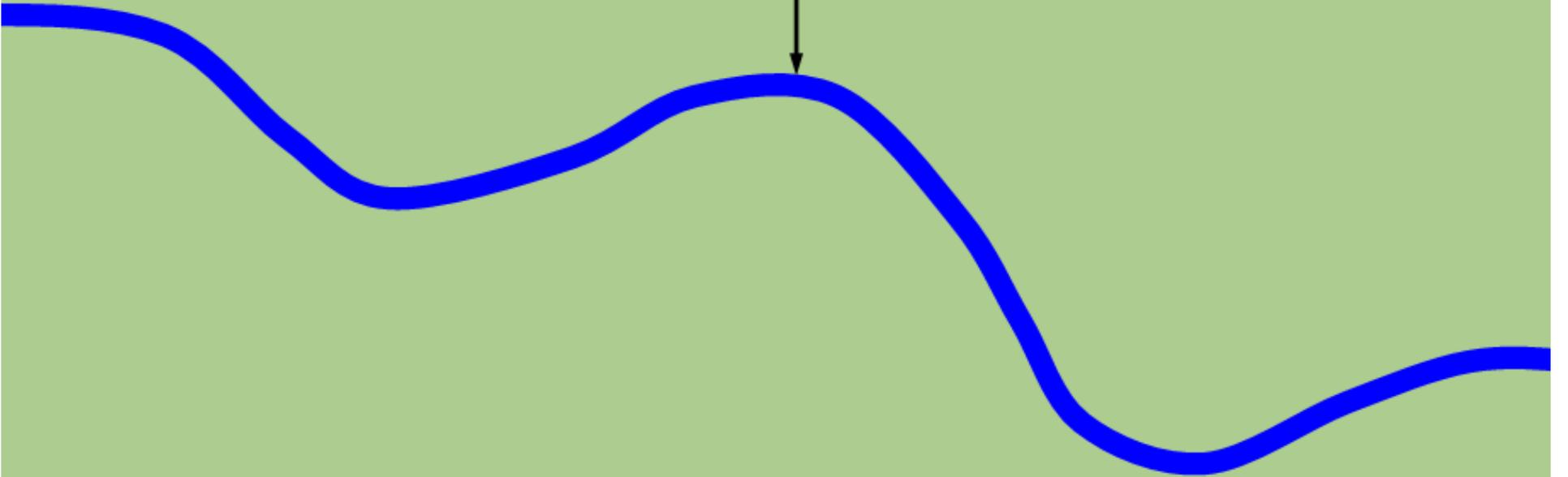
Step 2: Regulated Areas

- **Along all regulated waters there are two distinct and overlapping areas of jurisdiction:**

- 1. The flood hazard area**
- 2. The riparian zone**

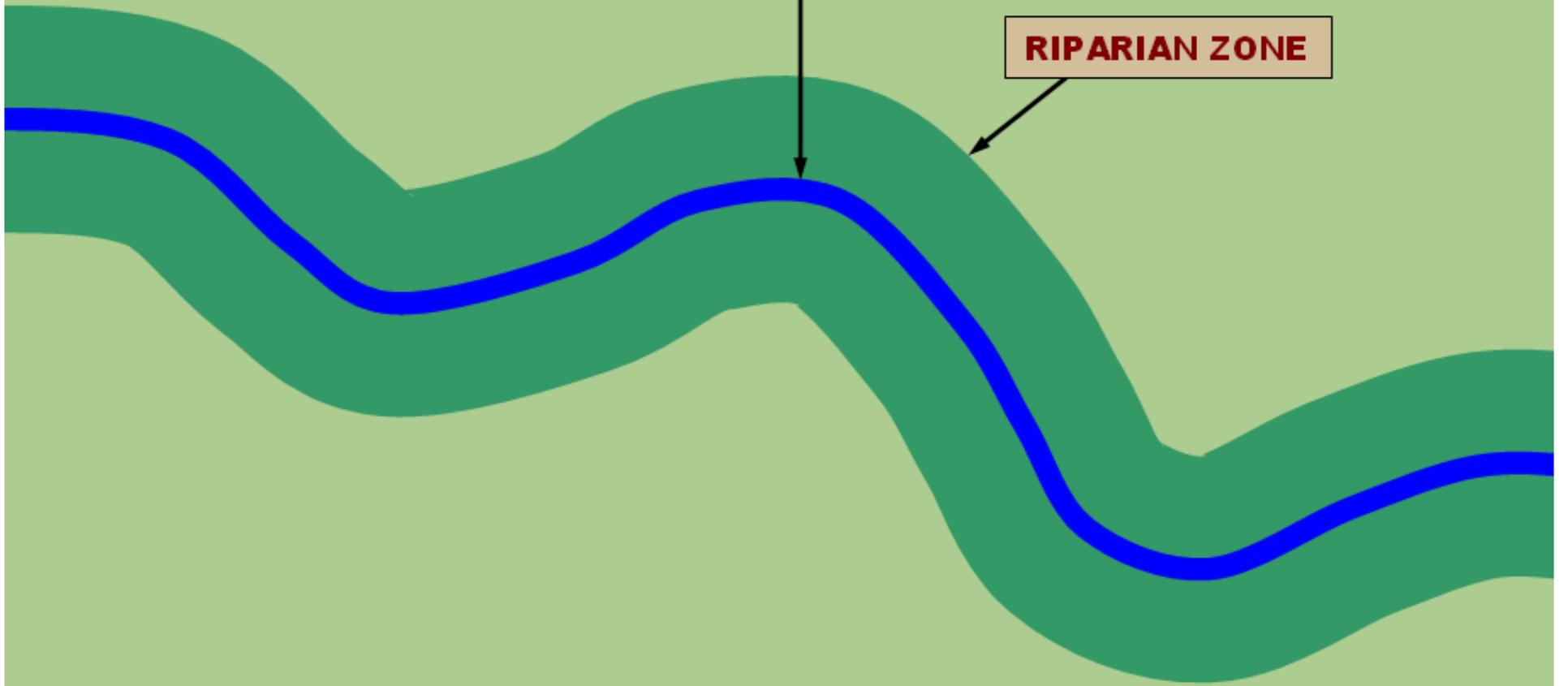
SEE N.J.A.C. 7:13-2.3(a)

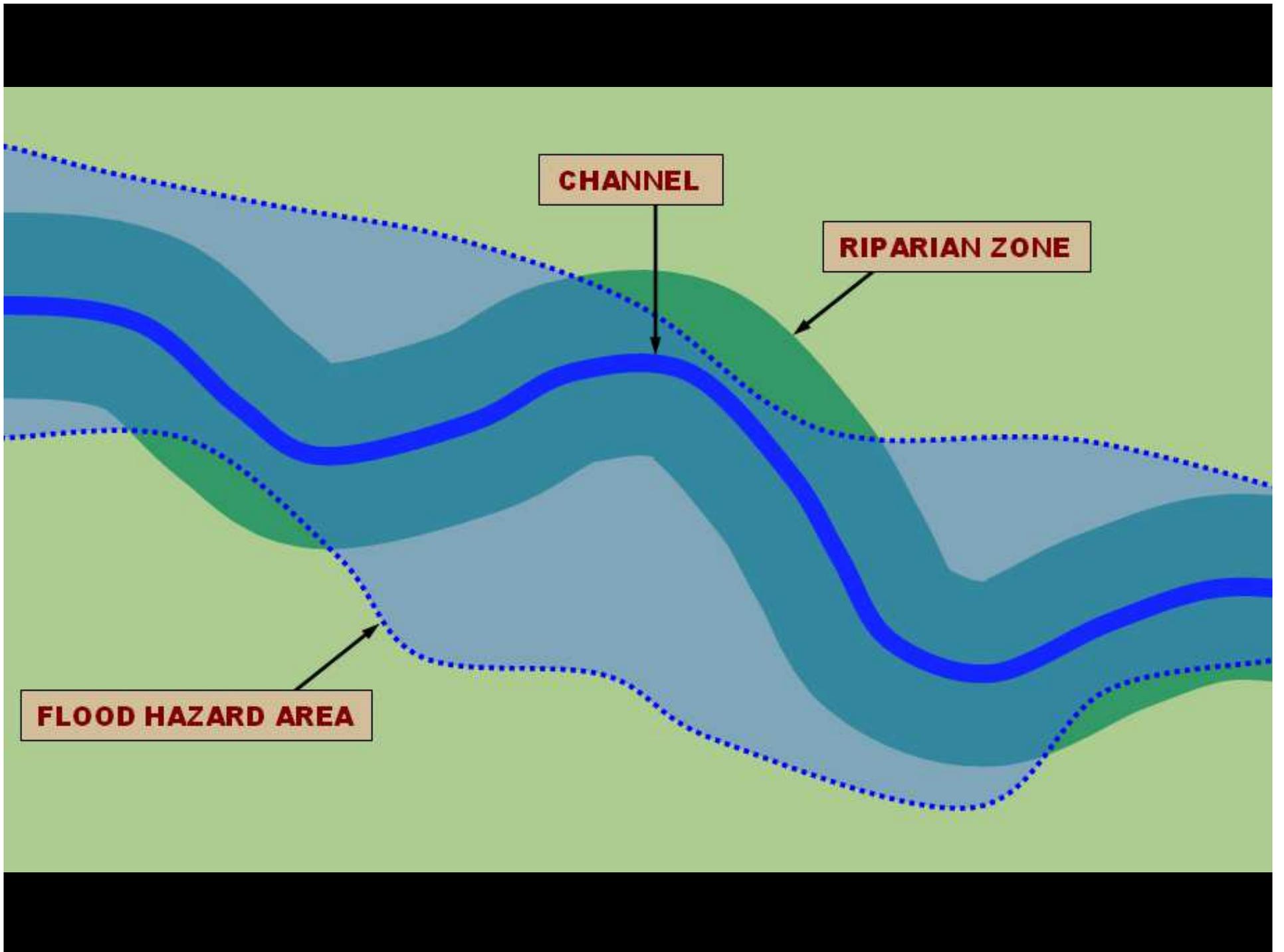
CHANNEL



CHANNEL

RIPARIAN ZONE

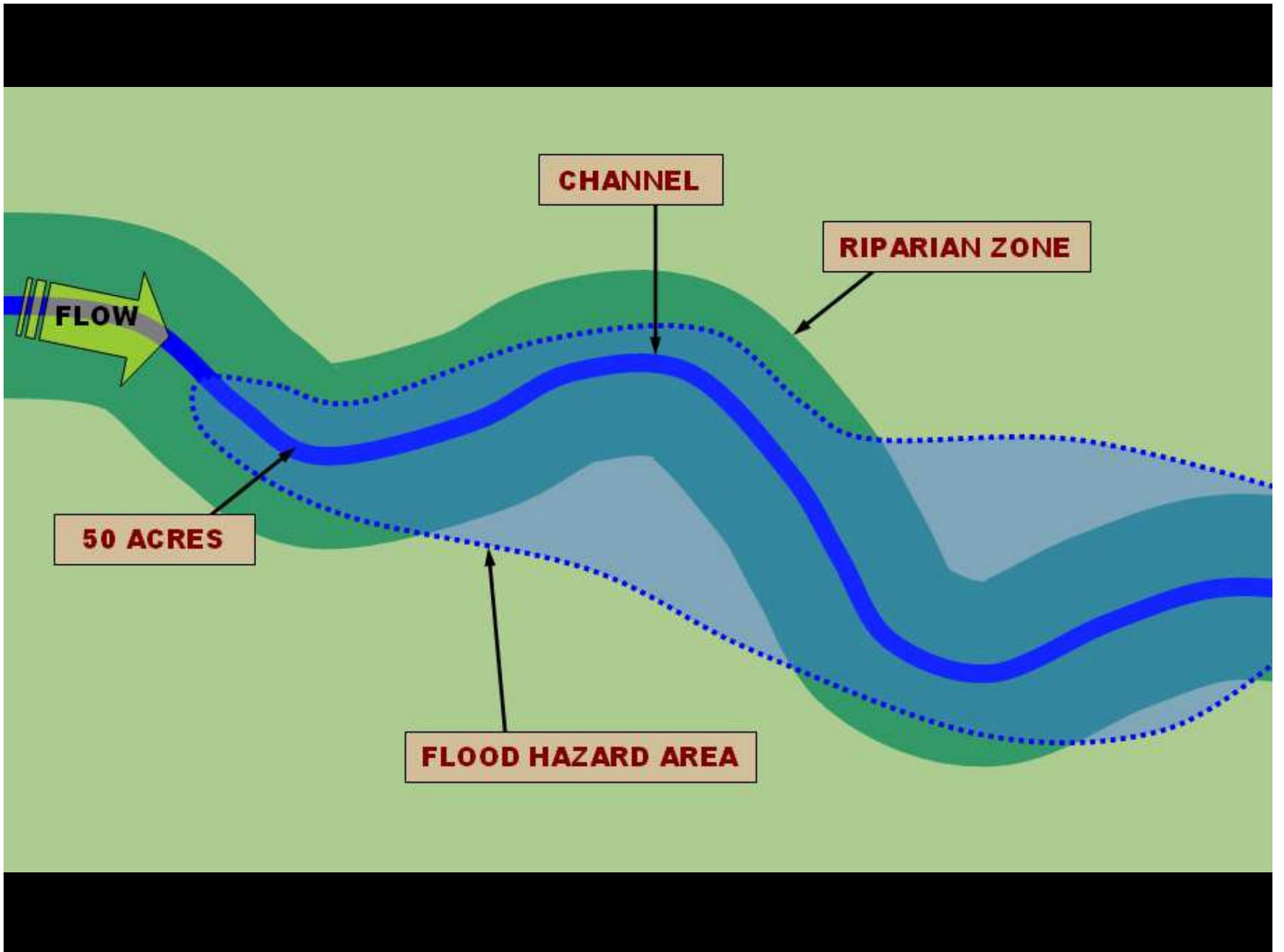




CHANNEL

RIPARIAN ZONE

FLOOD HAZARD AREA

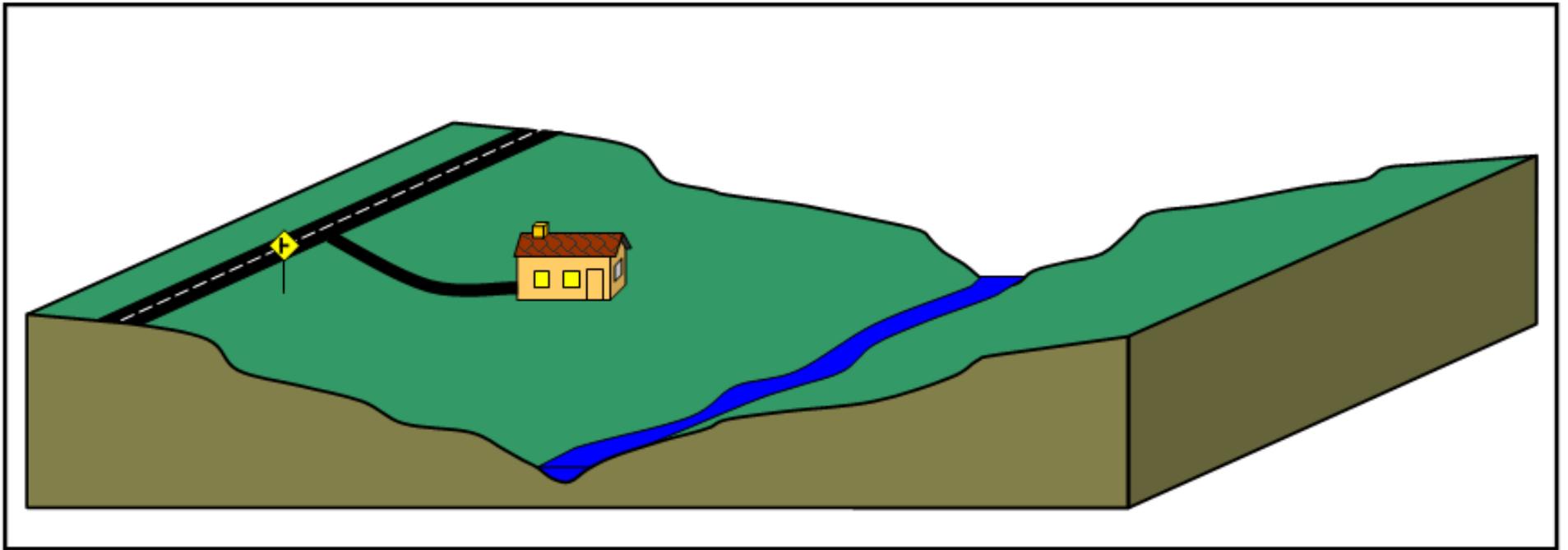


Flood Hazard Area

- A **flood hazard area** exists along every regulated water that has a drainage area of **50 acres** or more
- If a water drains less than 50 acres, **it has no flood hazard area**
- The **flood hazard area** is the land along a regulated water that is inundated by the **flood hazard area design flood**

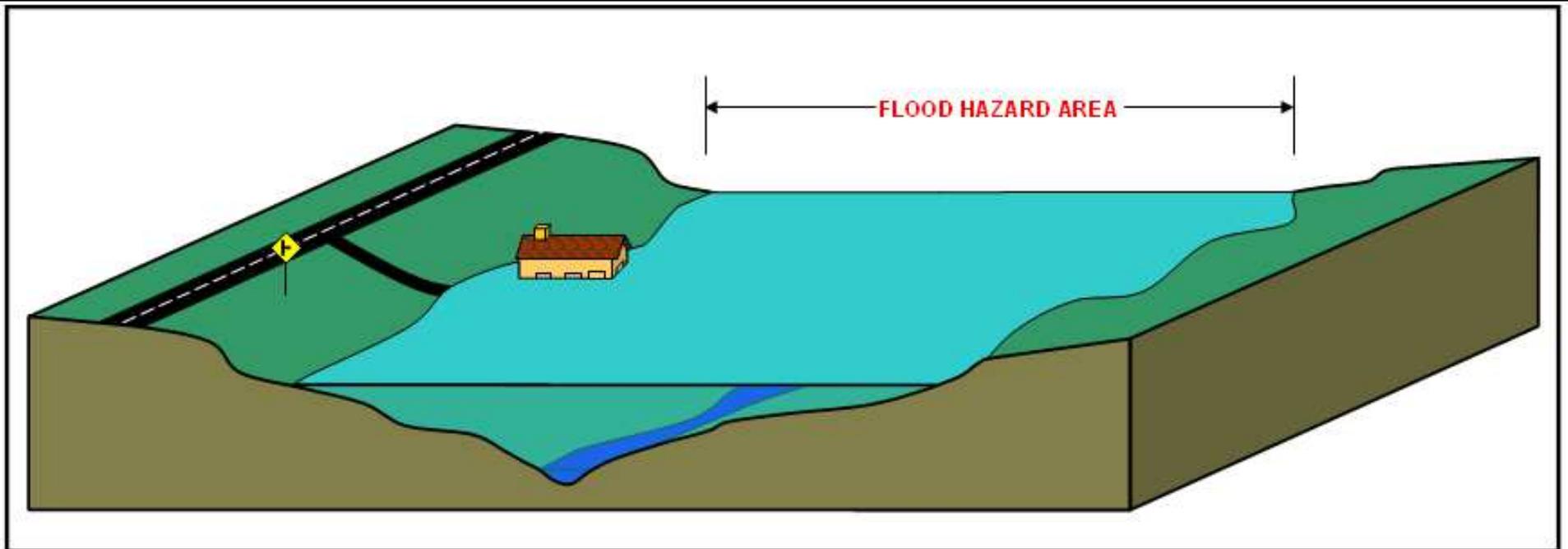
SEE N.J.A.C. 7:13-2.3(a)1

Flood Hazard Area



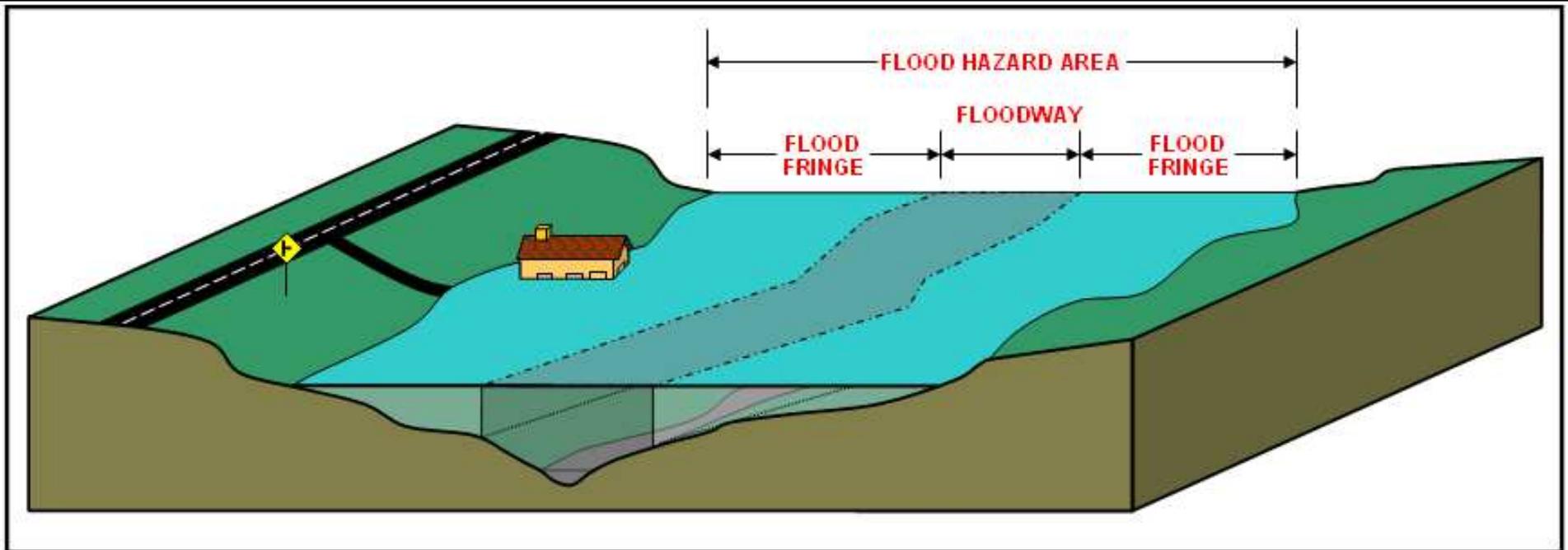
Flood Hazard Area

- Approximately 35% of New Jersey lies in a flood hazard area



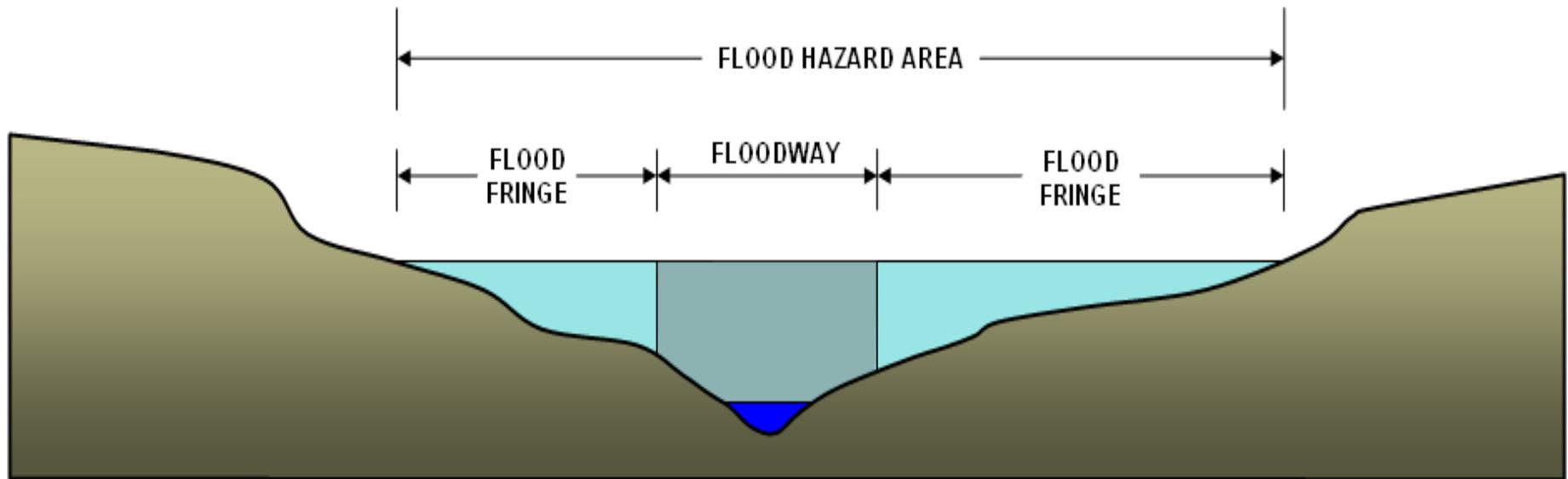
Flood Hazard Area

- The flood hazard area is comprised of the floodway and flood fringe

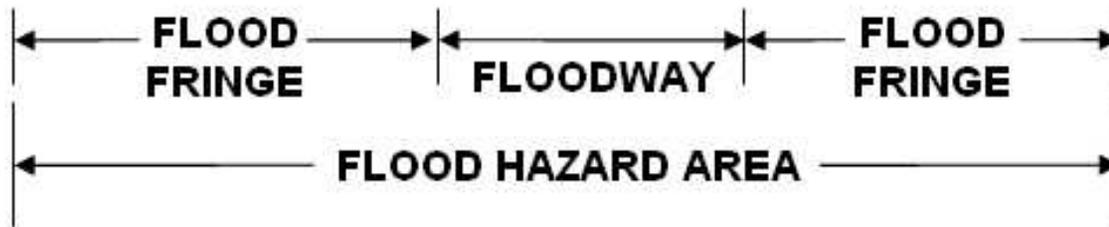
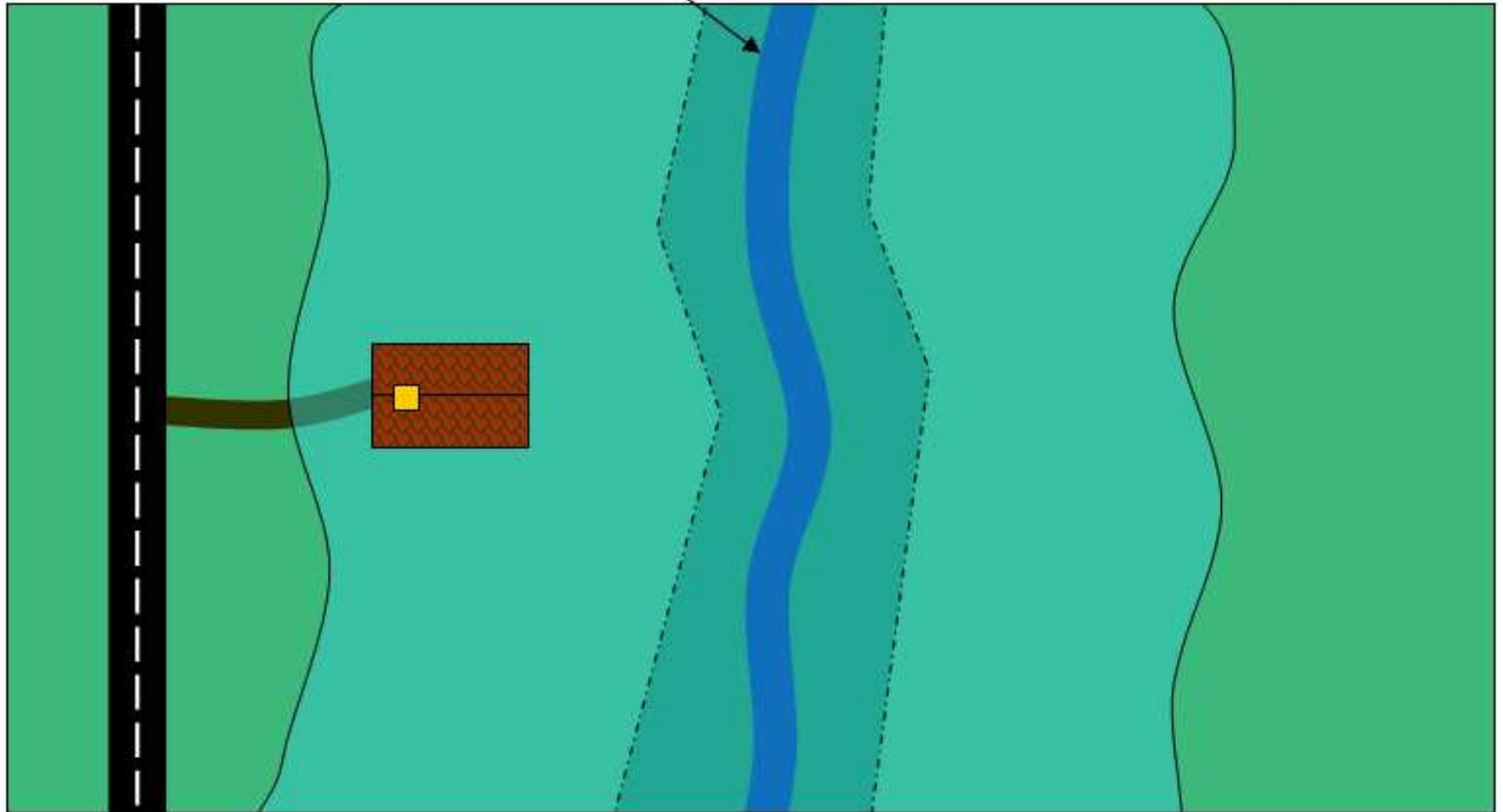


Flood Hazard Area

- The flood hazard area is determined by the flood hazard area design flood



CHANNEL



Flood Hazard Area Design Flood

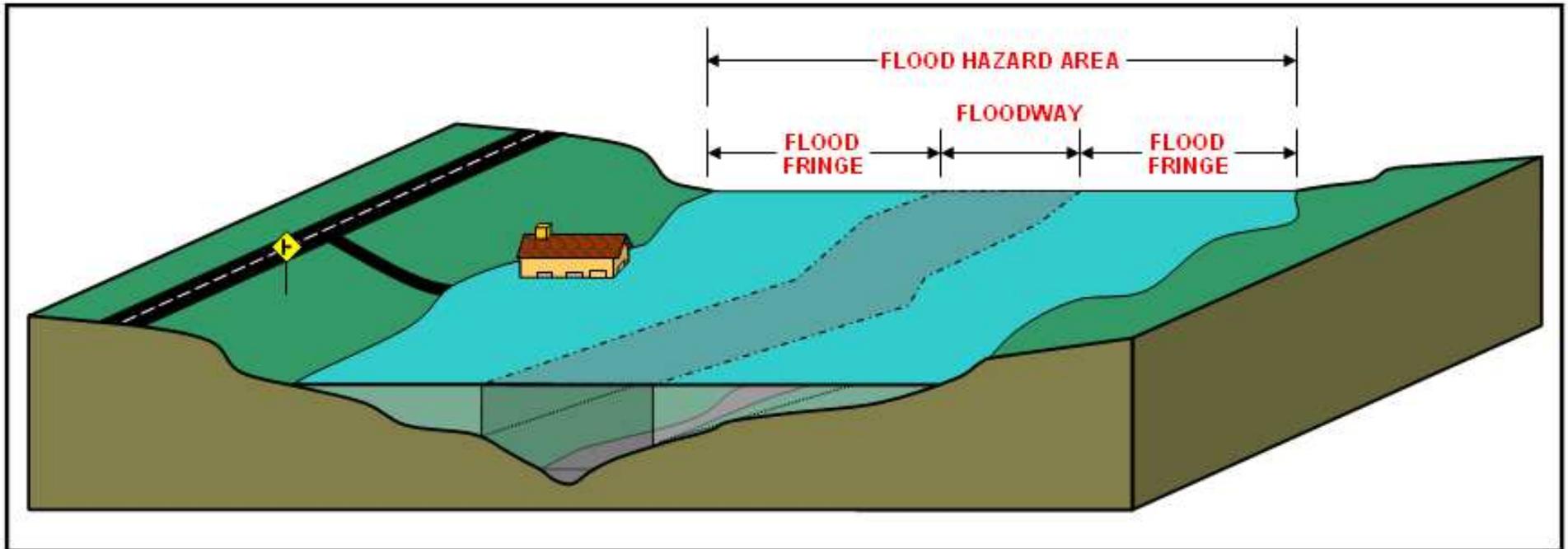
- **In tidal areas:** equal to 100-yr (1%) flood
- **In fluvial areas:** equal to 100-yr (1%) flood plus a factor of safety
 - Different factors of safety are added depending on the mapping resources available

What is a 100-Year Flood?

- **More accurately described as a 1% flood**
 - Within a given year, this flood has a 1% probability of occurring
 - But it could happen multiple times in a year, or not for 300 years
 - More details concerning the determination of the 100yr Flood will be presented by the next speaker

Flood Hazard Area

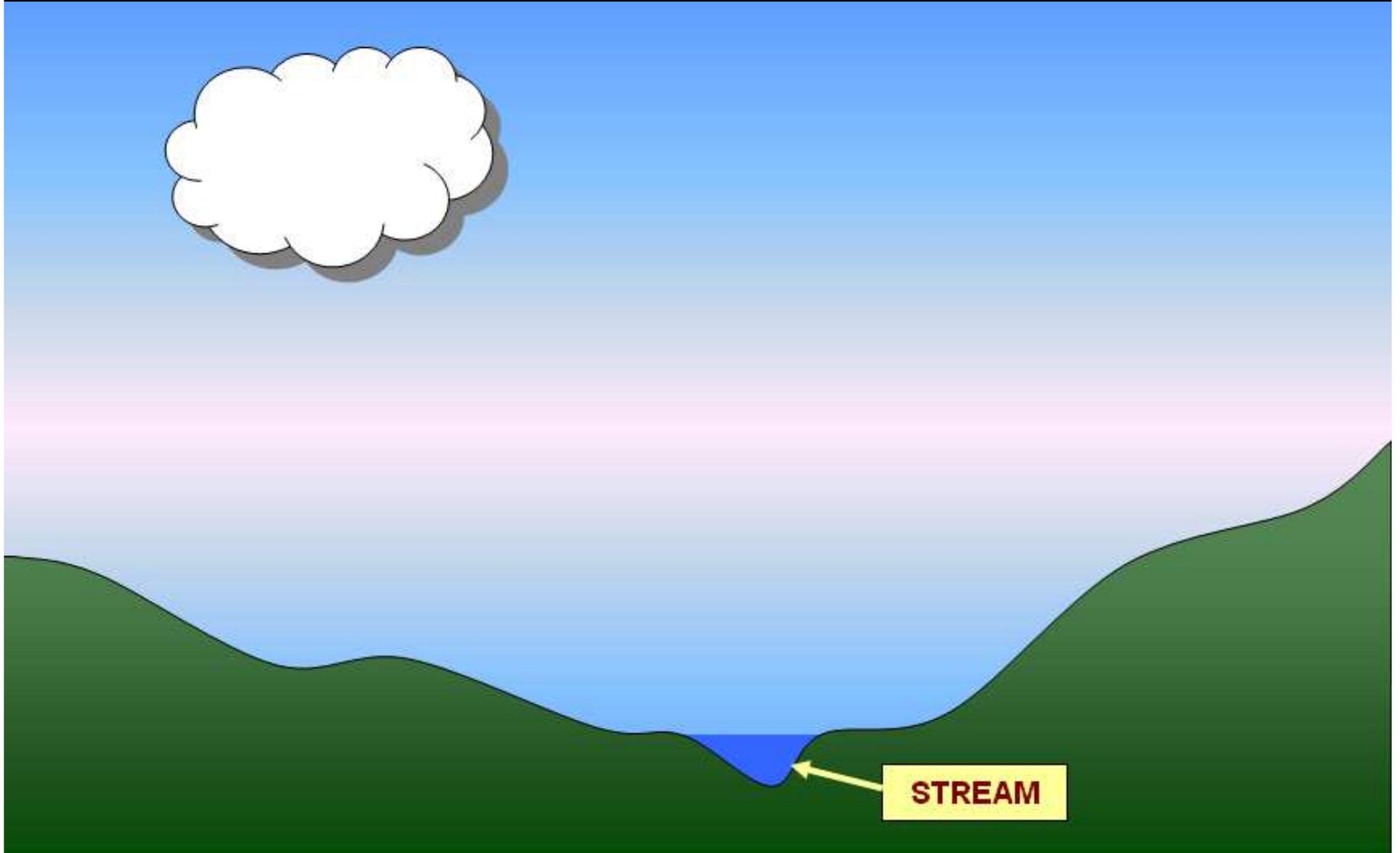
- The flood hazard area is comprised of the floodway and flood fringe



Floodway

- Conveys the majority of floodwaters
- Structures & other materials can obstruct flow and increase flooding
- Calculated using a 0.2-ft rise in the 100-year flood elevation

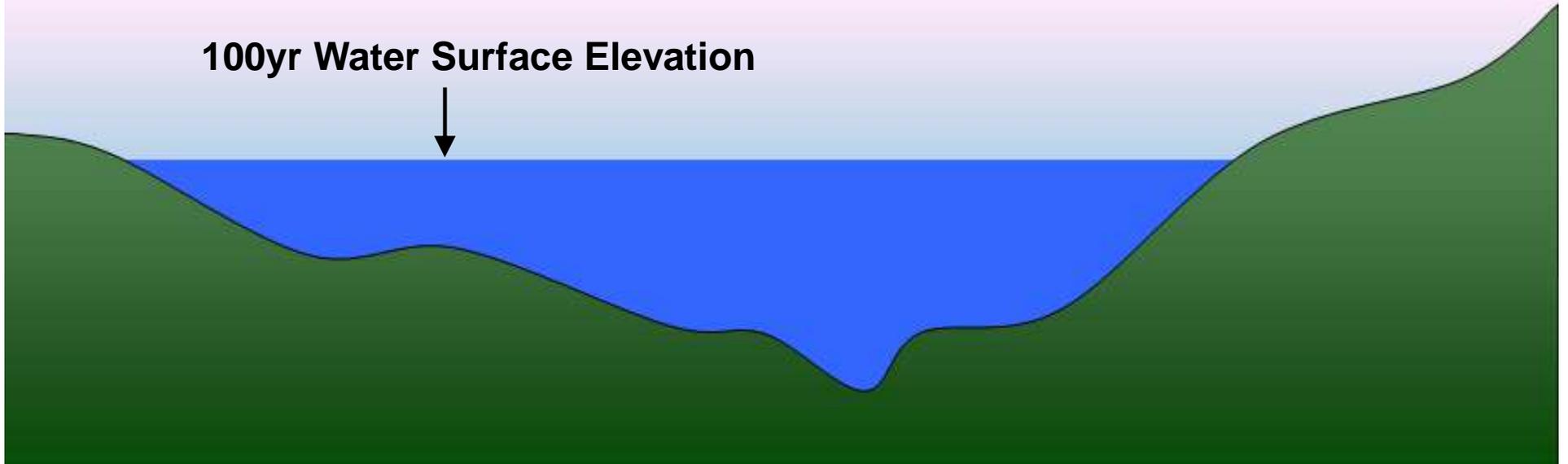
Floodway



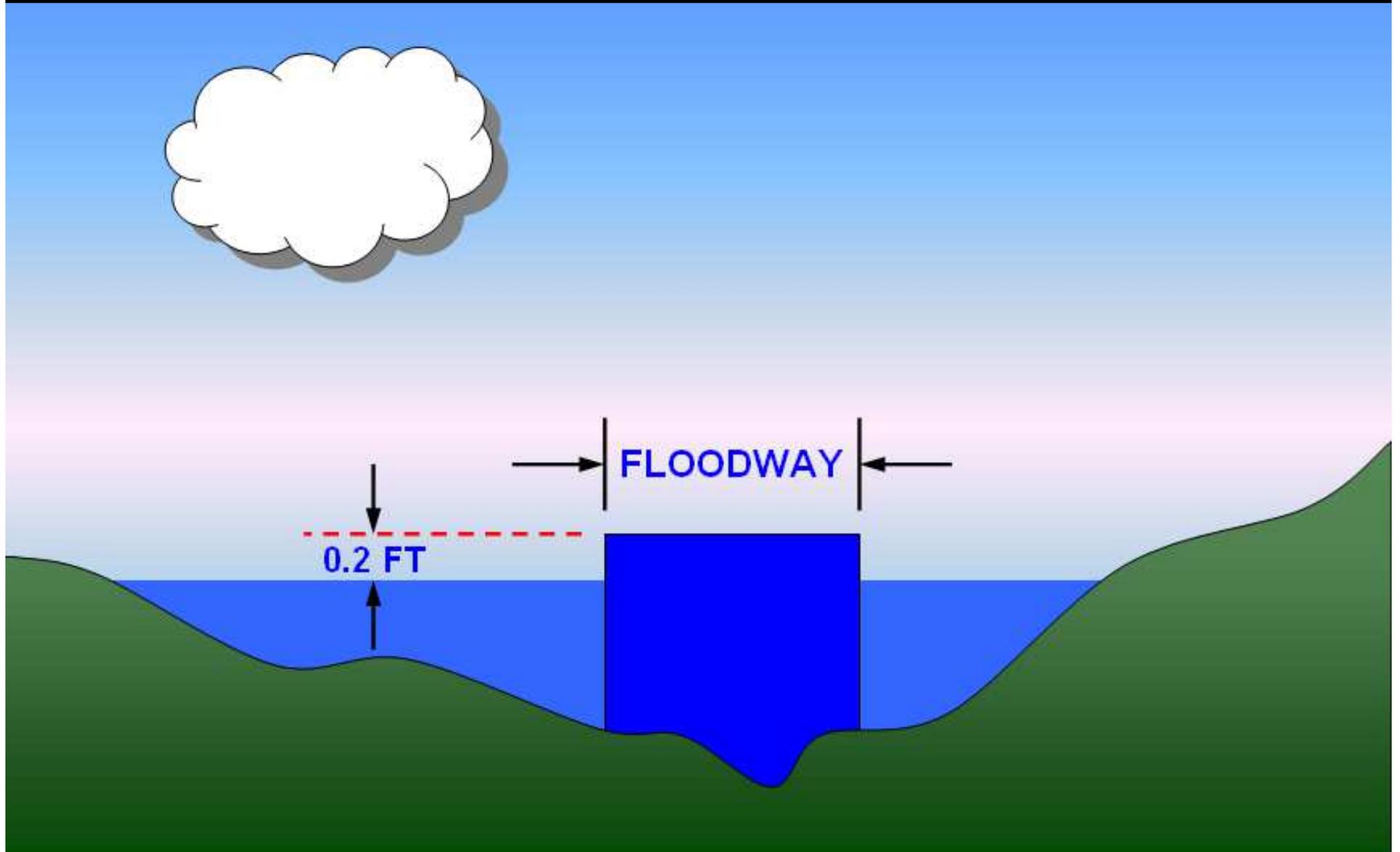
Floodway

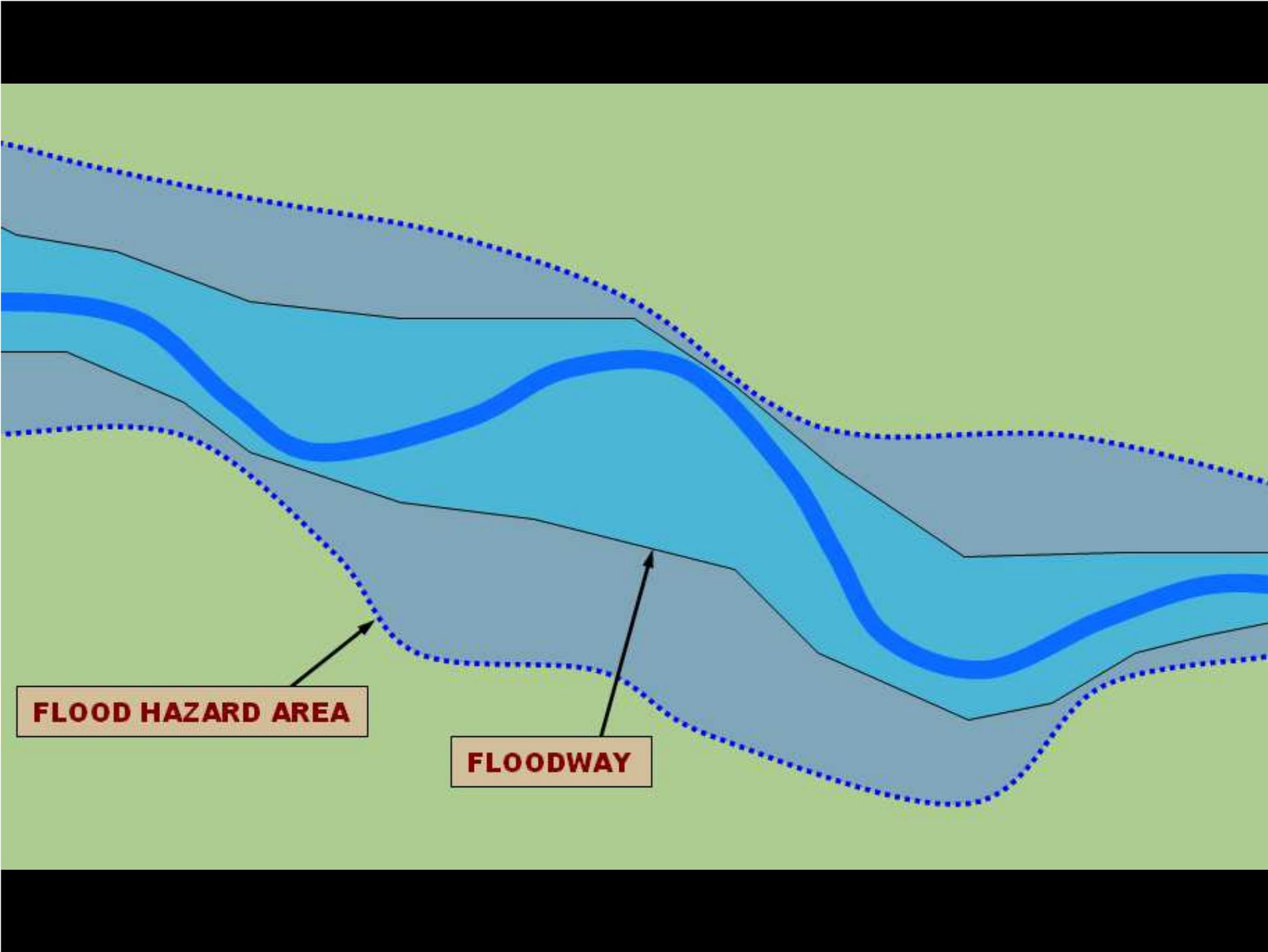


100yr Water Surface Elevation



Floodway





FLOOD HAZARD AREA

FLOODWAY



Flood Fringe

- The portion of the flood hazard area outside the floodway
- Waters are less deep and move slower than in floodway
- Structures, fill and other material can displace flood storage volume and increase flooding



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Regulated Activities

1. The alteration of topography through excavation, grading and/or placement of fill
2. The clearing, cutting and/or removal of vegetation in a riparian zone
3. The creation of impervious surface
4. The storage of unsecured material
5. The construction, reconstruction and/or enlargement of a structure
6. The conversion of a building into a private residence or a public building

SEE N.J.A.C. 7:13-2.4



Permit Requirement

- Before undertaking a **regulated activity** in a **regulated area**, you must first obtain **one** of the following:
 - A **permit-by-rule** (N.J.A.C. 7:13-7)
 - A **general permit** (N.J.A.C. 7:13-8)
 - More details concerning the PBR and GP will be presented by the next speaker.
 - An **individual permit** (N.J.A.C. 7:13-9,10 & 11)
 - An **emergency permit** (N.J.A.C. 7:13-12)
 - A **coastal permit** (N.J.A.C. 7:7 and 7:7E)

Applicability Determination

N.J.A.C. 7:13-5.1

- **Free** application to verify whether a permit is needed for a particular activity
- You supply basic project info – such as site plan, location map, photos, etc.
- DEP writes you a letter in a few weeks
- Never required – it's there to help you
- Sometimes municipalities want to see one

Applicability Determination

N.J.A.C. 7:13-5.1

- Sometimes the exact limits of the flood hazard area and riparian zone must be known before NJDEP can determine whether an activity requires a permit
- In such cases, applicants may need to obtain a **verification** first before NJDEP can issue an applicability determination

Verification

N.J.A.C. 7:13-6.1

- Application to verify the extent of a **flood hazard area** and **riparian zone** on a given site
- Similar to a freshwater wetlands letter of interpretation
- Separate from a permit application (but can be obtained with a permit or prior to a permit)

Verification

N.J.A.C. 7:13-6.1

- In most cases, a verification is needed before NJDEP can issue an individual permit (except as noted at 7:13-9.6)
 - Needed if net-fill calculations are necessary
 - Needed if floodway location must be known
 - Needed for proper floor or road elevations
- Metes and bounds description of flood hazard area and floodway is needed

APD vs. Verification?

N.J.A.C. 7:13-6.1

- An applicability determination tells you whether or not a project is regulated
 - The activity therefore needs to be clearly:
 - Outside any regulated areas or
 - Exempt from regulation or
 - Permitted-by-rule
- A verification tells you where the flood hazard area and riparian zone is located

Exempt Activities

An **activity** is exempt from the Flood Hazard Area Control Act rules if:

- It is located outside any **flood hazard area** and **riparian zone** **OR**
- It is not listed as a **regulated activity** in N.J.A.C. 7:13-2.4

Regulated Activities

N.J.A.C. 7:13-2.4

1. The alteration of topography through excavation, grading and/or placement of fill;
2. The clearing, cutting and/or removal of vegetation in a riparian zone;
3. The creation of impervious surface;
4. The storage of unsecured material;
5. The construction, reconstruction and/or enlargement of a structure; and
6. The conversion of a building into a private residence or a public building.

Example 1

You're building a new office building:

- It's 400 feet away from the nearest stream
 - Therefore it must be outside any possible riparian zone
- It's located on the top of a hill, 30 feet above the nearest stream
 - Therefore it must be outside any possible flood hazard area
- Activity is exempt
 - Get an APD (which requires site plan with topography)

Example 2

You're building a new house:

- It's 75 feet away from the nearest stream
 - Therefore it may be inside a riparian zone
- It's located 7 feet above the nearest stream, and there is no flood mapping
 - Therefore it may be inside a flood hazard area
- Therefore, unknown if activity is exempt
 - Get a verification (which requires site plan w/topography)
 - If activity is outside RZ and FHA, no permit needed

Example 3

You're renovating an existing house, in which the cost of the renovation is more than 50% of the value of the existing house:

- It's 50 feet away from the nearest stream
 - Therefore it may be inside a riparian zone
- It's located 5 feet above the nearest stream, and there is no flood mapping
 - Therefore it may be inside a flood hazard area
- Therefore, unknown if activity is exempt
 - Get a verification (which requires site plan w/topography)
 - If activity is outside RZ and FHA, no permit needed



Coastal Permits

- Coastal rules now cross-reference the FHA rules, so that all coastal permits need to meet all FHA standards
- In other words: All Waterfront Development and CAFRA permits are subject to the same flood hazard area and riparian zone standards as a flood hazard area approval

Coastal Permits

- Since the standards are the same, getting a coastal permit satisfies all FHA permitting requirements
- You will not need a FHA permit if you get a waterfront development or CAFRA permit



HOBOKEN

Where all our properties are waterfront...

Other Approvals

N.J.A.C. 7:13-12, 13 and 14

- Emergency permit (N.J.A.C. 7:13-12)
- Revision to a verification, general permit, individual permit or a State adopted flood study (N.J.A.C. 7:13-13)
- Transfer of an approval to another owner (N.J.A.C. 7:13-14)

Final Thoughts...

N.J.A.C. 7:13-15-19

- Sub 15 – Application requirements
- Sub 16 – Public notice
- Sub 17 – Fees
- Sub 18 – Adjudicatory hearings
- Sub 19 – Enforcement



Questions?

