WATER BOUNDARIES PORTRAYED IN GIS

Caution!
Riparian Rights

Riparian rights refers to the rights of the land adjacent to and in a waterway.

The following issues should be considered:

- Is the water navigable or non-navigable?
- Has accretion or avulsion taken place?
- Does the state or federal government have sovereignty over the beds?
- What affect do artificial structures, such as dams, have on rights?
• The most important fact about navigable waters is that states acquired sovereignty over the beds on the date they were admitted into the union. Thus, riparian owner’s rights below the ordinary high-water mark of navigable water bodies are governed by the state law, not federal law.
Several facts to keep in mind about non-navigable waters are shown below:

- Ownership is to the center of the bed.
- When opposite banks belong to more than one person, the water and the bed are common to both.
- Courts have found that non-navigable waterways cannot be made navigable by artificial means to the detriment of parties holding rights to the waterway bed. The stream’s natural condition is the test.
- Beds of non-navigable waters are included when lands are transferred to patentees from the federal government.
ACCRETION

• The slow, imperceptible addition of soil to the uplands. The upland riparian boundary moves as the land and water move. However, the bed remains in the ownership of the title holder.
The doctrine of accretion is the common law principle that the owner of riparian land is entitled to any additions caused by the process of accretion.

The doctrine is grounded in two rationales:

• An adjacent landowner’s access to water is a proprietary right that should not end because of the slow addition of intervening land.
• Since the riparian landowner can lose land through erosion, the owner should also gain land through accretion.
• With the actions of accretion and erosion the boundaries of ownership change along with the action.

• Administrative boundaries may also change along with the action.
Figure 7 - Abridged
AVULSION

- a river's sudden change in flow alignment out from its previous left and right banks to a new channel, leaving an identifiable upland area between the abandoned channel and the new channel.
In the doctrine of avulsion, also rooted in common law, a sudden and perceptible change in a water course from one bed to a new bed does not change boundaries.

The rationale for this doctrine rests on the idea that it is better for a landowner to lose a riparian right than it is for an opposite, upland owner to suddenly lose land that might contain improvements, such as a house or a barn.
RELICITION

- The gradual uncovering of land caused by the recession of a body of water. Relicted land is treated in the same manner as accreted land insofar as its survey is concerned.
Reliction of Flagstaff Lake

Willamette Meridian, Oregon
A Case Study
Reliction of Flagstaff Lake

Pie Method
A Final Solution
Reliction of Flagstaff Lake

Proportionate Measure Method
A Final Solution
Reliction of Flagstaff Lake

The Colonial Method

Final Solution
Reliction of Flagstaff Lake

Final Solution:
Final Lotting Scheme
Reliction
July 26, 2001
• http://www.blm.gov/cadastral/Tools/tools.html