THE RIPARIAN ZONE

Patrick Ryan
Division of Land Use Regulation
New Jersey Department of Environmental Protection

FHA Jurisdiction N.J.A.C. 7:13-2.2

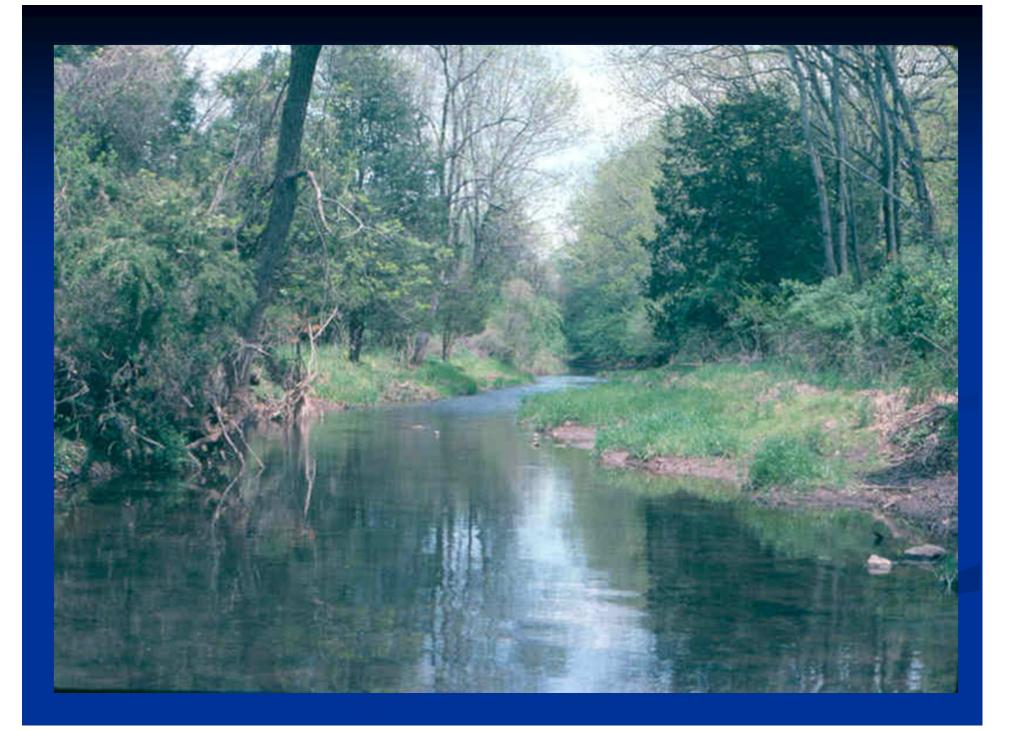
 There are two distinct and overlapping areas of jurisdiction:

The flood hazard area

■ The riparian zone

Purpose and Scope

 To minimize damage to life and property from flooding caused by development within the FHA, to preserve the quality of surface waters, and to protect the wildlife and VEGETATION that exist and depend upon such areas for sustenance and habitat.



Riparian Zone

All waters in New Jersey are regulated except for the following:

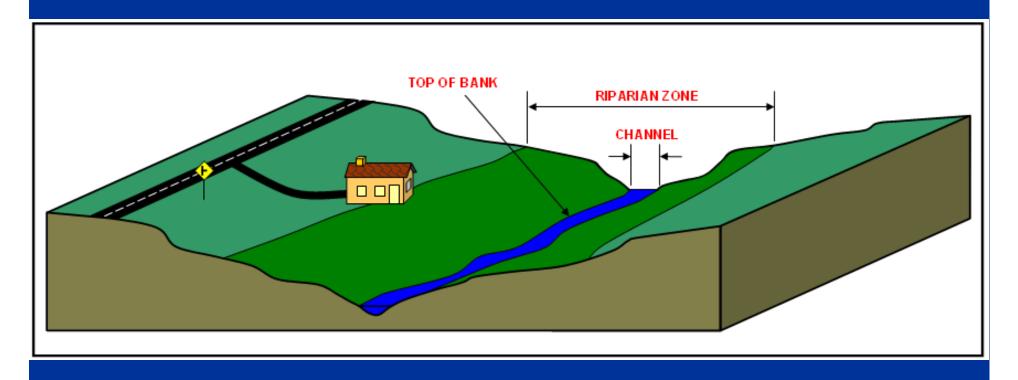
- Any manmade canal, i.e., Delaware Canal & Raritan Canal
- Any coastal wetland regulated under the Wetlands Act of 1970
- Any segment of water that drains less than 50 acres, which has no discernible channel, and/or is within a lawfully existing manmade conveyance structure, and/or is not connected to a regulated water by a channel or pipe

Riparian Zone A RIPARIAN ZONE EXISTS ALONG ALL REGULATED WATERS EXCEPT:

- The Atlantic Ocean
- Manmade lagoons
- Stormwater management basins
- Any oceanfront barrier island, spit or peninsula
- Any lawfully-piped section of an otherwise regulated water (As noted previously, this is not listed in the rules)

Riparian Zone

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

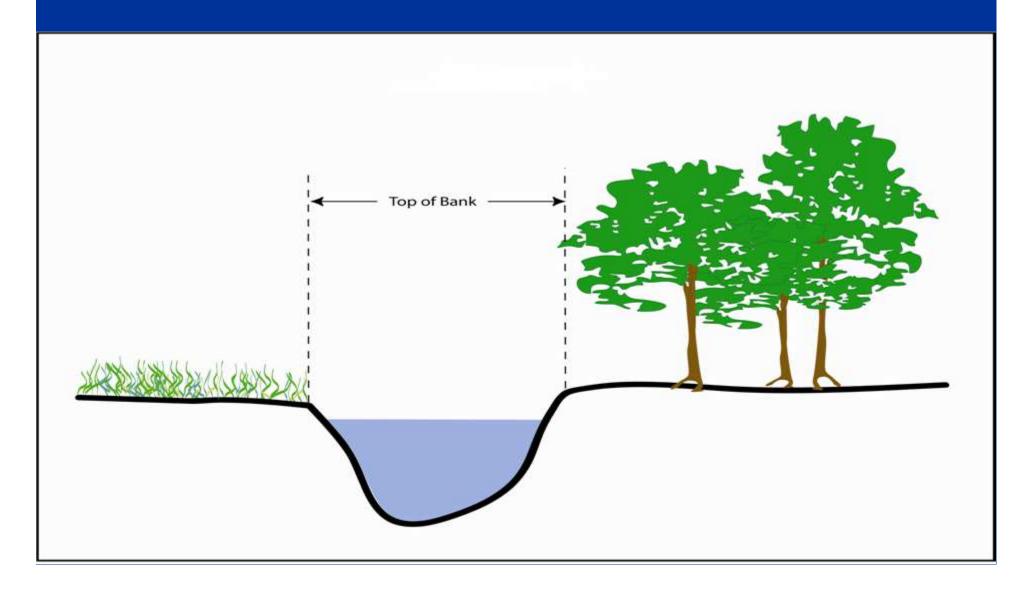


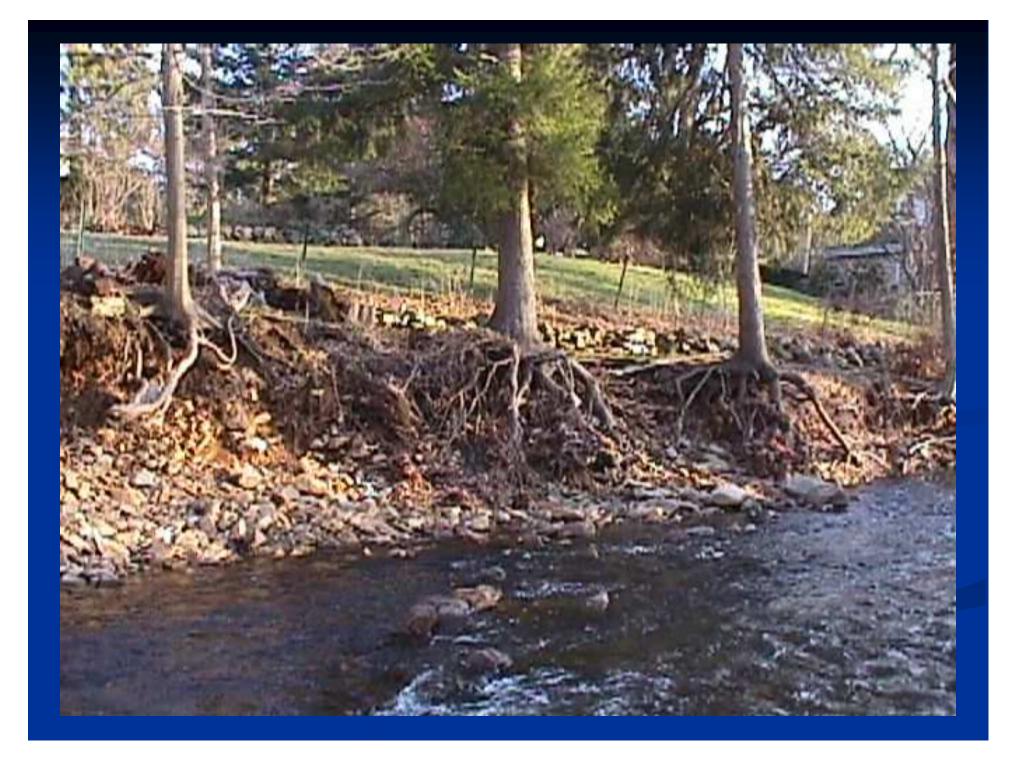
Riparian Zone

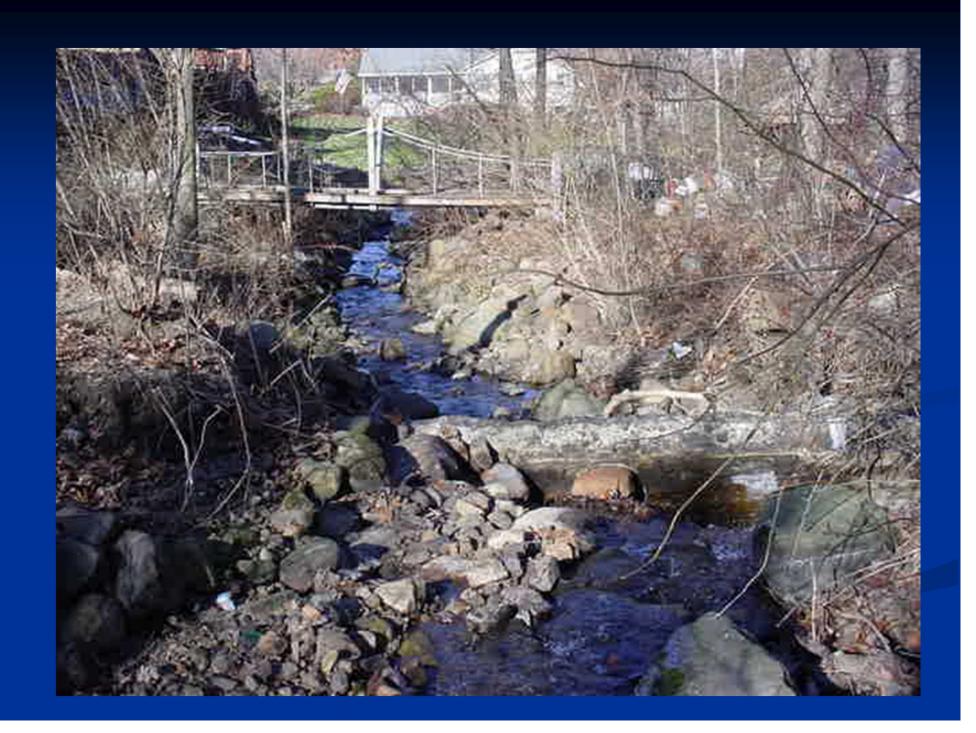
To determine the limits of the riparian zone, you need to know where to measure it from

It is generally measured outward from the top of bank along a regulated water

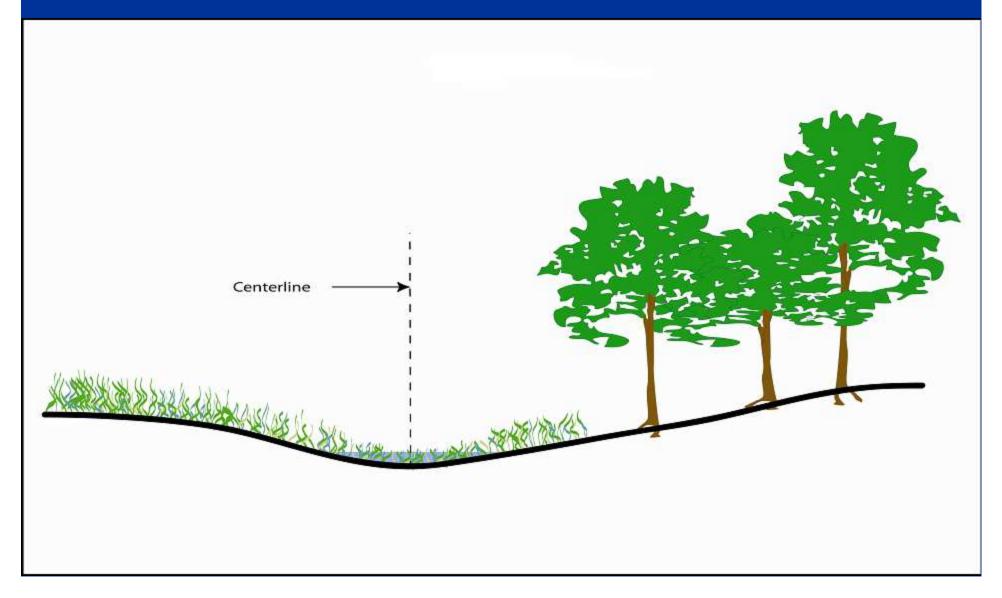
Riparian Zone If a bank is present

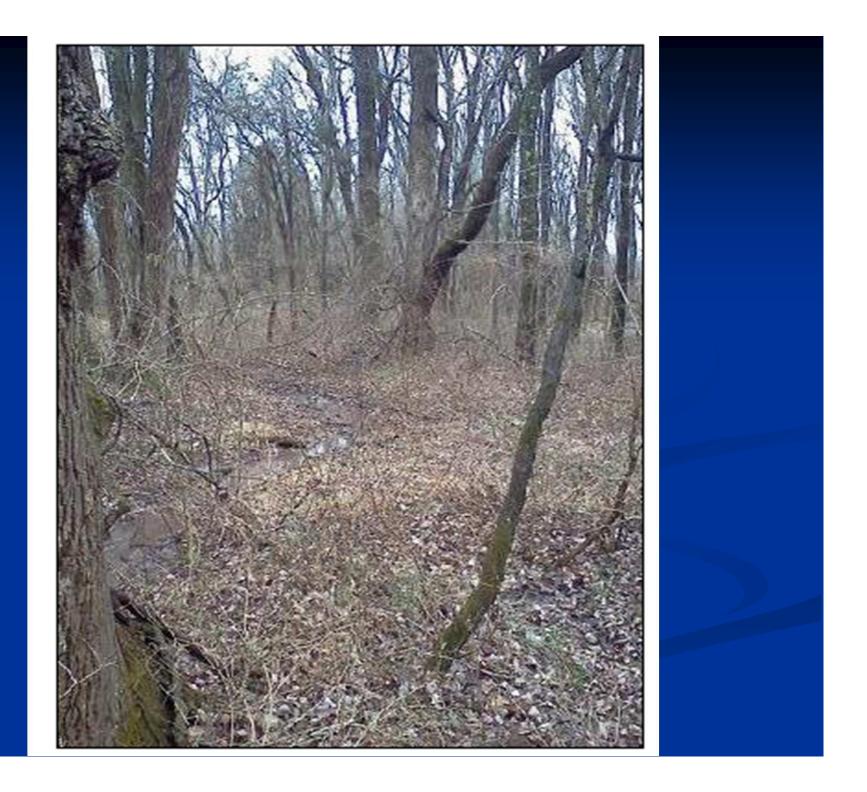




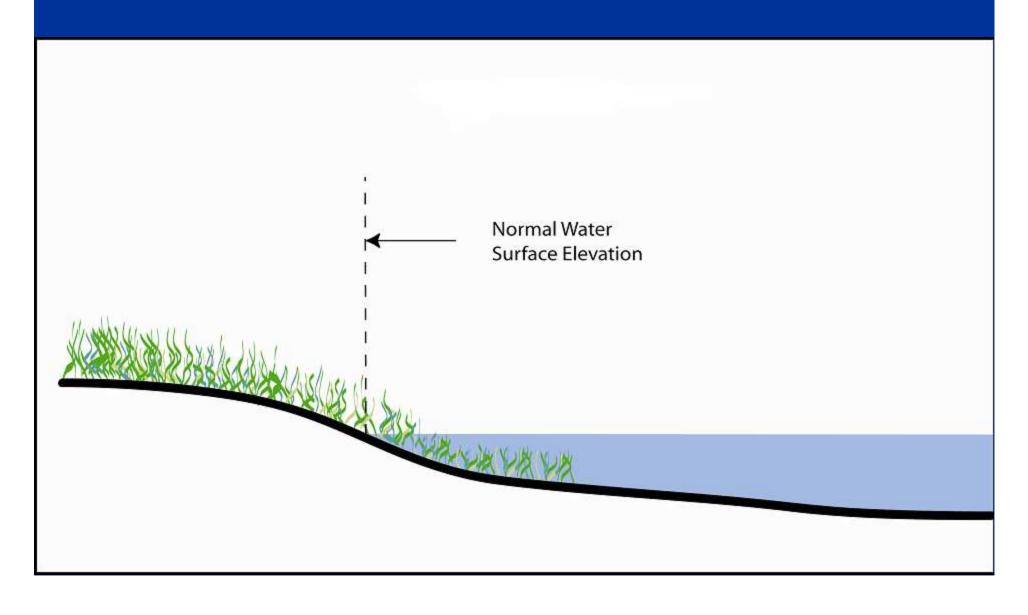


If a discernible bank is NOT present: Along a linear fluvial or tidal water, such as a small stream, the riparian zone is measured <u>landward of the feature's centerline</u>

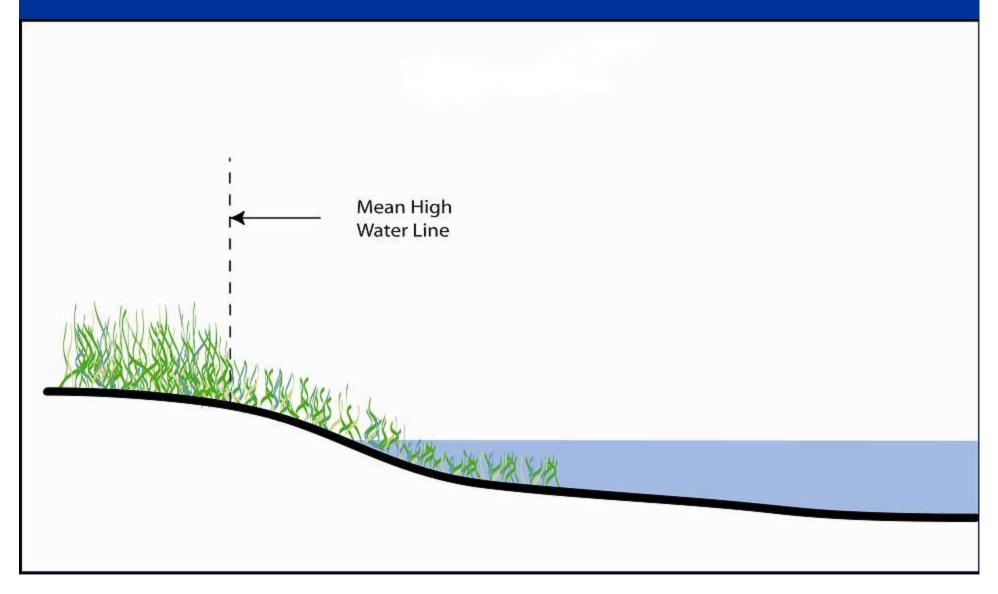




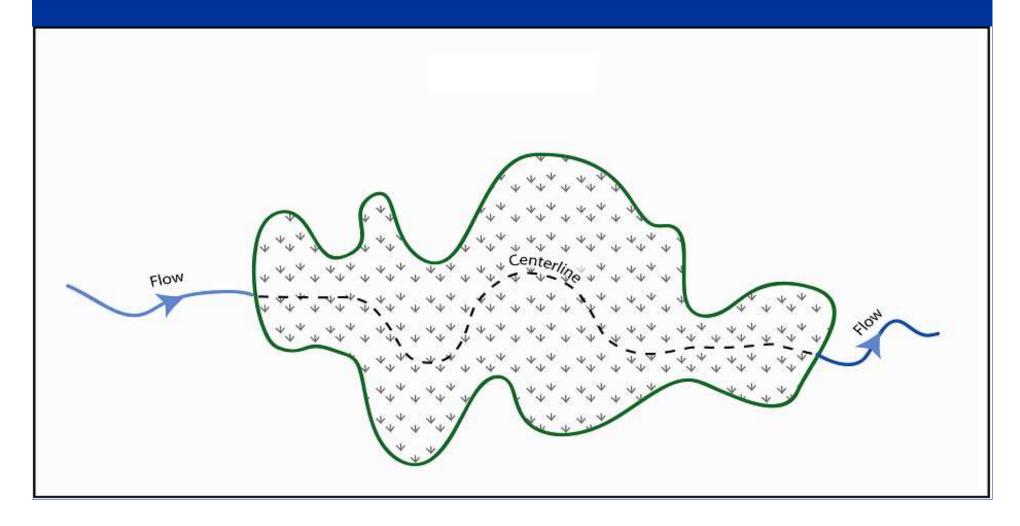
If a discernible bank is NOT present: Along a non-linear fluvial water, such as a lake or pond, the riparian zone is measured landward of the normal water surface limit



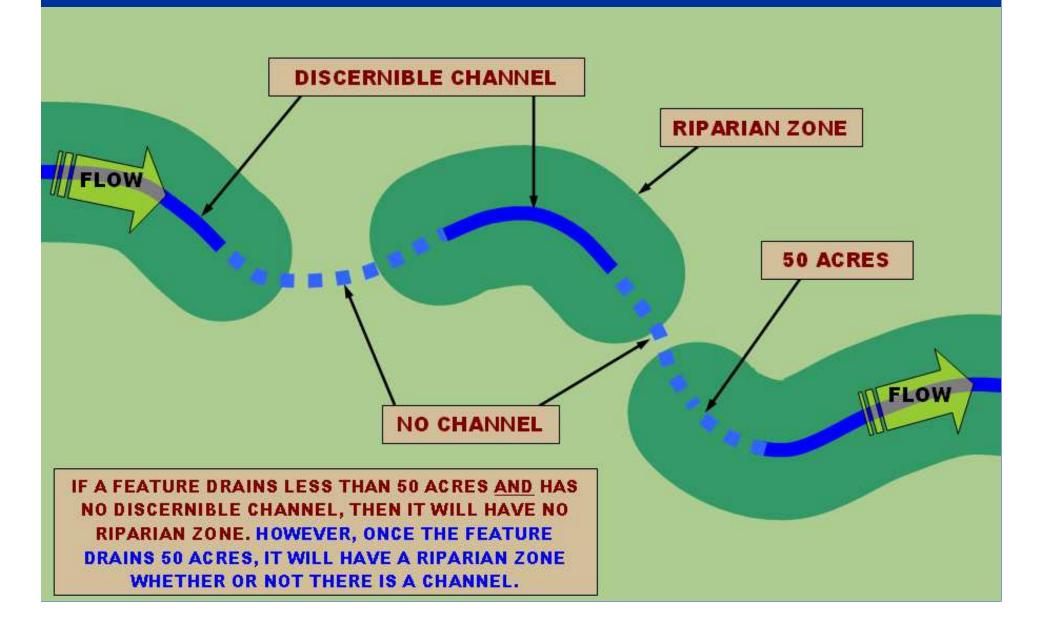
If a discernible bank is NOT present: Along a non-linear tidal water, such as a bay or inlet, the riparian zone is measured landward of the mean high water



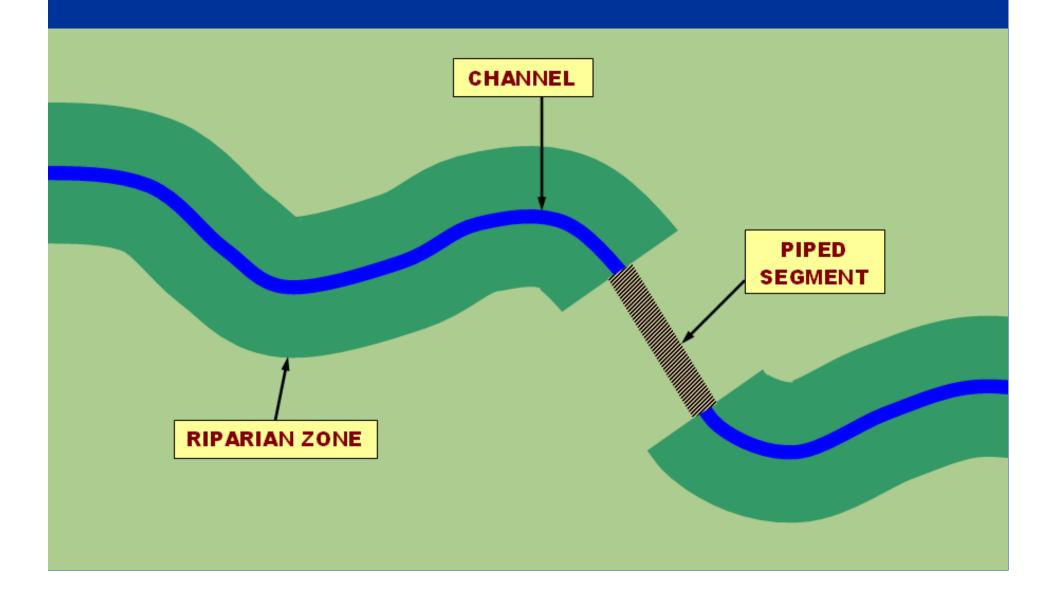
If a discernible bank is NOT present: Along an amorphous feature, such as a wetland complex, through which a regulated water flows but which lacks a discernible channel, the riparian zone is measured landward of the feature's centerline



Drainage Area and Riparian Zone



There is no riparian zone along a lawfully piped or culverted section of stream:

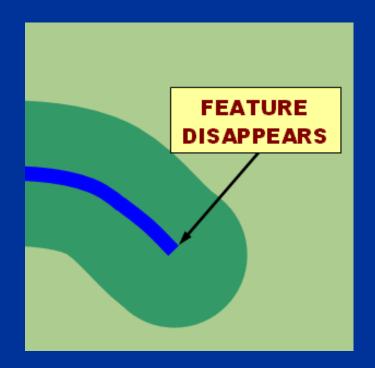


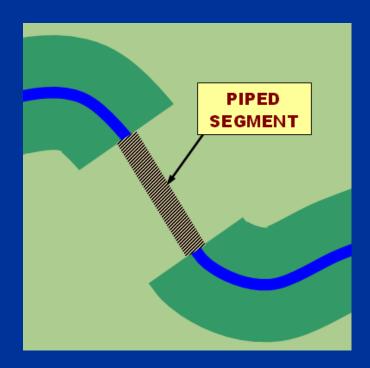


Does the riparian zone arc around the "end" of a regulated water?

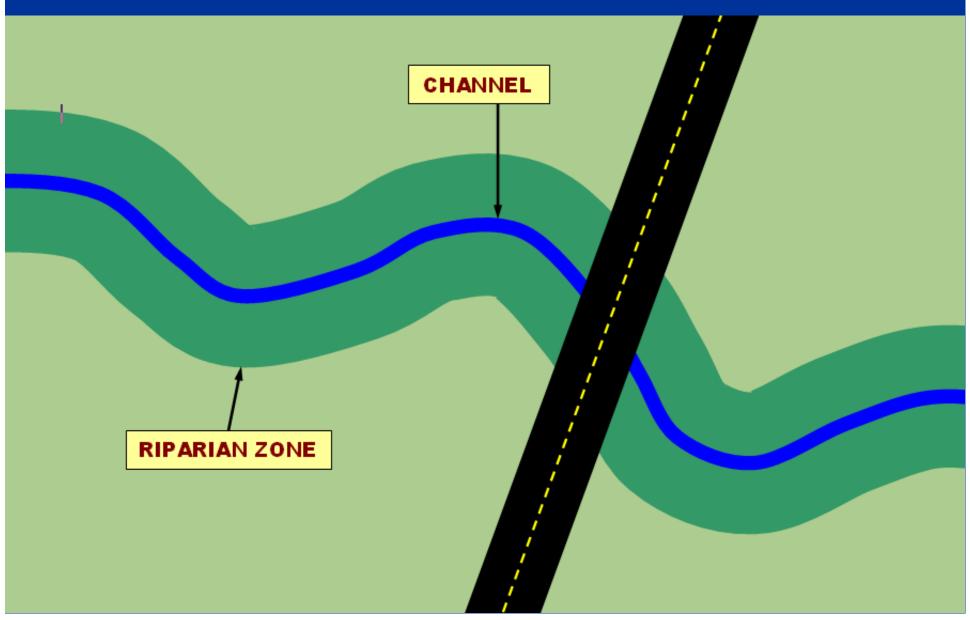
Yes: If the feature "ends" because of natural causes

No: If the feature enters a pipe

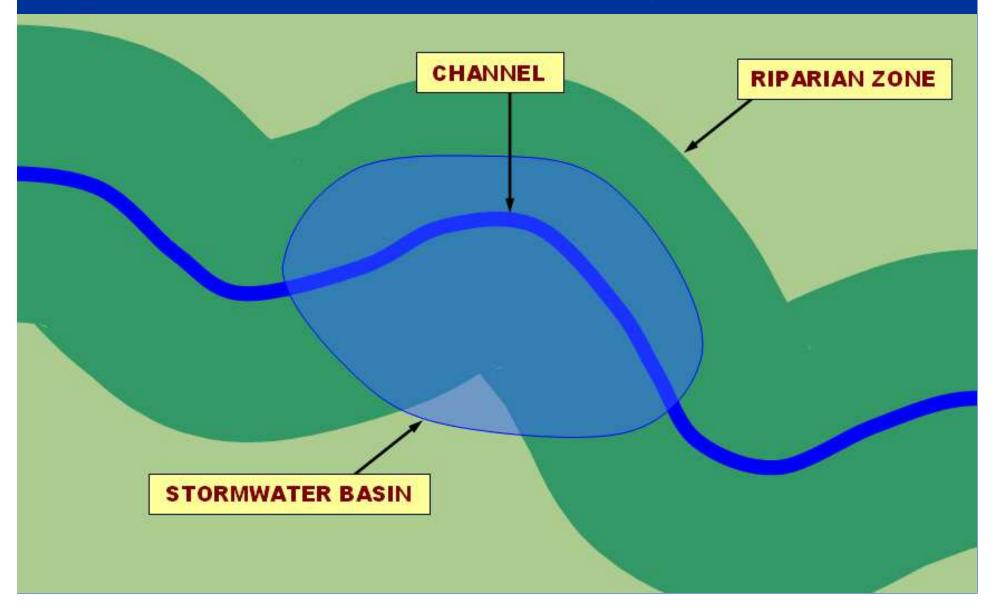




The riparian zone will also end at road crossings as follows:



If a stormwater basin was constructed along a stream, the riparian zone is projected from the original top of bank:



300-ft Riparian Zone

■ 300 ft along: Category One waters and upstream tributaries within the same HUC-14 watershed

Category One waters are listed in the Department's Surface Water Quality Standards at N.J.A.C. 7:9B http://www.nj.gov/dep/wms/bwqsa/swqs.htmAvaila ble on

GeoWeb (NJDEP's Interactive mapping tool) http://www.nj.gov/dep/gis/geowebsplash.htm

300-ft Riparian Zone

■ Important: The 300-ft riparian zone is not exactly the same as the Special Water Resource Protection Area

300-ft Riparian Zone vs SWRPA

 Difference #1: The SWRPA applies only to waters that are shown on a USGS quad or County Soil Survey

The riparian zone applies to regulated waters regardless of any mapping

300-ft Riparian Zone vs SWRPA

■ Difference #2: The SWRPA applies only to projects that are major developments (under N.J.A.C. 7:8)

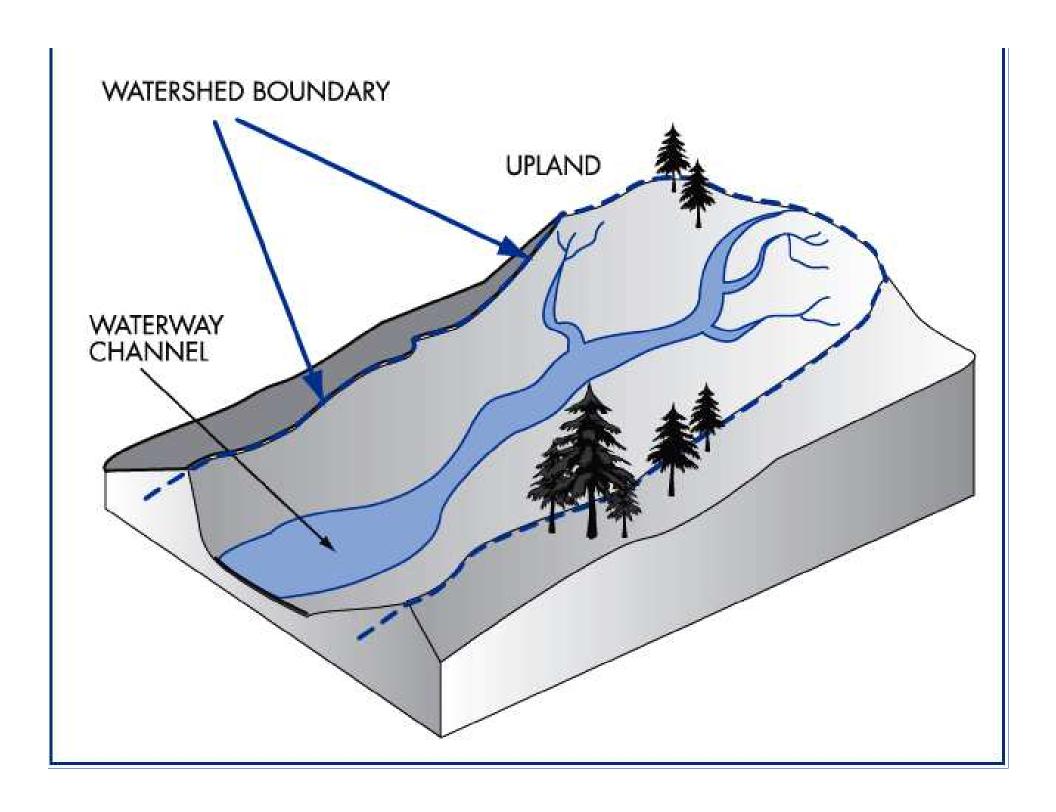
The riparian zone applies to regulated waters regardless of the size of the project

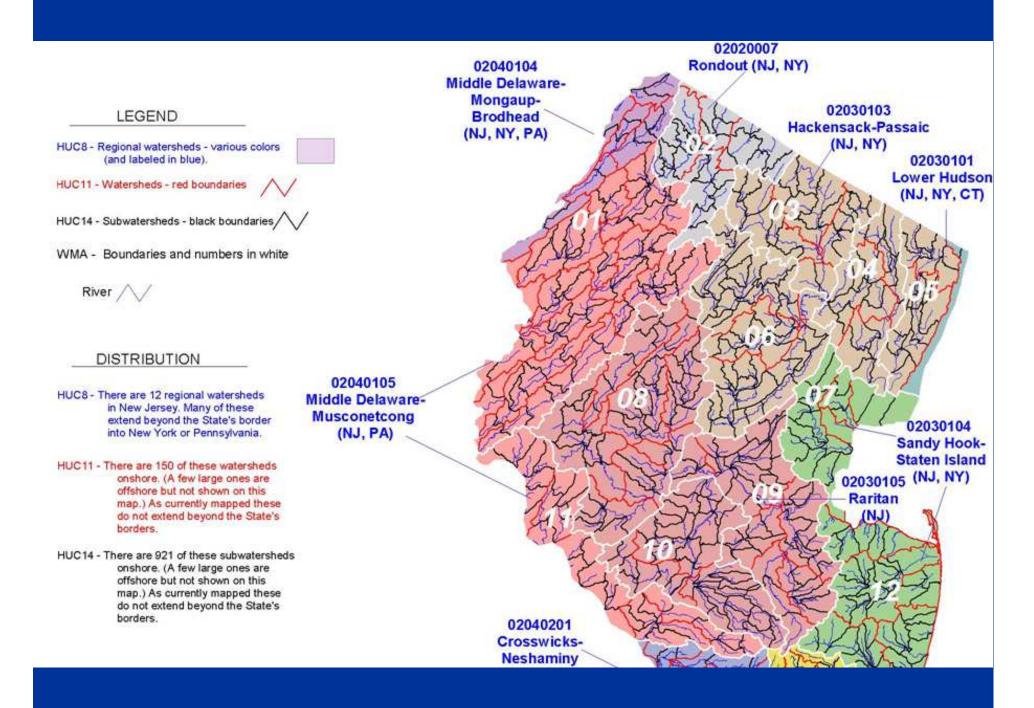
300-ft Riparian Zone vs SWRPA

- Difference #3: Location Based vs Activity Based
- The inner half of the SWRPA may not be developed; the outer half may be developed if previously disturbed
- The riparian zone does not have an inner or outer half; it may be disturbed for certain activities, if justified

WHAT IS A HUC-14 WATERSHED?

- Watershed area defined by USGS
- 14-digit Hydrologic Unit Code
- NJ's watersheds boundaries are mapped and numbered
- Available on GeoWeb (NJDEP's Interactive mapping tool) (Subwatersheds HUC14)
- Statewide map at: <u>www.state.nj.us/dep/watershedmgt/hucmap.</u> htm



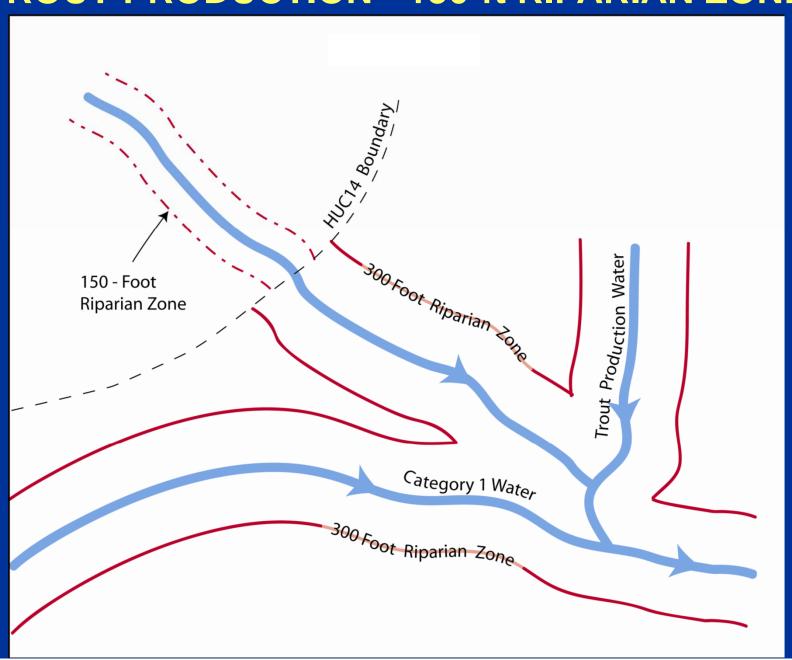


02020007 Rondout (NJ, NY)

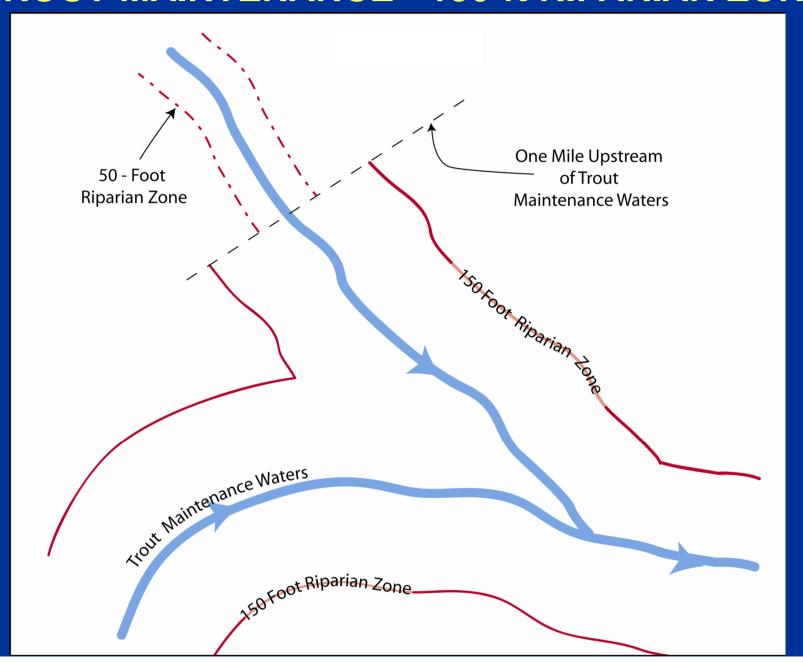
150-ft Riparian Zone

- Trout production waters and all tributaries
- 2. Trout maintenance waters and all tributaries within one mile
- 3. Waters that flow through an area that contains documented T&E habitat (if plant/animal is critically dependent on the regulated water for survival) and all tributaries within one mile
- 4. Waters that flow through an area that contains acid producing soils

TROUT PRODUCTION - 150-ft RIPARIAN ZONE



TROUT MAINTENANCE - 150-ft RIPARIAN ZONE



Threatened or Endangered Species

• The 150-foot riparian zone also applies to any segment of a regulated water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the regulated water for survival, and all upstream tributaries within one mile.

Threatened or Endangered Species

Landscape Maps

 Available from the Department's Division of Fish and Wildlife, Endangered and Nongame Species Program at: http://www.nj.gov/dep/fgw/ensphome.htm

 Or can be viewed through GeoWeb at http://www.nj.gov/dep/gis/geowebsplash.htm

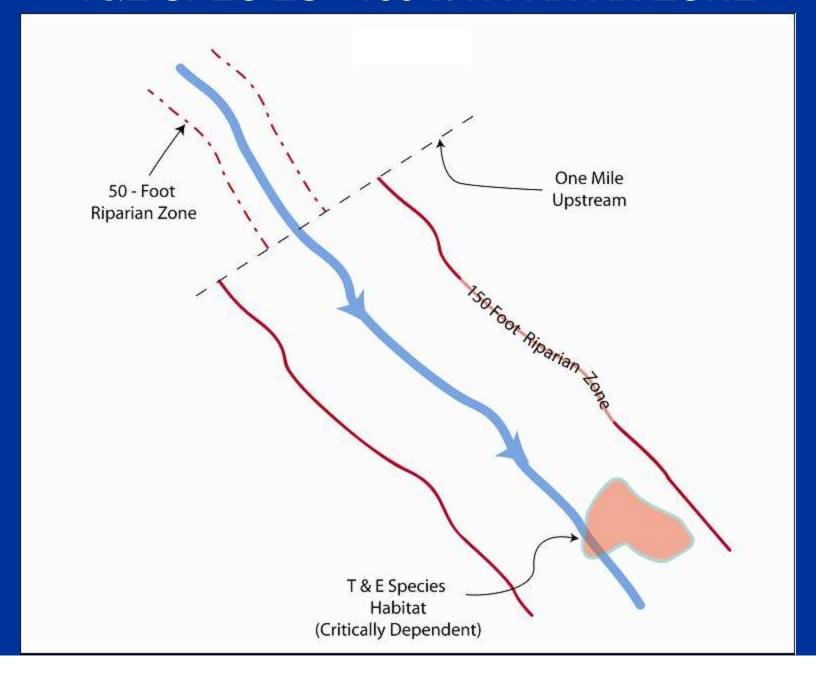
Threatened or Endangered Species

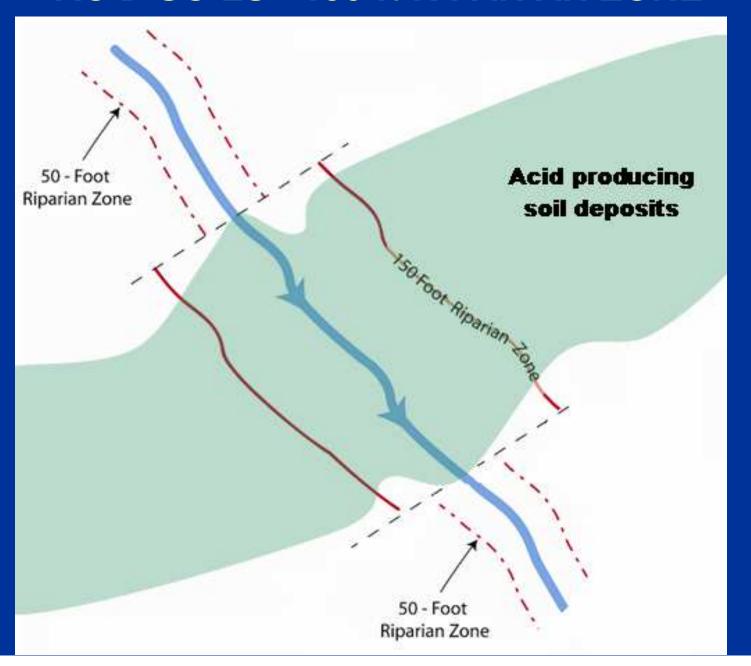
For further information on the occurrence and mapping of threatened or endangered plant species habitat contact:

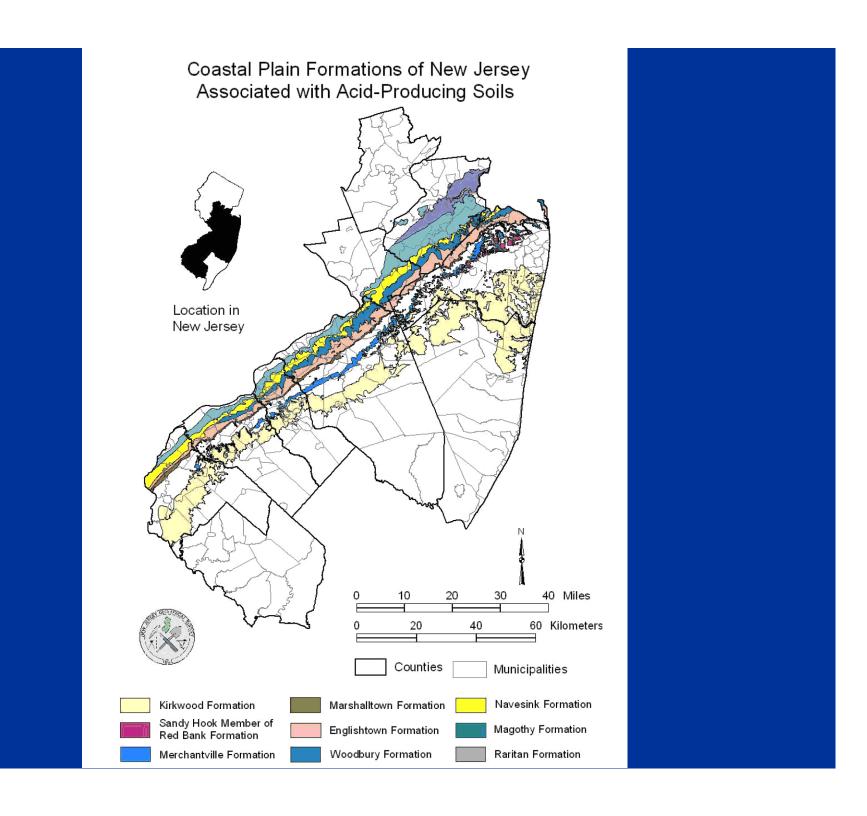
Natural Heritage Data Request Form
The New Jersey Natural Heritage Program
DEP - Office of Natural Lands Management
Mail Code 501-04
P.O. Box 420
Trenton, NJ 08625-0404

NOTE - NHP Letter required for a FHA submission

T&E SPECIES - 150-ft RIPARIAN ZONE







HOW TO DETERMINE IF ACID-PRODUCING SOIL DEPOSITS ARE PRESENT ON A SITE

- 1. Log on to www.state.nj.us/dep
- 2. On the left hand side of the page, select NJ-Geoweb/I-Map NJ
- 3. Scroll down and click on *I-Map NJ Geology*

HOW TO DETERMINE IF ACID-PRODUCING SOIL DEPOSITS ARE PRESENT ON A SITE

- 4. Select Launch I-Map NJ Geology
- 5. On the left hand side of the page, select Bedrock Geology to be Visible and Active. Click on Refresh Map at the top of the legend.

HOW TO DETERMINE IF ACID-PRODUCING SOIL DEPOSITS ARE PRESENT ON A SITE

- 6. Zoom-in to the area of interest.
- 7. Once you find the area in question, click on Identify, located at the top of the page, and click the site to get the geologic formation name.

HOW TO DETERMINE IF ACID-PRODUCING SOIL DEPOSITS ARE PRESENT ON A SITE

If a stream flows through any of the following nine geologic formations, it will have a 150-ft riparian zone:

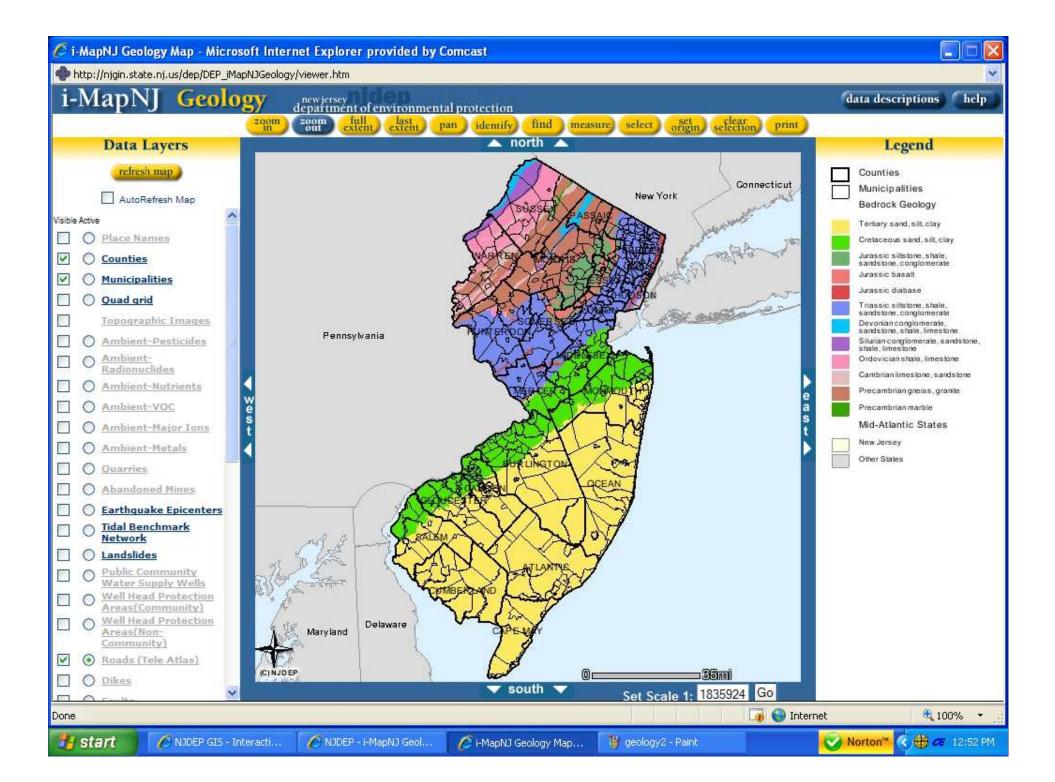
Englishtown Navesink

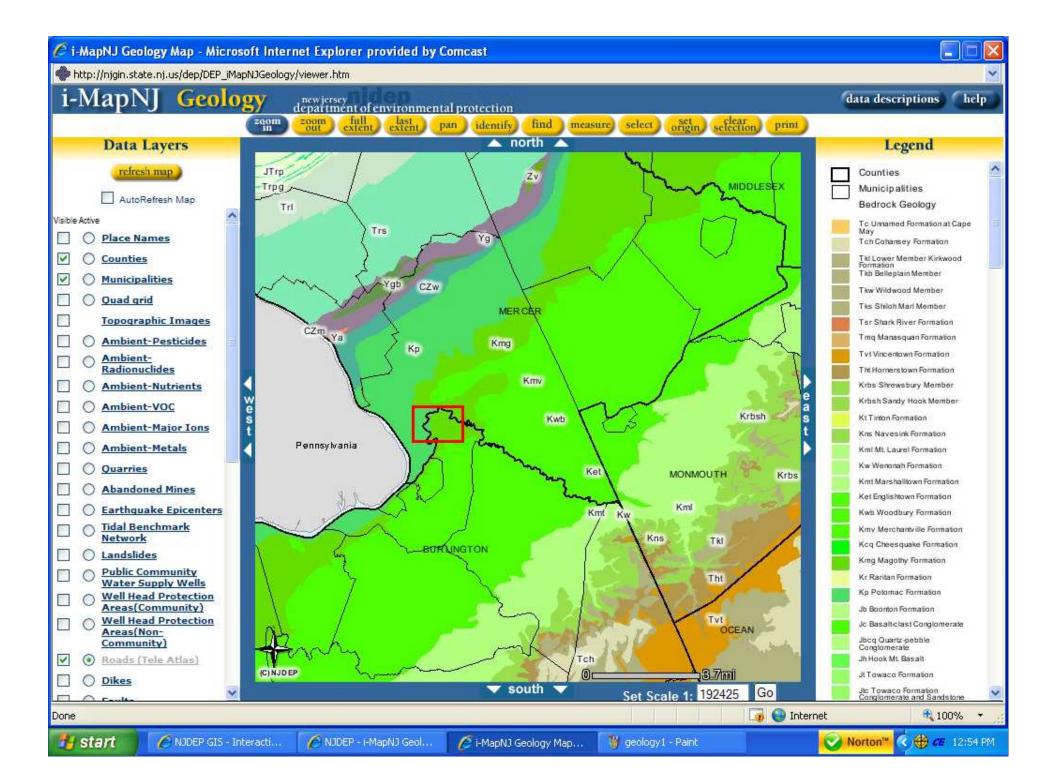
Kirkwood Raritan

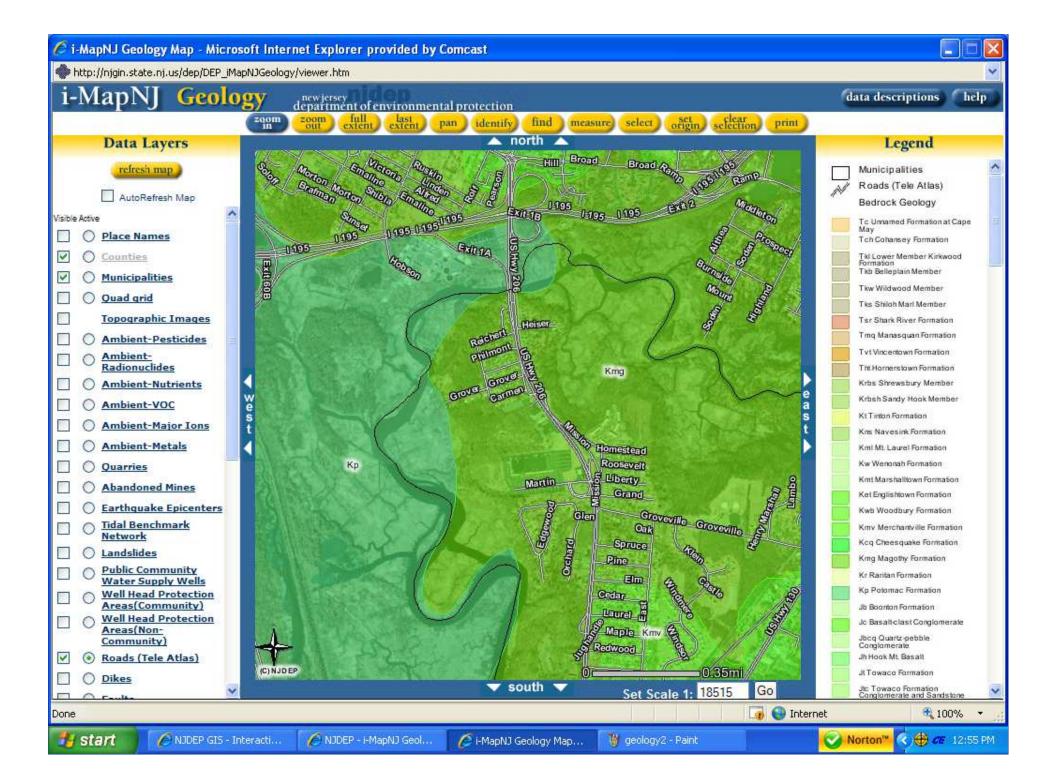
Magothy Sandy Hook Member of Red Bank

Marshalltown Woodbury

Merchantville







50-ft Riparian Zone

Along all other waters

 Most common riparian zone width, especially in urbanized areas (except where acid producing soils exist)

What if you want to conduct regulated activities in the riparian zone?



Riparian Zone Disturbance N.J.A.C. 7:13-7.2

- Permits-By-Rule
 - For specific activities, where in general no vegetation will be disturbed
 - Some require notification
 - An Applicability Determination may be applied for to obtain a written determination that an activity meets a permit-by-rule.

Permits-By-Rule

N.J.A.C. 7:13-7.2(a)2 Any construction activity

Constructing in a disturbed riparian zone or at or below grade in a FHA provided.

- If in a FHA all work is at or below grade (ie. bike path, driveway, lawn, trail, garden, sidewalk)
- No disturbance within 25 feet top of bank
- Not a Major Development
- No vegetation is cleared, cut, or removed in a RZ, except where previously developed or disturbed (ie. maintained lawn, garden, or abandoned parking area)
- All vegetated area temporarily disturbed with the RZ are replanted with indigenous, non-native species

Riparian Zone Disturbance N.J.A.C. 7:13-10.2

The rules are designed to preserve all existing riparian zone vegetation

All vegetation counts (trees, grass, shrubs, weeds, etc.)



Riparian Zone Disturbance N.J.A.C. 7:13-10.2

Rules do not prohibit construction, but:

 All proposed disturbance must be avoided, justified, and fully minimized

and

Each activity has limits on disturbance

N.J.A.C. 7:13-10.2

Disturbance within 25 feet of the top of bank is generally prohibited, except for unavoidable situations. For example:

- Road crossings are often justified
- Bank stabilization may be necessary
- Parking lots are unlikely justified



Riparian Zone Disturbance N.J.A.C. 7:13-10.2(d)

All work must meet 3 basic criteria:

1. The basic purpose of the project cannot be accomplished onsite without disturbing vegetation in the riparian zone.

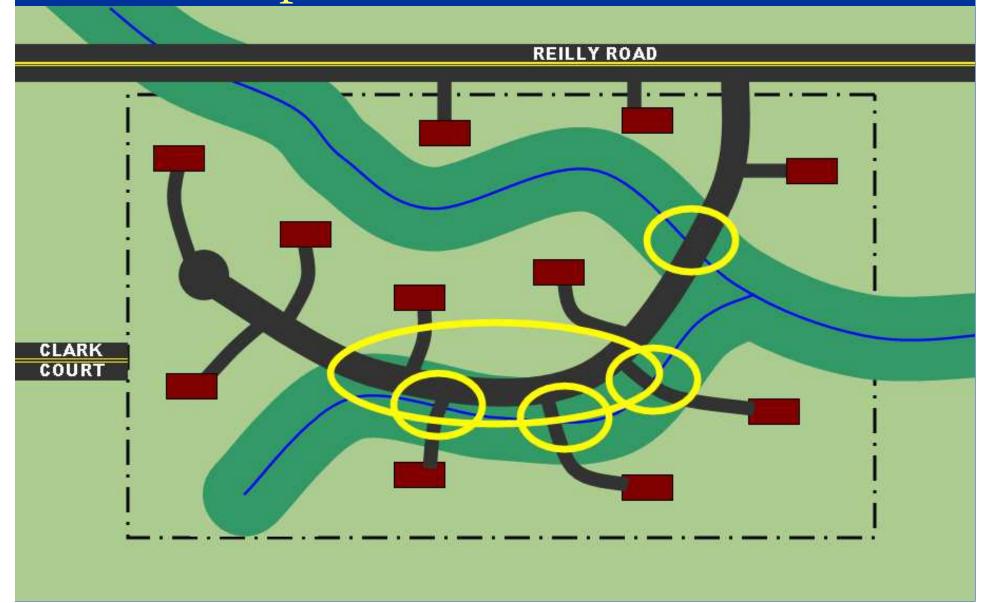
N.J.A.C. 7:13-10.2(d)

2. Disturbance to the riparian zone is eliminated where possible; where not possible to eliminate, disturbance is minimized through methods including relocating the project, reducing the size or scope of the project and/or situating the project in portions of the riparian zone where previous development or disturbance has occurred;

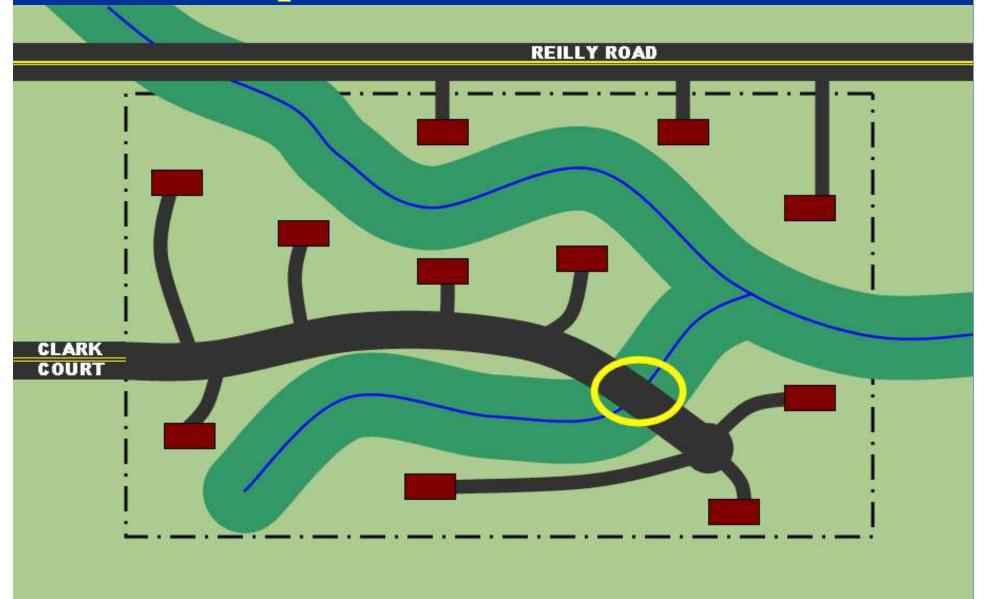
N.J.A.C. 7:13-10.2(d)

3. All temporarily cleared, cut or removed vegetation within a riparian zone is replanted with indigenous, non-invasive vegetation upon completion of the project.

Example: not minimized



Example: minimized



In addition to the basic requirements at N.J.A.C. 7:13-10.2(d):

 Maximum riparian zone disturbance set at Table C

 Additional criteria must be met for each specific activity under 10.2(e) through (r)

Table C

N.J.A.C. 7:13-10.2(d)

- Shows maximum disturbance for various activities
- If activity is not listed, you need a hardship exception

Proposed Regulated Activity		See Paragraph Below	Maximum Area of Vegetation Disturbance Based on the Width of the Riparian Zone					
		for Further Detail	50-foot Riparian Zone	150-foot Riparian Zone	300-foot Riparian Zone			
Railroad or public roadway								
New	Crossing a water	(e)	5,000 ft²	15,000 ft ²	30,000 ft²			
	Not crossing a water		2,000 ft²	6,000 ft²	12,000 ft²			
Reconstructed	Crossing a water	(f)	2,500 ft²	7,500 ft²	15,000 ft²			
	Not crossing a water		1,000 ft²	3,000 ft²	6,000 ft ²			
Private roadway that serves as a driveway to one private residence								
New	Crossing a water	(g)	1,500 ft²	4,500 ft²	9,000 ft²			
	Not crossing a water		600 ft²	1,800 ft²	3,600 ft²			
Reconstructed	Crossing a water	(h)	750 ft²	2,250 ft ²	4,500 ft ²			
	Not crossing a water		300 ft²	900 ft²	1,800 ft²			
 All oth 	er private roadways							
New	Crossing a water	(g)	3,000 ft²	9,000 ft²	18,000 ft²			
	Not crossing a water		1,200 ft²	3,600 ft²	7,200 ft²			
Reconstructed	Crossing a water	(h)	1,500 ft²	4,500 ft²	9,000 ft²			
	Not crossing a water	1 ''''	600 ft²	1,800 ft²	3,600 ft²			
	tabilization or channel :	restoration						
	with vegetation alone		No limit if disturbance is justified					
Other permane:	Other permanent disturbance		2,000 ft²	2,000 ft²	2,000 ft²			
Other temporary disturbance			1,000 ft²	3,000 ft²	6,000 ft²			
Storms	vater discharge (includ	ing pipe and						
Permanent disturbance		(j)	1,000 ft²	1,000 ft²	1,000 ft²			
Temporary dist	Temporary disturbance		1,000 ft²	3,000 ft²	6,000 ft²			
Utility	line (temporary disturb	ance only)						
Crossing a wate	er	(k)	2,000 ft²	6,000 ft²	12,000 ft²			
	Not crossing a water		800 ft²	2,400 ft²	4,800 ft²			
• Other p	projects							
Private residence		(m)	2,500 ft²	5,000 ft²	5,000 ft ²			
Addition, garage, barn or shed		(n)	1,000 ft²	2,000 ft²	2,000 ft²			
Flood control project		(0)	3,000 ft²	9,000 ft²	18,000 ft²			
Public accessway or public access area		(p)	No limit if disturbance is justified					
Water dependent development		(q)	No limit if disturbance is justified					
All other regulated activities		(r)	1,000 ft²	3,000 ft²	6,000 ft²			

Table C

Includes disturbance for:

- Roadways (e) (h)
- Bank Stabilization (i)
- Stormwater discharges (j)
- Utility lines (k) (l)
- A private residence or appurtenant structure (m) - (n)
- Flood control projects (o)
- Tidal developments (p) (q)
- "Other" minor activities (r)

	-						
Private roadway that serves as a driveway to one private residence							
New	Crossing a water	(g)	1,500 ft ²	4,500 ft ²	9,000 ft ²		
	Not crossing a water		600 ft ²	1,800 ft ²	3,600 ft ²		
Reconstructed	Crossing a water	(h)	750 ft ²	2,250 ft ²	4,500 ft ²		
	Not crossing a water	(11)	300 ft ²	900 ft ²	1,800 ft ²		
All other private roadways							
New	Crossing a water	(g)	3,000 ft ²	9,000 ft ²	18,000 ft ²		
	Not crossing a water	(8)	1,200 ft ²	3,600 ft ²	7,200 ft ²		
Reconstructed	Crossing a water	(h)	1,500 ft ²	4,500 ft ²	9,000 ft ²		
	Not crossing a water	(11)	600 ft ²	1,800 ft ²	3,600 ft ²		
Utility line (temporary disturbance only)							
Crossing a water		(k)	$2,000 \text{ ft}^2$	6,000 ft ²	12,000 ft ²		
Not crossing a water		(1)	800 ft ²	2,400 ft ²	4,800 ft ²		
Other projects							
Private residence		(m)	2,500 ft ²	5,000 ft ²	5,000 ft ²		
Addition, garage, barn or shed		(n)	1,000 ft ²	2,000 ft ²	2,000 ft ²		
Flood control project		(o)	3,000 ft ²	9,000 ft ²	18,000 ft ²		
Public accessway or public access area		(p)	No limit if disturbance is justified				
Water dependent development		(q)	No limit if disturbance is justified				
All other regulated activities		(r)	1,000 ft ²	3,000 ft ²	6,000 ft ²		





Example: Private roadway (driveway) N.J.A.C. 7:13-10.2(g)

Table C
MAXIMUM ALLOWABLE DISTURBANCE TO RIPARIAN ZONE VEGETATION

Proposed Regulated Activity		See Paragraph Below for Further Detail	Maximum Area of Vegetation Disturbance Based on the Width of the Riparian Zone 50-foot 150-foot 300-foot Riparian Riparian Zone Zone Zone				
Railroad or public roadway							
New	Crossing a water	(a)	5,000 ft ²	15,000 ft ²	30,000 ft ²		
	Not crossing a water	(e)	2,000 ft ²	6,000 ft ²	12,000 ft ²		
Reconstructed	Crossing a water	(f)	2,500 ft ²	7,500 ft ²	15,000 ft ²		
	Not crossing a water	(1)	1,000 ft ²	3,000 ft ²	6,000 ft ²		
Private roadway that serves as a driveway to one private residence							
New	Crossing a water	(g)	1,500 ft ²	4.500 ft^2	9,000 ft ²		
	Not crossing a water	(g)	600 ft ²	$1,800 \text{ ft}^2$	$3,600 \text{ ft}^2$		
Reconstructed	Crossing a water	(h)	750 ft ²	2,250 ft ²	$4,500 \text{ ft}^2$		
	Not crossing a water	(11)	300 ft ²	900 ft ²	1,800 ft ²		



Example (continued): N.J.A.C. 7:13-10.2(g)

(g) The Department shall issue an individual permit for the construction of a new private roadway, which results in clearing, cutting and/or removing vegetation in a riparian zone, only if the following requirements are satisfied:

Example (continued): N.J.A.C. 7:13-10.2(g)

1. The total area of vegetation cleared, cut and/or removed within the riparian zone does not exceed the limits set forth in Table C above;

2. The width of the roadway is minimized;

Example (continued):

N.J.A.C. 7:13-10.2(g)

- 3. Any crossing of a regulated water is designed and constructed as nearly perpendicular to the channel as possible;
- 4. The roadway accesses a lot that did not receive preliminary or final subdivision approval after October 6, 2006;

Example (continued):

N.J.A.C. 7:13-10.2(g)

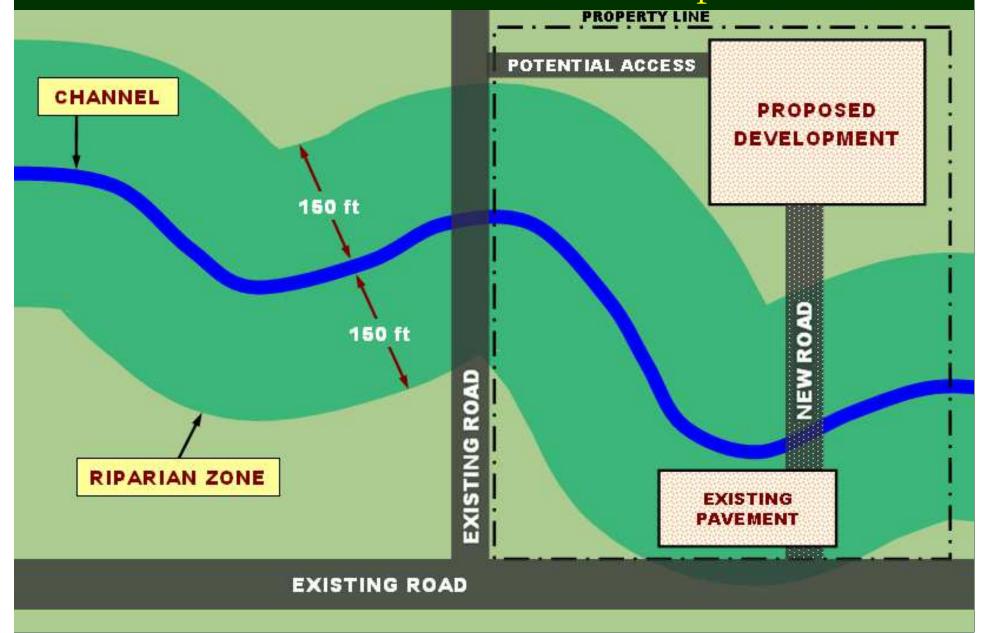
5. If the roadway does not cross a regulated water, but impacts a 150-foot or 300-foot riparian zone, the applicant demonstrates that there is no other means of constructing a roadway to access the developable area onsitre, which would reduce or eliminate the impact to the riparian zone

Areas Devoid of Vegetation

N.J.A.C. 7:13-10.2

- All disturbed vegetation counts (trees, grass, shrubs, weeds, etc.) under Table C
- But, if you disturb an area within the riparian zone, which has no vegetation due to previous lawful development, do not count it under Table
 - For example, work within paved roads and parking areas does not count toward Table C

But: In this example, there may be another entrance to the site that would not disturb the riparian zone



Riparian Zone Disturbance

■ Table C disturbances cannot be swapped!

Table C
MAXIMUM ALLOWABLE DISTURBANCE TO RIPARIAN ZONE VEGETATION

-							
Proposed Regulated Activity		See	Maximum Area of Vegetation Disturbance Based on the Width of the				
		Paragraph					
		Below					
		for Further	50-foot	150-foot	300-foot		
		Detail	Riparian	Riparian	Riparian		
			Zone	Zone	Zone		
Railroad or public roadway							
New	Crossing a water	(e)	5,000 ft ²	15,000 ft ²	30,000 ft ²		
	Not crossing a water		$2,000 \text{ ft}^2$	6,000 ft ²	12,000 ft ²		
Reconstructed	Crossing a water	(f)	$2,500 \text{ ft}^2$	$7,500 \text{ ft}^2$	15,000 ft ²		
	Not crossing a water		1,000 ft ²	$3,000 \text{ ft}^2$	6,000 ft ²		
Private roadway that serves as a driveway to one private residence							
New	Crossing a water	(g)	1,500 ft ²	4,500 ft ²	9,000 ft ²		
	Not crossing a water		600 ft	1,800 ft ²	3,600 ft ²		

8			,	,
Other projects				
Private residence	(m)	$(2,500 \text{ ft}^2)$	5,000 ft ²	5,000 ft ²

Riparian Zone Disturbance

If the driveway only disturbs 1000 SF, you cannot "credit" the unused 500 SF towards the house.

The house would still be allowed a maximum of 2500 SF, if justified.

Remember:

■ Just because an activity meets the limits of Table C, it does not automatically mean that you'll get a permit for it: you must prove that the disturbance is minimized, justified, and unavoidable (N.J.A.C. 7:13-10.2(d))

Temporary Disturbance

N.J.A.C. 7:13-10.2

- Temporary disturbance to lawn and garden areas does not count toward thresholds in Table C, provided all vegetation is restored.
- For example:
 - Reconstructing a septic system in a lawn
 - Relocating structures (trails, sheds, footbridges) in a park or golf course
 - Placing new pavement in grass, then ripping up an equal area of pavement and replanting the area with grass

Exceeding Table C

N.J.A.C. 7:13-10.2(d)

- A hardship exception is needed if you want to exceed the riparian zone limits of Table C, except for the following projects (in certain cases):
 - Improvements to an existing public roadway or railroad 10.2(f)
 - Bank stabilization and channel restoration projects 10.2(i)
 - Flood control projects 10.2(o)

2:1 Compensation

N.J.A.C. 7:13-10.2(t)

- Is also required for any project under 10.2(r):
 - N.J.A.C. 7:13-10.2(r) allows riparian zone disturbance for any regulated activity not listed in Table C

BUT:

- 2:1 compensation is required for all proposed riparian zone disturbance
- And, you cannot exceed the limits for 10.2(r) without a hardship exception

2:1 Compensation

N.J.A.C. 7:13-10.2(t)

- Can be accomplished in two ways:
 - Removing lawfully existing structures and/or impervious surfaces in the riparian zone, and replanting the area with vegetation, or
 - Planting new trees in the riparian zone in an area that is substantially devoid of trees at the time of application because the trees were removed due to previous, lawful development

Redevelopment

N.J.A.C. 7:13-10.2(v)

■ Redevelopment of lawfully non-vegetated areas is not hindered, except that it should be pulled back at least 25 feet from bank where possible

Fisheries Resources

N.J.A.C. 7:13-10.5

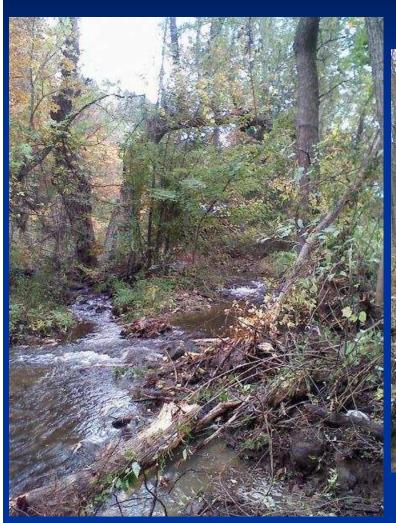
- Requirements in or along a water with a fishery resource. Includes tributaries that drain to a fisheries resource and includes both work in the channel and the Riparian Zone.
 - Timing restrictions are met
 - Unset or raw concrete does not contact the water
 - No logs or boulders providing habitat are removed
 - Low-flow conditions are maintained.

Table E RESTRICTED TIME PERIODS FOR WATERS WITH FISHERY RESOURCES

Water and classification	Time period (inclusive) during which activities are prohibited
1. Trout Waters	
All trout production waters except rainbow trout	September 15 through March 15
Rainbow trout production waters	February 1 through April 30
Trout stocked waters	March 15 through June 15
Trout maintenance waters	
Any water located within 1 mile upstream of a	
trout stocked or a trout maintenance water	
2. Non-Trout Waters	
 Waters that support general game fish 	May 1 through June 30
Waters that support pickerel	Ice out through April 30
Waters that support walleye	March 1 through May 30
3. Anadromous Waters	
All unimpeded tidal waters open to the Atlantic	April 1 through June 30
Ocean or any coastal bay	
 All waters identified as anadromous migratory 	
pathways	
Delaware River upstream of U.S. Route 202	April 1 through June 30 and
	September 1 through November 30
Delaware River between U.S. Route 202 and	March 1 through June 30
Interstate 276 (Pennsylvania Turnpike Bridge)	
Delaware River between Interstate 276	March 1 through June 30 and September
(Pennsylvania Turnpike Bridge) and Interstate	1 through November 30
295 (Delaware Memorial Bridge)	
Tidal portions of Raccoon, Rancocas Creek, Greeks and George Pives	
Crosswicks Creeks and Cooper River	March 1 through June 30 and
 All unimpeded tidal waters open to the Delaware River downstream of Interstate 295 (Delaware 	October 1 through November 30
Memorial Bridge)	October 1 tillough November 50
Tidal portions of the Maurice River, Cohansey	
River and Salem River	

Threatened and Endangered Species N.J.A.C. 7:13-10.6

- GeoWeb rank 3, 4, or 5 and Natural Heritage Priority Database provided in the NHP letter
- NJDEP will only issue an FHA-IP if the activity will not adversely affect T & E or documented habitat.
- A T & E survey for plants or habitat assessment for animals may be required per NJAC 7:13-15.5(c)
- Timing restrictions depending on species







Questions?

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