Costa Rica Gulf of Nicoya Shrimp Farm

AssessShrimpFarmLocations
Value
- Most Suitable
- Somewhat Suitable
- Neither Suitable or Unsuitable
- Somewhat Suitable
- Not Suitable
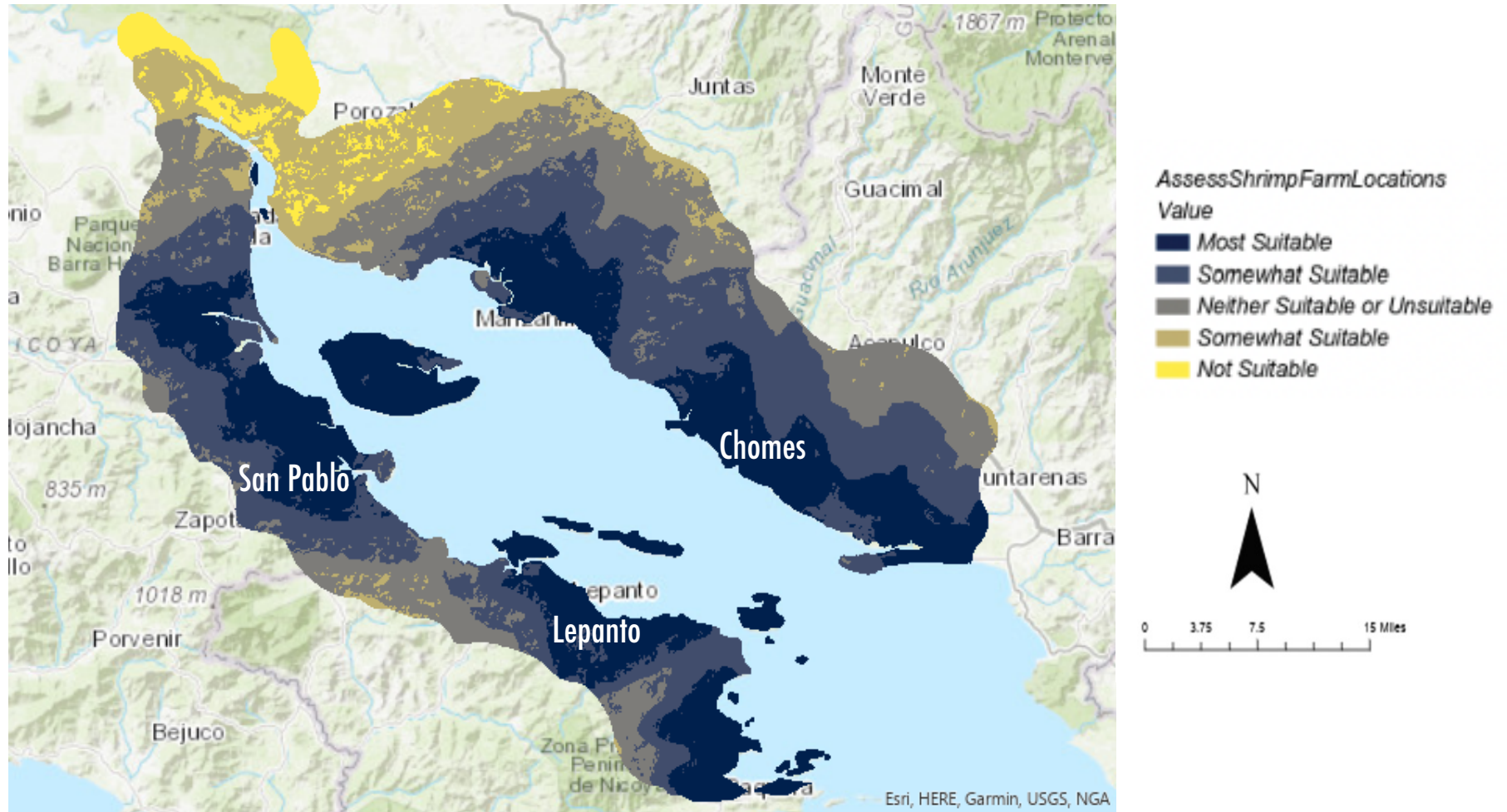
Costa Rica is home to an organic and sustainable shrimp farm industry. Looking to establish a new farm, farmers are looking for a suitable location with access to a road network and river, near a source of saltwater, and away from mangroves and urban areas. After using spatial analysis tools such as reclassify for land use and distance accumulation for roads, rivers, and salt water, these new datasets underwent the cell statistics function in order to determine the best locations. This geospatial analysis found that some of the most suitable locations for the next shrimp farm along Costa Rica's Gulf of Nicoya is located in Lepanto, Chomes, and San Pablo.
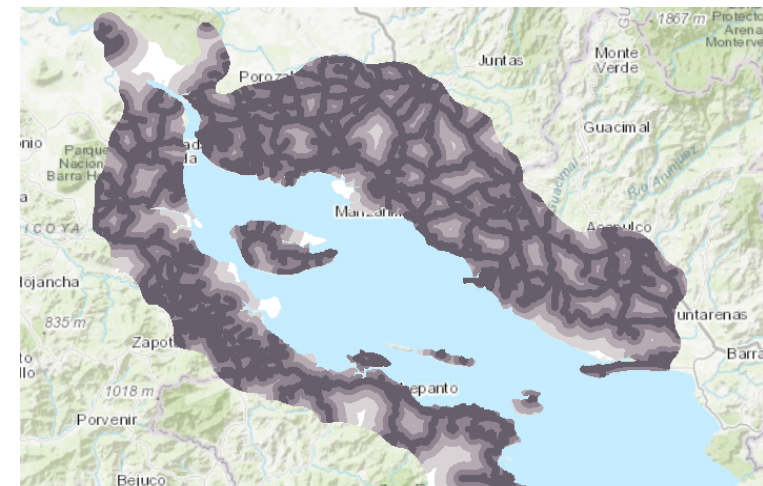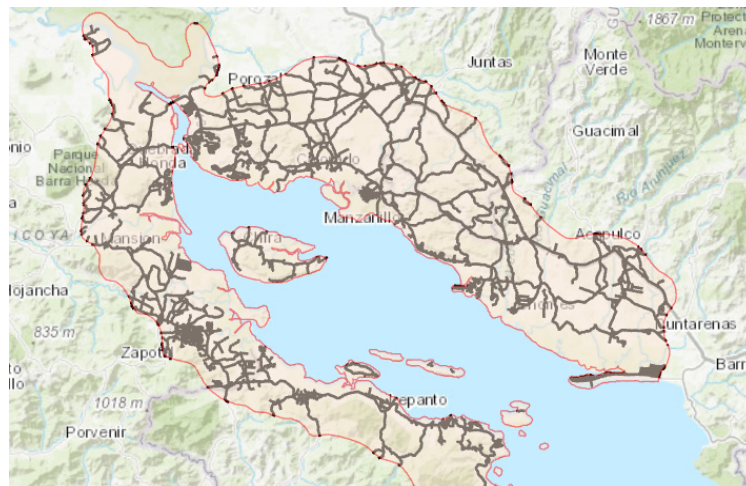
Spatial Analyst Tools

Reclassify: Shrubs + Agriculture, Avoid Mangroves
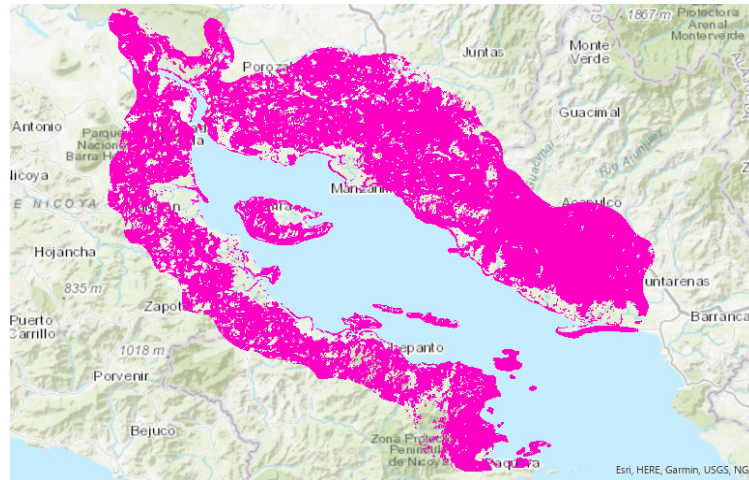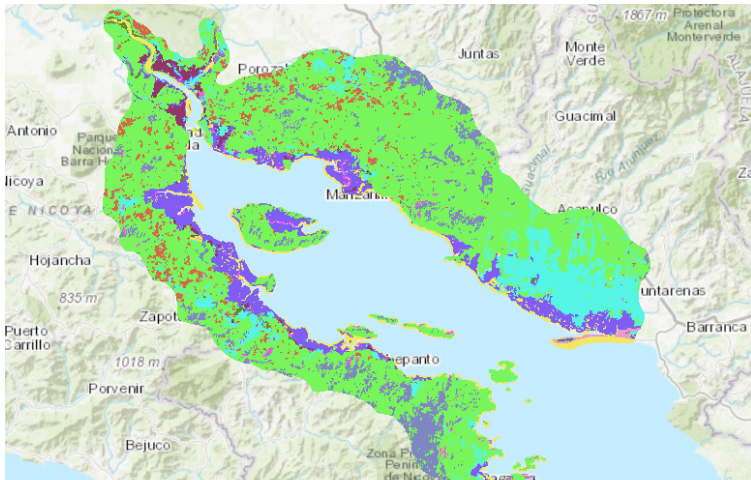
The original land use layer was reclassified in order to support the sustainable shrimp farm industry in Costa Rica by avoiding mangroves. Reclassifying the data into pink shows the land appropriate for the farm such as shrubs and agriculture, while avoiding magroves and urban areas.

Distance Accumulation: Roads

The shrimp farmers are seeking a suitable location near a series of road networks in order to transport their products to the markets. Using the distance accumulation allowed for the data to show the true
surface distance. After applying the roads layer as shown on the left, this tool was used in order to obtain a more accurate representation of the road network as shown on the right.

Spatial Analyst Tools

Distance Accumulation: Rivers
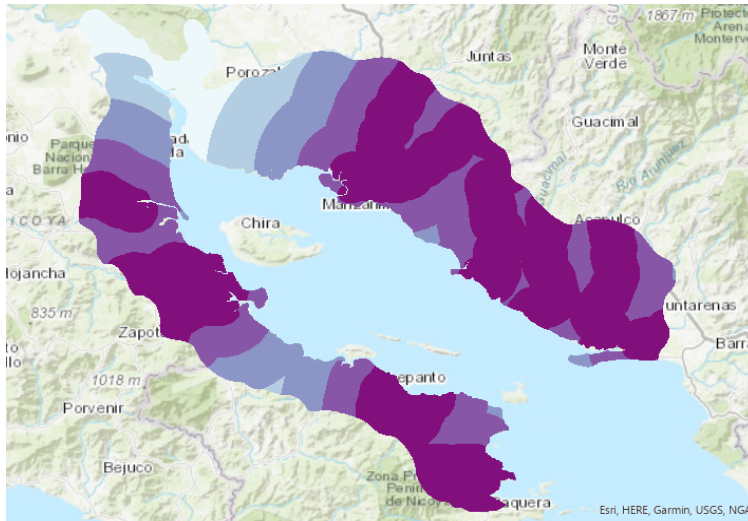
The shrimp farmers are also seeking a suitable location near a series of rivers in order to flush shrimp ponds regularly with fresh water. After applying the rivers layer as shown on the left, this tool was used in order to obtain a more accurate representation of the rivers shown on the right.

Distance Accumulation: Saltwater

Lastly, the shrimp farmers are also seeking a suitable location near saltwater. Capitalizing on the Gulf of Nicoya, the location would have access to the Pacific Ocean. After applying the guld layer as shown on the left, this tool was used in order to obtain a more accurate representation of the distance to salt water as shown on the right.