

Mitigation of Ditches

State of New Jersey
Department of Environmental Protection

May 22, 2014

1. Is mitigation required for ditches and altered/modified streams in your state?

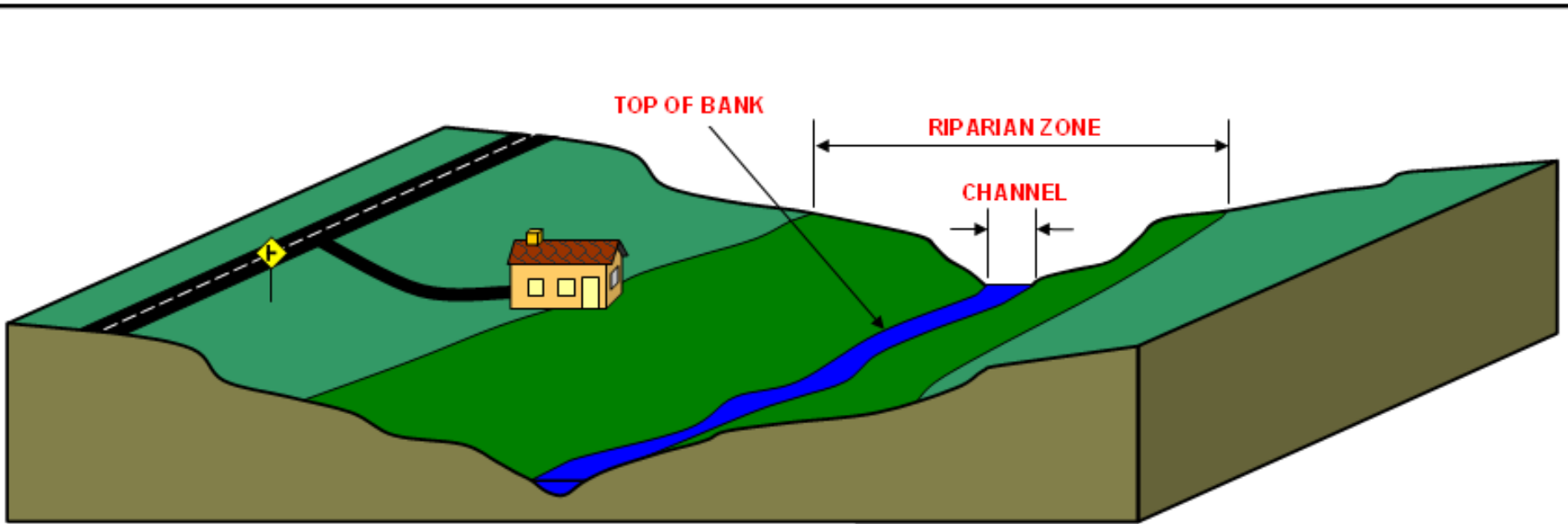
- If a ditch drains over 50 acres, then restrictions on disturbance to vegetation within the ditch's **riparian zone** apply.
- Different types of development are permitted to disturb differing amounts of **riparian zone** vegetation.

1. Is mitigation required for ditches and altered/modified streams in your state? (cont.)

- NJ regulations highly discourage filling, piping and relocation of waterways.
- However, under certain limited conditions or with adequate justification, alternative analysis and mitigation, disturbances to **riparian zone** vegetation is allowed.

Riparian Zone

- Measures 50, 150 or 300 feet along both sides of a regulated water

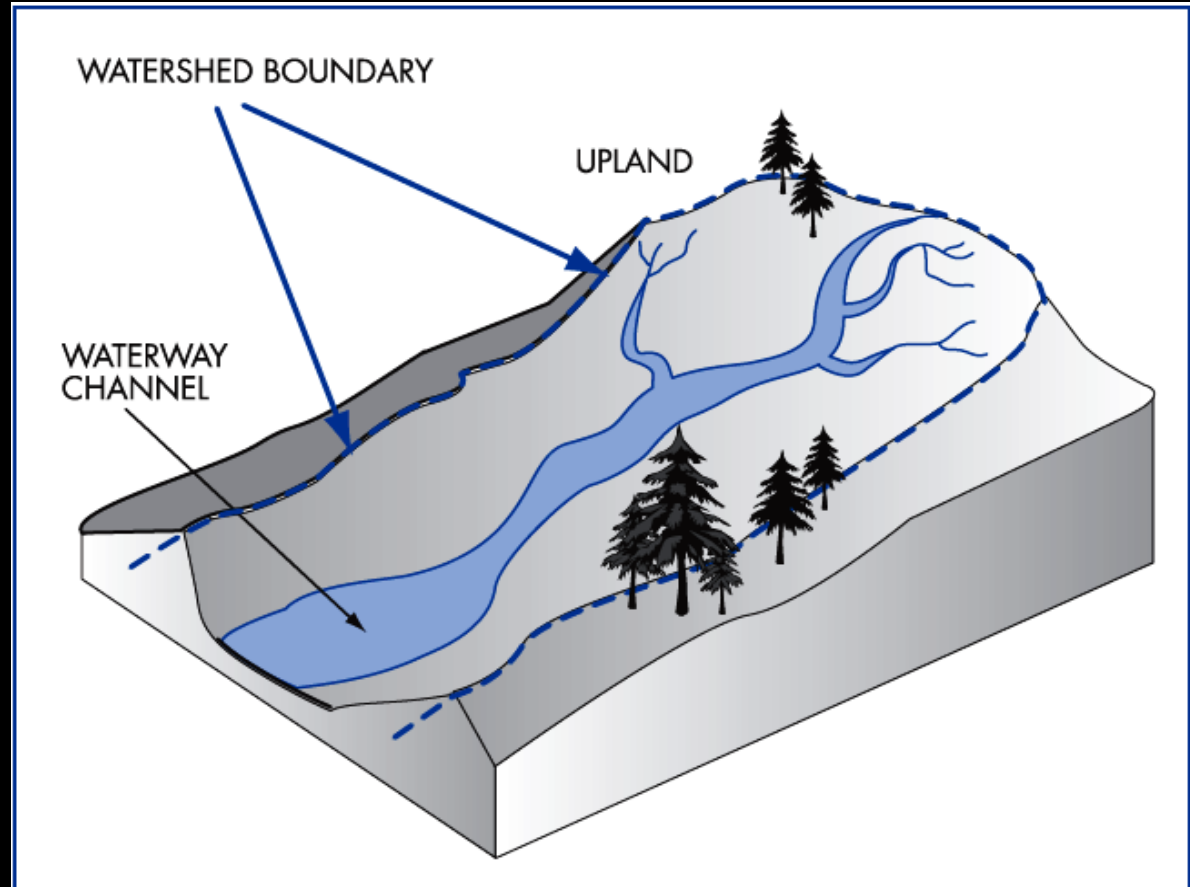


Riparian Zone

- **Provides important environmental functions:**
 - **Wildlife Habitat**
 - **Flood Reduction**
 - **Bank Stabilization**
 - **Temperature Moderation**
 - **Water Quality Enhancement**
- **Requires mitigation for lost vegetation if activities justifiably exceed prescribed limits**

300-ft Riparian Zone

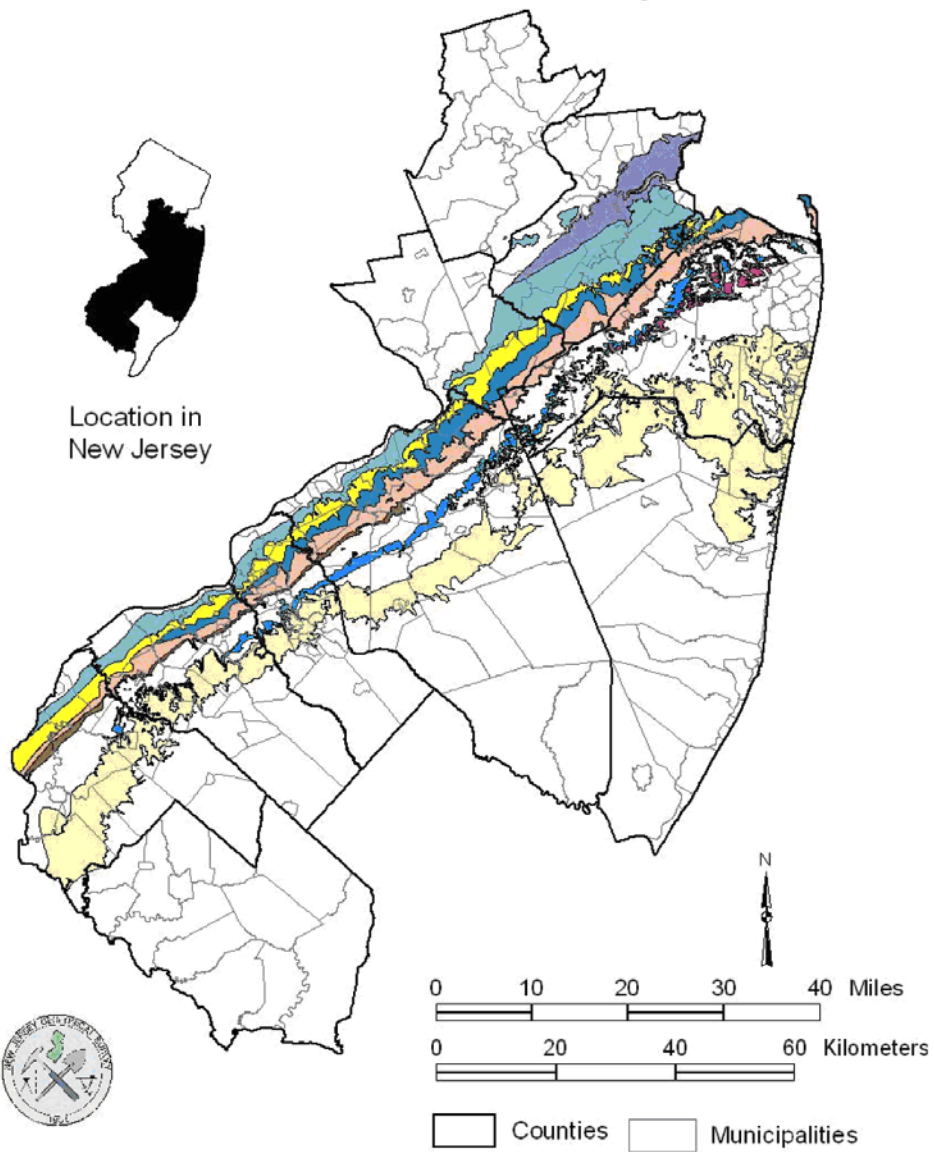
- **Category One** waters and all upstream waters in the same watershed (the same 14-digit hydrologic unit code (HUC-14))



150-ft Riparian Zone

- **Trout production** waters and all upstream tributaries
- **Trout maintenance** waters and all tributaries within one mile upstream
- Waters containing **T&E habitat** (if critically dependent on the regulated water for survival) and all tributaries within one mile upstream
- Waters that flow through an area containing **acid producing soil deposits**

Coastal Plain Formations of New Jersey Associated with Acid-Producing Soils



50-ft Riparian Zone

- All other streams
- Most common riparian zone width, especially in urbanized areas

Freshwater wetlands

- Ditches are also regulated under NJ's **Freshwater Wetlands Protection Act** rules
- Mitigation is required if more than one-acre of ditches are filled

2. How are these waterbodies defined in your state?

- Based on drainage area
- Manmade features must drain at least 50-acres to be regulated
- Naturally-occurring features are regulated regardless of drainage area, provided a discernible channel is present

3. Do you distinguish between ditches and highly degraded streams?

- No – we feel that all regulated waters provide some level of flood attenuation, habitat, erosion control, temperature moderation, and water quality benefits
- NJ rules are designed to encourage environmental uplift
- Ditches and degraded streams provide an opportunity for enhancement

4. What is required to be mitigated for these waterbodies?

- We mitigate for lost riparian zone adjacent to the waterbody because, in New Jersey, we don't often lose the ditch or stream in its entirety because our regulations don't allow the elimination of the resource

5. What counts as mitigation for these waterbodies?

Riparian Zone compensation can be accomplished by:

- **Removing pavement** along the waterway within the same vicinity as the impact and revegetating it;
- **Enhancing** an area that is vegetated but that may contain invasive species or be lacking trees; or
- **Reconnecting** a waterway with its floodplain. We require 2:1 compensation and the compensated area must be permanently protected using a conservation restriction.

5. What counts as mitigation for these waterbodies? (continued)

■ Riparian Compensation Ratios

Temporary disturbance

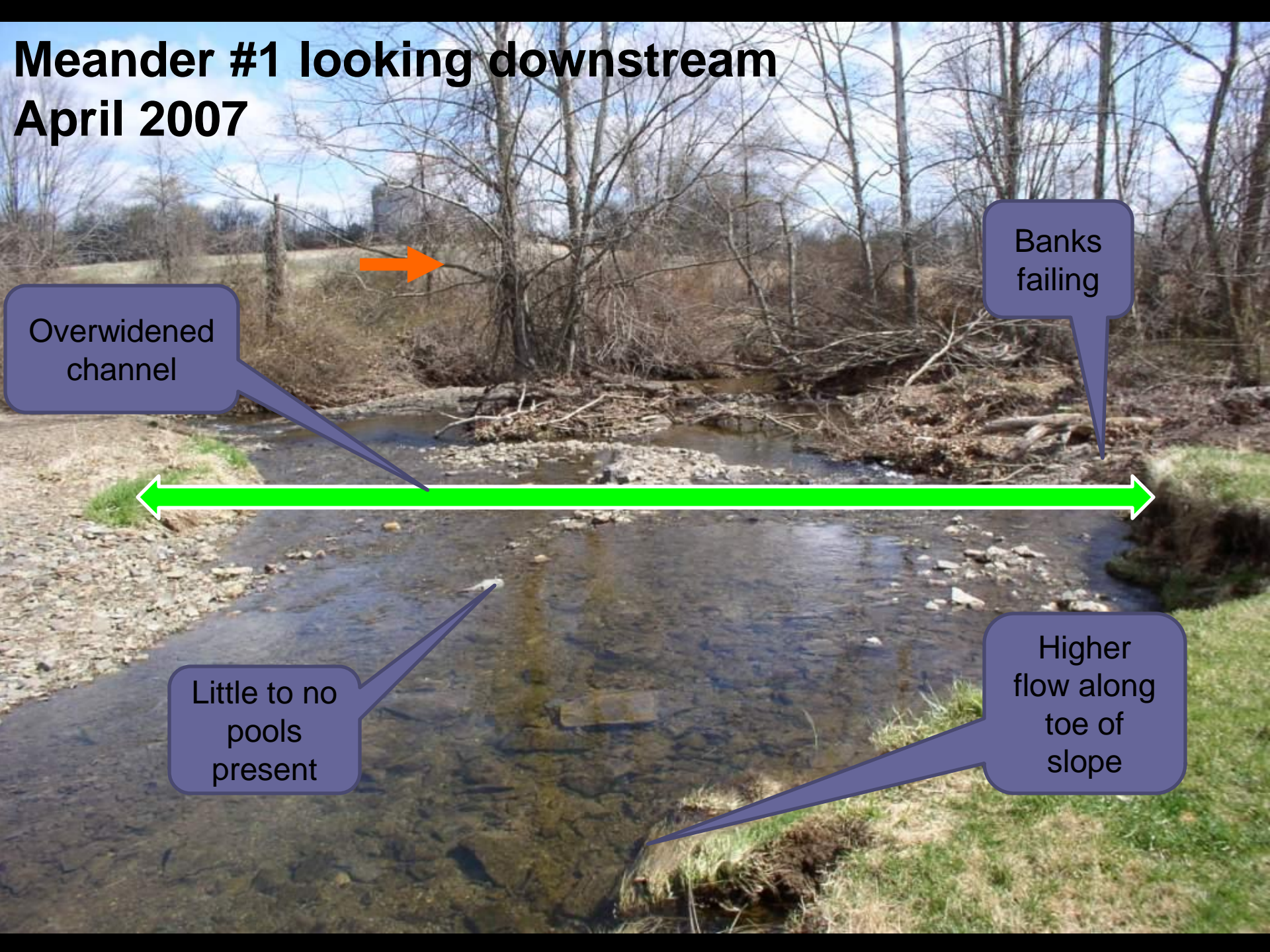
- 1:1 for all temporary disturbance to grassed/lawn areas
- Does not require a conservation restriction

Permanent disturbance

- 2:1 for permanent impacts that exceed the limits in the rules
- Project area must have a conservation restriction to permanently protect the land

Meander #1 looking downstream

April 2007



Overwidened channel



Banks failing



Little to no pools present

Higher flow along toe of slope

**Meander #2 looking upstream
October 2008**



Meander #2 looking upstream May 2010



6. Are there any specific challenges associated with mitigating for these waterbodies?

- The biggest challenge is finding an appropriate location for mitigation that is close enough to the impact to make ecological sense
- We require mitigation in the same HUC-14 as the impact but if that's not available, work outward from the impact to seek an appropriate location

6. Are there any specific challenges associated with mitigating for these waterbodies? (cont.)

- This is often difficult in urbanized areas where it's difficult to find streams that are available for riparian improvements
- It can also be difficult in less developed areas because there, the riparian zone may already be well-forested and not in need of restoration or enhancement
- We also hope in the not-to-distant future to create banks for riparian impacts but our regulations do not currently support that

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